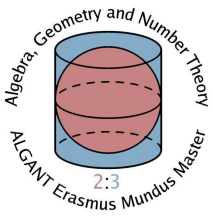


ALGANT Consortium

Université Bordeaux 1 – FR
Chennai Mathematical Institute – IN
Universiteit Leiden – NL
Università degli Studi di Milano - IT
Concordia University/CRM/ISM – CA
Università degli Studi di Padova – IT
Université Paris Sud 11 – FR
Stellenbosch University/AIMS – ZA

ERASMUS MUNDUS 2009-2013

ALGANT Master Course

APPLICATION

Table of Contents

---

1. Core Application

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.1 Application form

Reference Number *To be filled in by the Agency*	

APPLICATION FORM

PROGRAMME	**ERASMUS MUNDUS 2009-2013**
Call for Proposals *Detailed information on the application procedure and the implementing rules of the Action is available in the Erasmus Mundus 2009-2013 Programme Guide*	**EAC / 04 / 2009**
Action	**Action 1 – Joint Programmes**
Sub-Action *Applicants wishing to apply to both sub-actions, must submit two separate applications*	**EMMC - Joint Masters Course**
Application Deadline	**30 April 2009** *(as per postmark)* *For **EMJDs**, the electronic version of the summary sheet (annex 3) should be sent by email to the address below by **31 March 2009***
Project Title	**International integrated Master course in Algebra, Geometry and Number Theory**
Project Acronym	**ALGANT**
Application Language	**English**

By the deadline of 30 April 2009:

The signed original of the application (together with the relevant annexes) and 2 copies thereof must be sent in the same envelope to:

Education, Audiovisual and Culture Executive Agency
Unit P4 (BOUR 00/38)
Avenue de Bourget, 1
B-1140 Evere (Brussels)

An electronic version of the application must be sent to the following email address:

EACEA-EM2-A1@ec.europa.eu

Paper and electronic copies of the application must be sent to the National Structures in the countries of each of the European participating institutions (not applicable to associated members and third country institutions)

Important instructions and information regarding the application and selection procedure

- Before completing the form, please read the relevant sections of the *Erasmus Mundus 2009-2013 Programme Guide and the Erasmus Mundus 2009-2013 Action 1 Call for Proposals (EAC/04/2009). Further* information can be found on the Erasmus Mundus website: http://eacea.ec.europa.eu/static/en/mundus/erasmus_mundus_2009_2013_en.htm

- Your proposal will be assessed on the basis of the elements included in your application only. You can include web site references in your application, but the assessment of your proposal will not be based on additional technical information found on a web site and not contained within the application.

- Applicants should use as application language the operational language of communication between the institutions involved in the consortium proposing the joint programme.

- The application must be word-processed using a computer, character size 11 pt minimum.

- The original of the application must bear the original signature of the legal representative of the co-ordinating institution and the original stamp of this institution. No scanned coloured copy will be accepted as original.

- Applications must be sent by post **and** e-mail by the closing date. The paper copy is authentic. Applications sent by e-mail only or sent by fax will not be accepted. Annexes which are not available electronically need not be sent by e-mail.

- The signed original of the application and 2 copies thereof must be sent in the same envelope **by 30 April 2009 (as per postmark)** to:

  Education, Audiovisual and Culture Executive Agency
  Unit P4 (BOUR 00/38)
  Avenue de Bourget, 1
  B-1140 Evere (Brussels)
  E-Mail: EACEA-EM2-A1@ec.europa.eu

  Because of the tight timing for the assessment of applications, you are invited to send your application **by express mail.**

- Applicants for "Action 1B – Joint Doctoral Programmes", should send the Annex 3 "Summary Sheet for Erasmus Mundus Action 1 Joint Doctorate Programmes (EMJDs)" **by 31 March 2009** to the addresses mentioned above. This will allow the Agency to identify and recruit experts in the research field covered by the EMJD proposal.

- A paper copy **and** an electronic copy of the original application must be sent by **30 April 2009** to the appropriate National Structure in each of the countries which are participating in the Masters Course. The list of National Structures is available on the internet at the following page: http://ec.europa.eu/education/programmes/mundus/doc/national.pdf

- All applications will receive an acknowledgement of receipt.

- Applications will be judged against the eligibility, selection and award criteria set out in the *Erasmus Mundus 2009-2013 Programme Guide*

- Applicants will be notified about the outcome of the selection in writing at the latest in September 2009. A copy of the notification letter will be sent to the National Structures concerned.

- The information provided in your application may be used for the purposes of evaluating the Erasmus Mundus programme. The relevant data protection regulations will be respected.

- Any questions relating to this proposal should be addressed to the address indicated on the application form

Before entering any data, copy Part A & Part B (up to B.2) as many time as there are partners and associated members

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Applicant / Coordinating Organisation				
Official name of the organisation:	Université Bordeaux 1				
Acronym:	UB1				
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	27448-IC-1-2007-1-FR-ERASMUS-EUCX-1				
Department, if applicable:					
Official Address	351 cours de la Libération,				
Postal Code:	33405	Town:	Talence		
Region:	FR61 - Aquitaine	Country:	France		
Internet address:	http://www.u-bordeaux1.fr				
Telephone 1:	+33540003461	Telephone 2:		Fax number:	+33 5 40 00 31 01

A.2. LEGAL REPRESENTATIVE

Name of the person entitled to legally commit the organisation (for the coordinating organisation only)

Last Name:	*Prof.*	BOUDOU	First Name:	Alain
Function:	President			
Address (*Only if different from official address above)*:				

A.3. CONTACT PERSON / COORDINATOR

(responsable for the management of the project in the organisation)

Last Name:	*Prof.*	EREZ	First Name:	Boas
Function:	Professor			
@ : boas.erez@math.u-bordeaux1.fr	Telephone: +33 (0) 54000 8370		Fax number	
Address (*Only if different from official address above)*:	Institut de Mathématiques de Bordeaux Université Bordeaux 1			

PART B: Description of the Organisation – Bordeaux 1

B.1. NATURE OF THE ORGANISATION

Status:	☑ . Public	
Type of organisation:	☑ Higher Education Institution ☑ HE research centre/organisation	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

Université Bordeaux 1 (UB1), a research university opened to its environment: UB1 is one of the eight HEIs composing Bordeaux University. It specializes in the fields of Mathematics, Informatics, Physics, Chemistry and the Life Sciences. UB1 is ranked top in its fields of expertise. It offers 160 curricula leading to national degrees framed according to the Bologna process, which are attended by 6.100 bachelor students, 2.300 master students and 860 doctorate students. Its cutting-edge research activities are carried out in 35 research departments, almost all of which working in close association with research performing organisations such as CNRS, INRA, INRIA. 1.000 permanent researchers along with 1.000 administrative and technical staff contribute to build UB1's international reputation for excellence. UB1 maintains close ties with its social environment not only through professional curricula but also thanks to long-term private sector partnerships.

International cooperation activities : Over the past 15 years, UB1 has been actively contributing to the strengthening of the European Higher Education and Research Areas. It hosts more than 1.300 foreign students and it has created an extensive network comprising more than 200 partner universities all over the world. UB1 has gained a strong experience in:

- coordinating research networks, such as the 2 Networks of Excellence FAME and Interop, each endowed with 6.5 Million € ;
- developing joint curricula, such as the ALGANT Erasmus Mundus Master Course and the MiLMI UE-US Atlantis Master, both of which it coordinates.

Moreover it is an active partner in a number of networks and currently in two Research Training Networks, 7 ECW programmes, and 2 Tempus projects (see also B3). As a result, UB1 has in-depth knowledge of recognition mechanisms and keeps advancing, e.g. by being part of joint degree management JOIMAN project's taskforce. UB1 organizes joint doctorate supervision as co-tutelles with over 30 countries and currently 99 students are conducting doctoral work in this international frame.
For further information see www.u-bordeaux1.fr

Provide a short description of the organisation's specific role in the project *(max. 10 lines)*

Bordeaux 1 will be the coordinator of the ALGANT programme. The ALGANT Secretariat will be centralized at Bordeaux and the web server hosting the ALGANT information system, web site and e-registration software will also be maintained in Bordeaux.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Partner Organisation		
Official name of the organisation:	CHENNAI MATHEMATICAL INSTITUTE		
Acronym:	CMI		
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	Not Applicable		
Department, if applicable:			
Official Address	PLOT H1, SIPCOT IT PARK, PADUR POST		
Postal Code:	603103	Town:	SIRUSERI
Region:	TAMIL NADU	Country:	INDIA
Internet address:	http://www.cmi.ac.in		
Telephone 1:	+91 44 27470226	Fax number:	+91 44 27470225

A.3. CONTACT PERSON / COORDINATOR
(responsable for the management of the project in the organisation)

Last Name:	*Prof.*	BALAJI	First Name:	VIKRAMAN
Function:		PROFESSOR		
@ : balaji@cmi.ac.in		Phone: +91 44 27470226	Fax number	+91 44 27470225
Address (*Only if different from official address above)*:				

PART B: Description of the Organisation

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The Chennai Mathematical Institute (CMI) is one of the leading institutions in India for research in Mathematics and Computer Science. A research group in Physics is now being built up. The Institute has about 20 permanent members in its research faculty and approximately 10 non-permanent members at any given time.

Since 1998, CMI has also run undergraduate and graduate programmes aimed at a select group of talented students. At present, CMI offers BSc Honours courses in Mathematics & Computer Science (integrated) and in Physics, MSc courses in Mathematics, Computer Science and Applications of Mathematics and takes doctorate students in Mathematics and Computer Science. There are about 90 full time students enrolled in CMI across all these programmes.

The Institute maintains active links with academic institutions within India and abroad. In particular, CMI has active cooperation agreements with École Normale Supérieure Paris and École Normale Supérieure Cachan in France. A co-tutelle framework agreement for doctorate students is in place with École Normale Supérieure Cachan.

The faculty of the Institute is involved in a number of collaborative research projects, both with academia and industry, including two international projects in Computer Science with institutions in France.

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

Chennai, the only consortium's HEI located in Asia, has an in-depth knowledge of academic excellence repartition in India and selects India's best students. Therefore, Chennai will be a precious channel to advertise ALGANT programme throughout the Indian sub-continent. Moreover, as India education is traditionally very strong and of high level in mathematics, academic exchanges between Chennai and the other members of the consortium shall bring new inputs or perspectives to the way mathematics are taught.

It is anticipated that CMI will eventually be able to deliver joint degrees within the ALGANT programme.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Partner Organisation				
Official name of the organisation:	Universiteit Leiden				
Acronym:	LEI				
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	28798-IC-1-2007-1-NL-ERASMUS-EUCX-1				
Department, if applicable:	Mathematical Institute				
Official Address	Faculty of Science, PO Box 9502				
Postal Code:	2300 RA	Town:	Leiden		
Region:	NL33 - Zuid-Holland	Country:	The Netherlands		
Internet address:	http:// www.leiden.edu ; http://www.math.leidenuniv.nl				
Telephone 1:	+31-71-527 7136	Telephone 2:	+31-71-527 7125	Fax number:	+31-71-527 7101

A.3. CONTACT PERSON / COORDINATOR
(responsable for the management of the project in the organisation)

Last Name:	*Prof.* Dr S.J. EDIXHOVEN	First Name:	Bas	
Function:	Professor			
@ : edix@math.leidenuniv.nl	Telephone: +31 (0)71 527 7136	Fax number	+31-71-527 7101	
Address (*Only if different from official address above)*:	Mathematics Institute – Faculty of Science Niels Bohweg 1, 2333 CA Leiden, The Netherlands.			

PART B: Description of the Organisation LEIDEN

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

Leiden University [NL] is a comprehensive and research-intensive university, which was founded in 1575. Its guiding principles are: international orientation; research-intensive education; and maintenance of the high quality of education and research. Leiden University is taking part in two Erasmus Mundus programmes, and has been cooperating in the Erasmus programme since the beginning of the 1980's, currently receiving about 300 students a year and sending out over 120. Besides the Erasmus programme, Leiden University receives another 175 incoming exchange students from abroad on various exchange programmes, and sends out some 400 Dutch students. In its degree programmes (bachelor and master) Leiden annually welcomes 1100 international students.

The Mathematical Institute of Leiden University has about 140 students (bachelor and master), about 25 doctorate students, and about 25 researchers. It has been a founding partner in the Erasmus Mundus Master Course ALGANT, and is the coordinator of the FP6 Research and Training Network "Galois Theory and Explicit Methods". It cooperates with the other mathematical institutes in the Netherlands on the MSc level (see: www.mastermath.nl) as well as the doctorate level (joint activities in the national research clusters, research schools, research and conference centre). Within the Netherlands, it has the largest research group in Algebra, Geometry and Number Theory.

Provide a short description of the organisation's specific role in the project (max. 10 lines)

Within the main focus of the project on the areas of Algebra, Geometry and Number Theory, each of which is well represented, Leiden provides special expertise in computational number theory and algebraic geometry, modular forms, Galois representations and cohomology, Arakelov Theory, Diophantine equations. Applications to data security are covered via a collaboration with the cryptology group of the CWI in Amsterdam. Some researchers there have part-time positions at the Mathematical Institute and can supervise doctoral students. The CWI itself is a research institute that does not award degrees.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Partner Organisation				
Official name of the organisation:	UNIVERSITA' DEGLI STUDI DI MILANO				
Acronym:	UNIMI				
N° of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	29275-IC-1-2007-1-IT-ERASMUS-EUCX-1				
Department, if applicable:					
Official Address	Via Festa del Perdono, 7				
Postal Code:	I-20122	Town:	MILANO		
Region:	IT2 - LOMBARDY	Country:	ITALY		
Internet address:	http://www.unimi.it				
Telephone 1:	+3902503111	Telephone 2:		Fax number:	+390250313503

A.3. CONTACT PERSON / COORDINATOR

(responsable for the management of the project in the organisation)

Last Name:	*Prof.* BARBIERI VIALE	First Name:	LUCA	
Function:	PROFESSORE ORDINARIO			
@ : Luca.Barbieri-Viale@unimi.it	Telephone: +39 02 503 16136	Fax Number	+39 02 503 16091	
Address (Only if different from official address above):	DEPARTMENT OF MATHEMATICS, VIA C. SALDINI 50 - 20133 MILANO - ITALY			

PART B: Description of the Organisation – Milan University

B.1. NATURE OF THE ORGANISATION

Status:	☑ . Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The Universita degli Studi di Milano (USM), a major institution. USM offers a multidisciplinary educational programme**,** which focuses primarily on four areas: the legal, political, social and economic area, healthcare, science and scientific technology, and humanities.
USM is composed of 9 faculties that offer 134 curricula, re-designed to address arising socio-economic needs on a regular basis, and of 19 Doctoral Schools and 92 Doctoral Specialisation Schools. 1.500 teachers, along with 1.000 researchers and 2.000 early-stage researchers, supported by 2.000 technical and administrative staff contribute to making USM a major European university which trains 65.000 students yearly and pays special attention to professional insertion with over 3.000 internship placements.
The University of Milan is a member of the League of European Research Universities (LERU), its research being ranked among the best in Italy and Europe thanks to its 20 research departments, its active participation in 37 affiliated research centres funded by private sector and its collaborations with 4 leading national research institutions.

USM embraces an international vision of cooperation, shared by the European Commission, and undertakes several activities aiming at cross-academic exchanges, welcoming more than 2.000 foreign students yearly. The University's international relations sector is composed of the two major areas of Research and Training. The University of Milan participates in most of the activities related to training, mobility and the promotion of culture that have been organised by the European Commission.
USM engages in a number of bilateral and multilateral programmes, including 300 LLL cooperation agreements that favour mobility and integrated curricula potentially leading to joint and double degrees, at both master and doctorate levels such as the ECMIMIM Master, an LLP Erasmus integrated master in mathematics in which USM participates.
USM's research activities are strongly linked to international community and to professional milieu: among 657 new research projects that began in 2007, 279 were funded by the European Commission whereas 378 have been sponsored by partnership contracts. USM has been coordinating AAG (Arithmetic Algebraic Geometry), a 2.900.000€ FP6 Research Training Network. See also www.unimi.it.

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

In the ALGANT consortium, the University of Milan shall provide courses, training and research opportunities on a wide range of subjects which are either already intertwined or bound to be combined as the study of algebra and geometry progresses. "F. Enriques" Department of Mathematics' staff comprises leading specialists in Algebra, Geometry and Number Theory. Milan's role is to ensure the scientific consistency and comprehensiveness of the integrated study programme and to foster students' specific research skills. Based on well-established scientific connections with the partners, the strong involvement of Milano in the current development of Arithmetic Algebraic and Geometry fields, combined with the upcoming Theory of Motives makes it a highly valuable partner in the ALGANT network.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ . Partner Organisation			
Official name of the organisation:	Concordia University			
Acronym:				
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	N.A.			
Department, if applicable:	Mathematics and Statistics			
Official Address	1455 de Masonneuve Blvd. West			
Postal Code:	H3G 1M8	Town:	Montreal	
Region:	Quebec	Country:	Canada	
Internet address:	http://www.mathstat.concordia.ca			
Telephone 1:	+1 - 514-8482424	Ext. 3232	Ext. 3265	Fax number: +1-514-848-2831

A.3. CONTACT PERSON / COORDINATOR
(responsable for the management of the project in the organisation)

Last Name:	*Prof.* IOVITA	First Name:	Adrian	
Function:	Professor			
@ : iovita@mathstat.concordia.ca	Telephone: +1 - 514-848-2424 Ext: 3265	Fax number	+1 - 514-848-2831	
Address (*Only if different from official address above)*:				

PART B: Description of the Organisation

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution ☑ HE research centre/organisation	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The partner is composed of the *Institut des Sciences Mathématiques* (ISM), the *Centre de Recherches Mathématiques* (CRM) and Concordia University will be the granting degree institution; however, activities will also take place at CRM and ISM.

The Institut des Sciences Mathématiques (ISM) is a consortium of eight Québec universities for training and collaboration in the mathematical sciences. Two of its main aims are to:

- Enhance training and research by integrating member researchers into eleven inter-university scientific groups and hiring exceptional postdoctoral fellows.
- Contribute to a top level graduate education by coordinating advanced Master's and doctoral courses, encouraging excellence among graduate students and initiating gifted undergraduates to mathematical research through a variety of scholarships, and organizing seminars and conferences.

The *Centre de Recherches Mathématiques* (CRM) is one of the three national institutes in mathematical sciences in Canada. It is financed by the government of Canada, the province of Quebec and several universities in Québec. The main part of its scientific activities lies in its world-renowned thematic programming, its scientific workshops and outreach activities, its 1.500 annual visiting scientists from around the world, and nine laboratories directly involving 170 researchers from twelve major universities in Quebec and Ontario. It collaborates with ISM and the Québec universities to help increase the quality of graduate and postgraduate studies in Québec.

The Department of Mathematics and Statistics at Concordia offers programs of Master of Science and doctorate degree. in Mathematics. One of the areas of study is Number Theory & Computational Algebra, which is precisely the area of the ALGANT programme.

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

Students registered in ALGANT will be able to follow graduate courses in any Montreal university. Through the ISM, the universities coordinate the available courses in algebra and number theory, thus offering a wide spectrum of courses on the subject and allowing all Montreal students registered on that subject to know each other. They will benefit from the Montreal number theory seminar and from the ISM seminar of graduate students. Montreal number theory seminar will put them in contact with all researchers in number theory of the Montreal area. They will also benefit from the scientific activities at CRM: workshops, summer schools, colloquium, etc. They will write a master thesis under the guidance of a professor from one of the Montreal universities.

It is anticipated that Concordia University will eventually be able to deliver joint degrees within the ALGANT programme.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium *(leave the relevant role only)*	☑ Partner Organisation				
Official name of the organisation:	Università degli Studi di Padova				
If applicable, organisation's name in latin characters	University of Padua				
Acronym:	UNIPD				
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	29034-IC-1-2007-IT-ERASMUS-EUCX-1				
Department, if applicable:					
Official Address	Via VIII Febbraio 2				
Postal Code:	35122	Town:	Padova		
Region:	IT32	Country:	Italy		
Internet address:	http://www.unipd.it				
Telephone 1:	+390498273067	T		Fax	+390498273060

A.3. CONTACT PERSON / COORDINATOR

(responsable for the management of the project in the organisation)

Last Name:	*Prof.* BALDASSARRI	First Name:	Francesco	
Function:	Full professor			
baldassa@math.unipd.it	Telephone: +390498271439	Fax number	+390498271499	
Address (*Only if different from official address above)*:	Dipartimento di Matematica Pura ed Applicata, Via Trieste 63, 35121 Padova, Italy			

PART B: Description of the Organisation (Padua)

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The University of Padua "promotes the furtherance of culture founded on universal values such as human rights, peace, respect for the environment and international solidarity" (Article 1 of its Statutes, 1995). The international dimension of the University is not only witnessed by many spontaneous activities, such as the countless research co-operation projects individually promoted by the teachers and researchers and such as the teaching offered now to as many as 1.500 regularly enrolled foreign students (about 2% of the total, bachelor and master level), but also by the existence of several active bilateral agreements of a "traditional" type, by the large participation in the European Programmes regarding research and education, by co-operation activities with the developing countries, and – last, but not least – by a committed participation in the project activities of the Coimbra Group (i.e. the network of the European historical universities) as well as other excellence networks.

The thirteen Faculties of the University have formulated their teaching strategies according to the Bologna Process, offering over ninety 1st cycle degree courses (Bachelor's level degrees), over eighty 2nd cycle degree courses (Master's level degrees), many specialization degree courses, doctoral courses and schools.

The University of Padua believes in investing in young people to give new impetus to research. Training researchers is one of the main purposes of the university, and this area has recently been organised into 34 schools (each providing more than one doctoral curriculum) and 4 autonomous doctorate courses. The completeness of our training programmes and their cultural and inter-disciplinary open-mindedness mean that early-stage researchers benefit from an extremely broad choice of professional opportunities, either in the academic sector, either outside.

Provide a short description of the organisation's specific role in the project *(max. 10 lines)*

Università degli Studi di Padova is a founding member of the ALGANT consortium. At the Master level, it provides high level Master courses, taught in English, based on a long teaching and research experience in these fields and integrated with the other partners' courses. The curriculum is enriched by special courses by visiting scholars. Additional reading courses are provided on demand whenever possible. Staff members act as tutors for all students and as thesis supervisors for second-year students.

Staff members in Padova are active in the following topics: Algebraic Groups group schemes and p-divisible groups, Representation Theory, Quantum Groups, Hopf algebras, Curves and Moduli Problems, Algebraic Analysis and Rings of differential operators, p-adic cohomology theories, Poisson manifolds, Arithmetic Algebraic Geometry and Number Theory (algebraic, analytic, computational).

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Partner Organisation				
Official name of the organisation:	Université Paris-Sud 11				
Acronym:	UPS 11				
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	27963-IC-1-2007-1-FR-ERASMUS-EUCX-1				
Department, if applicable:					
Official Address	15, rue Georges Clémenceau				
Postal Code:	91405	Town:	Orsay Cedex		
Region:	FR1 – Ile de France	Country:	France		
Internet address:	http://www.u-psud.fr				
Telephone 1:	+33 1 69 15 67 50	Telephone 2:		Fax	

A.3. CONTACT PERSON / COORDINATOR
(responsable for the management of the project in the organisation)

Last Name:	*Mrs.* BOUSCAREN	First Name:	Elisabeth	
Function:	Researcher			
elisabeth.bouscaren@math.u-psud.fr	Telephone: + 33 1 69 15 60 04	Fax number	+33 1 69 15 30 92	
Address (*Only if different from official address above)*:	Département de mathématiques			

PART B: Description of the Organisation – Paris Sud

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The University Paris Sud 11 is a multidisciplinary institution focusing mainly on Science and Medical Studies. On top of these fields, Law, Economics and Management are also taught at Paris Sud University.

Currently, the University has the largest campus in France with 270 hectares. It includes 3 Institutes of Technology, the Engineering Institute and 5 Faculties (Law, Economics and Management, Science, Medicine, Pharmacy, Sports Science).

There are approximately 27.000 students in the University which offers 40 Bachelor programmes and 34 Master programmes with ECTS and Diploma supplement (10.500 students are registered at the master level and 2.600 at Doctorate level). Over 5.000 international students from 128 countries are currently studying at University Paris-Sud 11.

The University is one of the most prestigious universities in Europe. In 2008 it was ranked 49 in the Academic Ranking of World Universities (Shanghai).

Research is developed in joint research units in association with national research centres (CNRS, CEA, INSERM, INRIA). The university runs 120 laboratories in which are working 1.300 full time researchers and 1.800 faculty members. Many laboratories have earned an international reputation particularly in mathematics and physics. Professors J-C Yoccoz in 1994, L. Lafforgue in 2002 and W. Werner in 2006 received the Fields Medal. More recently, Prof. A. Fert, won the 2007 Nobel Prize in Physics for his discovery of giant magnetoresistance (previous Nobel laureates at Paris Sud have been G. De Gennes in 1991 and G. Charpak 1992).

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

The department of mathematics in Paris-Sud 11 is well known all around the world for the excellence of its research activity in all fields of mathematics. For example the permanent academic staff includes several members of the French Academy of Science. It should be emphasized that there are strong interactions between the five teams composing the department. Moreover, students attending the master courses and early-stage researchers are usually of especially high quality; some of them came from the best universities abroad to study in Paris Sud.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium	☑ Partner Organisation			
Official name of the organisation:	Stellenbosch University / Universiteit Stellenbosch			
Acronym:	SU / US			
N°of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	N.A.			
Department, if applicable:	Department of Mathematical Sciences			
Official Address	Stellenbosch University, Private Bag X1, Matieland			
Postal Code:	7602	Town:	Stellenbosch	
Region:	Western Cape	Country:	South Africa	
Internet address:	http://math.sun.ac.za			
Telephone 1:	+27 2180 83284	Telephone 2:	+27 2180 83284	Fax: +27 218088828

A.3. CONTACT PERSON / COORDINATOR

(responsable for the management of the project in the organisation)

Last Name:	*Prof* Green	First Name:	Barry	
Function:	Head of the Dept of Mathematical Sciences			
@ : bwg@sun.ac.za	Telephone: +27 218083284	Fax number	+27 218083828	
Address (*Only if different from official address above)*:	As above			

PART B: Description of the Organisation (AIMS)

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

Stellenbosch University is a medium-sized, research-focused institution. There are ten faculties at the university representing Arts and Social Sciences, Science, Education, AgriSciences, Law, Theology, Economics and Management Sciences, Engineering, Health Sciences and Military Science. The mission of Stellenbosch University is to create and sustain an environment within which knowledge can be generated, shared, and applied to the benefit of the community.
An essential part of this mission is underpinned by the research activities of the university. Research output at Stellenbosch University enriches the body of knowledge, it informs the content of the curriculum and it provides the scientific basis for novel applications and services that benefit the wider community.
Research output also contributes towards supporting the university's vision by striving towards being an academic institution of excellence, by contributing towards the building of the scientific, technological, and intellectual capacity of Africa and by being an active role-player in the development of the South African society.
In 2008, there were 24.686 students enrolled at SU. 16.259 were Bachelor's students. The research community at the university comprised of 8.427 postgraduate students (Honours and Postgraduate Diploma candidates are included in this total); 4.379 were Master's students and 828 Doctoral, 120 post-doctoral fellows, and a body of 800 academics. SU's research excellence is reflected in its hosting of 3 DST/NRF Centres of Excellence, 9 SARChI Research Chairs (SA Research Chairs Initiative) and 1 SANERI (SA National Energy Research Institute) Research Chair, as well as 245 NRF rated researchers in 2008. The formal academic output in the form of accredited publications for 2008 was 2.1 per staff member, the highest research output per capita in the country.

SU is ranked second in Africa. In 2008, there were 2.650 international students representing 92 countries enrolled at the university. SU has cooperation agreements with various institutions in more than 15 countries representing Africa, Asia, Europe, North America and South America. SU participates in UAF; SANORD; NUFU; NORAD and SINTEF as well as Erasmus Mundus Programmes.

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

The role of the Department of Mathematical Sciences at SU, is to be a partner in the training of Masters degree students as part of a joint degree programme in Algebra number theory and Geometry with the students involved spending one year at Stellenbosch University and at the African Institute for Mathematical Science and the second year at one of the partner institutions. The precise description of the project is outlined in the cooperation agreement between the partner universities. The fields represented for this project include Algebra, Algebraic Number Theory, Arithmetic Geometry, Computational Algebra and Geometry, Analysis of Algorithms.

It is anticipated that Stellenbosch University will eventually be able to deliver joint degrees within the ALGANT programme.

PART A: Identification of the applicant and other participating organisations

Role in the consortium	☑ Associated Member				
Official name of the organisation:	National Center for Theoretical Sciences (Taipei Office)				
Acronym:	NCTS (Taipei Office)				
Department, if applicable:	(located at) Department of Mathmetics, National Taiwan University				
Official Address	Math. Division National Center for Theoretic Sciences (Taipei Office) National Taiwan University, No 1 Sec. 4 Roosevelt Rd., Taipei				
Postal Code:	10617	Town:	Taipei		
Region:		Country:	Taiwan, R.O.C.		
Internet address:	http://math.cts.ntu.edu.tw (then use English version)				
Telephone 1:	+886-2-33663229	Telephone 2:		Fax	+886-2-33663230

A.3. CONTACT PERSON / COORDINATOR
(responsable for the management of the project in the organisation)

Last Name:	*Prof* Yu	First Name:	Chia-Fu	
Function:	Coordinator of Program Arithmetic Geometry			
chiafu@math.sinica.edu.tw	Telephone: +886-2-27851211-415	Fax number	+886-2-27827432	
Address (*Only if different from official address above*):	Institute of Mathematics, Academia Sinica 128 Academia Rd. Sec. 2, Taipei			

PART B: Description of the Organisation - TAIPEI

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Higher Education Institution ☑ HE research centre/organisation	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The Taipei Office of National Center for Theoretical Sciences was founded in 2004. It has two divisions: Mathematics and Physics Divisons. The aim of the Mathematics Division is to promote some important topics in mathematics and encourage cooperation among researchers coming from Taipei region and international scholars. Two main paticipating institutes are: Department of Mathematics, National Taiwan University (NTU) and Institute of Mathematics, Academia Sinica (AS).
Department of Mathematics, NTU, has 39 faculty, 2 post-doctorates, around 80 master graduate students, and 25 doctorate students. The Institute of Mathematics, AS, has 25 researchers, around 10 post-docs and 15 research assistants. As NTU is the best university in Taiwan, its Mathematics Department gathers best mathematics students in Taiwan. NCTS (Taipei Office) hosts more than 70 visitors yearly coming from all over the world. It runs various activities: international conferences, workshops, regional activities, instructional activities for students and advanced courses. Some members also run reading and working seminars. It also serves as the window for international cooperation between some institutions in Europe and research teams at Taipei.

Provide a short description of the organisation's specific role in the project *(max. 10 lines):*

The participation of NCTS (Taipei Office) into the ALGANT project has several advantages. Taipei is getting an intensive place for mathematics, and NTU has best mathematics students in Taiwan. Thus the partner can contribute to rise the level of applicants to ALGANT from South-East Asia. Having many of its valuable students staying in some of the best places in Europe is an obvious advantage for Taiwan. However, how to find out these good students and let them be aware of the opportunity is an issue. This is exactly what NCTS (Taipei Office) is planning to work out together with the ALGANT programme. Possibly we should arrange a one-week instructional workshop/school which consists of 4-5 mini courses in Taipei so that some students may get inspired or motivated.

PART A: Identification of the applicant and other participating organisations

Parts A and B must be filled in separately for each organisation involved in the project (including associated members). **The application must be accompanied by copies of letters from the legal authority of each participating organisation** confirming their support to the joint programme and their agreement with the submitted application (*not necessary for associated members*)

A. 1 ORGANISATION

Role in the consortium *(leave the relevant role only)*	☑ Associated member				
Official name of the organisation:	Conseil Régional d'Aquitaine / Aquitaine Regional Council				
Acronym:	CRA				
N° of the Erasmus University Charter (if applicable), for European Higher Education Institutions only	Not applicable				
Department, if applicable:					
Official Address	14 rue François de Sourdis				
Postal Code:	33077	Town:	Bordeaux		
Region:	Aquitaine (FR61)		Country:	France	
Internet address:	http://aquitaine.fr/en/				
Telephone 1:	+33 557 578 000	Telephone 2:		Fax	+33 556 247 280

A.3. CONTACT PERSON / COORDINATOR

(responsable for the management of the project in the organisation)

Last Name:	*Mr* DELORY	First Name:	Johan	
Function:	Chargé de mission / Programme officer			
@ : Johan.Delory@aquitaine.fr	Telephone: +33 557 578 227	Fax number		
Address (*Only if different from official address above)*:	As above.			

PART B: Description of the Organisation - CRA

B.1. NATURE OF THE ORGANISATION

Status:	☑ Public	
Type of organisation:	☑ Public authority (regional)	

B.2.PURPOSE AND ACTIVITY OF THE ORGANISATION

Please provide a short presentation of your organisation in relation with the activities covered by the project and more particularly concerning its postgraduate (masters/doctorate level) and international cooperation activities *(max. 20 lines).*

The *Conseil Régional d'Aquitaine* (CRA), or Aquitaine Regional Council, is a political body representing one of the 22 French regions and is in charge of social and economic development. This brings the CRA to collaborate with HEIs on a regular basis. As innovation is a key priority to CRA's objectives, the Aquitaine regional Council funds research projects and doctoral scholarships.

As a world-oriented institution, the CRA promotes the international image and visibility of the Aquitaine Region. Thus it supports actively student mobility, being a partner in a number of projects, of which Erasmus Mundus External Cooperation Window is an important one.

Aware of mobility's potential hindrances, in the frame of a regional partnership with almost all higher education entities of its territory, the Aquitaine Regional Council has adapted its regional mobility policy and supports with HEIs a very efficient one-desk mobility Centre, called "AQUIMOB", which serves as a unique portal to all out-going students.

Provide a short description of the organisation's specific role in the project (max. 10 lines)

Currently, two ALGANT students benefit from a CRA scholarship every year.

In its efforts to promote the Aquitaine region's attractiveness in international research and higher education sectors, the Aquitaine Regional Council will cooperate in the communication endeavours of the ALGANT programme.

B.3 OTHER COMMUNITY GRANTS ***(for the applicant organisation only)***		
Projects related to the application (i.e. development/implementation of joint study programmes and/or management of scholarship schemes) and for which the applicant organisation has received financial support from the European Community during the last financial year.		
Programme or funding scheme	*ID / Contract number*	*Project Title*
Lifelong learning Programme	MOB n° 27448 – 08	Erasmus
Lifelong Learning Programme – Erasmus Structural Network	142650-LLP-1-2008-1-ERASMUS ENW	JOIMAN – Joint Degree Management and Administration Network
Erasmus Mundus Master Course	2008 – 1836 / 001 – 001 MUN - MUNPIN	ALGANT – Algebra, Geometry and Number Theory Master.
Erasmus Mundus Master Course	2008 – 1597 / 001 - 001	FAME - Functionalized Advanced Materials and Engineering
EU – US Atlantis	2008 – 1750 / 001 – 001 CPT-USTRAN	MILMI - International Interdisciplinary Master In Laser Materials Interactions
Erasmus Curriculum Development	29782-IC-1-2005-1-DE-ERASMUS-PROGUC-1	EPMA - European Professional Master in Aeronautical Engineering
EM / External Cooperation Window	2007-1006/001 FRAME ECW L06	ECW Lot 6 (Moldova, Ukraine, Belarus) 2007
EM / External Cooperation Window	141193 - EM-1-2008-ES-ERAMUNDUS-ECW-Lot 6	ECW Lot 6 (Moldova, Ukraine, Belarus) 2008
EM / External Cooperation Window	2007-1007/001 FRAME ECW L07	ECW Lot 7 (Irak, Iran, Yemen) 2007
EM / External Cooperation Window	132835 – EM – 1 2007 – NL – ERAMUNDUS – ECW-Lot 7	ECW Lot 7 (Irak, Iran, Yemen) 2008
EM / External Cooperation Window	FPA 2008-1025/001 FRAME ECW Asia Call - Nice	ECW lot 12 (Asia) 2008
EM / External Cooperation Window	2008 1022/001 Frame ECW L17 Valladolid	ECW lot 17 (Chile) 2008
EM / External Cooperation Window	2008-7555/001-001 MUN - ECW	ECW lot 10 (Africa, Caribbean, Pacific) 2008
Research Training Network	MRTN-CT-2006 035495	GTEM – Galois Theory and Explicit Methods
Research Training Network	MRTN-CT-2005-019564	EVAN - European Virtual Anthropology Network
Network of Excellence	NMP3 – CT – 2004 – 500 159	FAME – Functional Advanced Materials and Engineering

PART C: Description of the Joint Programme

C.1.a For EMMCs ONLY

The full programme covers 21 study months (excluding any academic break of one month or more) and corresponds to a total of 120 ECTS credits (or equivalent; if another system is used, please specify under the relevant award criteria**)**

The joint programme will start in SEP (month) of year "n" and will end in JUL (month) of year "n + 02 "; *the end of the programme includes the graduation ceremony and communication of final results to the students; the end date cannot be later than October of "year n+1" – for one year EMMCs - or "year n+2" – for 2 years EMMCs - following the beginning of the programme.*

Is the proposal a continuation of an existing EMMC:

- An EMMC? Yes; if yes, please specify hereafter the EMMC original title and acronym: ALGANT

During their EMMC period, the students will study in <u>at least</u> 02 different partner organisations.

Not counting the first "home university", the minimal mobility for each student will be 3 **months (corresponding to 15 ECTS credits or equivalent**)

C.1.b For EMJDs ONLY

The joint programme will be mainly
(If the proposal is selected, the confirmation of laboratory or non laboratory based research will be applied individually to each fellowship candidate proposed by the consortium)

If applicable, the joint programme training / teaching period will last
(*specify months, days, hours and/or ECTS credits*).

Is the EMJD directly linked to:

- an EMMC? ; if yes, please specify hereafter the EMMC title and acronym:
- a Marie Curie Initial Training Network (ITN)? ; if yes, please specify hereafter the ITN title, name of the contracting organisation and agreement number

During their EMJD period, the candidates will visit <u>at least</u> different partner organisations.

Not counting the first "home university", the minimal mobility for each doctoral candidate will be months.

C.2. NUMBER OF STUDENTS / DOCTORAL CANDIDATES PLANNED TO BE <u>ENROLLED</u> IN THE FIRST EDITION OF THE JOINT PROGRAMME

(applies to all students/doctoral candidate, with or without EM scholarship/fellowship)

Third Country Students / doctoral candidates:	15	EU Students / doctoral candidates:	20

C.3 STUDY AREA / DOCTORAL RESEARCH DISCIPLINE

Main Area *(see annex 2 for List of thematic study fields):* **11 . 01**

(if not listed please specify hereafter)

Second Area *(see annex 2 for List of thematic study fields):* **.**

(if not listed please specify hereafter)

Third Area *(see annex 2 for List of thematic study fields):* **.**

(if not listed please specify hereafter)

C.4 STUDENT / DOCTORATE CANDIDATE PARTICIPATION COSTS IN THE JOINT PROGRAMME

Please indicate the estimated student/doctorate candidate participation costs in the joint programme during the first edition of the programme (these will be the costs advertised on the joint programme website in case of approval). Please refer to sections 4.4 (for EMMCs) or 5.5 (for EMJD) of the Programme Guide for the programme's maximum contribution to these costs

Participation costs for a Third-Country student/doctorate candidate *(in euros)*	8000€
Participation costs for a European student/doctorate candidate *(in euros)*	4000€

C.5 SUMMARY DESCRIPTION OF THE JOINT PROGRAMME

(max. 400 words)

Please provide a summary description of your joint programme covering aspects such as its objectives and main characteristics (content/research area, type of organisations and countries involved, duration, mobility options available for students/doctoral candidates, language(s), type of degrees awarded and any other information considered relevant for the description of the course/programme)

If your application is successful, this summary will be used as the official description of the Masters course/doctorate programme. It will be part of your grant agreement and published on the internet. You are therefore kindly requested to formulate it clearly and carefully and to provide this summary in English, French or German.

We propose a two-year Master course in Algebra, Geometry and Number Theory (ALGANT), which has received te Erasmus Mundus label in 2004. The teaching staff is very active in research and the students will profit from the many connections it entertains with research centres throughout the world.
Traditionally number theory used the methods of algebra and analysis to solve problems such as finding the number of integral of solutions of equations. In recent times geometric methods have been playing a more important role. Also, number theory has found important applications in areas such as cryptography, theoretical computer science, and numerical mathematics. The ALGANT course aims at introducing students to the latest developments of these fascinating subjects.

Our consortium involves the universities of Bordeaux (France), Chennai (India), Leiden (The Netherlands), Milano (Italy), Montreal (Canada), Padova (Italy), Paris Sud (France) and Stellenbosch (South Africa), and it offers very good conditions of study. Classes will not exceed twenty students and professors have long office hours.

The ideal candidate must possess an academic degree from a program in mathematics lasting a minimum of three years (Bachelor). A thorough proficiency in English is required. In fact, every student of the ALGANT master will be offered the possibility to follow his entire curriculum in English. For each student a program will be tailored individually, but every student will have to go through at least two hosting institutions of the consortium.

The students having successfully completed the requirements of the ALGANT programme will be well armed to start a research-oriented career, preparing a doctorate or directly applying for a job in the many companies that are looking for the know-how we teach. They will be awarded a double degree, and/or a joint degree composed of two nationally recognised degrees issued by the two consortium institutions, completed by a diploma supplement.

More information at: http://www. ALGANT.eu/

PART D: Technical Capacity

Consortium experience in the area of joint programmes and the specific study/research field of the project

- *Provide a list of projects/activities implemented by the consortium organisations in relation with the proposal (title, duration, funding programme, partners involved, etc.)*
- *Provide (in annex to the application) the CVs of the main actors (/team leaders) in the comsortium participating organisations*

Bordeaux,Leiden,Montréal,Padua &Paris-Sud have already collaborated within the ALGANT Master Course, labelled in 2004.

Milan was coordinator for AAG (Algebraic Arithmetic Geometry / 2.9 million €) RTN, a project in which Paris Sud and Padua universities have been active members, and to which Leiden and Bordeaux has participated (via Rennes Node). Since 2006 Leiden has been coordinating the GTEM (Galois Theory and Explicit Methods/2.5 million €), a RTN whose partners include Bordeaux 1. Partners have gained a strong experience of integrated master programmes, hence are familiar with mutual recognition: Milan being a partner in ECMIMIM (mathematics for industry), a multilateral LLP project; Leiden a partner in a EMM-Nano Erasumus Mundus Master Course, Padua being a partner in no less than 3 Erasmus Mundus projects in Life Sciences and Bordeaux in 2; Chennai and Stellenbosch being part of bilateral projects. (See CVs in Annex 2.1. and Consortium's Cooperation Activities in Annex 1.6.)

PART E: Implementation of the Joint Programme

Provide a detailed answer to each of the specific questions listed under annex 1 and corresponding to the following award criteria:

EMMC		**EMJD**	
A.1) Course content	*(25%)*	***B.1) Academic and research quality***	*(20%)*
A.2) Course integration	*(25%)*	***B.2) Partnership experience and composition***	*(20%)*
A.3) Course Management, visibility and sustainability measure	*(20%)*	***B.3) European integration and functioning of the programme***	*(20%)*
A.4) Students' services and Facilities	*(15%)*	***B.4) Provisions for EMJD candidates and fellowship holders***	*(20%)*
A.5) Quality Assurance and evaluation	*(15%)*	***B.5) Programme Management and Quality Assurance***	*(20%)*

Answers must be provided in a separated document, respecting the numbering of the questions and in <u>15 to 20 pages maximum</u> (annexes not included)

PART F: Degree(s) awarded

The joint programme will result in the award of multiple degrees

To be filled in for each degree awarding organisation

Name of the degree awarding organisation	Official name of the degree in national language (and in English)	Type	Recognition status[1]	
		❒ Part of double degrees ❒ Part of multiple degrees ❒ Joint degree	Already recognised?	Expected recognition date **OR** validity end date (/ next review date)
Université Bordeaux 1	Master Sciences, Technologie, Santé Mention: Mathématiques; Spécialité: Mathématiques approfondies, à finalité recherche. Master in Science, Technology, Health - Programme: Mathematics - Specialty: Advanced mathematics research oriented	a joint degree	**Yes**	2011
Universiteit Leiden	MSc in Mathematics	multiple degrees	**Yes**	2013
Università degli Studi di Milano	Laurea Magistrale in Matematica - Master's level degree in Mathematics	multiple degrees	**Yes**	2012
Università degli Studi di Padova	Laurea Magistrale in Matematica - Master's level degree in Mathematics	a joint degree	**Yes**	2012
Université Paris Sud 11	Master Sciences, Technologie, Santé ; Mention : Mathématiques fondamentales et appliquées ; Spécialité :Analyse, Arithmétique et Géométrie Master in Sciences, Technologies, Health Programme : Basic and applied mathematics Speciality : Analysis, Arithmetic and geometry	multiple degrees	**Yes**	2011
Chennai Mathematical Institute*	Master of Science (MSc) in Mathematics ; Master of Science (MSc) in Computer Science.	multiple degrees	**Yes**	2012
Concordia University*	Master of Science (Mathematics)	multiple degrees	**Yes**	2012
Stellenbosch University*	Master of Science	multiple degrees	**Yes**	2012
*It is one of the project's objective to include the third country partners among the degree awarding insitutions				

[1] In cases of doubt, the diploma status will have to be confirmed by the Erasmus Mundus National Structure or by the competent authorities of the country concerned

Check list and Declaration of Honour by legal representative of applicant organisation

To be completed by the person legally authorised to sign on behalf of the applicant organisation, as defined in Part A.2 of the application form.

The application is completed in full. All questions have been answered.	☒
Each page has been numbered.	☒
The application has been typewritten or word–processed.	☒
Copies of letters from the appropriate authorities of each institution participating in the Masters Course and Joint Programme, confirming their agreement with the application as submitted are attached.	☒
The original application has been signed by the legal representative of the co-ordinating institution and stamped. (Please note that scanned coloured copy of the signed application is not accepted as original)	☒
The original application and 2 copies thereof are being sent to the address indicated on page 1 of the application form by express mail, in the same envelope and before the closing date.	☒
The original application is being sent to the e-mail address indicated on page 1 of the application form by e-mail.	☒
Paper and electronic copies of this application are being sent to the National Structures in the countries of each of the European participating institutions before the closing date.	☒

I, the undersigned, certify that all information contained in the Erasmus Mundus 2009-2013 Action - Joint programme application named "project title" ALGANT , including the description of the project, is correct to the best of my knowledge and that I am aware of the content of the annexes to the application form.

I confirm that my institution/organisation has the financial and operational capacity to carry out the proposed project.

I take note that under the provisions of the Financial Regulation applicable to the general budget of the European Communities, grants([2]) may not be awarded to applicants who are in any of the following situations:

a) are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

b) have been convicted of an offence concerning their professional conduct by a judgment which has the force of *res judicata*;

c) have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;

d) have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;

e) have been the subject of a judgment which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities' financial interests;

f) following another procurement procedure or grant award procedure financed by the Community budget, have been declared to be in serious breach of contract for failure to comply with their contractual obligations;

g) in their grant application, are subject to a conflict of interest;

h) in their grant application, are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the grant award procedure, or fail to supply this information.

I confirm that neither I nor the institution for which I am acting as legal representative are in any of the situations described above, and that I am aware that the penalties set out in the Financial Regulation may be applied in the case of a false declaration.

In the event that my application is successful, I am aware that the Education, Audiovisual and Culture Executive Agency / European Commission will publish on its website or in any other appropriate medium the name and address of the beneficiary of the grant, the subject of the project, the future grant awards;

I declare that the organisation I represent is (please tick as appropriate):

☒ a public body ([3])

☐ a private body which has financial and operational capacity to carry out the proposed action or work programme and is able to provide a Bank Guarantee for the amount of the 1st (and 2nd, if applicable) pre-financing payment(s), should the Education, Audiovisual and Culture Executive Agency request so.

By signing this application form, I accept all the conditions set out in the Erasmus Mundus 2009-2013 Programme Guide and the Call for proposals EAC/04/2009, including the general conditions published on the Education, Audiovisual and Culture Executive Agency's website. I also declare that all the partners participating in this project have agreed with the content of the application and have confirmed their intention to carry out the tasks described accordingly.

Done at:	Date 27 / 04 / 2009 (day/month/year)
Signature:	Stamp of the applicant organisation
Name and position in capitals:	

2 Council Regulation (EC, Euratom) No 1605/2002 (OJ L 248 of 16.09.2002), amended by Regulations (EC, Euratom) No 1995/2006 (OJ L 390 of 30.12.2006) and (EC) No 1525/2007 (OJ L 343 of 27.12.2007). These can be consulted in the Official Journal online at: http://europa.eu.int/eur-lex/lex/en/index.htm.

3 For the Erasmus Mundus Programme, considered to be public bodies are all higher education institutions specified by Member States (participating countries), and all institutions or organisations which have received over 50 % of their annual revenues from public sources over the last two years, or which are controlled by public bodies or their representatives.

Check list and Declaration of Honour by legal representative of applicant organisation

To be completed by the person legally authorised to sign on behalf of the applicant organisation, as defined in Part A.2 of the application form.

The application is completed in full. All questions have been answered.	☒
Each page has been numbered.	☒
The application has been typewritten or word–processed.	☒
Copies of letters from the appropriate authorities of each institution participating in the Masters Course and Joint Programme, confirming their agreement with the application as submitted are attached.	☒
The original application has been signed by the legal representative of the co-ordinating institution and stamped. (Please note that scanned coloured copy of the signed application is not accepted as original)	☒
The original application and 2 copies thereof are being sent to the address indicated on page 1 of the application form by express mail, in the same envelope and before the closing date.	☒
The original application is being sent to the e-mail address indicated on page 1 of the application form by e-mail.	☒
Paper and electronic copies of this application are being sent to the National Structures in the countries of each of the European participating institutions before the closing date.	☒

I, the undersigned, certify that all information contained in the Erasmus Mundus 2009-2013 Action - Joint programme application named "project title" ALGANT , including the description of the project, is correct to the best of my knowledge and that I am aware of the content of the annexes to the application form.

I confirm that my institution/organisation has the financial and operational capacity to carry out the proposed project.

I take note that under the provisions of the Financial Regulation applicable to the general budget of the European Communities, grants([2]) may not be awarded to applicants who are in any of the following situations:

a) are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

b) have been convicted of an offence concerning their professional conduct by a judgment which has the force of *res judicata*;

c) have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;

d) have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;

e) have been the subject of a judgment which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities' financial interests;

f) following another procurement procedure or grant award procedure financed by the Community budget, have been declared to be in serious breach of contract for failure to comply with their contractual obligations;

g) in their grant application, are subject to a conflict of interest;

h) in their grant application, are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the grant award procedure, or fail to supply this information.

I confirm that neither I nor the institution for which I am acting as legal representative are in any of the situations described above, and that I am aware that the penalties set out in the Financial Regulation may be applied in the case of a false declaration.

In the event that my application is successful, I am aware that the Education, Audiovisual and Culture Executive Agency / European Commission will publish on its website or in any other appropriate medium the name and address of the beneficiary of the grant, the subject of the project, the future grant awards;

I declare that the organisation I represent is (please tick as appropriate):

☒ a public body ([3])

☐ a private body which has financial and operational capacity to carry out the proposed action or work programme and is able to provide a Bank Guarantee for the amount of the 1st (and 2nd, if applicable) pre-financing payment(s), should the Education, Audiovisual and Culture Executive Agency request so.

By signing this application form, I accept all the conditions set out in the Erasmus Mundus 2009-2013 Programme Guide and the Call for proposals EAC/04/2009, including the general conditions published on the Education, Audiovisual and Culture Executive Agency's website. I also declare that all the partners participating in this project have agreed with the content of the application and have confirmed their intention to carry out the tasks described accordingly.

Done at: TALENCE — Date 27 / 04 / 2009 (day/month/year)

Signature: — Stamp of the applicant organisation

Name and position in capitals: ALAIN BOUDOU, PRESIDENT

UNIVERSITÉ BORDEAUX 1 ★ 351, cours de la Libération 33405 TALENCE ★ UNIVERSITÉ BORDEAUX 1 Sciences Technologies

2 Council Regulation (EC, Euratom) No 1605/2002 (OJ L 248 of 16.09.2002), amended by Regulations (EC, Euratom) No 1995/2006 (OJ L 390 of 30.12.2006) and (EC) No 1525/2007 (OJ L 343 of 27.12.2007). These can be consulted in the Official Journal online at: http://europa.eu.int/eur-lex/lex/en/index.htm.

3 For the Erasmus Mundus Programme, considered to be public bodies are all higher education institutions specified by Member States (participating countries), and all institutions or organisations which have received over 50 % of their annual revenues from public sources over the last two years, or which are controlled by public bodies or their representatives.

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.2. Part E: implementation of the EMMC ALGANT

A. ANNEX 1: IMPLEMENTATION OF THE ERASMUS MUNDUS MASTER COURSE ALGANT

A.1 *Course content (25% of the max. score)*

A.1.1 the **needs analysis** (including in socio-economic terms) of the joint programme taking into account the current state of the art in the field(s) concerned;

Let us begin with a quotation: "*Fundamental research in pure and applied sciences is a driving force for innovation and it encourages curiosity. Those countries which excel in innovation* ***support excellence in fundamental research*** *and encourage its applications to industry. […] No country can excel in fundamental research on its own – it requires collaboration between universities and research centres in the north and in the south, and in almost all cases fundamental research is undertaken by teams of international scientists and engineers."*[1]

Scientific need analysis. Geometers study geometric properties of sets of solutions of systems of equations. In algebraic geometry the equations are given by polynomials. Number theorists consider so-called Diophantine equations, that is, systems of equations that are to be solved in integers. Traditionally, the methods of number theory are taken from several other branches of mathematics, including algebra and analysis, but **in recent times geometric methods have been playing a role of increasing importance**. It has also been discovered that number theory has numerous applications in **more applied areas**, such as cryptography, theoretical computer science, dynamical systems theory and numerical mathematics. These new developments stimulated the design, analysis and use of algorithms, now called computational number theory. They led to a **unification rather than diversification of number theory**. For example, the applications in cryptography are strongly connected to algebraic geometry and computational number theory; algebraic number theory, which used to stand on itself, is now pervading virtually all of number theory; classical objects like zeta functions, introduced with the analytic approach to number theory, have been generalized to effective tools encoding the number of solutions of Diophantine equations, these have the been given a cohomological interpretation, and their study relies heavily on the study of the representations of Galois groups. These developments have led to the theory of motives. Some of the most striking results obtained in the field are the proof of Weil's conjectures (Dwork, Grothendieck, Deligne), Faltings' proof of Mordell's conjecture, Fontaine's p-adic Hodge theory, Wiles' proof of Fermat's Last Theorem and Lafforgue's result on Langland's Programme, Voevodksy's proof of the Bloch-Kato conjecture, Laumon and Ngo' proof of the Fundamental lemma of Langlands and Shelstad for unitary groups, Wintenberger and Khare's proof of Serre's conjecture on the modularity of certain 2-dimensional Galois representations, the fact established by Edixhoven and Couveignes that the modulo l Galois representations related to classical modular forms can be computed in polynomial time, Bilu and Parent's results on the surjectivity of the mod l Galois representations attached to elliptic curves, the proof that arithmetic D-modules give the right coefficients for rigid cohomology (Berthelot, Caro, Kedlaya, Crew), …

As suggested above great progress has also been achieved in primality tests and factorization methods, and the development of efficient computer algorithms. Again we are pleased to note that the approach to p-adic rigid cohomology by Kedlaya has led to better algorithms for the computation of points on algebraic varieties.

---

[1] Fundamental research can be defined as "research designed to produce new understanding of basic underlying principles and processes" (UNESCO thesaurus). The quotation is taken from G8-UNESCO World Forum on Education, Research and Innovation: New Partnership for Sustainable Development *Trieste, Italy, 10-12 May 2007*, Innovation and society, *11 May 2007*. Rapporteur's Report *(Goolam Mohamedbhai).*

This brief summary shows that **our programme is both at the centre of the latest and most exciting developments in mathematics and very coherent**. It should be emphasized that our departments have actively contributed to the above developments: a forerunner of Fontaine's theory has been developed by Barsotti in Padova, where Dwork also has taught; Murre, in Leiden, has made substantial contributions to the theory of motives and Barbieri-Viale, in Milano, is one of the current main contributors to the theory; the most used computer programme in the world for computational number theory has been developed by a group of researchers under the supervision of Cohen (Bordeaux; PARI/GP), and one of the better known algorithms in the field bears the name of Lenstra (Leiden). Edixhoven (Leiden) is a well-known expert in the theory of modular varieties, whose study is crucial for Langlands' programme. Darmon (Montreal) is one of the better-known experts on the field that has developed following Wiles' proof of Fermat's Last Theorem. The Padova department has participated in all the important developments related to p-adic cohomology, which these days allow new effective approaches to important classical results. (More information on the staff's scientific achievements and the complementarity of their expertise will appear from examining the attached summary curricula.)

The EU has lost its leading role in a number of fields. Mathematics and the field of the ALGANT project is one in which the EU is in the very top group. As we have seen, the field is rapidly developing with regular breakthroughs over the past 30 years. It is important to **offer a programme that prepares to work in our field**. The best researchers will be those who are aware of the numerous interconnections between the various subfields. Indeed, most results have been obtained by combining different approaches. It so happens that the individual approaches require the use of fairly sophisticated techniques, therefore unless young researchers are exposed to them at an early stage of their careers, it will be difficult for them to acquire the necessary command needed to make a creative use of them. **Our programme covers the whole field and allows for a permanent adaptation to the most recent developments**. **This would not have been possible for anyone of our single departments**.

Socio-economic analysis. Europe needs highly qualified human resources to keep its research potential at its best. It is thus of the greatest importance to be in a position to **attract the best (young) researchers to spend some time in Europe**. Our programme is unique and has been running for over five years at the master level. The ALGANT master has attracted some very talented students, most of which are performing work towards a doctorate.

Even in countries, where a high ratio of master students or early stage researchers are non-nationals, it remains a challenge **to implement really effective welcoming procedures and to organise mobility**, so as to allow constraints-free exchange of ideas. For this, it is best to **work with institutions from around the world**. Our consortium brings together institutions from Europe, North America, the Indian sub-continent, and Africa. With the ALGANT master programme, we have reached an agreement on common standards for quality assessment between partners, which have rather different cultures and administrative practices. We shall now take this even further.

The Bologna process has brought the concept of cooperation to an entirely new level in Europe and the positive experience gained with the ALGANT consortium encourages us to **promote the tools and ideas developed within Erasmus Mundus I on a world-wide scale**. We have therefore enlarged the original consortium to include institutions from four continents (see also A.1.2). The comparison of institutional practices, that we have started, will have a much larger impact, than just on our eight institutions. Indeed we are all part of networks, so the results of our work will be disseminated broadly.

One way to **bring a sustainable contribution to the overall development of countries in the South** is to help them build their scientific capacity. European HEIs can play a major role in this by establishing cooperation networks and lasting institutional collaborations. In the field of mathematics there is a need to structure such a relation with the African continent.

European HEIs have to be able to face up to the challenges of a rapidly changing environment. The role of leadership is of course very important in this respect, but it is as important to **directly involve faculty and administrative staff at different levels in institutional partnerships to allow their institutions to be reactive to change**. In the ALGANT consortium we pursue such an **integrated approach**, which has proved to be effective in **improving our procedures**.

A.1.2 the **objectives** of the EMMC and its possible contribution to European university excellence and European competitiveness; its **added value** compared with courses that already exist in the same field at national and international level

We propose **an integrated two-year world-class master course in Algebra, Geometry and Number Theory**, based on a long experience in teaching at this level in the field. The teaching staff is also very active in research and the students will profit from the many connections the staff keeps alive with research centres throughout Europe and the world.

The main focus is on Algebra, Geometry and Number Theory because:

- these are subjects that have a much greater tradition in Europe than anywhere else in the world;

- some of the most important recent advances in mathematics have taken place in our field and our staff is perfectly in synch with these advances: our departments have a worldwide reputation in these fields (see publication lists in CVs);

- Number Theory is a "royal way" into higher, contemporary mathematics, thus permitting to attract good students who might not have had the necessary formal training at the bachelor level; starting with classical, "concrete" problems, such students will be quickly introduced to the more sophisticated algebraic and geometric techniques that lie at the foundations of so much current work;

- as it is well-known, but still unexpected few years ago, the most recent advances in Algebraic Geometry have led to important applications (cryptography, error correcting codes, …); we offer training towards employment in areas where expertise in these fields is necessary for the development of applications.

This project is the continuation of the ALGANT master course, which has received the Mundus label in 2005 and which is (still) the only EMMC in pure mathematics. There have been two major evolutions with respect to the course organised under Erasmus Mundus I:

- **the original ALGANT consortium has been extended** to include the universities of Milano and Stellenbosch (South Africa), and the Chennai Mathematical Institute (CMI, India). Montreal was already a partner in the framework of (the old) Action 3. The reasons to expand the consortium are manifold: with the inclusion of Milano we aim at completing the content of the course, as well as enlarging the recruitment base for European students; Stellenbosch, together with the African Institute of Mathematical Sciences (AIMS), will help developing a curriculum on the African continent that has a real potential for training African students, so that they are prepared for a programme like ALGANT; the cooperation with CMI will help further structure already existing relations with India. The participation of three third country institutions gives a fuller meaning to the world-class ambition of the ALGANT course. Indeed, as full partners they will of course monitor the programme in all of its aspects, and furthermore, given their leading positions in their respective geographical areas, they will contribute to improve the programme by sharing their competence and know-how;

- over the years, we came up to **view the ALGANT master course as one offered by a virtual mathematics department**. With this new project, given also that we have included really far-away partners, we have prepared the ground for the implementation of a **well-adapted information and management system** (see annex). This will be organised in two branches: a streamlined distributed system for administrative purposes and an on-line publishing framework. The first objective will be to enhance the current document workflow and provide solutions for all the users according to their profile. The central item of information in this system is the Student "file" or "account". This file will

have an integrated workflow that goes from the moment the student applies to the programme through to the moment of obtaining a diploma. The second objective is to make use of up to date web technology and features to provide a number of online services for its members. Amongst these is the following list:

- A publishing platform with a defined workflow for the ALGANT site to enable multiple contributors with responsibilities for different content on the site (for example course presentation).
- An online application form that provides for document uploads and validation.
- Community building and services for Alumni and current students.
- Direct mailing tool with segmented receivers lists for distributing targeted emails.
- An archiving system to make programme publications available to users throughout the world.

It should be clear from this application, that **we have also improved upon our quality assurance policy**, *e.g.* by reviewing our current procedures and by introducing a Code of ethics (see A.5 and annexes).

ALGANT gives all the necessary guarantees about feasibility and rigour. Regarding the "outputs" of ALGANT so far, we refer to the ALGANT web site (algant.eu) for a list of master theses defended by our graduates, to the annexes listing the current situation of our alumni and the reports by the ALGANT scholars.

The ALGANT course is unique. The ALGANT course brings with itself various kinds of European added value. It can be said that the subject of the course is European at heart. By this we mean that it has originated in Europe and, more importantly, it still flourishes the most in Europe: European institutions have collectively a much stronger **tradition** in the field of arithmetic, algebraic geometry than those in any other part of the world[2]. Students will take advantage from this by being directly exposed to this tradition and by interacting with many world leaders in subject. Indeed, because of our long tradition we will be able to attract these leaders, either as scholars or as short-time visitors (this is already the case). Also, no single master programme would be in a position to **offer such a diverse programme**. In fact we feel that there is a lot to gain from comparing and "tuning" curricula in our field and favour the **emergence of common reference points**. ALGANT fully contributes to the development of the international dimension of higher European education. It presents Science studies in an attractive way and it contributes to the augmentation of exchanges with third-countries. It reinforces the synergy between teaching and research in an appealing way to the younger generation, by allowing a smooth transition from familiar, classical mathematics to the more sophisticated and very powerful current methods. This training will help other institutions find strong students that might be interested in integrating their doctoral programmes. Furthermore, given that our subject has "real life" applications, it also offers career opportunities to students for whom a pursuit in research is not appropriate.

ALGANT brings a cultural added value because the consortium is based in five European and three third country cities which have had such a different past and are exemplary of very different regions. Hence the mobile students will really immerse themselves in the diversity of European culture and will have the opportunity to compare it to the culture of the third countries partner. We note that, if anything, having experienced such **cultural diversity** is very favourably considered by employers.

2 It is a question of density and intensity: of course some very important contributions have come from members of departments at Ivy League schools or from Japan, but in the overall mathematical landscape of the USA or Japan, these departments are somewhat exceptional.

A.1.3 the **academic quality** (including the quality of the teaching staff) and **structure** of the EMMC and in particular the appropriateness and added value of the mandatory mobility periods for the students; if applicable, the added value of the **third-country organisations** to the EMMC objectives and content;

Academic quality. The partner institutes aim at combining excellence in both research and education. They attract many visitors from abroad, organize workshops and give specialised courses for students. Some have a very long and well established tradition. One could recall that Galilei has taught 18 years in Padova (1592—1610), that Descartes has published his "Discours de la Méthode" in Leiden (1637) or that Hadamard was in Bordeaux when he proved the Prime Number Theorem (1896), but, more to the point, the teaching staff currently applying for the recognition of this master programme has an excellent track record over the past quarter of a century. Paris Sud stands out as it counts among its faculty in mathematics three recipients of the Fields Medal. Let us indicate that a number of world-class textbooks are based on courses of this programme (see the end of this paragraph).

Many members of **staff have held positions at internationally recognised institutions** before joining their current departments, so for instance the main coordinator held a junior position at Harvard and the contact person in Padova held one at Princeton. Some are **world leaders in their field** (see the attached *curriculum vitae* for details). Also, the academic **staff has already repeatedly collaborated** at a personal and at an institutional level. For research: Bordeaux and Leiden are part of the RT network Galois Theory and Explicit Methods-GTEM and have set-up a bilateral International Scientific Cooperation Programme-PICS; Bordeaux, Paris Sud, Leiden and Padova were part of the RT network Arithmetic Algebraic Geometry-AAG coordinated in Milano; researchers in Montreal collaborate on a regular basis with colleagues in Milano and Padova; CMI has relations with Milano and Paris; researchers in Stellenbosch collaborate with colleagues in Bordeaux. For teaching: Paris Sud is one of the six institutions supporting AIMS.

The students will also benefit from interacting with the many foreign **scholars** who come and visit our departments on a regular basis. Scholars commit themselves to circulate within the consortium and to the benefice of the largest part possible of the students enrolled in the programme.

The **scientific environment and facilities** we offer to ALGANT students **are exceptional**. All partner universities are research intensive universities. We have sufficient staff to guide the students individually. Our departments run lively weekly seminars, like for instance, the Number Theory Seminar in Bordeaux has led to the foundation of the internationally recognised "Journal de Théorie des Nombres" de Bordeaux and the Intercity Number Theory Seminar allows to attract to Leiden the best experts in the field. This makes for a very rich student life, open to the most recent advances in research.

Bordeaux organizes a unique series of lectures by leading experts on current aspects of research in mathematics and disposes of facilities reserved for the students in the Master. Padova and Milano's Mathematics Departments count among those with the most international relations in Italy. Montreal counts one of the largest and active research communities in our field in Northern America. CMI has just been reconstructed and attracts some of the best Indian students in mathematics. Stellenbosch is ranked number 2 among African universities and AIMS is a unique institution hosting a pan-African selection of students, and preparing them for programme of international level.

The added value brought by the third country partners. The mathematics departments of third country partners complement the scientific offer, *e.g.* to diversify the offer of thesis projects within the consortium. The participation of these active departments, which attract some of the best students in their regions, will help gauge the ALGANT course offer, so that it remains at the right level to be attractive and accessible for students all over the world. Also, the European departments will profit from the extended partnership by having a direct access to the third country partners' networks. The inclusion of partners from three other continents will thus contribute to the sustainability of our integrated course.

Structure and content of the course. The Master Course is built on wider Master programmes in mathematics and our course allows for the choice of optional courses in other areas of mathematics, physics, computer science, and the history and philosophy of science.

The Master Course ALGANT is based on already existing curricula. It is **the result of a successful collaboration** achieving the integration of already existing curricula to offer students greater variety at level 2 through the complementarity of the departments involved (see algant.eu and the departments web sites). The programmes were already very close in spirit and, due to the reorganisations in the consortium in line with the Bologna process, it has been possible to organize them into a coherent scheme (see the end of A.1.3).

ALGANT consists mainly in **advanced courses** in our field and in a **research project or internship** (leading to a master thesis). More precisely courses are offered in: algebra, algebraic geometry, algebraic and geometric topology, algebraic and analytic number theory, coding theory, combinatorics, complex function theory, cryptology, elliptic curves, and manifolds. Students are encouraged to participate actively in **seminars**. **Yearly joint intensive courses** will be organised (we have convenient facilities to host such events in Leiden and Padova--see A.3.3, and this year a joint course will be held in Montreal.

One strength of the programme lies in the fact that, because the partner departments share a common research background, they can **provide compatible basic preparations in the first year, which then lead to a complementary offer for the more specialised courses in the second year**. Overall the specialised courses cover a very wide spectrum of subjects.

For each student a program will be tailored individually to fit the student's previous curriculum (she/he might need complements), wishes and language proficiency (in order to adapt successfully, students have to be well to perform well)[3]. The programme will be included in the Individual student agreement. However, to complete their degree **students will have to obtain a minimum number of credits in specified kinds of courses**. Moreover, it is expected that most students will follow one of the suggested predefined programmes, actively participate in seminars and attend the joint intensive courses. Courses are taught at a specified *level*. In general courses of the first (resp. second) year will be of level one (resp. two)[4]. In mathematics the bachelor degree appears mostly as an "interim" degree: it is the moment when the students make choices regarding their further education by choosing a specific master programme. Therefore we make room for courses allowing for a "smooth" transition, regardless of the origin of the student. The **specifications** are as follows: we define *several types of courses* or learning activities.

- Type A: fundamental. Courses of this type are generally courses in the Bachelor programme.
- Type B: core/advanced. Core courses characterize the ALGANT track among the other tracks.
- Type C: affine/optional. Courses of this type are offered to ensure the necessary variety in order to meet the students' expectations and to broaden the scientific spectrum of the programme. They appear on a list prepared by the teaching staff.
- Type D: free.
- Type E: A research project prepared under the supervision of the Master's teaching staff, which might be prepared at one of the consortium's departments, in another university or in any qualified partner research unit, in which case a formal convention is needed to describe the student's project and a joint supervision arrangement. The project leads to the Master Thesis, which has to be defended. Work on the research project can be split over the two years.
- Type F: language courses, training on information technology or towards getting a better acquaintance with the world of entrepreneurship. (Note that although students can include

[3] The study programme of each student has to be validated by the ALGANT Commission.

4 Note that by course we here mean what is sometimes called a unit.

some language training into the study programme, language training is offered independently as part of the normal accompanying measures.)

Active participation in a seminar can be accounted for in Types B or E.

Number of ECTS credits per type:

Type B. At least 60 credits have to be acquired in a choice of core/advanced courses from algebra, algebraic and analytic number theory and algebraic and differential geometry. It is clear that with mobility, courses at the same level in the same field should not be followed more than once (e.g. the consortium will not accept a *cursus studiorum* in which appear for instance, two introductory courses to algebraic number theory).

Type C. About 12 credits should be acquired through affine courses.

Type D. A maximum of 12 credits can be acquired through any course offered by the consortium in any field (Type A course will appear here); 6 of these credits can be moved to Type F.

Type E. The number of credits to be acquired with the research project is a minimum of 30. So we require a fair amount of **individual work**, which is one of the characteristic features of a master programme5.

Type F. About 6 credits should be acquired for courses of general training, background for the Thesis, seminars or other.

Type of course	**Number of credits**
B: core/advanced	At least 60
C: affine	About 12
D: free	At most 12
E: research project	At least 30
F: general training	About 6

Usually a student will acquire the 120 credits by adding the credits of types B, D and E to obtain about 100 and then modulate with credits of types C and F to attain 120. (In the above description, the word "about", can be replaced by an upper and a lower bound. The important thing being that the final sum is 120.) Most of the work on the research project will be performed in the second year, possibly as an internship in industry. So in the first year a student will generally go over the fundamentals in the subject and acquire the credits in general training. The courses taught in the first year on the different sites are highly compatible in the sense that they allow to follow the second year courses in any of the other sites. According to his/her abilities and aspirations the student will choose a particular direction/specialization, which will determine were he/she will spend the second year.

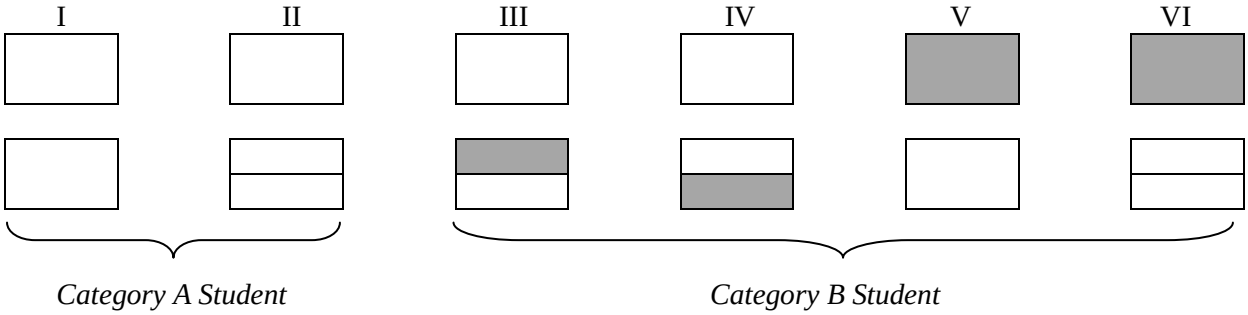
Mobility scheme. The specialisation year determines the mobility arrangement for a given student. Indeed, the consortium now completely covers the spectrum of specialisations in our field, thus offering a unique opportunity for students who want to be trained towards research in the area. For

5 See *e.g.* the document « Towards a common framework for Mathematics degrees in Europe », prepared by The Mathematics Tuning Group http://smf.emath.fr/Enseignement/EspaceEuropeen/TUNINGMaths.pdf

ALGANT, students can start the course at any of the partners. They spend their first year in one place. Then, students who have spent their first year with a third country partner will have to spend the second year in Europe, while students who have spent their first year with a European partner may not spend more than a semester of the second year with a third country partner. Students holding an Erasmus Mundus scholarship will of course have to abide to the rules set out in the programme. More precisely, in ALGANT, such students from category A will have to spend all of their time in Europe and those from category B will have to include a mobility to a third country partner. In fact a number of Mundus scholarships for category B students, which will be determined every year, will be reserved for students willing to spend the first year in Stellenbosch/AIMS. The student might actually work on his/her research project at any institution setting up a convention through the consortium, provided that this work is performed under the (joint) supervision of a member of the fourth semester partner hosting institution.

The mobility scheme will be *reviewed* every year, *i.e.* each academic year along with the review of the Student agreement (see annex).

The six mobility types: here a large rectangle represents a one-year study period and a small rectangle represents a study period between half a semester and one semester. White (resp. grey) rectangles represent study periods at a European (resp. third country institution). Category A Mundus scholarship holders can only follow the first two mobility types. Category B Mundus scholarship holders can follow all other mobility types.



Some textbooks authored by faculty active in our Master Course (see indicative list below).

Y. André, F. Baldassarri: De Rham cohomology of differential modules on algebraic varieties, Progress in Mathematics, 189, Birkhäuser, Basel, 2001. ISBN: 3-7643-6348-7.

Ph. Cassou-Noguès, M.J. Taylor: Elliptic functions and rings of integers, Progress in Mathematics, 66, Birkhäuser, Boston, 1987. ISBN: 0-8176-3350-2.

H. Cohen: A course in computational algebraic number theory, Graduate Texts in Mathematics, 138, Springer-Verlag, Berlin, 1993. ISBN: 3-540-55640-0.

H. Cohen: Advanced topics in computational number theory, Graduate Texts in Mathematics, 193, Springer-Verlag, New York, 2000. ISBN: 0-387-98727-4.

J. Fresnel, M. van der Put: Rigid analytic geometry and its applications, Progress in Mathematics, 218, Birkhäuser, Boston, 2004. ISBN: 0-8176-4206-4.

B. Dwork, G. Gerotto, F. Sullivan: An introduction to G-functions, Annals of Mathematics Studies, 133, Princeton University Press, Princeton, 1994. ISBN: 0-691-03681.

S. Edixhoven, J-H. Evertse: Diophantine approximation and Abelian varieties. Introductory lectures, Lecture Notes in Mathemathics, Springer-Verlag, Berlin, 1993. ISBN: 3-540-57528-6.

A. Languasco, A. Zaccagnini: Introduzione alla Crittografia moderna, Hoepli publishing house, 2004 (in Italian).

Q. Liu : Algebraic geometry annd arithmetic curves, Oxford Graduate Texts in Mathematics, 6, Oxford University Press, Oxford, 2002. ISBN: 0-19-850284-2.

Furthermore we have cited the publication of a collection of lectures delivered in Bordeaux for graduate students and we mention a project aimed at disseminating some fundamental seminar notes:

Leçons de mathématiques d'aujourd'hui, three volumes ed. by E. Charpentier L. Habsieger and N. Nikolski, Ed. Cassini, Paris, 2000, 2003 and 2005. ISBN: 2-84225-007-9 and 2-84225-058-3, …

S.J. Edixhoven has launched a project to have the volumes of Grothendieck's fundamental "Séminaire de Géométrie Algébrique" typeset in TeX, these are first published in electronic form on arXiv, then by the Société Mathématique de France.

A.1.4 the quality and relevance of the **learning outcomes**, acquired competencies and professional outcomes in the perspective of the students' future academic and/or professional careers;

Students completing the ALGANT Master Course will be well armed to either pursue a career in research by preparing a doctorate (within the consortium or elsewhere) or by directly applying for a job in the many companies that are looking for the know-how we teach (see the annex describing the current situation of the ALGANT alumni and algant.eu for the theses prepared by the same).

The degree obtained is aimed at getting research skills founded on a firm theoretical basis, and the communicative skills necessary to function on the international scene and in teaching. The successful student will be able to apply to high-level doctorate programmes, but he/she can also envisage a career as a mathematical researcher outside universities. In particular, an appropriate choice of courses will allow the students to contribute to the applications in fields using technology based on cryptography and coding theory (network security, electronic chips, multimedia and mobile communication industry, etc.). More generally the competencies and learning outcomes acquired with this Master Course are:

- a good general culture in mathematics and computer science allowing to tackle very varied kinds of problems in different situations;
- the competence to use a scientific approach to problem solving, be it in fundamental research or for applications;
- the ability to gather and organize relevant information and to critically scrutinize the result of ones own work ;
- proficiency in English and acquaintance with at least two European languages and cultures; general communicative skills;
- being able to work in a group as well as autonomously, assuming responsibilities of projects and (small) structures in industry, finance or administration.

It is worthy to note here, that a survey performed in the context of the "Tuning Educational Structures" project, sponsored by the European Commission, shows a positive image of mathematics graduates with employers, so that a large majority of them finds a job at their level of qualification. This will be even more so for students graduating from an excellence programme such as ours[6].

A.1.5 the joint programme **interaction with the professional (/economic/scientific/cultural) sector**s concerned and, if applicable, the role of associated members in this respect; if applicable, reference should be made to work placements arrangements and/or research activities in the field;

Our aim here is to show that although **ALGANT** is a master course oriented towards fundamental research, it **is not isolated**. We do not rely heavily on the interaction with the economic sector, but we are however part of the industrial partnership with Philips, Oberthur, Everbee. Still, especially through the connections established by the researchers in coding theory and cryptology and those working in computational number theory, we can offer a fairly broad panel of employment opportunities besides academia to our graduates. Our course is more geared towards **"vertical mobility"** and towards obtaining **institutional recognition**. Indeed, we aim at offering excellent opportunities to our students to be part of the activities of the numerous research networks we participate in. Moreover, all of our departments organise high-level doctoral programmes and staff is very active with doctoral work supervision. So students naturally get to meet early stage researchers. On the institutional side, we

[6] Also see « Mathematicians Land Top Spot in New Ranking of Best and Worst Occupations in the U.S. » http://online.wsj.com/article/SB123119236117055127.html

work with the learned societies like the European Mathematical Society and we have the support of regional political bodies.

A.2 *Course integration (25% of the max. score)*

A.2.1 the extent to which the joint programme is **truly integrated** (i.e. based on a jointly developed curriculum or composed of modules developed and delivered separately but fully recognised by all the consortium partners) and **fully recognised** (please refer to section 4.2.2 of the Programme Guide and provide, for each of the degree awarding organisations, a description of the degree recognition/accreditation process and, if applicable, a date by which this process should be concluded);

As mentioned above, the way we view our course is as one offered by a "**virtual mathematics department**". Integration of the course results from the **integration of already existing curricula**, which are very close in spirit[7]. One of the main achievements is that we can offer compatible first years of studies at the different departments, which all allow students to choose from a great variety of complementary courses in the second year. The administrative arrangements allow to move freely in the "department" (see the annex describing the information system).

Recognition/accreditation. Each of the members of the consortium organizes a master in mathematics, of which this programme is a track. The other tracks are in Applied Mathematics, Mathematics and Education or in other fields of mathematics. All of **the master programmes are already accredited by the appropriate national authorities**.

The **partners fully and automatically recognise courses** which are developed for the master as well as **examinations** passed at the other institutions of the consortium.

A.2.2 the type of **degree(s) awarded** and, if applicable, the measure taken or envisaged by the consortium to deliver a fully accredited and recognised **joint degree** (i.e. recognition/accreditation process in the countries concerned and date by which this process should be concluded);

The students admitted into the master programme and having successfully carried out a period of study in at least two institutions of the consortium will be awarded a **double degree and/or a joint degree completed by a diploma supplement**. The double degree is composed of two national recognised degrees issued by two institutions of the consortium (see Part F). ALGANT also is in the position of offering a **joint degree between the universities of Bordeaux and Padova**. Each degree is recognised in the country in which it has been issued. The diploma supplement will describe, on the one hand, the overall organization of the master programme and the added value the mobility scheme brings to the student, and on the other hand, the details of the student's study programme. In terms of giving access to doctoral studies, the national degrees we deliver are very widely recognized.

---

[7] An overview of these curricula shows that the partners put different emphasis on different subjects (in a way it is a matter of style): Padova's programme is more geometric, Leiden's is more algebraic and Milano's, Bordeaux' and Montreal's is in between these two. Paris' is geared towards algebraic geometry. CMI and Stellenbosch offer solid more classical programmes for their first year. We did not feel the necessity to change these patterns, which participate in local institutional choices, as the past four years have proved that our programme is well adapted to reach the set objectives. Indeed, a closer analysis of the syllabi shows that the differences are slight in degree and do not bother the integrity of our programme, nor hinder the mobility scheme. So for instance the Padova Commutative algebra course is designed to serve as an introduction for the courses in Algebraic geometry and Algebraic number theory. In Bordeaux, this introductory part is dealt with directly in the relevant courses (the Number theory course appearing here and the second level Geometry course). The Number theory course in Bordeaux also addresses the analytic aspects. So in essence it covers the same material, than the two Number theory courses in Leiden. The algebraic part is further examined in the Leiden Seminar, where some kind of cohomology theory is always treated. Etc.

In accordance with a longstanding tradition, the syllabus of the advanced courses varies yearly in relation with important developments in research. By this we do not only mean research developed by the consortium, but rather that which one has to know about to be on par with the best researchers in the field. This particular consortium is well armed to achieve this particular goal: each partner institution will cover that part of the topic for which it is most competent.

At the time of writing, the third country partners cannot guarantee that they will be in a position to award a degree to the ALGANT students, so for students spending time at them it will be the European universities who will recognise the work performed and evaluated there. We foresee that third country partners will be degree awarding in the next couple of years.

We should be able to offer **a joint degree with Leiden** in the near future. Indeed, currently, Dutch law does not allow a Dutch higher education institution to award a joint degree. In December 2008, the Minister of Education has forwarded the new Higher Education Act (WHW) to Parliament. Part of the changes proposed in this new Act concerns joint degrees. It is proposed that, in order to remove obstacles in engaging international partnerships, they should be allowed in the future. It is not yet known when the proposal will be discussed in Parliament. More clarity on these issues is expected in the course of 2009.

A.2.3 the extent to which **ECTS mechanisms** (including the "grading scale") or other built-in mechanisms for the recognition of study periods based on or compatible with the ECTS are fully used;

The European partners of the consortium all signed the **Erasmus University Charter** early on, which ensures experience of a rigorous application of the ECTS mechanism.

Possibly because of its implication in international research projects, and aided by their participation in the Erasmus programme, the European consortium members are **among the first in their respective countries to have introduced the two-tier system**, adopting the modular structure and using ECTS credits. The students graduating from ALGANT have been among the very first to be awarded a Diploma supplement (see A.2.4).

So far, in ALGANT the ECTS mechanism has been fully used for the recognition of the number of credits obtained during study periods abroad. After all, all European partners use the same credits system. Comparable systems are in use by the non-European partners and, based on past experience with ALGANT students who included Montreal in their mobility scheme, the **transfer of credits from third country partners is expected to be smooth**[8].

Application of the ECTS "grading scale" is less straightforward. Although "conversion tables" are readily available and updated yearly (*e.g.* http://www.unipd.it/programmi/erasmus/doc/distr_stat.htm) they are based on a large statistical sample that represents only very roughly the reality of the ALGANT Master. Masters in mathematics in general tend to have only a limited number of (usually very motivated) students, making the statistical sample rather small and blurring the differences between the percentiles (for instance, the top grade "30 e lode" in Italy translates, according to the ECTS grading scale, as either A or B). This is even more so of the ALGANT Master, an elite course in pure mathematics, whose entrance selection is based on academic excellence and potential: even students from partner institutions with a "better than average" academic career are not accepted into the programme. The problem is compounded by the "legal value" of the graduation grade in certain countries. For instance in Italy certain jobs (including in Academia) are not accessible to students that graduated below the top mark. Therefore, the practice has been to use the ECTS grading scale and conversion tables for Masters in Mathematics rather than one specifically built for the ALGANT Master. This has the opposite inconvenience of lumping the "outstanding" students together with the "very good" ones.

As a remedy, from 2009-2010 we will experiment with a "double" grading system: for each activity,

[8] At CMI a credit system exists and one can pass from their system to the European system by dividing by two! As a general rule, in Montreal, 1 credit corresponds to a one-hour course meeting 13 weeks, so most courses are credited 3 credits because they meet three hours a week. Given that the length of a semester is comparable with ours, these courses would thus be credited (approximately) 10 ECTS credits. This general rule has to be adapted to fit each student's study plan precisely. Any amount of certified or evaluated work performed at the partner university can be taken into account, possibly replacing an equivalent amount of credits in the corresponding type of courses (see the terminology in force within the ALGANT programme). For more details see: http://www.math.uqam.ca/ISM/index_en.html?intro_en.html

the student will be awarded the "usual" grade, based on the ECTS grading scale for all Masters in Mathematics, and the ALGANT grade, ranking the student's performance among fellow ALGANT students. This "double" grading system has already been adopted during the common Graduation Ceremonies of the past two years. This approach will be made explicit in the Diploma supplement.

A.2.4 the extent to which the **Diploma Supplement** will be used and issued on behalf of the consortium (if possible, under the form of a Joint Diploma Supplement);

A diploma supplement will be attached to every degree awarded. The diploma supplement is edited in English by the partner universities and contains on the one hand, **a common description** of the overall organisation of the master programme and the added value it brings to the student, and on the other hand, the details of the student's study programme. The third country partners will issue a certificate of participation in their courses.

A.2.5 the common standards and mechanisms developed by the consortium for the **application, selection, admission and examination of students** (European and Third-Country); the extent to which these mechanisms are transparent, fair and objective; the provisions to take into account the equity issues, exploring alternative ways of recruitment and considering the LLL requirements;

To be admitted into ALGANT, students have to submit an application to the ALGANT Secretariat, using the (electronic) application form (see annex).

Admission criteria. To qualify for admission for ALGANT applicants should:

- have completed a Bachelor of science degree in Mathematics or equivalent, with good results from a recognised university;
- have a thorough proficiency in written and spoken English.

The requirements for the bachelor degrees in Mathematics delivered by the members of the consortium have been checked to be equivalent. Preference will be given to "theory-based programmes".

Application procedure. Students are asked to:

- complete an application form (available on the ALGANT web site), and submit it with original signature;
- submit certified copies of all academic records of all courses taken at every institute of higher education attended. Translations into one of the languages of the consortium or into English is required;
- submit a copy of the highest degree obtained, stating credits, grades and workload;
- send in a curriculum vitae;
- make a personal statement of motivation to participate in the ALGANT Master Course;
- address two letters of recommendation from academic staff members, in sealed envelopes to the ALGANT secretariat (a model is available on the ALGANT web site);
- provide proof of a thorough proficiency in written and spoken English.

In individual cases the consortium's commission will decide whether any exceptional circumstances, like compensations or alternatives, should allow for deviation from one or more of the admission criteria above, *e.g.* to take into account non-standard individual curricula. The deadline for returning the application form and the required documentation is December 31st, for courses starting in September. Registration after this date is possible but might lead to a delay in processing with the application.

Selection process. The consortium's commission reviews all applications to the ALGANT course. The fact that the members of the commission are involved in their departments' administration guarantees the good workings of the necessary collaboration with the relevant administrative staff. The

commission will naturally rely on the local pedagogical commissions to prepare its decisions. The main selection criteria are: study and academic merits, motivation (well-thought study programme), recommendations and chances of success in the programme (possible pursuit in a doctorate programme or integration in an industry research unit, after possible return to home country). The selection process will take place early enough to allow for notification of final decision well before courses start. Students will be definitely admitted only when they have obtained the necessary visas and permits (the consortium will help with these and other procedures).

Scholarships and grants will be awarded on the basis of merit and demonstrated need basis.

Examination criteria. To be awarded the double or joint degree, students have to acquire 120 credits in accordance with the definitions given in under A.1.3. More precisely the 120 credits have to be acquired with the individual programme the Commission tailors for every student. Exams are run according to local regulations. In particular the partners fully recognise courses, which are developed for the master as well as examinations passed at the other institutions of the consortium.

No compensation mechanism is used and the acquisition of the credits attached to a course only depends on the performance in that course.

Master thesis defence. Before a student defends his ALGANT master thesis, the Secretariat will send the partner universities the student's career records (including a copy of the ALGANT thesis) in order for them to carry out the required administrative check. The thesis defence can take place at any of the partner universities. Each partner institution will be represented at the defence. The defence will comply with the local rules of evaluation and the result of the defence will be fully and automatically recognized by the partner institutions. The thesis can be written in any of the partner's national languages or in English. A summary of the thesis should be provided in the other national languages, in case national regulations require it. Students will receive help for the necessary translations by the relevant tutors.

Transparency, fairness and objectivity of application, admission, selection and examination procedures are guaranteed by the fact that all students undergo the same procedures and by the publication of: - the composition of the commission; - the relevant information and the used criteria; - statistical data on the results of the application procedure; - the results of the selection; - the reasons for the choices made.

A.2.6 The way **tuition fees and other participations costs** in the joint programme have been calculated (for Third-Country students and European students) and how they will be distributed among the participating institutions;

The tuition fees have been based on the tuition fees of the European partners. What students are asked to pay corresponds to a (relatively weak) contribution towards covering the real costs of the educational programmes. Indeed, it is essentially taxpayers' money that covers the costs. We expect the maximum **tuition** fee in any of the European partners not to exceed 2500 EUR per year by the end of 2013, excluding the cost of insurance. Based on a survey we have performed, a good **insurance** scheme, compatible with mobility, can cost from 35 to 80 EUR per month. So a provision of about 800 EUR per year should put the student on the safe side. The (introductory) **language courses** offered to the students to learn the national language cost around 500 EUR per year. **Administrative costs** that the consortium will not to be able to cover with the lump sum of 30 000 EUR could be fairly compensated by a contribution of 100 EUR per year[9]. So far, the ALGANT consortium has kept tuition fees fairly low, but expected students to pay for the participation in the compulsory joint activities, which were organised at least once a year. So students had to organise travel and subsistence for themselves, for a one-week trip in Europe. This had the double advantage of making the organisation of these events lighter and of letting the students make their own arrangements, which brought along another aspect of experiencing Europe. This way of doing things has its limitations

[9] Such costs were previously covered by an application fee, which proved to be inappropriate.

when it comes to include a large number of students, who do not benefit from a scholarship as generous as the Mundus scholarship. For this reason, we foresee to include in the fees, a participation to the **costs for the organisation of joint activities**, in the amount of 2000 EUR. ALGANT organises **meetings of the commission and of the administrative committee** at least twice a year[10]. To cover the expenses related to these meetings and which could not be covered by the lump sums, the consortium has applied for outside funding and it has been successful in obtaining some support[11]. It is not clear that we will be in a position to renew this success. Furthermore, globally, networking activities will be more costly, because of the participation of third country partners (even if we shall use video-conferencing). On another side, the increasing number of students in the programme forces some of our departments (like Leiden) to hire junior staff, and to ensure proper supervision. From these considerations it appears that it would seem reasonable to fix the **participation costs** at 8000 EUR per year. Since we would like to be able to attract European students into the programme, we shall fix the participation costs for European students at 4000 EUR per year.

Tuition fees are paid to the consortium's secretariat, in at most two instalments. The secretariat will then make the necessary arrangements with the partners' Students' Offices to regularize every student's situation. More precisely, the ALGANT commission together with the Administrative committee will fix three rates: one (EU) for European partners, one (TC) for third country partners and one (S) for the Secretariat, which is in charge of all collective actions. So the total amount (TOT) will be distributed according to the following formula[12]: TOT = (5 x EU) + (3 x TC) + S.

A.3 *Course Management, visibility and sustainability measures (20% of the max. score)*

A.3.1 the nature and quality of the **cooperation mechanisms** established within the consortium (including the degree of institutionalisation, existence of an "EMMC agreement" between the partner, clearly defined and active role of all partners, established feed-back system, participation of external actors to the supervision boards, etc.);

Consortium's organization. The co-ordinating institution of the consortium is Université Bordeaux 1. It hosts the **consortium's secretariat**, which is run by the International Office (Direction des Affaires Internationales) in collaboration with the Mathematics department (UFR Mathématiques et Informatique). The consortium appoints a **commission** in charge of co-ordinating and supervising *admission and examination* procedures. The commission will consist in at least one representing teacher per partner and will work in close relation with the administrative staff of the partner institutions. The commission, augmented by representatives of administration, will **meet at least twice a year** to review the effectiveness of the teaching programmes, to examine the academic results achieved by the students and to propose further actions.

Financial management will be dealt with by the consortium secretariat, which works in close relation with University Bordeaux 1's Financial Services. These have a long experience in managing European contracts, e.g. for RT-networks and NOE in the set-up of FP6. The secretariat will pay all grants to grantees and distribute common resources among the partners. The consortium will pay grantees the lump together with the first monthly allowance and then a fixed amount on a monthly basis.

Degree of institutionalisation. The foundation of the present project is a great number of personal contacts, which have originated with research activities, some of which have led to joint publications recorded in the summary curricula. These have then opened up to exchanges for teaching, and have finally reached the institutional level. The numerous personal contacts bring about the necessary **trust**, required for a fruitful collaboration. In the meantime, by accepting to support this project, the partner institutions have begun appreciating the quality of their respective administrative services and show mutual **esteem**, and willingness to collaborate in other fields than strictly scientific ones. For instance, Bordeaux and Padova now collaborate in the framework of JOIMAN, a project coordinated by

[10] At least for the selection and for the graduation. At these meetings all pending administrative issues are also addressed.
[11] For instance through the French-Italian University.
[12] Recall that there are 5 European partners and 3 third country partners.

Bologna to work on joint administrative management of courses. Partners will also promote the creation of means for disseminating "good practices" and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility.

During the preparatory year in 2004-2005, the original members worked on establishing clear rules for the joint administrative management. This resulted in the signature of a cooperation agreement, which has been improved, to give the attached EMMC **cooperation agreement**. As can be seen from this document, all major aspects related to the organisation of the master course are dealt with in the agreement. The agreement has already been signed by all partners, showing that we all **share the same vision and commitment,** to warrant success to this integrated course.

A.3.2 the way the **scholarship scheme** will be managed among the partners and in particular the financial management of individual grants;

Scholarships will be dealt with at the central level by the Commission. The main criteria for awarding scholarships are all excellence related. We will of course also take into account the students' and scholars' wishes and we will aim at a *homogeneous distribution* over the partners.

A.3.3 the level and quality of **human, financial and other types of support** provided by the consortium partners to the content-related and administrative aspects of the joint programme;

Teaching staff. In each department one personnel is dedicated to the administration of this master and to support the teaching staff.

For each student, the hosting institution will appoint a **tutor**, whom the student may consult for advice or assistance during his/her stay at the institution. For each student, the consortium will appoint an **academic advisor**, to ensure that the approved programme study is being followed and is adequate for the academic background of the student.

Student population and number of staff involved in the Masters Course. Each member of the consortium organizes a master in mathematics of which this programme is a track. Currently the student population following the two years of the programme (without mobility) can be evaluated at 100 overall. The staff involved in teaching the core courses—at one time or another--is about 30.

Administrative staff. This is a priority project for our universities, so they will reserve the necessary means for its administration.

Funding. The ALGANT course will take advantage of years of coherent investments in teaching infrastructures (dedicated facilities, libraries and computer networks). Our universities have set-up efficient International Offices and Cultural Services. Libraries and computer facilities are of very high standard. The costs induced by the course are minimal when compared to the overall cost of supporting this infrastructure.

The Leiden Mathematical Institute is partner in the Lorentz Center, an International research and conference center for Astronomy, Computer Science, Mathematics and Physics, which lies only a few yards away from the Institute. In the words of the director of the Center, the thematic weeks organized there "*successfully combine a full-fledged high-level scientific workshop with a program for graduate students prior to the actual workshop*". Padova University runs a very active meeting centre in Bressanone. Montreal runs workshops and specialized schools on a regular basis. Thus *we dispose of facilities which are ideal to host joint scientific activities* we plan to organize once a year in order to gather all students in the Course (and the wider community) to follow courses by invited scholars and to evaluate the overall performance of the programme.

Cultural environment. More generally, the consortium is based on the long academic traditions of the individual institutions. Three are located in cities where student life has a major impact: Bordeaux, Leiden and Padova are not big capitals in which students get lost. Still, Leiden and Padova are only 20 minutes away from major European cities with all commodities (Amsterdam and Venezia), and Bordeaux, as the largest town in the South-West of France, is well connected to the rest of Europe and

in particular with Spain. Milano and Paris are if course economic capitals, but they also have a rich student life. Thus, given that the Master Course requires mobility among at least two of the partner institutions, the students will have the opportunity to acquaint themselves with very different aspects of European culture.

A.3.4 the nature and quality of the **course promotion measures** taken by the consortium to ensure the appropriate visibility of the EMMC and reach out to potentially interested candidates (students and scholars);

In order to reach out to third-country students, the consortium will advertise for the programme widely. A web page is in place, which will be used as a reference site: it contains the most up-to-date information on the programme. Pointers to the page will be posted on various specialised sites (like Study in Europe), on specialised publications and on newsgroups. Electronic mail advertising the programme will be sent out through the dense network of relations the staff has throughout the world, thanks to its research and teaching connections, *e.g.* former doctorate candidates. In fact, ALGANT upgrade its web site in order to ease these promotion measures, by embedding it in a more efficient information system (see annex).

Posters will be sent to selected mathematics departments and research institutions throughout the world.

The third country partners will be instrumental in advertising the course in their part of the world.

A.3.5 the consortium **development and sustainability plan** designed to ensure the proper implementation and continuity of the joint programme beyond Community funding (including implementation timeline, enrolment projections, mid and long term potential benefits for the institutions involved, etc.); the way this plan involves not only the consortium members but also other public and/or private organisations in the countries concerned (and in particular associated members);

The sustainability of the course relies essentially on its **institutional embedding**. Namely, it lies at the heart of the partner institutions strategies and concerns. Indeed, it scores very well according to the **success factors** indentified, for instance in « The power of partnerships: a transatlantic dialogue », EUA and ACE (American Council on Education), see www.acenet.edu/bookstore, namely:

- the project brings *mutual benefit* to the partners, in that it helps improving their attractivity, so it definitely
- ensures *faculty buy-in*, as the project brings more international students to their courses and it helps enhance their scientific cooperation
- the project comes with *adequate resources*, which are (slowly) broadened to *sustain it over the long term* (see A.3.6)
- the project is based on a *sense of urgence and opportunity*, to contribute to the reinforcement of the EHEA and the ERA
- *partners are not economic competitors*
- *partners are not geographic competitors* (the two Italian partners and the two French partners do not traditionally recruit in the same regions)
- *partners are at comparable levels of perceived quality* (in the field of mathematics and at the institutional level)
- the *partnership enables activities that can't be done alone*, like attracting some of the best students in the world (this is true even for a world-wide known department like Paris Sud's)
- the *purpose of the project is clear and limited* and its *goals are simple and achievable*
- the *community* (both internal and external) *understands the partnership and why it is being sought*
- there is *agreement on who is going to become the public face* of the partnership (it is the coordinator)
- the *partnership is assessed periodically* to adjust or end it (internally and externally, *e.g.* by the European Commission)

Furthermore, the cooperation is based on **previous research collaborations**, which are kept alive and

actually have increased over the past years, thanks to ALGANT.

From an administrative point of view, we have worked towards sustainability by implementing **robust procedures**, *e.g.* procedures which can subsist even if the staff changes.

The development strategy consists in **increasing the number of students**, European and non-Europeans and finding **more complementary funding** (see A.3.6).

A.3.6 the sources and extent of **complementary funding provided to the scholarship scheme** (through additional part of full scholarships and, if applicable, the provision of funds to top up the difference between the joint programme fees and the maximum programme contribution to these fees;

Partners have found the means to accompany the master programme in particular by applying, when possible, for Erasmus and Socrates grants to allow European students enrolled in the master course to complete their training in good conditions. Padova supports all (!) students enrolled in the first year of ALGANT, with **mobility grants** of about 500 EUR per months. Bordeaux can support students with grants of the same amount. Leiden also has some grants available, but which are not reserved exclusively to ALGANT students.

The consortium was funded by the French-Italian University, which reserved 27 500 EUR essentially to cover mobility grants for French or Italian students enrolled in ALGANT. The consortium has again applied for support in 2009.

Paris Sud will be in a position to pay up to 30 000 EUR for mobilities of South African students in ALGANT.

Bordeaux encourages international programmes like ALGANT by **financing extra teaching staff** to improve the supervision (additional exercise sessions, allow for longer courses, …).

With the new edition of ALGANT, the consortium will start an **excellence scholarship programme (ALExS)** which will be run according to the following principles:

- every student admitted into ALGANT will be allowed to apply to it
- in his or her prior academic education, the applicant must have achieved excellent study results which are relevant for the programme for which the student wishes to enrol. As an indication, the student will be among the top 10% for the relevant programme
- the ALGANT Excellence Scholarship programme has four type of awards:
    - Gold Covers the tuition fee minus the home fee
    - Silver Covers 75% of the tuition fee
    - Bronze Covers 50% of the tuition fee
    - Ivory Covers 25 % of the tuition fee
- the number of scholarships per type of award will be published before the application procedure is launched.

A.4 *Students' services and Facilities (15% of the max. score)*

A.4.1 the nature and quality of the **services** provided by the consortium to host students / scholars (e.g. existence of an "international office", housing facilities, coaching, activities aiming at social integration and networking, assistance with visas for third-country students/scholars); the extent to which specific services are available for grantees with a family or with special needs

The members of the consortium engage themselves in helping students with incoming procedures such as finding housing and ensure that students will have access to language courses, libraries, canteens, study rooms and computer facilities (personal e-mail address, wifi, intranet). The main contact points outside the departments will be the International Affairs Office. Contact persons will be appointed to take care of the various students' problems, and their details will be posted on the web. Courses take place at dedicated, fully equipped, conveniently located sites, thus improving cohesion among the students.

Welcoming. Each University has international offices or dedicated administrative staff to welcome foreign students and accompany them in every respect. The Offices all have long opening hours and important staffing. Languages spoken in the consortim: Chinese, Dutch, English, Indian, Southafrican in Leiden (passive understanding of French, German and Spanish); English, Dutch, French, German and Spanish in Padova; English, German, Norwegian, Italian and Japanese in Bordeaux, etc. All Offices help in-coming students with formalities such as resident permits and social insurance (the University of Padova has a convention with the Province administration in charge of residence permits; in Bordeaux local authorities are invited to present French procedures on the occasion of a welcome-day). They also help with housing. The Offices also work on cultural activities, which are organised by appropriate structures on campus, thus contributing to the cultural integration of students (see also below).

Housing facilities. Housing is offered on campus or in town, within commuting distance of the University and preferred fares are often reserved for students. All partners are able to guarantee that a sufficient number of study places and housing facilities will be reserved for ALGANT students.

Coaching and counselling. Tutors, who can be staff or students, will help students with university administration and to break the language barrier; it is our ambition to offer this kind of escort throughout the academic year. *Academic advisers* are teachers that students can rely on for getting advice about their work, they are a bridge between students and the consortium's commission. Close scrutiny of the students' progression will be made possible by keeping *personal dossier* for each student at the consortium's secretariat. Furthermore, the members of our departments have collectively very important language skills, this helps in making the foreign students feel at home. Indeed because of the international experience and origin of our staff, in Bordeaux the languages fluently spoken in the department are: French, English, Italian, German, Spanish, Arabic, Chinese, Russian, Bulgarian and Swedish. In Padova at least: Italian, English, French and Dutch. In Leiden at least: Dutch, English, French and German. Etc.

Welfare services. Students enrolled in any of the partner universities have to subscribe to a social security policy. The International offices will advise students on suitable medical care policies, some with preferred rates.

S*ocial and cultural integration.* To help with social and cultural integration, universities rely on students' guides (Padova http://www.unipd.it/en/events/studying.htm, …). Furthermore, associations such as "Université du Temps Libre" in Bordeaux are original options offered to students that provide cultural and artistic activities to foreign students during their spare time, such as trips (museums, monuments), lessons in French/Italian *cuisine*, etc. Dynamic students' associations specialize in tutoring, workshops and casual activities. These networks help students explore and appreciate regional and national culture.

Students or scholars with special needs. Partners have procedures for taking care of members of their community having special needs, which generally rely on appointing dedicated specially trained personnel.

A.4.2 the nature and coverage extent of the **insurance scheme** in place to appropriately cover the EM students against health and accident risks;

The partners will provide an insurance policy to be chosen by the students among a range of adequate options, which will all cover their mobility and possible internship periods.

A.4.3 the way the linguistic aspects of students' mobility have been addressed (e.g. training facilities, mentorship, local language learning, etc.) and the specific **language policy** in place in the joint programme (e.g. integration, availability, costs coverage, recognition of the language courses in the joint programme); the way the consortium intends to meet the objective to offer students the possibility to use at least two different European language;

Every student of the ALGANT master will be offered the possibility to follow his entire curriculum in English. Students will be granted the possibility to take exams in either the national language or in

English. The partners organize language training in several other European languages and promote the national language, in order to facilitate social integration. Partners dispose of the necessary resources to enforce this policy (International Offices, language centres, etc.).

A.4.4 the nature and comprehensiveness of the **Student Agreement** defining the joint course implementation rules and mechanisms as well as the mutual rights, obligations and responsibilities of the two parties for what concerns the academic, administrative and financial aspects of the student's participation in the joint programme;

The agreement to be signed between the student and the consortium will be based on the attached model (see annex). ALGANT has been using this kind of agreement over the past four years.

A.4.5 the measures taken to facilitate **networking** among the Erasmus Mundus students and between these students and other students from the partner institutions

The consortium will implement an information and management system, which has been designed on purpose to serve the consortium's needs (see annex). Furthermore, the consortium will continue encouraging the participation of its students in the Erasmus Mundus Alumni Association (EMA). It will also facilitate interaction with early stage researchers inside its graduate and doctoral schools.

A.5 ***Quality Assurance and evaluation (15% of the max. score)***

First of all it should be noted that, as results from the signed cooperation agreement, **partners have made a commitment to implement a procedure of quality assessment, assurance and enhancement**.

A.5.1 the nature of the **internal evaluation** (by the institutions themselves, through student/scholars feedback systems, etc.)

Quality assessment. This will concern academic standards (quality of teaching and content of study programme), as well as welcoming and accompanying (coaching and counselling, student services). Evaluation practices vary and depend on the different academic cultures pertaining to the way relations with students are dealt with in our institutions. With ALGANT we have started to mutually learn from each other about the respective practices of self-evaluation and student feed-back has been obtained through a common, anonymous, multiple-choice questionnaire (see annex).

We shall now improve the procedure to be able to better measure fitness of/for purpose, *i.e.* with respect to our common objectives. One first measure, which has already been taken, results from monitoring the way in which ALGANT alumni perform after their graduation (see annex). Another measure results from the joint evaluation exercise which the current ALGANT members performed by going over the online questionnaire prepared in the framework of the Erasmus Mundus Quality Assurance project, see http://www.emqa.eu/. This allows to see were our course stands with respect to objectives, like jointness, set with the Erasmus Mundus programme. Both of these measures can and will be repeated.

One further action for improvement consists in involving students in the working groups addressing quality issues.

Quality assurance. The consortium annually goes over the programme while discussing the performance of students. So the **revision is performed** in an informal way and **a joint analysis and a drafting of an action** plan is sketched. However, no definitive procedure is in place to monitor the implementation of the foreseen improvements. So the consortium will strive to arrive at a more formal approach.

One important step has been taken in establishing a **Code of ethics** (see annex).

A.5.2 the nature and extent of the **external quality assurance** (by e.g. national, international or professional bodies) envisaged; including, if applicable, the extent to which **associated members** are participating in this evaluation exercise (for what concerns both content and structure of the EMMC);

The **national accreditations** of the master courses on which ALGANT is built give very important guarantees for quality assurance of the curricula. These are complemented by the local monitoring of how well the students place themselves, *e.g.* through the Observatoire du Devenir des Etudiants (ODE) in Bordeaux. Other institutional organs such as Student Councils and Commisions in charge of curricula are also there to guarantee high educational standards.

The fact that the consortium counts among its members third country institutions, gives a further guarantee, that content and procedures are scrutinized.

So far we have relied on Scholars reports to obtain external feedback on the course (see annex). In the future, we will invite an external **visiting committee** to analyse the results of the internal evaluation and to formulate recommendations.

A.5.3 the concrete measure taken by the EMMC consortium to ensure a **balanced gender participation** and the course, access to **disadvantaged students** and to students/scholars with disabilities or special needs.

About gender balance. It is well known that women are underrepresented in the sciences in general and among research performing mathematicians in particular. As indicated in the attached Code of ethics *"Mathematical ability must be respected wherever it is found, without regard to race, gender, ethnicity, sexual orientation, or religious or political belief. The selection criteria employed are made public before the application procedure is launched. Even the appearance of bias in selection decisions must be scrupulously avoided."* So at the selection stage no bias should appear. However, the Selection commission shall favour applications from female candidates, among applications of equal scientific value.

The consortium will try to develop a female friendly communication by making an adequate use of pictures, language, etc.

Students/scholars with special needs. The application procedure does not foresee to enquire about possible special needs of students. Possible special needs should be indicated by the selected students/scholars during the preparation of their welcoming procedures.

Further information.

Complements and further information can be obtained from the following **web sites listed in the appendix**.

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.3. Letters of intent of partners

Prof. C.S. Seshadri, F.R.S.
Director

CHENNAI MATHEMATICAL INSTITUTE

TO WHOM IT MAY CONCERN

I, **Professor C.S. Seshadri, Director**, hereby confirm that **Chennai Mathematical Institute** supports the joint master course ALGANT in mathematics and agrees with the application submitted to the Education, Audiovisual and Culture Executive Agency by the coordinating institution, Université Bordeaux 1 in response to the call for proposals Erasmus Mundus 2009-2013.

(C S SESHADRI)

C.S. SESHADRI
Director
Chennai Mathematical Institute
Plot No. H1, SIPCOT IT Park
Padur Post, Siruseri - 603 103.
Tamilnadu, INDIA.

Place: Siruseri
Date : 17.4.2009.

H1, SIPCOT IT Park
Padur Post, Siruseri-603 103
Tamil Nadu, India.

Tel. Off: +91 - 44 - 2747 0230
Dir. +91 - 44 - 3298 3442
Tel. Res: +91 - 44 - 2446 4572
Fax. Fax: +91 - 44 - 2747 0225
E-mail: css@cmi.ac.in

Universiteit Leiden

Letter of intent

Joint master course ALGANT

To whom it may concern,

I, Prof. Mr P.F. van der Heijden, Rector Magnificus and President, hereby confirm that Leiden University supports the joint master course ALGANT in mathematics and agrees with the application submitted to the Education, Audiovisual and Culture Executive Agency by the coordinating institution, Université Bordeaux 1 in response to the call for proposals Erasmus Mundus 2009-2013.

Signature:

Leiden, 21-04-2009

UNIVERSITEIT LEIDEN

UNIVERSITÀ DEGLI STUDI DI MILANO

Letter of intent

Joint master course ALGANT

To whom it may concern.

I, **Prof. Enrico Decleva, Rector**, hereby confirm that **Università degli Studi di Milar** supports the joint master course ALGANT in Mathematics and agrees with th application submitted to the Education, Audiovisual and Culture Executive Agency b the coordinating institution, Université Bordeaux 1, in response to the call for proposa Erasmus Mundus 2009-2013.

Enrico Decleva, Rector

Milano, 14 APR 2009

VIA FESTA DEL PERDONO, 7 - C.A.P. 20122 - C. F. 80012650158 - TEL. 02503.111 - FAX 0250312627 -

C CENTRE
R DE RECHERCHES
M MATHÉMATIQUES

Montréal, April 24, 2009

Letter of intent

Joint master course ALGANT

To whom it may concern,

We, Henri Darmon (Director, CICMA), Adrian Iovita (Coordinator, ALGANT Montreal) and **Christiane Rousseau (Directrice, Centre de recherches mathématiques)**, hereby confirm that the Laboratoire CICMA of the Centre de Recherches Mathématiques (CRM) supports the joint master course ALGANT in mathematics and agrees with the application submitted to the Education, Audiovisual and Culture Executive Agency by the coordinating institution, Université Bordeaux 1 in response to the call for proposals Erasmus Mundus 2009-2013.

The ALGANT program will be supported by all the Montréal universities (Concordia, McGill, Université de Montréal, and Université du Québec à Montréal) in the framework of the ISM (Institut des Sciences Mathématiques) which coordinates the graduate programs of the four universities in Montréal. Its primary base will be at Concordia University and we intend to secure the official support of the Concordia University Administration to serve as the primary location where ALGANT students will be registered during their stay in Montréal.

Henri Darmon
Director, CICMA

Adrian Iovita
Coordinator, ALGANT Montreal

UNIVERSITÉ DE MONTRÉAL
CRM
C.P. 6128, A MONTRÉAL, QC H3C 3J7

Christiane Rousseau
Director, Centre de recherches mathématiques

CRM, Université de Montréal
C.P. 6128, succursale Centre-ville, Montréal (Québec) H3C 3J7 Canada
Tel.: (514) 343-7501 Fax: (514) 343-2254 crm@crm.umontreal.ca
www.crm.math.ca

Université de Montréal

UNIVERSITÀ
DEGLI STUDI
DI PADOVA

FACOLTÀ DI SCIENZE
MATEMATICHE FISICHE NATURALI

Il Preside

via Jappelli 1
35121 Padova, Italy

tel. +39 049 8275770
fax +39 049 8275069
presid.scienze@unipd.it

CF 80006480281
P.IVA 00742430283

Letter of intent

In view of the already existing relations between our universities, and with the aim of strengthening and structuring them in the area of post-graduate education, I, the undersigned, Prof. Eugenio Calimani, Dean of the Faculty of Mathematical, Physical and Natural Science, representing Università degli Studi di Padova (University of Padua) hereby declare the support of our Institution to the above joint programme ALGANT as an ERASMUS MUNDUS project, and the agreement with the application as submitted in response to the call for proposals EAC/04/09 of the European Commission. The partnership, established as a consortium, will be co-ordinated by Université Bordeaux 1 ((University of Bordeaux 1) and commits itself to participating in the Action 1 of the above cited call for proposals.
Our partnership data are:

Contact person: ***Prof. Francesco Baldassarri***
Institution: ***Università degli Studi di Padova - Dipartimento di Matematica pura ed Applicata***
Co-ordinates: tel.: +39049 8271439 - +39049 8271346
fax: +390498271479
email: francesco.baldassarri@unipd.it

As required by the Erasmus Mundus guidelines, I state that Università degli Studi di Padova is not in any of the situations described in Articles 93 and 94 of the Financial Regulation applicable to the general budget of the European Communities.

Date: 17 aprile 2009

Università degli Studi di Padova represented by
Prof. Eugenio Calimani

Dean of the Faculty of Mathematical, Physical and Natural Science

UNIVERSITÉ PARIS-SUD 11

Orsay, April 15, 2009

Bât.300 – 91405 Orsay Tel : 33.1.69.15.74.06 Fax : 33.1.69.15.61.03 president@u-psud.fr

Présidence

Prof. Guy COURRAZE
President of Université Paris-Sud 11
91405 Orsay, FRANCE

TO WHOM IT MAY CONCERN

Subject: participation in an Erasmus Mundus Master Course

I, undersigned Prof Guy COUARRAZE, legal representative of the **University Paris-Sud 11**, hereby confirm the participation and the support of the University to the Erasmus Mundus Master programme-Action 1 entitled "ALGANT".

In particular, the **University Paris-Sud 11**, will provide the teaching and training activities described in the project.

I agree with the application submitted to the Education, Audiovisual and Culture Executive Agency by the coordinating institution, Université Bordeaux 1 in response to the call for proposals Erasmus Mundus 2009-2013.

I undertake to comply with all the deadlines and administrative procedures necessary to carry on the EMMC in accordance with the Coordinator's recommendations.

Pour le Président empêché
La Vice-Présidente

Yours sincerely,

UNIVERSITE PARIS-SUD 11 - Président - 91405 ORSAY CEDEX

Prof. Guy COUARRAZE Colette VOISIN

President of the University Paris-Sud 11

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot • your knowledge partner

Letter of intent

Joint master course ALGANT

To whom it may concern.

I, **Prof Arnold Van Zyl, Deputy Vice-Chancellor for Research and Innovation,** hereby confirm that **Stellenbosch University** supports the joint master course ALGANT in mathematics and agrees with the application submitted to the Education, Audiovisual and Culture Executive Agency by the coordinating institution, Université Bordeaux 1 in response to the call for proposals Erasmus Mundus 2009-2013.

Signature:

Place and date: Stellenbosch, South Africa, 16 April 2009

UNIVERSITEIT VAN STELLENBOSCH
UNIVERSITY OF STELLENBOSCH
2009 -04- 16
VISEREKTOR (NAVORSING)
VICE-RECTOR (RESEARCH)

Enquiries: A van Zyl Tel: 021-808-4370 Fax: 021-808-3714
Kantoor van die Viserektor (Navorsing) / Office of the Vice-Rector (Research)
Privaatsak/Private Bag X1 • Matieland, 7602 • Suid-Afrika/South Africa.

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.4. Signed Cooperation agreements

ALGANT

COOPERATION AGREEMENT BETWEEN

UNIVERSITÉ BORDEAUX 1

CHENNAI MATHEMATICAL INSTITUTE

UNIVERSITEIT LEIDEN

UNIVERSITÀ DEGLI STUDI DI MILANO

CONCORDIA UNIVERSITY/Centre de Recherches Mathématiques (CRM)/Institut de Sciences Mathématiques (ISM)

UNIVERSITÀ DEGLI STUDI DI PADOVA

UNIVERSITÉ PARIS SUD 11

STELLENBOSCH UNIVERSITY/African Institute for Mathematical Sciences (AIMS)

hereafter referred to, individually or collectively as « partners »,

represented respectively by

the President of Université Bordeaux 1,

the Director of Chennai Mathematical Institute,

the Rector Magnificus of Universiteit Leiden,

the Magnifico Rettore of Università degli Studi di Milano,

the Directors of Centre de recherches mathématiques and Institut de sciences mathématiques, for Concordia University

the Magnifico Rettore of Università degli Studi di Padova,

the President of Université Paris Sud 11,

and

the Deputy Vice-chancelor for teaching of Stellenbosch University,

guided by the desire to improve their services to students, to strengthen the already existing relations, to create new opportunities for cooperation among their respective institutions and with the aim of simplifying administrative procedures

IT HAS BEEN AGREED WHAT FOLLOWS

1. **General objective**

   In the context of the creation of the European Higher Education and European Research Area and building on previous collaborations, this agreement aims at facilitating the structured cooperation among the partners towards the creation of an offer of enhanced quality in the fields of mathematics and of international mobility organisation. The partners will work together to:

   - improve their attractiveness both within the European Union and beyond its borders,

- to enhance the career prospects of students
- to promote intercultural understanding through cooperation with Third Countries.

2. **General commitment**

Towards this objective, the partners commit themselves to:

a. share their experiences in the realisation of the Bologna process and the Lisbon agenda and in particular in their approaches to teaching evaluation;
b. promote, pursuant to national law, the participation of teaching and research staff of the partner universities in courses, seminars or conferences they organise;
c. raise funds to support activities organised in the framework of the present cooperation.

3. **Collaboration on a master programme**

In particular the partners agree to simplify current procedures in order to enable the organisation, on the basis of existing curricula, of an *integrated two-year study programme of high quality at the master level, in mathematics*. The programme shall satisfy the requirements of the Erasmus Mundus programme. Towards this goal the partners extend the *ALGANT Consortium* created in 2004. The integrated study programme will be referred to as the *ALGANT master (course)*.

The ALGANT master course will be run in accordance with the description in Annex 1. Its main focus will be in algebra, geometry and number theory.

4. **Consortium's organisation**

Coordination

The co-ordinating institution of the Consortium is Université Bordeaux 1, which hosts the *Consortium's Secretariat*. The Secretariat is responsible for managing and coordinating the overall organisation of the master course and to prepare all necessary reports. Partners commit themselves to provide all necessary information to the Secretariat in time to ensure the good functioning of the master course. Université Bordeaux 1 warrants the proper functioning of the consortium's web site.

The Consortium appoints a *Commission* in charge of co-ordinating and supervising *admission and examination* procedures. The Commission will consist of at least one representing teacher per partner. The Commission will work under the responsibility of the *consortium coordinator* and in close relation with the administrative staff. Each partner appoints an administrative staff locally involved in the management of the project and who serves as the contact person for the Secretariat. Together, these staffs form the *Administrative committee*.

If necessary, the Commission can decide to delegate some of its duties to an *Executive board*, which comprises the consortium coordinator and two other members of the Commission, and appointed by it. Each partner appoints a *local coordinator*, who serves as a contact person for the consortium coordinator.

The Commission will meet with the Administrative committee twice a year on average to monitor the overall functioning of the consortium, to review the adequateness of the teaching programmes, to examine the academic results achieved by the students and to propose further actions. Meetings can be held by videoconference.

Services to the students

The members of the Consortium engage in helping students with incoming procedures such as obtaining visa, finding housing, providing insurance coverage and they ensure students' access to language courses, libraries and canteens as well as to the services of the respective International Offices. In particular, partners commit themselves to reserve a sufficient number of study places and housing facilities for candidates enrolled in the ALGANT course.

For each student, the hosting institutions will appoint a *tutor* whom the student may consult for advice or assistance during his/her stay at the institution.

For each student, the Consortium will also appoint an *academic advisor* to ensure that the approved study programme is being followed and is adequate for the academic background of the student.

The partners will offer students the necessary means to secure their academic career development and/or employment.

Financial agreement

The amount paid by the Secretariat to the Consortium's institutions will be laid down in a financial agreement, which will be updated every year. The agreement will be based on the expected income from tuition fees and other possible sums generated by the Consortium's activities.

5. **Quality assurance**

The members of the consortium are part of the national university system of their respective countries, as a consequence their activity is evaluated on a regular basis by external certified bodies.

As far as ALGANT is concerned, an Internal Quality Assurance Protocol will be operating, care of the ALGANT consortium. Every year, a *visiting committee* shall be invited to overview the overall functioning of the ALGANT master course and to produce a report. Evaluations by the students (both single units evaluations and overall program evaluations) will be organized. On the basis of the information gathered, the Commission of the ALGANT consortium together with the Administrative committee will ensure permanent revisiting, updating and improvement of the program (see Annex 2).

6. **Joint management: application, selection and admission**

Common standards for admission into the ALGANT course, a common application procedure and a joint student selection process will be organised.

Joint application procedure

Students submit their applications to the Secretariat. These must satisfy the requirements specified in the application form (see Annex 3).

Joint selection procedure

Student admission into the ALGANT master is the responsibility of the Commission, who, when deciding whether to admit and eventually where to direct them, will take into account the student's previous curriculum, language proficiency and preferences. For the selection, the Commission will follow the selection criteria as laid down by the consortium, included in the application form and published on its web site.

7. **Joint enrolment, social security and health insurance**

Enrolment

After the consortium's Commission selection, all prospective ALGANT students are jointly enrolled by the partner universities, in accordance with the provisions hereafter. The partners will not demand reimbursement for their services (but see end of sect. 4 above).

The enrolment is carried out through the following procedure, with the administrative support of Université Bordeaux 1. Firstly, Université Bordeaux 1 as coordinating institution verifies that the requirements for admission, as established by the ALGANT consortium are met. Secondly, the students are enrolled by the partners. Namely, Université Bordeaux 1 is the university of first enrolment for all students whose mobility starts in Europe. All other European partners are universities of second enrolment for these students. For students starting their mobility at a third country partner, this partner is the university of first enrolment. The third country partner will enrol the students with an endorsement stating the ALGANT participation and association clearly.

The third country partners will work towards making the enrolment procedure uniform across the consortium, possibly by adapting the rules governing degrees and certification.

The original access documents will be kept at Université Bordeaux 1, which will give all necessary information to the other partners.

Student agreement

Every year, an agreement defines the academic, financial and administrative modalities of a student's participation in the ALGANT course. This individual *student agreement* shall be signed by the student, its tutor, the local coordinator, and the consortium coordinator (see Annex 4). It stipulates the rights and duties of the parties concerning: the nature of the relationship between the student and the consortium, academic matters, other consortium activities (compulsory participation in joint activities, evaluation), and financial issues (scholarship payment, tuition fees). The agreement is completed by a learning agreement, which is modelled on the Erasmus learning agreement, and by a Code of ethics.

By signing the student agreement, the representatives of the partner institutions accept the responsibility to ensure the supervision of the student during his/her stay at their institution, possibly with the aid of a tutor.

The partner universities, through their Student affairs offices, commit to send the grades obtained by the students to the Consortium's Secretariat at the end of every semester. The Secretariat will transmit this information to Université Bordeaux 1 who will make it available to the other partners on request.

The universities party to the present agreement will issue a certificate of joint enrolment, whenever asked for by the students participating in the program. Regular student ID-cards are issued according to the partners' regulations.

Social security and health insurance
Concerning social security and health insurance, students enrolled in the master will have to comply with the rules in force at the hosting institution and possibly subscribe to a personal insurance policy.

8. **Tuition fees**

There will be two tuition fees: one for European students and one for third-country students.

These fees will be paid by the students to the Consortium's Secretariat with at most two instalments.

Université Bordeaux 1 will send the partners a copy of the annual financial report concerning the distribution of the fees.

Only the ALGANT Commission has the right to waive fees based on a fee waiving policy, which is in line with the partner's own regulations. This policy will be published on the Consortium's web site.

9. **Insurance**

Partners commit themselves to verify that students have appropriate insurance coverage and to provide help with finding it.

10. **Language policy**

All students of the ALGANT master will be offered the possibility to follow their entire curriculum in English. The language of instruction of each module will be clearly indicated on the Consortium's web site. The partners make language training in several other European languages available to their ALGANT students.

11. **Code of ethics**

The partners agree on a code of ethics, which will be posted on the consortium's web site.

12. **Degree delivery: double or joint degree with diploma supplement**

Degree delivery: double or joint degree
In order to meet the ALGANT master's requirements a student will have to acquire 120 credits while going through at least two partner institutions of the Consortium in two different countries. A partner institution is deemed part of the student's mobility scheme provided it awards at least 15 ECTS credits, if it is a third country institution and 30 ECTS credits, if it is a European institution.

The study programme of each student has to be validated by the Commission.

The partners fully and automatically recognise courses, which are developed for the master as well as examinations passed at the other institutions of the Consortium.

The students admitted into the master programme and having successfully carried out a period of study in at least two institutions of the Consortium will be awarded a double or joint degree and a diploma supplement. Each degree is recognised in the country in which it has been issued.

The double degree is composed of two degrees issued by two of the hosting institutions: degrees are awarded by institutions in which the student will have acquired at least 30 ECTS credits.

As soon as national law permits, only a joint degree diploma will be implemented (see Annex 5).

Diploma supplement
The diploma supplement will be edited in English by the partner universities and will contain on the one hand a description of the overall organisation of the master programme and the added value it brings to the student, and on the other hand the details of the student's study programme.

Master thesis defense
Before a student defends his ALGANT master thesis, the Secretariat will send the partner universities the student's career records (including a copy of the ALGANT thesis) in order for them carry out the required administrative check. The thesis defense can take place at any of the partner universities. Each partner institution will be represented at the defense. The defense will comply with the local rules of evaluation and the result of the defense will be fully and automatically recognized by the partner institutions. The thesis can be written in any of the partner's national languages or in English. A summary of the thesis should be provided in the other national languages, in case national regulations require it. Students will receive help for the necessary translations by the relevant tutors.

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

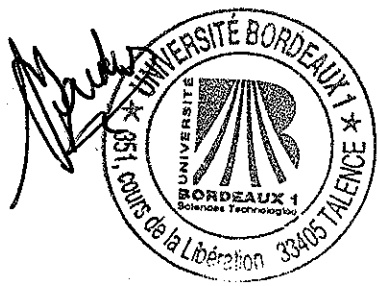
14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1	Chennai Mathematical Institute	Universiteit Leiden	Università degli Studi di Milano



Concordia University	Università degli Studi di Padova	Université Paris Sud 11	Stellenbosch University

Centre de recherches mathématiques

Institut de sciences mathématiques

ANNEX 1: ALGANT COURSE DESCRIPTION

ANNEX 2: EVALUATION FORM DRAFT

ANNEX 3: APPLICATION FORM (see the version currently on the web)

ANNEX 4 : INDIVIDUAL STUDENT AGREEMENT

ANNEX 5: JOINT DIPLOMA BETWEEN UNIVERSITE BORDEAUX 1 AND UNIVERSITA DEGLI STUDI DI PADOVA

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

S. Kesavan

Université Bordeaux 1

Chennai Mathematical Institute
(S. KESAVAN)
DEPUTY DIRECTOR
(Par délégation)
Chennai Mathematical Institute Siruseri 603 103.

Universiteit Leiden

Università degli Studi di Milano

Concordia University

Università degli Studi di Padova

Université Paris Sud 11

Stellenbosch University

Centre de recherches mathématiques

Institut de sciences mathématiques

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1	Chennai Mathematical Institute	Universiteit Leiden	Università degli Studi di Milano
Concordia University	Università degli Studi di Padova	Université Paris Sud 11	Stellenbosch University
Centre de recherches mathématiques			
Institut de sciences mathématiques			

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1

Chennai Mathematical Institute

Universiteit Leiden

Università degli Studi di Milano

IL RETTORE
Enrico Decleva

21 APR 2009

Concordia University

Università degli Studi di Padova

Université Paris Sud 11

Stellenbosch University

Centre de recherches mathématiques

Institut de sciences mathématiques

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1

Chennai Mathematical Institute

Universiteit Leiden

Università degli Studi di Milano

Concordia University

Università degli Studi di Padova

Université Paris Sud 11

Stellenbosch University

C. Rousseau

Centre de recherches mathématiques ← Christiane Rousseau (directrice)

Institut de sciences mathématiques

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1

Chennai Mathematical Institute

Universiteit Leiden

Università degli Studi di Milano

Concordia University

Università degli Studi di Padova

Université Paris Sud 11

Stellenbosch University

(Director, CICMA)
Centre de recherches mathématiques

Institut de sciences mathématiques

Archives
The universities party to this agreement will register on their own archives the degree diplo delivered to each ALGANT student mentioning the acronym "ALGANT" followed by progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

27 APR. 2009

Université Bordeaux 1	Chennai Mathematical Institute	Universiteit Leiden	Università degli Studi di Milano

V. MILANESI, RETTORE

Concordia University	Università degli Studi di Padova	Université Paris Sud 11	Stellenbosch University
Centre de recherches mathématiques			
Institut de sciences mathématiques			

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1	Chennai Mathematical Institute	Universiteit Leiden	Università degli Studi di Milano

Pour le Président empêché
La Vice-Présidente

Concordia University	Università degli Studi di Padova	Université Paris Sud 11	Stellenbosch University

Centre de recherches mathématiques

UNIVERSITE PARIS-SUD 11 - Présidence - COPY CERTIFIED

Colette VOISIN

Institut de sciences mathématiques

Archives
The universities party to this agreement will register on their own archives the degree diploma delivered to each ALGANT student mentioning the acronym "ALGANT" followed by a progressive number (such as 2009-1).

13. **National supervision**
Partners inform the relevant authorities of the existence of this agreement and make sure that its application it does not contradict national law.

14. **Further collaborations**
Partners will also promote through their International Offices the creation of integrated language programmes and cultural integration as well as the creation of means for disseminating « good practices » and administrative procedures aimed at improving methods of hosting students from third-countries or in mobility. Further collaborations will be encouraged.

15. **Promotion, means and facilities**
Partners will take measures aimed at accompanying the master programme in particular by:
- offering easily accessible contact points for « out-of-town » students,
- advertising the master course widely,
- searching for sources of funding and support from public or private entities in order to run the master programme,
- applying, when possible, for LLP/Erasmus or other grants to allow European students enrolled in the master course to complete their training in good conditions.

16. **General provisions**
This agreement will take effect when all partners will have signed it, and it will be effective during a period of eight years. It can be revised before the start of the academic year on the basis of the original document.
The possible modifications will have to be incorporated following the same procedure as that which has been followed for the first signature.

For any administrative aspect concerning ALGANT not regulated by this agreement, the ALGANT Commission decides how to proceed.

Université Bordeaux 1	Chennai Mathematical Institute	Universiteit Leiden	Università degli Studi di Milano
Concordia University	Università degli Studi di Padova	Université Paris Sud 11	Stellenbosch University DVC (Teaching) 23 April 2009
Centre de recherches mathématiques			
Institut de sciences mathématiques			

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.5. Student agreement

ALGANT Consortium

Université Bordeaux 1 – FR
Chennai Mathematical Institute – IN
Universiteit Leiden – NL
Università degli Studi di Milano - IT
Concordia University/CRM/ISM – CA
Università degli Studi di Padova – IT
Université Paris Sud 11 – FR
Stellenbosch University/AIMS – ZA

ERASMUS MUNDUS Programme, ALGANT Master Course n° …

STUDENT AGREEMENT

I. Preamble

1. Scope. This agreement sets out the role, rights and duties of the parties directly involved in ensuring the successful completion of the ALGANT joint master course by the student mentioned below. The parties commit to comply with local rules and customary practices.

2. Student

Name: ….. Surname: ….
Nationality: …. Date of birth: ….

II. Academic issues

3. Mobility scheme[1]
The student will follow courses and will perform work in at least two partner universities of the Consortium in different countries. The foreseen mobility scheme will take him/her through the following hosting institutions:

- University 1, from [date] to [date]
- University 2, from [date] to [date]
- …

The Consortium partners fully and automatically recognize courses which are developed within the programme, as well as examinations passed at the other institutions of the Consortium.

4. Local coordinators
The ALGANT consortium has appointed the following local coordinators:

Local coordinator at University 1
Name: …. Surname: …
Title: …

Local coordinator at University 2
Name: …. Surname: …
Title: …

[1] See the description of the study programme below for a more precise presentation. More conditions might be imposed, *e.g.* for European Mundus scholarship holders.

The local coordinators guarantee to help the student with all administrative procedures related to his/her participation in the ALGANT programme. The local coordinators shall also hold the role of academic advisor.

5. Tutors
Every hosting institution will appoint a tutor for the student**.** The tutor shall be available to give the student all kind of advice or assistance during his/her stay at the institution.

6. Study programme
The student will follow this proposed study programme at [University 1]:

Course code	Course title	Semester e.g. 1 or 2	Number of ECTS credits

The student will follow this proposed study programme at [University 2]:

Course code	Course title	Semester e.g. 1 or 2	Number of ECTS credits

[Add more if necessary] See chapter V for amendments to the study programme.

7. Master thesis
7.1 Choice of master thesis
Before the end of semester 3, the student shall determine the subject of his/her master thesis after discussion with the programme's teachers. The thesis shall be written in [language] and will contain an executive summary in [language], as per local regulations.

The local coordinator(s) ensure(s) that the student has sufficient time to work on his/her master thesis.

7.2 Master thesis defence
The thesis defence can take place at any of the partner universities. Each partner institution will be represented at the defence. The defence will comply with local rules. The result of the defence will be recognised by all degree awarding institutions.

8. Mandatory activities and further academic training

8.1 Mandatory activities

The Consortium asks the student to participate in the evaluation and quality assessment exercises for which she/he shall make his opinion known with regards to all student-related aspects of the programme during and at the end of his/her stay.

Every year, the ALGANT consortium will organise activities that the student will be asked to attend, among which is the yearly common graduation ceremony. The complete list of these activities will be communicated to the student in due time. The student will have to make personal arrangements to attend these activities.

8.2 Scientific exposure

The student is strongly encouraged to participate in classes, seminars and conferences that are organized by his/her host universities, along with activities organized in any of the Consortium's partner universities when possible.

9. Assessment of the student's progress

9.1 Duties of local coordinators:

The local coordinators are responsible for informing the student of the precise academic calendar and in particular on the examination periods. They will also inform the student at the beginning of the academic year of the nature of the exams/tests and the grading system used to assess the student's performance.

The local coordinators shall ensure that the candidate is in the best possible situation to complete his/her study programme according to the foreseen plan. Local coordinators will have to monitor the student's progress and inform the ALGANT coordinator about possible problems that might arise.

9.2 Duties of the student:

Participation of the student in the courses detailed in the study programme is compulsory. This includes presenting the exams according to the announced calendar. The student will have to inform the tutor and the local coordinator in case he is not in a position to attend the foreseen activities. More generally, the student shall keep the tutor and the local coordinator of the current hosting institution informed about possible difficulties he/she might encounter.

9.3 Yearly assessment by the consortium's Commission

Every year the consortium's Commission will assess the student's overall performance and situation.

10. Diploma awarding

10.1 Type of degree

This programme will potentially lead to the awarding of

- double degree
  - from [University], [name of degree]

  and
  - from [University], [name of degree].
- joint degree
  - from [University] and [University], [name of degree].

The diploma(s) is/are awarded by the academic authorities empowered to do so, on the basis of the results the student has obtained at the different hosting institutions, according to the defined study programme.

10.2 Diploma Supplement

A complete Diploma Supplement is attached to the degree certificates. The Diploma Supplement describes the work performed to obtain the degree awarded. The purpose of this document is to facilitate recognition and accreditation of ALGANT degrees when seeking employment and to make explicit the value added by the fact that the work of the student has been performed in the international environment of the ALGANT joint master course

.

11. Intellectual Property

The student hereby agrees that his/her thesis essay's title and abstract will be posted on the ALGANT website when his/her degree is awarded. He/she also agrees that the degree awarding universities may store and protect the thesis essay, either as a hardcopy or as a softcopy following their respective procedures. Moreover, the student will be asked to sign a disclosure contract, that will allow ALGANT libraries and e-libraries make his/her thesis available to the research community. This contract is not exclusive and the student may revoke it at any time. The disclosure contract will not be deemed as a copyright transfer. The results of the student's work belong to their author and will thus be protected by intellectual property law.

III. Administrative issues

The student shall be a full member of the student community at every hosting institution. As such, the student shall be assisted with incoming procedures (visa, permits, housing, insurance, access to a bank account, …) and will be granted the means necessary to complete her/his study programme (libraries, computing facilities, …).

The student shall also be made part of institutional social activities and shall be represented within the institutional political bodies.

The tutor and the local coordinator shall make sure that such measures are taken.

The ALGANT consortium will make sure that the student subscribes to proper medical care, personal liability insurance policies, and checks that these are effective and also cover for mobility and transition periods.

The Consortium helps the candidate planning and organizing his/her mobilities.

The Consortium organizes activities specifically aimed at maximizing the student's high-level employment opportunities. Among other activities, the Consortium will accompany the candidate's insertion in student, research and professional networks.

IV. Financial issues[2]

12. Student's participation cost, available funding and support, payments

12.1 Cost of the student's participation in the programme

The consortium has estimated that the cost of the student participation in the programme amounts to … €. This amount covers the following aspects:

- tuition
- social security and insurance costs
- language courses,
- contribution to the participation in the compulsory programme's activities (see below).

[2] The sums given below may be modified over the years due to changes in the applicable regulations. Such modifications will have to be brought to the attention of all the parties to the present agreement (see below).

12.2 Source(s) of funding available to the student

The ALGANT consortium acknowledges that to complete her/his study programme, the student will be funded by the following entities:

- [HEIs, EC, private donor…] 1: … €
- [HEIs, EC, private donor…] 2: … €
- …

12.3 Payment of scholarship

[If applicable] Over the period from [date] to [date], the candidate will receive a monthly allowance of … €.

12.4 Additional support

In addition, depending on the type of funding, candidates may be granted travel and installation expenses and a fee contribution.

[If applicable] On …. [date], the candidate shall receive [the lump sum of … €]/ [reimbursement of expenses upon invoice up to the maximum amount of … €], for *travel expenses*.

[If applicable] On …. [date], the candidate shall [the lump sum of … €]/ [reimbursement of expenses upon invoice up to the maximum amount of … €], for *installation expenses*.

[If applicable] On …. [date], the candidate shall receive [the lump sum of … €]/ [reimbursement of expenses upon invoice up to the maximum amount of … €], for *contribution to the (academic) fees.*

12.5 Student's bank coordinates and payment order

All above-mentioned amounts, if due by any of the Consortium's partners, shall be transferred on the (European) bank account mentioned in the financial identification form attached. The student is responsible for submitting the correct data concerning his/her bank account. If the bank account details appear to be wrong, mistake's subsequent bank fees will be charged to the student.

The Consortium may stop the (monthly) payments, after adequate warning, in case the candidate:

- does not pay the possibly required tuition fees (see below);
- moves away from the above mentioned study programme without approval from the academic advisor;
- misses participation in the mandatory programme's activities;
- makes unsatisfactory progress, or does not comply with the usual rules of conduct implicit in his/her registration at the institution.
-

All payments will be ordered by the coordinator Université Bordeaux 1.

13. Candidate's contribution to programme fees

If applicable, the candidate shall pay fees according to the following scheme:

Year …, … €
Year ... , … €

The first payment shall be made less than ten working days after the beginning of classes or after the scholarship payment (if applicable), whichever comes latest.

Fees are due to:

Agent Comptable - Université Bordeaux 1
351 cours de la Libération - 33400 Talence - France
IBAN: FR76 1007 1330 0000 0010 0025 576.
BIC : BDFEFRPPXXX

Code banque/Bank code : 10071 - Guichet/Desk code: 33000
Numéro de Compte/Account number: 00001000255 clé/key 76
Domiciliation TPBORDEAUX TRES GALE
Indicate your name, surname
and specify ERASMUS MUNDUS ALGANT.

V. Modification, mediation and cancellation

It is the signatories' responsibility to inform *in writing* the ALGANT coordinator of any changes this agreement may need.

The study programme can be amended with the student's and the local coordinator's agreement before the beginning of any academic year. Changes to the original proposed study programme shall be presented in the following format and shall be approved by the student, the ALGANT coordinator and the relevant local coordinators:

University	Course code	Course title	Semester	Deleted	Added	ECTS

All changes in the financial conditions have to be brought to the attention of all parties to this agreement, who shall work collectively towards warranting the student the best possible conditions under the existing constraints. Once these (new) conditions have been determined, they will have to be included into an amendment of this agreement.

In the event of minor changes to this agreement, an amendment may be proposed by the party concerned and incorporated to the agreement as an annex signed by all parties.

Any breach of contract by the student may lead to the cancellation of this agreement.

Any conflict among the parties signing this agreement should be brought to the attention of the ALGANT coordinator, who shall seek the best way to resolve it in collaboration with the ALGANT commission.

This agreement is not complete without the following annexes:

- annex 1: Student's financial identification form
- annex 2: ALGANT Code of Ethics

The local coordinator is responsible for the formalization of this agreement upon the student's arrival; upon signature, this will be forwarded to the ALGANT Secretariat in Bordeaux.

This agreement with annexes shall be submitted by the student to the tutors for information.

Signatures:

The student	The local coordinator of University 1
Date	Date

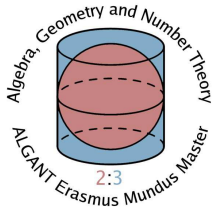
The ALGANT coordinator

Date

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.5.a. Financial identification form



ALGANT Consortium

Université Bordeaux 1 – FR
Chennai Mathematical Institute – IN
Universiteit Leiden – NL
Università degli Studi di Milano - IT
Concordia University/CRM/ISM – CA
Università degli Studi di Padova – IT
Université Paris Sud 11 – FR
Stellenbosch University/AIMS – ZA

Education and Culture
Erasmus Mundus

Annex 2 to Student Agreement:

FINANCIAL IDENTIFICATION FORM

▪ **Name of ALGANT student + address** Family name First name Address of residence Zip code Town Country E-mail address	▪ **Bank information of ALGANT student** Bank account IBAN code SWIFT code Bank code Name of the Bank Address Zip code Town *Please note that this information is used to transfer your grant - please check carefully*
	▪ Signature ALGANT student Date:

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

1.1. Application form
1.2. Part E: implementation of the EMMC ALGANT
1.3. Letters of intent of partners
1.4. Signed Cooperation agreements
1.5. Student agreement
1.5.a. Financial identification form
1.6. Consortium's Cooperation Activities

1.6. Consortium's Cooperation Activities

CONSORTIUM'S COOPERATION ACTIVITIES

The consortium has a solid experience in running important cooperation projects and its members are very pro-active in many international activities related to mathematics and sciences.

As far as networking is concerned, every member of the Consortium engages in intense activity and all European members have been maintaining close links with each other since they have been involved in common activities in mathematics field, such as research networks, some of which they coordinate.

Milan was coordinator for AAG (Algebraic Arithmetic Geometry) RTN, a 2.9 million euro project in which Paris Sud and Padua universities have been active members, and to which Leiden has collaborated (attached to Rennes Node) while Bordeaux has provided experts to some of the network's activities.
Since 2006 Leiden has been coordinating GTEM (Galois Theory and Explicit Methods), an RTN whose partners include Bordeaux 1 University, and endowed with 2.5 million euros.
Moreover, Padua and Milan are both together members of an Italian Ministry of Education network called Motives, K-theory and Arithmetic Geometry.
This dense cross-networking proves the partners' capacity to run important projects and to collaborate.
Bordeaux 1 has an in-depth coordinating experience since it already coordinated two networks of excellence in sciences, FAME and Interop, endowed with 6.5 million euro each.

Partners are very familiar with integrated programmes and master courses, all European partners being already involved in one or many of them.
Bordeaux, Leiden, Padua and Paris Sud have of course experienced together the carrying out of Erasmus Mundus ALGANT Master Course from 2004 to 2009 and have collaborated on a day-to-day basis to improve their integrated course, thus enhancing mutual recognition of studies.
Moreover, Padua is a partner in no less than 3 Erasmus Mundus Master Courses, mostly in life sciences (TPTI, SUFONAMA, SAHC). Leiden is involved in a "Nano-science and nano-technology" master course coordinated by Leuven University (EMM-Nano), Bordeaux is a partner in FAME (materials) and EPMA (aeronautics) Master courses, two other Erasmus Mundus projects. Milan is a partner in ECMIMIM Master (mathematics in industry).

At doctoral level, Paris Sud runs many collaboration projects with foreign doctoral schools, such as Chennai and Tsinghua University (Beijing, China), and has created joint doctoral colleges with China, Japan, Brazil and Chile. Together with Padua, Montreal and Duke University, Paris Sud is also part of a core-to-core project with Japan Society for Promotion of Science regarding "New Developments of Arithmetic Geometry, Motive, Galois Theory and their practical applications".

All partners are also committed to work on curriculum engineering, in particular Bordeaux 1 being part of JOIMAN taskforce, a Joint Degree Management and Administration Network, to which Padua is also a member.

Project Title	Duration	Funding programme	Partners involved	Grant amount managed by:
FAME – Materials	4 years	Network of Excellence	**Bordeaux 1 – FR** Total: … universities	Bordeaux 1: 6.500.000 €
INTEROP	2 years	Network of Excellence	**Bordeaux 1 – FR** Total: … universities	Bordeaux 1: 6.500.000 €
Réseau de masters et Doctorats de mathématiques statistiques appliquées en Afrique francophone subsaharienne	3 years From 2008 to 2011	EDU Link – actions extérieures de la communauté Européenne	**Paris-Sud 11 – FR** Paris 5 – FR Yaoundé 1 - CM Abomey-Calavi BJ Cotonou BJ Saint-Louis - SN Gaston Berger - SN	Paris Sud: 247.000 €
GTEM – Galois Theory and explicit methods	4 years from 2006 to 2010	Research Training Network	**Leiden- NL** Bordeaux 1- FR 12 universities total	Total Leiden : 2.5 million € Grant Bordeaux 1: 208.015 €
RTN AAG - Arithmetic Algebraic Geometry	4 years from 2004 to 2008	EC – Sixth Framework Programme (FP6). Research Training Network	**Milano – IT** Paris-Sud 11- FR Rennes – FR Leiden - NL attached to Rennes Node. Padova - IT Many other partners. Bordeaux 1 provided experts attached to this network's activities.	Milan: 2.900.803 €
EVAN – European Virtual Anthropology Network	2 years	Research Training Network	**Vienna - AU** Bordeaux 1 - FR	Grant Bordeaux 1 : 198.733 €
Motives, K-theory and Arithmetic Geometry		Funded by Italian Ministry of Education	Milano - IT Padova - IT And others	
ALGANT – Algebra, Geometry and Number Theory	5 years	Erasmus Mundus Master Course : integrated master leading to joint diploma.	**Bordeaux 1 – FR** Leiden, NL Padua, IT Paris Sud, FR	Bordeaux 1: 4.076.000 €
EPMA – European Postgraduate Master in Aeronautical Engineering	2 years	Erasmus Curriculum Development : joint curricula potentially leading to joint diploma	**Hamburg - DE** Bruges - BE Bordeaux 1 - FR	Overall Grant : 155225 €
ECMIMIM European Masters in Industrial Mathematics	3 years from 2007 to 2010	LLP – ERASMUS Multilateral Projects	**Carlos III, Madrid - ES** Milano - IT Lappeenranta University of Technology - FI Lund - SE Dresden - DE Ecole des Mines de Paris - FR Tartu - EE Oxford - GB Barcelona - ES	Grant Milan: 35.610 €
FAME – master in materials	5 years	Erasmus Mundus Master Course	**Grenoble – FR** Bordeaux 1 – FR Aveiro – PT Darmstadt – DE Liège – BE Louvain – BE	Grant Bordeaux 1 : 65.000 €
EMM-Nano : Master in Nano science and nano technology		Erasmus Mundus Master Course	**Leuven – BE** Leiden – NL Dresden - DE Chalmers - SE Delft - NL	
integrated masters		Including 3 erasmus mundus	Padua is a partner in 5 integrated masters	
Mathématiques assistées par ordinateur (MAOM)	3 years From 2003 to 2008	Tempus - JEP	**Paris-Sud 11 - FR** Monastir - TN Delft - NL Lille 1 - FR	Paris Sud: 495.916 €
JOIMAN	2 years	Lifelong Learning	**Bologna, IT**	Grant Bordeaux 1:

		Programme Erasmus Structural Network	Task force : Bordeaux 1 – FR Lille - FR Leipzig - GE Graz - SW Antwerpen - NL Deusto - ES Total 15 universities and 3 EM national contact points Padua – IT is associated to network: tackling current issues and facing future challenges	20 000 €
ECW Lot 6 Moldova Ukraine Belarus 2006/2007	3 years	Erasmus Mundus External Cooperation Window	**Deusto – ES** Bordeaux 1 – FR	Grant Bordeaux 1 : 35 000 €
ECW Lot 6 Moldova Ukraine Belarus 2008	3 years	Erasmus Mundus External Cooperation Window	**Deusto – ES** Bordeaux 1 – FR	Grant Bordeaux 1: 62 000 €
ECW Lot 7 Irak Iran Yemen 2007	3 years	Erasmus Mundus External Cooperation Window	**ITC – NL** Bordeaux 1 – FR	Grant Bordeaux 1: 75.975 €
ECW Lot 7 Irak Iran Yemen 2007/2008	3 years	Erasmus Mundus External Cooperation Window	**ITC – NL** Bordeaux 1 – FR And 6 other partners	Grant Bordeaux 1: 275.000€
ECW Lot 10 Africa Carribean Pacific 2008	3 years	Erasmus Mundus External Cooperation Window	**ITC – NL** Bordeaux 1 – FR And 4 other partners	Grant Bordeaux 1: 374 385 €
ECW Lot 12 Asia (EMMA) 2008	3 years	Erasmus Mundus External Cooperation Window	**Nice – FR** Bordeaux 1 – FR Padova – IT And other partners	Grant Bordeaux 1: 467.250 €
ECW Lot 16 Brazil 2006-2007	3 years	Erasmus Mundus External Cooperation Window	**Coimbra – PT** Leiden - NL	
ECW Lot 17 Chile 2008	3 years	Erasmus Mundus External Cooperation Window	**Valladolid – ES** Bordeaux 1 – FR And 8 other partners	Grant Bordeaux 1: 14.000 €
ECW Lot 18 Mexico	3 years	Erasmus Mundus External Cooperation Window	**Groningen – NL** **Deusto – ES** Padova – IT 6 other partners	

2. Academic Quality

2.1. CVs

Teaching staff
of the
Mundus Master ALGANT
in
BORDEAUX

- Prof. C. Bachoc
- Prof. C. Bavard
- Prof. K. Belabas
- Prof. D. Benois
- Prof. Y. Bilu
- Dr. A. Cadoret
- Dr. J.-P. Cerri
- Dr. R. Coulangeon
- Prof. B. Erez (contact person)
- Dr. J. Gillibert
- Prof. A. Hénaut
- Dr. L. Herr
- Prof. J.-F. Jaulent
- Dr. A. Jehanne
- Prof. Q. Liu
- Dr. P. Parent
- Dr. P. Ricotta
- Dr. J-M. Sebag
- Prof. A. Yger
- Prof. G. Zemor

Summary Curriculum Vitae
of
Christine Bachoc

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: bachoc@math.u-bordeaux1.fr

Personal home page: http://www.math.u-bordeaux.fr/~bachoc/

Date of birth: May 9, 1964, Bordeaux, France **Citizenship:** France

Summary of positions held.

1. Chargée de Recherches CNRS, Laboratoire A2X, 1990-2002
2. Professor at Université Bordeaux 1, since 2002

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 2002

Other academic activities: Organization of the conferences:

1. *Gitter und Andwendungen*, Oberwolfach, 3-7/01/2005 (coorganisation avec Eva Bayer et Gabriele Nebe).
2. *Quadratic Forms*, Chili, 13-19/12/2007, coorganisatrice.
3. *Journées Codage et Cryptographie*, Bombannes, 17-21/03/2008. Je coorganise cette conférence avec Gilles Zémor, Il s'agit de la rencontre biannuelle du groupe de travail C2 du GDR Informatique Mathématique.
4. *CIMPA, Singapour* Avec Patrick Solé (université de Nice) et William Martin nous organisons une École d'été en Juillet 2009 sur le thème *Théorie des codes et programmation semidéfinie positive*.

Selected list of publications by Christine Bachoc

1. C. Bachoc, *Linear programming bounds for codes in Grassmannian spaces*, IEEE Trans. Inf. Th. **52-5** (2006), 2111-2125.

2. C. Bachoc, Y. Ben-Haim, S. Litsyn, *Bounds for codes in products of spaces, Grassmann and Stiefel manifolds*, IEEE Trans. Inf. Th., 54-3 (2008), 1024-1035.

3. C. Bachoc, F. Vallentin, *New upper bounds for kissing numbers from semidefinite programming*, J. Amer. Math. Soc. 21 (2008), 909-924.

4. C. Bachoc, F. Vallentin, *Optimality and uniqueness of the (4,10,1/6) spherical code*, Journal of Combinatorial Theory, Series A 116 (2009), 195-204.

5. C. Bachoc, F. Vallentin, *Semidefinite programming, multivariate orthogonal polynomials, and codes in spherical caps*, special issue in the honor of Eichii Bannai, European Journal of Combinatorics **30** (2009), 625-637.

6. C. Bachoc, G. Nebe, F.M. De Oliveira Filho, F. Vallentin, *Lower bounds for measurable chromatic numbers*, arXiv:math.MG/0801.1059, to appear in Geometric and Functional Analysis.

Doctoral students

- Philippe Gaborit, 1997
- David Masson, 2002
- Jean Creignou, 2008
- Hervé Diet

Summary Curriculum Vitae
of
Christophe Bavard

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: Christophe.Bavard@math.u-bordeaux1.fr

Date of birth: 25/12/1957, France. **Citizenship:** French.

Summary of positions held.

1. MCF ENS Lyon 1988–1994.
2. Professor Université Bordeaux 1, since 1994.

Selected list of publications

1. C. Bavard, *Systole et invariant d'Hermite*, J. Reine Angew. Math. **482** (1997), 93–120.
2. C. Bavard, *Familles hyperboliques de réseaux symplectiques*, Math. Ann. **320**, 4 (2001), 799–833.
3. C. Bavard, *Théorie de Voronoï géométrique. Propriétés de finitude pour les familles de réseaux et analogues.*, Bull. Soc. Math. Fr. **133**, 2 (2005), 205–257.
4. C. Bavard, *Invariant d'Hermite isotrope et densité des réseaux orthogonaux lorentziens*, Comment. Math. Helv. **82**, 1 (2007), 39–60.

Summary Curriculum Vitae
of
Karim Belabas

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: belabas@math.u-bordeaux1.fr

Personal home page: http://www.math.u-bordeaux.fr/~belabas/

Date of birth: July 28, 1971, Talence, France. **Citizenship:** France

Summary of positions held.

1. postdoctoral fellow, MPI Bonn (Germany), 1996–1998.
2. Maître de conférence at Université Paris 11, 1998–2005.
3. Professeur at Université Bordeaux 1, since 2005.

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 1999.

Other academic activities:
Participation in the organization of numerous international conferences; in particular organizer of the special semester at Institut Henri Poincaré, Paris on explicit methods in number theory, September 6-December 20, 2004.

Editorial boards: *Archiv der Mathematik*, *Journal de Théorie des Nombres de Bordeaux* .

Project Leader for the PARI/GP computer algebra system since 1996.

Selected list of publications by Karim Belabas

1. K. Belabas, *A relative van Hoeij algorithm over number fields*, Journal of Symbolic Computation, Vol. 37, pp. 641–668, 2004.

2. K. Belabas, *Topics in computational algebraic number theory*, Journal de Théorie des Nombres de Bordeaux, Vol. 16, pp. 19–63, 2004.

3. K. Belabas, *Paramétrisation de structures algébriques et densité de discriminants*, d'après Bhargava, *Astérisque* (séminaire Bourbaki), Vol. 299, pp. 267–299, 2005.

4. K. Belabas, F. Diaz y Diaz, E. Friedman, *Small generators of the ideal class group*, Math. Comp., Vol. 77, pp. 1185–1197, 2008.

5. K. Belabas, B. Allombert, *Practical Aurifeuillian factorization*, Journal de Théorie des Nombres de Bordeaux, Vol. 20, pp. 543–554, 2008.

6. K. Belabas, M. van Hoeij, J. Klüners, A. Steel, *Factoring polynomials over global fields*, Journal de Théorie des Nombres de Bordeaux, 2009, to appear, 21p.

Doctoral students.

- M. Laske, 2005
- A. Morra, 2006
- P. Mollin, V. Verneuil, in progress

Summary Curriculum Vitae
of
Denis Benois

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: denis.benois@math.u-bordeaux.fr

Date of birth: October 29th, 1965, Saint-Petersburg, Russia. **Citizenship:** Russia, France.

Summary of positions held.

1. 1991-1993 Assistant Professor, Russian State University of Education, Saint-Petersburg
2. 1994-1999 Associate Professor, Russian State University of Education, Saint-Petersburg
3. 1999-2004 Maître de Conférences, Université Bordeaux 1
4. 2004-2007 Professor, Université de Besançon
5. since 2008 Professor, Université Bordeaux I

Other academic activities:

Organization of the conferences:

1. *Représentations p-adiques*, Bordeaux, April 2006 co-organised with Laurent Herr and Pierre Parent
2. *Théorie d'Iwasawa et K-théorie*, Besançon, June 2006

Selected list of publications by Denis Benois.

1. D. Benois, *Périodes p-adiques et lois de réciprocité explicites.* Journal reine und angew. Math., **493** (1997), 115-151.
2. D. Benois, *On Iwasawa theory of crystalline representations.* Duke Math. J., **104** (2000), 211-267.
3. D. Benois, T. Nguyen Quang Do *Les nombres de Tamagawa locaux et le conjecture de Bloch et Kato pour les motifs $\mathbb{Q}(m)$ sur un corps abélien* Annales Sci. Ecole Normale Sup. Paris, **35** (2002), 641-672
4. D. Benois, L. Berger *Théorie d'Iwasawa des représentations cristallines II* Comm. Math. Helvetici **83** (2008), 603-677

Doctoral students.

- Floric Tavares Ribeiro, 2008
- Guillaume Le Roux, in progress

Summary Curriculum Vitae
of
Yuri Bilu

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: yuri@math.u-bordeaux1.fr

Personal home page: `http://www.math.u-bordeaux.fr/~yuri/`

Date of birth: May 9, 1964, Bordeaux, France **Citizenship:** France

Summary of positions held.

1. Research Assistant at Univetsität Basel, 1998-2000
2. Professor at Université Bordeaux 1 since 2000

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche since 2001
2. Lise Meitner Fellowship, 1997
3. Bourse Chateaubriand du Gouvernement Français, 1993
4. Wolf Scholarship, 1993

Other academic activities:

- co-organizer (with U. Zannier, E. Bombieri and L. Szpiro) the Diophantine Geometry trimester in Pisa in 2005
- speaker at *Séminaire Bourbaki* in 2003 and 2007
- plenary speaker at *Journées Arithmétiques* 2003
- visiting professor at CRM (Montréal), Hausdorff Center (Bonn), ETH Zürich, Universität Basel, etc.
- member of the Scientific Council of *Journal de Théorie des Nombres de Bordeaux*, and of the Editorial Board of *International Journal of Number Theory*
- Local coordinator of *Master ALGANT*

Selected list of publications by Yuri Bilu

1. Y. Bilu, G. Hanrot, P. Voutier, (with an appendix by M. Mignotte), *Existence of primitive divisors of Lucas and Lehmer numbers*, J. reine angew. Math. **539** (2001), 75–122.

2. Y. Bilu, *Catalan's conjecture (after Mihăilescu)*, Séminaire Bourbaki, Exposé 909, 55ème année (2002-2003); Astérisque 294 (2004), 1–26.

3. Y. Bilu, F. Luca, *Divisibility of class numbers: enumerative approach*, J. reine angew. Math. **578** (2005), 79-91.

4. Y. Bilu, *Catalan without logarithmic forms (after Bugeaud, Hanrot and Mihăilescu)*, J. Th. Nombres Bordeaux **17** (2005), 69–85.

5. Y. Bilu, *The Many Faces of the Subspace Theorem (after Adamczewski, Bugeaud, Corvaja, Zannier...)*, Séminaire Bourbaki, Exposé 967, 59ème année (2006–2007); *Astérisque* **317** (2008), 1–38.

6. Y. Bilu, P. Parent, *Serre's uniformity problem in the split Cartan case*, submitted; `arXiv:0807.4954` (2009).

Doctoral students.

- Guillaume Bordes, 2005
- Mourad Abouzaid, 2006
- Marco Illengo, 2008
- Benjamin Dupuy, 2009 (expected)
- Marco Strambi, 2009 (expected)

Summary Curriculum Vitae
of
Anna Cadoret

Affiliation: Institut de Mathématiques de Bordeaux, Université Bordeaux 1

Electronic mail: Anna.Cadoret@math.u-bordeaux1.fr

Personal home page: http://www.math.u-bordeaux1.fr/~cadoret/

Date of birth: September 22nd, 1977, Rennes, France. **Citizenship:** French.

Summary of positions held.

1. Allocataire-monitrice normalienne, ENS Cachan/Université Lille 1, 2002-2005.
2. Attachée temporaire à l'enseignement et la recherche, Université Lille 1, 2005-2006.
3. Maître de Conférences, Université Bordeaux 1, since September 2005.

Scholarships, prizes, distinctions.

1. Long term JSPS fellowship for young researchers P06033, 2006-2007.
2. Prime d'encadrement doctoral et de recherche, since september 2007.

Other academic activities:

1. Organisation (with Guillaume Ricotta) of the Number Theory seminar of Bordeaux, since September 2007.
2. Organisation (with Akio Tamagawa) of the workshop "Torsion of abelian schemes and rational points on moduli spaces", january 2010.

Selected list of publications by Anna Cadoret.

1. A. Cadoret, *Counting real Galois covers of the projective line*, Pacific Journal of Math., **219** 1 (2005), 101–129.
2. A. Cadoret, *Harbater-Mumford subvarieties of Hurwitz moduli spaces of covers*, Math. Annalen, **333** 2 (2005), 355–391.
3. A. Cadoret, *Lifting results for Galois covers of the projective line*, Israel Journal of Math. **164** (2008), 19–61.

4. A. Cadoret, *On the profinite regular inverse Galois problem*, IPubl. R.I.M.S. **44** 4 (2008), 1143–1169.

5. A. Cadoret, A. Tamagawa) *Torsion of abelian schemes and rational points on moduli spaces*, to appear in Proceedings of the R.I.M.S..

Summary Curriculum Vitae
of
Jean-Paul Cerri

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: `Jean-Paul.Cerri@math.u-bordeaux1.fr`

Personal home page: `http://www.math.u-bordeaux1.fr/~cerri/`

Date of birth: September 30, 1957, Besançon, France.

Citizenship: French.

Summary of positions held.

1. Maître de Conférences at Université Bordeaux 1, since 2007.

Scholarships, prizes, distinctions.

1. 2005 : Ph. D. in Mathematics, Université Nancy 1.

Selected list of publications by Jean-Paul Cerri.

1. J.-P. Cerri, *De l'Euclidianité de* $\mathbb{Q}\left(\sqrt{2+\sqrt{2+\sqrt{2}}}\right)$ *et* $\mathbb{Q}\left(\sqrt{2+\sqrt{2}}\right)$ *pour la norme*, J. Théorie des Nombres de Bordeaux **12** (2000), 103–126.
2. J.-P. Cerri, *Inhomogeneous and Euclidean spectra of number fields with unit rank strictly greater than 1*, J. Reine Angew. Math. **592** (2006), 49–62.
3. J.-P. Cerri, *Euclidean minima of totally real number fields: Algorithmic determination*, Math. Comp. **76** (2007), 1547–1575.
4. E. Bayer-Fluckiger, J.-P. Cerri, J. Chaubert, *Euclidean minima and simple central algebras*, to appear in International Journal of Number Theory.

Summary Curriculum Vitae
of
Renaud Coulangeon

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: renaud.coulangeon@math.u-bordeaux.fr

Personal home page: http://www.math.u-bordeaux.fr/~coulange/

Date of birth: August 31, 1968, Montluçon, France. **Citizenship:** France.

Summary of positions held.

1. Maître de Conférences at Université Bordeaux 1, since 1996.

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 2003.

Selected list of publications by Renaud Coulangeon.

1. R. Coulangeon, *Réseaux k-extrêmes* Proc. London Math. Soc. (3) **73**(1996), no. 3, 555–574.
2. R. Coulangeon, *Minimal vectors in the second exterior power of a lattice* J. Algebra **194**(1997), no. 2, 467–476.
3. R. Coulangeon, *Voronoï theory over algebraic number fields* Monographies de l'Enseignement Mathématique no **37**(2001), 147–162.
4. C. Bachoc, R. Coulangeon, G.Nebe, *Designs in Grassmanian spaces and lattices*, Journal of Algebraic Combinatorics, **16**(2002), no. 1, 5–19.
5. R. Coulangeon, *Spherical designs and zeta functions of lattices*, Int. Math. Res. Not. 2006, Art. ID 49620, 16 pp.
6. C. Bavard, R. Coulangeon, *Voronoï's legacy : trends in Geometry of Numbers*, IMRS (International Mathematics Research Surveys), in progress.

Ph. D. students.

- Bertrand Meyer, 2008

Summary Curriculum Vitae
of
Boas Erez

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: erez@math.u-bordeaux1.fr

Personal home page:

Date of birth: March 12, 1962, Chur, Switzerland **Citizenship:** Swiss

Summary of positions held.

1. Assistant, Université de Genève
2. Assistant Professor, Harvard University, 1990–1993
3. Professor at Université Bordeaux 1, since 1993

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, from 1994 to 2006

Other academic activities: Organization of the conferences:

1. *Année sur les modules galoisiens*, Lausanne, 1989–1990
2. *Colloque Jeunes Chercheurs (Bordeaux)*, Bordeaux, 1996
3. *Théorie de la ramification*, Luminy, 1999
4. *Ecole TANGA*, Lille, 2001
5. *Galois modules in Arithmetic*, Lille,2001
6. *Ramification en géométrie arithmétique*, Paris, 2002
7. *Fonctions L et modules galoisiens*, Bordeaux, 2004
8. *Colloque international de l'Université à l'è re du numérique*, Bordeaux, 2008

Selected list of publications by Boas Erez

1. B. Erez, M.J Taylor, *Hermitian modules in Galois extensions of number fields and Adams operations,* Annals of Math., **135**(1992), 271–291.

2. B. Erez, T. Chinburg, G. Pappas, M.J. Taylor, *ϵ-constants and the Galois structure of de Rham cohomology,* Annals of Math. **146**(1997), 411–473.

3. B. Erez, Ph. Cassou-Noguès et M.J. Taylor, *Invariants of a quadratic form attached to a tame covering of schemes,* J. Th. des Nombres de Bordeaux **12**(2000), 597–660.

4. B. Erez, *Geometric trends in Galois module theory,* Galois representations in arithmetic algebraic geometry (Durham, 1996), eds A. Scholl et R. Taylor, 115–145, London Math. Soc. Lecture Note Ser., **254**, Cambridge Univ. Press, Cambridge, 1998.

5. B. Erez, T. Chinburg, G. Pappas, M.J. Taylor, *Riemann-Roch type theorems for arithmetic group schemes with a finite group action,* J. reine und angew. Math. **489**(1997), 151–187.

6. B. Erez, T. Chinburg, G. Pappas, M.J. Taylor, *Tame actions of group schemes: integrals and slices,* Duke Math. J., **82** (1996), 269–308.

7. B. Erez, Ph. Cassou-Noguès et M.J. Taylor, *Fröhlich twisted bundles,* St. Petersburg Math. J., **11**(2005), 105–122, volume dedicated to S. Vostokov, translated in AMS Russian Translations, Series 2, **219**(2006).

Doctoral students

- Isabelle Dubois, 1997
- Luca Spriano, 1999
- Niels Borne, 2000
- Jean-Yves Degos, 2000
- Stéphane Vinatier, 2000
- Elena Soverchia, 2002
- Remy Eupherte, 2003
- Bertrand Asseray, 2004
- Francis Brown, 2006
- Baptiste Morin, 2008

Summary Curriculum Vitae
of
Jean Gillibert

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: jean.gillibert@math.u-bordeaux1.fr

Date of birth: May 12, 1978, Le Tréport, France. **Citizenship:** French.

Summary of positions held.

1. Allocataire-moniteur at the Université de Caen, from September 2001 to September 2004
2. ATER at the Université de Caen, from September 2004 to September 2005
3. Postdoctoral Assistant at the École Polytechnique Fédérale de Lausanne, from September 2005 to September 2006
4. Postdoctoral Fellow (EPSRC Research Fellow) at the University of Manchester, from September 2006 to September 2007
5. Maître de conférence at the Université Bordeaux 1, since September 2007.

Selected list of publications by Jean Gillibert.

1. J. Gillibert, *Invariants de classes : le cas semi-stable*, Compositio Mathematica 141 (2005), 887-901.
2. J. Gillibert, *Variétés abéliennes et invariants arithmétiques*, Annales de l'Institut Fourier 56 (2006), 277-297.
3. J. Gillibert, *Invariants de classes : propriétés fonctorielles et applications à l'étude du noyau*, Journal de Théorie des Nombres de Bordeaux 19 (2007), 415-432.
4. J. Gillibert, *Invariants de classes : exemples de non-annulation en dimension supérieure*, Mathematische Annalen 338 (2007), 475-495.
5. J. Gillibert, *Prolongement de biextensions et accouplements en cohomologie log plate*, accepted for publication in International Mathematics Research Notices (2009).

Summary Curriculum Vitae
of
Alain Hénaut

Affiliation: Institut de Mathématiques, Université Bordeaux 1 et CNRS

Electronic mail: Alain.Henaut@math.u-bordeaux1.fr

Date of birth: September 10, 1945, Paris, France. **Citizenship:** French.

Summary of positions held.

1. Professor at Université Bordeaux 1, since 1995.
2. Visiting Professor: Rio de Janeiro, IMPA (1998) ; Princeton, IAS (1999 and 2002) ; Tokyo and Nagoya (2000).

Selected list of publications by Alain Hénaut.

1. A. Hénaut, *Sur la linéarisation des tissus de* C^2. Topology, **32** (1993), 531-542.
2. A. Hénaut, *Sur l'algébrisation des tissus de codimension* n *de* C^{2n}. Ann. Sci. École Norm. Sup., **31** (1998), 131-143.
3. A. Hénaut, *On planar web geometry through abelian relations and connections.* Ann. of Math. **159** (2004), 425-445.
4. A. Hénaut, *On planar web geometry through abelian relations and singularities.* in Inspired by S. S. Chern, Nankai Tracts in Math. **11**, Ed. P. A. Griffiths, World Scientific, Singapore, 2006, 269-295.

An introductory book.

1. *Éléments de géométrie.* with A. Yger, Mathématiques à l'Universié, Ellipses, Paris, 2004.

Docotoral students.

- G. Mignard, 1999
- O. Ripoll, 2005

Summary Curriculum Vitae
of
Laurent Herr

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: `Laurent.Herr@math.u-bordeaux1.fr`

Date of birth: December 12, 1967, Colmar, France. **Citizenship:** French.

Summary of positions held.

1. Assistant professor at Université Bordeaux 1, since 1995.

Other academic activities: Head of Number Theory Seminar, between 2002 and 2005.

Selected list of publications by Laurent Herr.

1. L. Herr, *Sur la cohomologie galoisienne des corps p-adiques.* Bull. Soc. Math. France, **126**(1998), 563–600.
2. L. Herr, *$\Phi - \Gamma$-modules and Galois cohomology.* In "Invitation to higher local fields", Geom. Topol. Monogr., **3**(2000), 263–272.
3. L. Herr, *Une nouvelle approche de la dualité locale de Tate.* Math. Ann., **320**(2001), 307–337.

Summary Curriculum Vitae
of
Jean-François Jaulent

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: Jean-Francois.Jaulent@math.u-bordeaux1.fr

Date of birth: October 01, 1954, Err, France. **Citizenship:** French.

Summary of positions held.

1. Assistant at Université de Franche Comté, 1978–1985.
2. Researcher at CNRS, 1985–1986.
3. Assistant professor at Université Bordeaux 1, 1986–1992.
4. Professor at Université Bordeaux 1, since 1992.

Other academic activities:
Managing editor of Journal de Théorie des Nombres de Bordeaux. President of Hiring Comittee in Mathematics, 2000-2004.

Selected list of publications by Jean-François Jaulent.

1. J. Jaulent, *Extensions quadratiques 2-birationnelles de corps de nombres totalement réels*, Pub. Matemàtiques **44** (2000), 343–351.
2. J. Jaulent, *Sur le noyau sauvage des corps de nombres et le groupe des classes logarithmiques*, Math. Z. **238** (2001), 335–354.
3. J. Jaulent, *Classes logarithmiques des corps totalement réels.* Acta Arith., **103** (2002), 1–7.
4. J. Jaulent, *Classes logarithmiques des corps totalement réels*, Acta Arithmetica **103** (2002), 1–7.
5. J. Jaulent, *Sur les invariants d'Iwasawa des tours cyclotomiques*, Canadian Math. Bull. **46** (2003), 178–190.
6. J. Jaulent, *Approche logarithmique des noyaux étales sauvages des corps de nombres*, J. Numb. Th. **120** (2006), 72–91.
7. J. Jaulent, *Plongements ℓ-adiques et ℓ-nombres de Weil*, J. Théor. Nombres Bordeaux **20** (2008), 335–351.

8. J. Jaulent, *Compactification ℓ-adique de $\mathbb{R}$*, Proyecciones **27** (2008), 219–235.

Doctoral students.

- T. Zran Zankoe,
- A. Michel,
- H. Thomas,
- F. Soriano,
- O. Sauzet,
- S. Bosca,
- K. Brandin,
- R. Validire,
- L. Caputo,
- C. Bourbon

Summary Curriculum Vitae
of
Arnaud Jehanne

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: jehanne@math.u-bordeaux1.fr

Personal home page: http://www.math.u-bordeaux.fr/~jehanne/

Date of birth: November 17, 1964, Saint-Malo, France. **Citizenship:** French.

Summary of positions held.

1. ATER at Université Bordeaux 1 from september 1993 to 1994
2. Maître de conférences at Université Bordeaux 1, since september 1994.
3. 2004/2005 : Délégation à l'Université de Siegen.

Other academic activities:

1. Participation in the organization of numerous conferences
2. Membership of editorial boards
3. Organization, with Christian Maire, of the Cinquième Colloque Jeunes Chercheurs en Théorie des Nombres, June 2000).
4. Organization, with Pierre Charollois, Boas Erez, Martin Taylor and Stéphane Vinatier, of the conference in honor of Philippe Cassou-Noguès: "Modules galoisiens et fonctions L", december 2004 at Bordeaux.

Selected list of publications by Arnaud Jehanne.

1. A. Jehanne, P. Cassou-Noguès, *Formes primitives et représentations galoisiennes de type octaédral*, Experimental Mathematics, **5.2** (1996) 275–290.

2. A. Jehanne, P. Cassou-Noguès, *Espaces homogènes principaux et points de* 2*-division de courbes elliptiques*, Journal of the London Mathematical Society **(2) 63** (2001) 275–287.

3. A. Jehanne, *Realization over* $\mathbb{Q}$ *of the groups* $\tilde{A}_5$ *and* $\hat{A}_5$, Journal of Number Theory **89** (2001), 340–368.

4. A. Jehanne, M. Müller, *Modularity of an odd icosahedral representation*, Journal de théorie des nombres de Bordeaux **12.2** (2000), 475–482.

5. A. Jehanne, X. Roblot, J. Sands, *Numerical verification of the Stark-Chinburg conjecture for some icosahedral representations*, Experimental Mathematics **12.4** (2003), 419–432.

Summary Curriculum Vitae
of
Qing Liu

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: `Qing.Liu@math.u-bordeaux1.fr`

Personal home page: `http://www.math.u-bordeaux1.fr/~liu/`

Date of birth: July 1963, Nancheng, China. **Citizenship:** French.

Summary of positions held.

1. Postdoc in Inst. Hautes Études Sci (IHES), France, 1987–1988.
2. Chargé de recherche, CNRS, Université Bordeaux 1, 1988–2004.
3. Professor, Université Bordeaux 1, since 2004.

Selected list of publications by Qing Liu.

1. Q. Liu: *Conducteur et discriminant minimal de courbes de genre* 2, Compositio Math., **94** (1994), 51–79.
2. B. Edixhoven, Q. Liu, D. Lorenzini: *The p-part of the group of components*, J. Alg. Geometry **5** (1996), 801–813.
3. Q. Liu, D. Lorenzini: *Models of curves and finite covers*, Compositio Math. **118** (1999), 61–102.
4. Q. Liu, D. Lorenzini, M. Raynaud: *Néron models, Lie algebras, and reduction of curves of genus one*, Invent. Math. **157** (2004), 455–518.
5. Q. Liu, D. Lorenzini, M. Raynaud: *On the Brauer group of a surface*, Invent. Math. **159** (2005), 673–676.
6. Q. Liu, J. Sebag: *Grothendieck rings of varieties and piecewise isomorphisms*, 26 pages, to appear in Math. Z.

An introductory book.

1. *Algebraic Geometry and Arithmetic Curves* Oxford Graduate Texts in Mathematics, **6** (2002), 576 pages, Oxford University Press. New edition in 2006.

Doctoral students.

- Huajun LU, starting in 2007-2008, former ALGANT student
- Cédric PÉPIN, starting in 2008-2009, master in Paris 6

Summary Curriculum Vitae
of
Pierre Parent

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: Pierre.Parent@math.u-bordeaux1.fr

Date of birth: Janueary 11, 1972, Nantes, France. **Citizenship:** French.

Summary of positions held.

1. Maître de conférences at Université Bordeaux 1, since 2000.

Scholarships, prizes, distinctions.

1. 1999 : Ph. D. in mathematics, université de Rennes 1.

Other academic activities:
Organizer, with D. Benois and L. Herr, of a study group on "p-adic representations" held since 2001, supported by an ACI (Action concertée incitative) "jeunes chercheurs" of the French gouvernement.

Selected list of publications by Pierre Parent.

1. P. Parent, *Bornes effectives pour la torsion des courbes elliptiques sur les corps de nombres.* Journal fur die reine und angewandte Mathematik **506** (1999), 86–116.
2. P. Parent, *Torsion des courbes elliptiques sur les corps cubiques.* Annales de l'institut Fourier **50**, n. 3 (2000), 723–749.
3. P. Parent, *Towards the triviality of $X_0^+(p^r)(\mathbf{Q})$ for $r > 1$.* Compos. Math. **141** (2005), no. **3**, 561-572.
4. P. Parent, A. Yafaev, *Proving triviality of rational points on some Atkin-Lehner quotients of Shimura curves*, Math. Annalen **339** (2007), no. 4, 915-935.
5. Y. Bilu, P. Parent, *Integral j-invariants and Cartan structures for elliptic curves*, C. R. Acad. Sci. Paris, Ser. I **346** (2008), 599–602.
6. Y. Bilu, P. Parent, *Serre's uniformity problem in the split Cartan case* (2009), submitted, available at http://arxiv.org/abs/0807.4954.

Doctoral students.

- F. Gillibert, in progress

Summary Curriculum Vitae
of
Guillaume Ricotta

Affiliation: Institut de Mathématiques de Bordeaux, Université Bordeaux 1

Electronic mail: Guillaume.Ricotta@math.u-bordeaux1.fr

Personal home page: http://www.math.u-bordeaux1.fr/~ricotta/

Date of birth: April 9, 1976, Beauvais, France. **Citizenship:** French.

Summary of positions held.

1. Postdoctoral fellow under the direction of A. Granville, Université de Montréal, 2004-2005
2. Maître de Conférences, Université Bordeaux 1, since September 2005

Scholarships, prizes, distinctions.

1. ANR French grant "Arithmetic Aspects of Random Matrices and Quantum Chaos", since 2005
2. Prime d'encadrement doctoral et de recherche, since September 2007

Other academic activities:

1. Co-organiser with H. Helfgott and H. Kadiri of the seminar of Analytic Number Theory in Université de Montréal, 2004-2005
2. Co-organiser with A. Cadoret of the Number Theory seminar of Bordeaux, since September 2007.
3. Co-organiser with M.-L. Chabanol and S. Nonnenmacher of the Winter School on Quantum Chaos in Université de Bordeaux 1 (January 26-30, 2009)

Selected list of publications by Guillaume Ricotta.

1. G. Ricotta, *Real zeros and size of Rankin-Selberg L-functions in the level aspect*, Duke Mathematical Journal, Vol. 131, No. 2 (2006).
2. G. Ricotta, *Statistics for low-lying zeros of Hecke L-functions in the level aspect*, Mathematisches Forschungsinstitut Oberwolfach, Report No. 34/2007, Explicit Methods in Number Theory (July 15th-July 21st), 1924 (2007).

3. G. Ricotta, T. Vidick, *Hauteur asymtotique des points de Heegner*, Canadian Journal of Mathematics, Vol. 60, No. 6, 14061436.

4. P. Gao, R. Khan, G. Ricotta, *The second moment of Dirichlet twists of Hecke L-functions*, to be published in Acta Arithmetica.

5. G. Ricotta, N. Templier, *Comportement asymptotique des hauteurs des points de Heegner*, to be published in Journal de Théorie des Nombres de Bordeaux.

6. G. Ricotta, E. Royer, *Lower order terms for the one-level densities of symmetric power L-functions in the level aspect*, to be published in Acta Arithmetica.

Summary Curriculum Vitae
of
Julien Sebag

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: julien.sebag@math.u-bordeaux.fr

Date of birth: June 21, 1976, Paris, France. **Citizenship:** France.

Summary of positions held.

1. Allocataire-moniteur at Université Paris 6/12, from September 1999 to September 2003
2. ATER at Université Paris 6, from September 2002 to September 2003
3. Maître de conférence at Université Bordeaux 1, since September 2003.

1. PhD in mathematics, Université Paris 6. Thesis Advisor: François Loeser.
2. HDR, Université Bordeaux 1

Selected list of publications by Julien Sebag.

1. J. Sebag, J. Nicaise, *Serre invariants and Weil restriction, Journal of Algebra 319 (2008). 15851610.*
2. J. Sebag, J. Nicaise, *Motivic Serre invariants, ramification, and the analytic Milnor fiber,, Invent. Math. 168:1, 2007, 133-173*
3. *J. Sebag, L. Loeser, Motivic integration on smooth rigid varieties and invariants of degenerations, Duke Mathematical Journal, 119, 315-344 (2003).*
4. Q. Liu, J. Sebag, *The Grothendieck ring of varieties and piecewise isomorphisms*, to be published in Math. Z. (2009)
5. J. Sebag, *Intégration motivique pour les schémas formels*, to be published in Bull. Soc. Math. France.
6. J. Sebag, *Rationalité des fonctions Zêta et des séries de Poincaré motiviques*, to be published in Manuscripta Mathematica.

Summary Curriculum Vitae
of
Alain Yger

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: yger@math.u-bordeaux.fr

Date of birth: January 26, 1952, Guéret, France. **Citizenship:** French.

Summary of positions held.

1. Professor Lycée de Voiron, Isère, 1977-1978.
2. Assistant Professor, Ecole Polytechnique, Palaiseau, 1978-1985
3. Professor Université Bordeaux 1, 1985 - 1988
4. Professor University of Maryland, 1988 - 1989
5. Professor Université Bordeaux 1, since 1990

Other academic activities: President of Hiring Comittee in Mathematics, 2004-2008.

Selected list of publications by Alain Yger.

1. A. Berenstein, A. Yger, *Effective Bezout identities in* $\mathbf{Q}[z_1, \ldots, z_n]$, Acta Math. 66 (1991), 69–120.
2. A. Berenstein, A. Yger, *Green currents and analytic continuation* J. Analyse Math (1998), 1-50.
3. A. Berenstein, A. Yger, *Residue calculus and effective Nullstellensatz*, Amer. J. Math 121, 4 (1999), 723–796.
4. A. Berenstein, R. Gay, A. Vidras, A. Yger, *Residue currents and Bézout identities, Monography*. Progress in Math. 114, Birkhäuser, 1993, 158 p.
5. A. Tsikh, A. Yger, *Residue currents* Journal of Mathematical Sciences, vol. 120 (6) (2004) 1916–1971.
6. A. Shchuplev, A. Tsikh, A. Yger, *Residual kernels with singularities on coordinate planes* Proceedings of the Steklov Institute, Moscow, 253 (2006), 256–274.
7. M. Elkadi, A. Yger, *Residue calculus and applications* Publications of the Research Institute for Mathematical Sciences, Kyoto, 43 (2007) 55–74.

Doctoral students.

- E. Maghras
- M. Elkadi
- J.F Crouzet
- O. Boiteau
- H. Zhang
- T. Pellé
- J. Silipo
- Z. Peter
- M. Denkowski
- M. Weimann
- E. Nasr

Summary Curriculum Vitae
of
Gilles Zémor

Affiliation: Institut de Mathématiques, Université Bordeaux 1

Electronic mail: zemor@math.u-bordeaux1.fr

Date of birth: January 5, 1963, Paris, France. **Citizenship:** French.

Summary of positions held.

1. Associate Professor at École Nationale Supérieure des Télécommunications, Paris, 1990–2006.
2. Professor at Université Bordeaux 1, since 2006.

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et recherche, since 2007.

Other academic activities:
Associate Editor for journals *IEEE Transactions on Information Theory* (2003–2006), and *Advances in mathematics of communications*.
Organizing or Program committee of international conferences:

1. Twelfth, eleventh and tenth IMA International Conference on Cryptography and Coding, Cirencester (UK), 2009, 2007 and 2005,
2. IEEE International Symposium on Information Theory, Seattle, USA, 2006,
3. WCC 2005 International Workshop on Coding and Cryptography, Bergen.

Selected list of publications by Gilles Zémor

1. G. Zémor, *On Expander Codes*, IEEE Trans. on Information theory, IT-47 No 2, (2001) pp. 835–837.
2. A. Barg, G. Zémor, *Distance properties of expander codes*, IEEE Trans. on Information Theory, IT-52, No 1 (2006) pp. 78–90.
3. J.-P. Tillich, G. Zémor, *The Gaussian isoperimetric inequality and error probabilities for the Gaussian channel*, IEEE Trans. on Information theory, IT-50 No 2 (2004) pp. 328–331.

4. P. Gaborit, G. Zémor, *On the construction of dense lattices with a given automorphism group*, Annales de l'Institut Fourier, vol. 57 No. 4 (2007), pp. 1051–1062.

5. O. Serra, G. Zémor, *Large sets with small doubling modulo p are well covered by an arithmetic progression*, Annales de l'Institut Fourier, to appear.

Textbook. G. Zémor, *Cours de cryptographie*, Cassini, 2000.

Doctoral students.

- Walid Benameur, 2000
- Sabine Leveiller, 2004
- Anthony Leverrier, Bruno Kindarji, Amandine Jambert, in progress

Teaching staff
of the
Mundus Master ALGANT
in
CHENNAI

- Prof. V. Balaji
- Prof. C. D'Cruz
- Prof. S. Kannan
- Prof. S. Kesavan
- Prof. S. Nayak
- Prof. P. Rath
- Prof. C. Seshadri
- Prof. S. Sridharan
- Prof. R. Srinivasan

Summary Curriculum Vitae
of
Vikraman Balaji

Affiliation: Chennai Mathematical Institute

Date of birth: September 15, 1962, India **Citizenship:** Indian

Diplomas: Ph.D (Mathematics) University of Madras, 1991.

Summary of positions held.

1. Fellow, School of Mathematics, Chennai Mathematical Institute, 1992-1995
2. Reader, School of Mathematics, Chennai Mathematical Institute, 1995-2000
3. Fellow(E), Institute of Mathematical Sciences, C.I.T Campus, 2000-2001
4. Reader, School of Mathematics, Chennai Mathematical Institute, 2001-2002
5. Associate Professor, School of Mathematics, Chennai Mathematical Institute, 2002-2006
6. Professor, Chennai Mathematical Institute, since 2006

Scholarships, prizes, distinctions.

1. Associate Member at the International Centre for Theoretical physics, 1996-2002
2. Shanti Swarup Bhatnagar Prize for Mathematical Sciences, 2006
3. Fellow of the Indian Academy of Sciences, 2007
4. J.C. Bose National Fellowship, 2008

Selected list of publications by Vikraman Balaji

1. V. Balaji, I. Biswas, D.S. Nagaraj, P.E. Newstead, *Universal Families on moduli of principal bundles*, to appear in Int. Math. Res. Not. 2006, 16 pp.
2. V. Balaji, I. Biswas, D.S. Nagaraj, *Tannakian Krull-Schmidt Theorem*, J.Reine.Angew.Math,590, 227-230 (2006).
3. V. Balaji, I. Biswas, D.S. Nagaraj, A.J. Parameswaran, *Krull-Schmidt reduction of principal bundles in arbitrary characteristic*, Expo. Math, 24 (2006), no. 3, 281-289.

4. V. Balaji, *Principal bundles on projective varieties and the Donaldson-Uhlenbeck compactification*, Journal Differential Geometry 76, (2007), pp 351-398.

5. V. Balaji, A. Dey, R. Parthasarthi, *Geometry of parabolic bundles on surfaces-I, (The Donaldson-Uhlenbeck compactification)*, Proceedings of the Indian Academy of Sciences, 118, No 1, February 2008, pp 43-79.

6. V. Balaji, J. Kollar, *Holonomy groups of stable vector bundles*, RIMS Journal, Kyoto University 44 No 2, May 2008, pp 183-211.

Summary Curriculum Vitae
of
Clare D'Cruz

Affiliation: Chennai Mathematical Institute

Date of birth: August 14, 1968, India **Citizenship:** Indian

Diplomas: Ph.D (Mathematics) Indian Institute of Technology, Bombay, 1998

Summary of positions held.

1. Fellow, School of Mathematics, Chennai Mathematical Institute, 1998-2003
2. Fellow(E), Institute of Mathematical Sciences, C.I.T Campus, 2003-2006
3. Reader, School of Mathematics, Chennai Mathematical Institute, 2006-2007
4. Associate Professor, School of Mathematics, Chennai Mathematical Institute, since 2007

Selected list of publications by Clare D'Cruz

1. C. D'Cruze, *A formula for the multiplicity of the multigraded extended Rees algebra*, Comm. Algebra 31 (2003), no. 6, 2573-2585.
2. C. D'Cruze, J. Verma, V. Kodiyalam, *Bounds on the a-invariant and reduction numbers of ideals*, J. Algebra 274 (2004), no. 2, 594-601.
3. C. D'Cruze, A. Guerrieri, *Multi-graded Hilbert coefficients*, Commutative Algebra with a focus on geometric and homological aspects; 59-68, Lect. Notes Pure Appl. Math., 244, Chapman & Hall/CRC, Boca Raton, FL, 2006.
4. C. D'Cruze, *The integral closedness of MI and the formula of Hoskin and Deligne for finitely supported ideals*, J. Algebra 304 (2006), no. 2, 613-632.
5. C. D'Cruze, *Multi-graded extended Rees algebras of m-primary ideals*, Beitrge zur Algebra und Geometrie Contributions to Algebra and Geometry 47 (2006) 385-396.
6. C. D'Cruze, *The Hilbert Coefficients of the fiber cone and the a-invariant of the associated graded ring*, to appear in Canadian Journal of Mathematics.

Summary Curriculum Vitae
of
Senthamarai Kannan

Affiliation: Chennai Mathematical Institute

Date of birth: July 3, 1966, India **Citizenship:** Indian

Diplomas: Ph.D University of Madras, 2001.

Summary of positions held.

1. Fellow, Institute of Mathematical Sciences, C.I.T Campus, 2000-2002
2. Associate Professor, School of Mathematics, Chennai Mathematical Institute, 2002-2008
3. Professor, Chennai Mathematical Institute, since 2008

Selected list of publications by Senthamarai Kannan

1. J. Juyumaya, S. Senthamarai Kannan, *Braid relations in the Yokonuma- Hecke Algebra*, J.Algebra, Vol. 239, (2001) pp.272-297.
2. S.S. Kannan, *Projective normality of wonderful compactification of semisimple adjoint groups*, Math.Z, Vol. 239, (2002), pp. 673-682.
3. S.S. Kannan, K.V. Subrahmanyam, *On representaions of special orthogonal groups over fields of positive characteristics*, A trib- ute to C.S.Seshadri (Chennai, 2002), 474-499, Trends Math, Birkauser, Basel, 2003.
4. V. Balaji, S.S. Kannan, K.V. Subrahmanyam, *Cohomology of line bundles on Schubert Varieties - I*, Transformation Groups, Vol.9, No.2, (2004), pp. 105-131.
5. S.S. Kannan, *Cohomology of line bundles on Schubert Varieties in the Kac-Moody setting*, J. Algebra, Vol. 310, (2007), pp. 88-107.
6. S.S. Kannan, S.K. Pattanayak, Pranab Sardar, *Projective normality of quotient varieties modulo finite groups*, Proceedings of AMS, Vol.137, No.3, March 2009, pp. 863-867.

Summary Curriculum Vitae
of
Srinivasan Kesavan

Affiliation: Chennai Mathematical Institute

Electronic mail: kesh@cmi.ac.in

Date of birth: Janaury 17, 1952, India **Citizenship:** Indian

Diplomas: Docteur-es-Sciences Mathématiques, Université Pierre et Marie Curie (Paris VI), 1979.

Summary of positions held.

1. Professor, The Institute of Mathematical Sciences, Chennai.
2. Deputy Director, Chennai Mathematical Institute.

Scholarships, prizes, distinctions.

1. Fellow of the National Academy of Sciences, 1997
2. Tamil Nadu Scientist Award, 1998
3. C. L. Chandna Award for Outstanding Contributions to Mathematics Research and Teaching, 1999
4. Member, National Board for Higher Mathematics
5. Fellow of the Indian Academy of Sciences, Bangalore, 2008

Selected list of publications by Srinivasan Kesavan

1. S. Kesavan, *Topics in Functional Analysis and Applications*, Wiley-Eastern Ltd., 1989, (John Wiley and Sons Inc., 1989, I).
2. S. Kesavan, *Nonlinear Functional Analysis - A First Course*, Texts and Readings in Mathematics (TRIM), 28, Hindustan Book Agency, 2004.
3. S. Kesavan, *Symmetrization and Applications*, Series in Analysis, Volume 3,World Scientific, 2006.
4. C. Amrouche, P.G. Ciarlet, L. Gratie, S. Kesavan, *On Saint Venant's compatibility conditions and Poincaré's lemma*, Comptes Rend. Acad. Sc., Paris, Ser. I, 342, pp. 887-891, 2006.

5. C.é Amrouche, P.G. Ciarlet, L. Gratie, S. Kesavan, *On the characterization of matrix fields as linearized strain tensor fields*, J. Math. Pures et Appliquées, 86, pp. 116-132, 2006.

6. S. Kesavan, T. Muthukumar, *Low cost control problems on perforated and non-perforated domains*, Proc. Indian Acad. Sci., (Math. Sci.), 118, No. 1, pp. 133-157, 2008.

Summary Curriculum Vitae
of
Suresh Nayak

Affiliation: Chennai Mathematical Institute

Electronic mail: snayak@cmi.ac.in

Citizenship: Indian

Diplomas: Ph. D., Mathematics, Purdue University, 1998.

Summary of positions held.

1. Fellow, Chennai Mathematical Institute, 2004-2005
2. Fellow E, Chennai Mathematical Institute, 2005-2008
3. Visiting Associate Professor, Purdue University, 2007-2008
4. Visiting Associate Professor, University of Nebraska, 2008
5. Associate Professor, Chennai Mathematical Institute, since 2008

Selected list of publications by Suresh Nayak

1. S. Nayak, *Pasting pseudofunctors*, Contemporary Math., Vol. 375, Amer. Math. Soc., Providence, R.I. (2005), 195-271.
2. J. Lipman, S. Nayak, P. Sastry, *Pseudofunctorial behavior of Cousin complexes on formal schemes*, Contemporary Math., Vol. 375, Amer. Math. Soc., Providence, R.I. (2005), 3-133.
3. S. Nayak, P. Sastry, *Applications of duality theory to Cousin complexes*, J. Alg., 317, (2007), 43-86.
4. S. Nayak, *Compactification for essentially finite-type maps*, to appear in Advances in Mathematics.

Summary Curriculum Vitae
of
Purusottam Rath

Affiliation: Chennai Mathematical Institute

Electronic mail: rath@cmi.ac.in

Citizenship: Indian

Diplomas: PhD, Harish Chandra Research Institute, 2006

Summary of positions held.

1. Post-Doctoral Fellow, Institute of Mathematical Sciences, Chennai, 2006-2007
2. Coleman Post-doctoral fellow, Queen's University, 2007-2008
3. Assistant Professor at CMI, 2008

Scholarships, prizes, distinctions.

1. Qualified the National Eligibility Test (N. E. T.) for lecturership conducted by U. G. C. - C. S. I. R. in December 1998 and was awarded C. S. I. R. Fellowship

Selected list of publications by Purusottam Rath

1. S.D. Adhikari, P. Rath, *Davenport Constant with weights and related questions*, Integers, Volume 6 (2006)
2. S. Gun, F. Luca, P. Rath, B. Sahu, R. Thangadurai, *Distribution of Residues Mod p*, Acta Arithmetica, 129 (2007), 325-333
3. P. Rath, K. Srilakshmi, R. Thangadurai, *On Davenport's Constant*, International Journal of Number Theory. 4 (2008), no. 1, 107-115.
4. P. Rath, *Two exceptional classes of real numbers*, Funct. Approx. Comment. Math, XXXVIII.1 (2008), 81-92.
5. S.D. Adhikari, R. Balasubramanian, F. Pappalardi, P. Rath, *Some zero-sum constants with weights*, Proc. Indian Acad. Sci. Math. Sci. 118 (2008), no. 2, 183-188.
6. S. Gun, M.R. Murty, P. Rath, *Summation methods and distribution of eigenvalues of Hecke operators*, Funct. Approx. Comment. Math. Volume 39, Number 2 (2008), 191-204.

Summary Curriculum Vitae
of
Conjeeveram Srirangachari Seshadri

Affiliation: Chennai Mathematical Institute

Date of birth: February 29, 1932, Kancheepuram, India **Citizenship:** Indian

Diplomas: Ph.D. Bombay University, 1958.

Summary of positions held.

1. Professor, TIFR, 1965-1975
2. Sr. Professor, TIFR 1975-84
3. Sr. Professor, The Institute of Mathematical Sciences Chennai, 1984-89
4. Director, Chennai Mathematical Institute, since 1989

Scholarships, prizes, distinctions.

1. Shanti Swarup Bhatnagar Prize, 1972
2. Srinivasa Ramanujan Medal of Indian National Science Academy, 1985
3. Shanti Swarup Bhatnagar Medal, 1995
4. G.M. Modi Science Award, 1995
5. Srinivasa Ramanujan Birth Centenary Award (1995-96) of Indian Science Congress Association
6. D.Sc. Degree (Honoris Causa) of the Banaras Hindu University, Varanasi, 1996
7. National Research Professorship of the Ministry of Human Resource Development Government of India, 2006
8. The Trieste Science Prize of the Academy of Sciences for the Developing World, 2006
9. H.K. Firodia Award for Excellence in Science and Technology, Padma Bhushan by the President of India, 2009.

Selected list of publications by Conjeeveram Srirangachari Seshadri

1. C.S. Seshadri, *Methods of Construction of the Picard Variety, International Conference on Teaching and Research in Mathematics (A Tribute to Fr. C. Racine, S.J.)*, Racine Research Centre, Department of Mathematics, Loyola College, Chennai-34, India, pp.53-72.

2. D.S. Nagaraj, C.S. Seshadri, *Degenerations of the moduli spaces of vector bundles on curves II (Generalized Gieseker moduli spaces)*, Proc. Indian Acad. Sci. (Math. Sci.) 109, No.2, May 1999, pp.165-201.

3. C.S. Seshadri, *Chevalley: Some Reminiscences, Transformation Groups*, Vol.4, No.2-3, 1999, p.119- 125.

4. C.S. Seshadri, *Degenerations of the moduli spaces of vector bundles on curves*, ICTP Lecture Notes 1, 2000, 205-265.

5. V. Balaji, C.S. Seshadri, *Semistable principal bundles-I*, Journal of Algebra, 258, (2002), 321-347.

6. P. Littelmann, C.S. Seshadri, *A Pieri-Chevalley type formula for K(G=B) and Standard Monomial Theory*, Stuudies in Memory of Issai Schur, Progress in Mathematics, Birkhauser, 2003, 155-176.

Summary Curriculum Vitae
of
Shrihari Sridharan

Affiliation: Chennai Mathematical Institute

Date of birth: May 27, 1977, Chennai, India **Citizenship:** Indian

Diplomas: Ph.D (Mathematics) University of Manchester, 2004.

Summary of positions held.

1. Senior Lecturer in Department of Mathematics, Indian Institute of Technology Guwahati (IITG), 2007-2008
2. Assistant Professor, Chennai Mathematical Institute, since 2008

Scholarships, prizes, distinctions.

1. Associate Member at the International Centre for Theoretical physics, 1996-2002
2. Shanti Swarup Bhatnagar Prize for Mathematical Sciences, 2006
3. Fellow of the Indian Academy of Sciences, 2007
4. J.C. Bose National Fellowship, 2008

Selected list of publications by Shrihari Sridharan

1. S. Sridharan, *Non-vanishing derivatives of Lyapunov exponents and the pressure function*, Dynamical Systems, vol 21, No. 4, December 2006, (491-500).
2. S. Sridharan, *A counting result in 2 dimensions with error terms*, Complex Variables and Elliptic Equations, vol 52, No. 6, 2007, (485-494).
3. M. Pollicott, S. Sridharan, *Large deviation results for periodic points of a rational map*, Journal of Dynamical Systems and Geometric Theory, vol 5, No. 1, 2007, (69-77).
4. S. Sridharan, *Asymptotic results for hyperbolic quadratic polynomials*, to be published in International Journal of Pure and Applied Mathematics.
5. S. Sridharan, *Rates of recurrence for real extensions of complex dynamics*, to be published in Journal of Interdisciplinary Mathematics.
6. S. Sridharan, *Statistical Properties for Hyperbolic Julia Sets*, to be published in Differential Geometry Dy- namical Systems.

Summary Curriculum Vitae
of
R. Srinivasan

Affiliation: Chennai Mathematical Institute

Electronic mail: vasanth@cmi.ac.in

Date of birth: July 21, 1969, India **Citizenship:** Indian

Diplomas: Ph.D. (Mathematics), Indian Statistical Institute and Institute of Mathematical Sciences, 1998

Summary of positions held.

1. Visiting Fellow at Harish Chandra Research Institute, 1998-2000
2. Post Doctoral Fellow at Indian Statistical Institute, Bangalore, 2000-2001
3. Post Doctoral fellow at Universite d'Orleans, 2001-2002
4. Visiting Scientist at Indian Statistical Institute, Bangalore, 2002-2003
5. Visiting fellow at ICTP, Trieste, 2003
6. JSPS Post Doctoral fellow at University of Tokyo, 2003-2005
7. Associate Professor at Chennai Mathematical Institute, since 2005

Selected list of publications by R. Srinivasan

1. R. Srinivasan, *Connections for small vertex models*, Proc. Indian Acad. Sci.(Math. Sci.), Vol. 110, February 2000, pp. 35-53.
2. V. Kodiyalam, R. Srinivasan, V.S. Sunder, *The algebra of G-relations*, Proc. Indian Acad. Sci.(Math. Sci.), Vol 110, August 2000, pp. 263-292.
3. R. Srinivasan, V.S. Sunder, N.J. Wildberger, *Discrete series of fusion algebras*, J. Australian Math. Soc., 72, 2002, 419-425
4. B.V. Rajarama Bhat, R. Srinivasan, *On Product systems arising from sum systems*, Infinite dimensional analysis, Quantum probability and related topics, Vol 8, No 1, March 2005, 1-31.
5. M. Izumi, R. Srinivasan, *Generalized CCR Flows*, Communications inMathematical Physics, Volume 281, Number 2 / July, 2008, 529-571.

Teaching staff
of the
Mundus Master ALGANT
in
LEIDEN

- Prof. R. de Jong
- Prof. B. de Smit
- Prof. S. J. Edixhoven
- Dr. J.-H. Evertse
- Prof. H. W. Lenstra
- Dr. M. Lubke
- Prof. P. Stevenhagen (contact person)
- Dr. L. Taelman
- Prof. R.V. Luijk

Summary Curriculum Vitae
of
Robin de Jong

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: rdejong@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~rdejong/

Date of birth: June 26, 1976, Vlaardingen, Nederland **Citizenship:** Nederlands

Summary of positions held:

1. Research assistant at the University of Amsterdam, 2000-2004.
2. Postdoc, University of Leiden, 2005-2006.
3. Assistant professor (tenure track), University of Leiden, since 2007

Scholarships, prizes, distinctions:

1. VENI grant (2.08 10^5 euro), N.W.O., 2007–2009 (3 years).

Selected list of publications by Robin de Jong:

1. R. de Jong, *Arakelov invariants of Riemann surfaces.* Documenta Mathematica 10 (2005), 311–329.
2. R. de Jong, *Faltings' delta-invariant of a hyperelliptic Riemann surface.* In: G. van der Geer, B. Moonen, R. Schoof (eds.), Number Fields and Function Fields: Two Parallel Worlds. Progress in Mathematics vol. 239, Birkhäuser Verlag 2005.
3. R. de Jong, *On the Arakelov theory of elliptic curves.* l'Enseignement Mathématique 51 (2005), 179–201.
4. R. de Jong, *Explicit Mumford isomorphism for hyperelliptic curves.* Journal of pure and applied Algebra 208 (2007), 1–14.
5. R. de Jong, *Gauss map on the theta divisor and Green's functions.* In: B. Edixhoven, G. van der Geer, B. Moonen (eds.), Modular Forms on Schiermonnikoog. Cambridge University Press 2008.
6. S.J. Edixhoven, J.-M. Couveignes, R. de Jong, F. Merkl, J. Bosman, *On the computation of coefficients of a modular form.* Arxiv:math.NT/0605244. Accepted for publication in the book series "Annals of Mathematics Studies" of Princeton University Press.

Summary Curriculum Vitae
of
Bart de Smit

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: desmit@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~desmit/

Date of birth: April 9, 1966, Amsterdam, Netherlands

Citizenship: Nederlands

Summary of positions held.

1. Postdoc at Erasmus Universiteit Rotterdam, 1993-1995
2. Postdoc at Universiteit van Amsterdam, 1996-1997
3. Fellow of the KNAW (Royal Academy of Sciences of the Netherlands) at the Universiteit Leiden, 1998-2002
4. Universitair Hoofddocent at the Universiteit Leiden, since 2003

Scholarships, grants, prizes

1. Fulbright Grant, 1989–1993.
2. "Onderzoeksprijs 1995", campus wide research award, Erasmus Universiteit Rotterdam, 1995.
3. KNAW fellowship, Royal Academy of Science of the Netherlands, 1998–2002.
4. NWO Open Competitie *Radicals in arithmetic* 2004–2008.
5. Network Coordinator of the Marie Curie Research Training Network *Galois theory and explicit methods* consisting of 12 European research teams (2006-2010, budget 2.5MEuro)

Other academic activities: (Co)-organization of recent conferences:

1. Ring of low rank, Lorentz Center Leiden, 2006
2. Galois Theory and Explicit Methods, Lorentz Center Leiden, 2007
3. Number Fields, Lattices and Curves, Summer school, Cetraro, Italy, 2008

4. Frobenius lifts, Lorentz Center Leiden, October 2009

Selected publications by Bart de Smit

1. B. de Smit, R. Gornet, C.J. Sutton, *Sunada's method and the covering spectrum*, 32 pages, submitted.

2. B. de Smit, *On arithmetically equivalent fields with distinct p-class numbers*, Journal of Algebra 272 (2004), 417-424.

3. I. Chen, B. de Smit, M. Grabitz, *Relations between jacobians of modular curves of level p^2*, J. Théor. Nombres Bordeaux 16 (2004) 95–106

4. B. de Smit, G. Geuze, *Reken mee met ABC*, Nieuw Archief voor Wiskunde (5th series) 8 (2007), 26–30

5. B. de Smit, L. Thomas, *Local Galois module structure in positive characteristic and continued fractions*, Archiv der Mathematik 88 no. 3 (2007), 207-219.

6. J. Borger, B. de Smit, *Maximal Lambda-orders over $\mathbb{Z}$*, Bull. London Math. Soc. 2008 40(3), 439–446;

7. The mathematical structure of Escher's Print Gallery (with H.W. Lenstra) Notices of the Amer.Math.Soc. 50 no. 4 (2003), 446-451.

Doctoral students.

- Richard Groenewegen, 2003
- Lara Thomas , Mascha Honsbeek, 2005
- Willem Jan Palenstijn, Bas Jansen, in progress.

Summary Curriculum Vitae
of
Bas Edixhoven

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: edix@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~edix/

Date of birth: March 12, 1962, Leiden, Nederland **Citizenship:** Nederlands

Summary of positions held.

1. Morrey Assistant Professor at the university of California at Berkeley, 1989–1991.
2. Research fellow (N.W.O.) in Utrecht, 1991–1992.
3. Professor at the university of Rennes 1, 1992–2002.
4. Professor at the university of Leiden, since 2002.

Scholarships, prizes, distinctions.

1. Constantijn and Christiaan Huygens fellowship (N.W.O.), 1989.
2. N.S.F. grant for Summer research, 1990.
3. Prime d'encadrement doctoral et de recherche, since October 1994.
4. Junior Member of the Institut Universitaire de France, 1995–2000.
5. Correspondent of the Dutch Academy of Sciences, 2001–2002.
6. VICI grant (1.25 10^6 euro), N.W.O., 2005–2009 (5 years).
7. Invited lecture at the 5th European Congress for Mathematicians, 2008.

Other academic activities: Organization of the conferences:

1. *Séminaire de cryptographie*, Rennes, since December 2001.
2. Workshop *Mathematics of cryptology*, Leiden, September/October 2003.
3. Workshop *On the conjecture of Andr and Oort: Special points in Shimura varieties*, Leiden, December 2003.

4. Workshop *Algebraic Cycles and Motives*, Leiden, August/September 2004.

5. Conference *Modular forms*, Schiermonnikoog (Netherlands), October 2006.

6. A special year in Arithmetic Geometry, 2009-2010, at the CRM near Barcelona, with Henri Darmon, Fred Diamond, Luis Dieulefait and Victor Rotger.

Selected list of publications by Bas Edixhoven

1. S.J. Edixhoven, *The weight in Serre's conjectures on modular forms.* Inventiones Mathematicae **109**, 563–594 (1992).

2. S.J. Edixhoven, J.H. Evertse (editors), *Diophantine approximation and abelian varieties*, Lecture Notes in Mathematics 1566, Springer-Verlag (1993, 2nd printing 1997).

3. S.J. Edixhoven, A. Yafaev, *Subvarieties of Shimura varieties.* Annals of Mathematics, Volume 157, No. 2, March 2003, 621–645.

4. S.J. Edixhoven, *Special points on products of modular curves.* Duke Math. J. 126 (2005), no. 2, 325–348. [arXiv:math.NT/0302138]

5. S.J. Edixhoven, J-M. Couveignes, R. de Jong, F. Merkl, J. Bosman, *On the computation of coefficients of a modular form.* Arxiv:math.NT/0605244. Accepted for publication in the book series "Annals of Mathematics Studies" of Princeton University Press.

Doctoral students.

- Jeroen van Beele, 1994
- Pierre Parent, 1999
- Andrei Yafaev, 2000
- Gabor Wiese, 2005
- Theo van den Bogaart, Johan Bosman, 2008
- Peter Bruin, Arjen Stolk (started in 2006)

Summary Curriculum Vitae
of
Jan-Hendrik Evertse

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: evertse@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~evertse/

Date of birth: May 13, 1958, Rotterdam, Netherlands **Citizenship:** Netherlands

Summary of positions held.

1. Scientific collaborator in cryptography group at CWI, Amsterdam, 1984–1988
2. Fellow of the Netherlands Academy of Arts and Sciences, University of Leiden, 1988–1993
3. Universitair docent, University of Leiden, since 1988

Scholarships, prizes, distinctions.

1. Fellowship of the Netherlands Academy of Arts and Sciences, 1988–1993
2. Membership of Institute for Advanced Study, Princeton, 1997

Other academic activities:

Organization of conferences

1. *Nederlands Mathematisch Congres (Dutch Mathematical Congress)*, 1994, 2006, 2007 (member of organizing committee)
2. *Workshop Diophantine Approximation and symposium in honour of the 60th birthday of Prof. Robert Tijdeman,* Lorentz Center, July-August 2003 (together with Frits Beukers and Pieter Moree)
3. *Diamant-Stieltjes instructional conference and workshop solvability of Diophantine equations,* Lorentz Center, May 2007 (together with Michael Bennett, Frits Beukers and Pieter Moree)
4. *Symposium Number Theory and Discrete Mathematics in honour of the 65-th birthday of Prof. Robert Tijdeman,* University of Leiden, August 2008 (together with Fred Bakker, Joost Batenburg, Frits Beukers and Lodewijk Kallenberg)

Editorial work
Editor of Compositio Mathematica

Selected list of publications by Jan-Hendrik Evertse

1. J.-H. Evertse, *An improvement of the quantitative Subspace Theorem*, Compos. Math. 101 (1996), 225-311.

2. J.-H. Evertse, *Symmetric improvements of Liouville's inequality*, J. reine angew. Math. 527 (2000), 69-95.

3. J.-H. Evertse, R.G. Ferretti, *Diophantine inequalities on projective varieties*, Intern. Math. Res. Not. 2002:25 (2002), 1295-1330.

4. J.-H. Evertse, H.P. Schlickewei, W.M. Schmidt, *Linear equations in variables which lie in a multiplicative group*, Ann. Math. 155 (2002), 1-30.

5. J.-H. Evertse, H.P. Schlickewei, *A quantitative version of the Absolute Subspace Theorem*, J. reine angew. Math. 548 (2002), 21-127.

6. J.-H. Evertse, R.G. Ferretti, *A generalization of the Subspace Theorem with polynomials of higher degree*, in: Diophantine Approximation, Festschrift for Wolfgang Schmidt, H.P. Schlickewei, K.G. Schmidt, R.F. Tichy (eds.), 175-198. Springer Verlag, Vienna, 2008.

Summary Curriculum Vitae
of
Hendrik Lenstra

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: hwl@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~edix/

Date of birth: April 16, 1949, Zaandam, The Netherlands **Citizenship:** Dutch

Summary of positions held.

1. Teaching Assistant, Universiteit van Amsterdam, 1973-1977
2. Assistant Professor, Universiteit van Amsterdam, 1977-1978
3. Full Professor, Universiteit van Amsterdam, 1978-1986
4. Full Professor, University of California, Berkeley, 1987-2003
5. Emeritus Professor, University of California, since 2003
6. Full Professor, university of Leiden, since 1998

Scholarships, prizes, distinctions.

1. Member of the Koninklijke Nederlandse Akademie van Wetenschappen (Royal Netherlands Academy of Arts and Sciences) since 1984.
2. Fulkerson Prize winner, 1985 (awarded by the American Mathematical Society and the Mathematical Programming Society).
3. Doctor honoris causa, Université de Franche-Comté, Besançon, March 27, 1995.
4. Fellow of the American Academy of Arts and Sciences since 1996.
5. Recipient NWO/Spinoza award, 1999.
6. Member of the Koninklijke Hollandsche Maatschappij der Wetenschappen since 2001.
7. Akademiehoogleraar since 2007.

Selected list of publications by Hendrik Lenstra

1. H. Lenstra, *Flags and lattice basis reduction*, pp. 37–51 in: C. Casacuberta et al. (eds), *European congress of mathematics, Barcelona, July 10-14, 2000*, vol. I, Birkhäuser Verlag, Basel, 2001.

2. H. Lenstra, *Profinite Fibonacci numbers*, Nieuw Arch. Wisk. (5) **6** (2005), 297–300.

3. D. Bernstein, H. Lenstra, J. Pila, *Detecting perfect powers by factoring into coprimes*, Math. Comp. **76** (2007), 385–388.

4. H. Lenstra, *Solving the Pell equation* and *Lattices*, pp. 1–23 and pp. 127–181 in: J. P. Buhler, P. Stevenhagen (eds), *Algorithmic number theory*, Mathematical Sciences Research Institute Publications, Cambridge University Press, 2008.

Summary Curriculum Vitae
of
Martin Lübke

Affiliation: Mathematisc Instituut, Universiteit Leiden

Electronic mail: lubke@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~lubke/

Date of birth: December 17, 1954, Wunstorf, Germany **Citizenship:** German

Summary of positions held.

Assistant Professor at the university of Leiden, since 1986.

Selected list of publications by Martin Lübke

1. M. Lübke, A. Teleman, *The Kobayashi-Hitchin Correpondence.* World scientific 1995.
2. M. Lübke, *Einstein metrics and stability for flat connections on compact Hermitian manifolds, and a correspondence with Higgs operators in the surface case.* Documenta Math. 4 (1999), 487-512.
3. M. Lübke, H. Flenner, *Analytic moduli spaces of simple (co)framed sheaves.* Duke Math. J. 126 (2005), no. 2, 325–348. In: I.Bauer e.a. (eds.): Complex Geometry, Collection of Papers Dedicated to Hans Grauert. Springer Verlag 2002.
4. M. Lübke, A. Teleman, *The universal Kobayashi-Hitchin correspondence on Hermitian manifolds.* Memoirs of the AMS, Volume 183, No. 863, September 2006.

Doctoral students.

1. Rogier Brussee, 1992

Summary Curriculum Vitae
of
Peter Stevenhagen

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: psh@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~psh/

Date of birth: March 12, 1963, Haarlem, Nederland **Citizenship:** Nederlands

Summary of positions held.

1. *chargé de recherche au CNRS*, 1990-1992, Université de Franche-Comté, Besançon, France
2. Assistant Professor (UD), Universiteit van Amsterdam, 1991-1996
3. Associate Professor (UHD), Universiteit van Amsterdam, 1997-1999
4. Full Professor, Mathematisch Instituut, Universiteit Leiden, since 2000
5. Scientific Director, since 2007

Scholarships, prizes, distinctions.

1. Dutch team member at the International Mathematical Olympiad in Luxemburg, 1980
2. Regent's Fellowship of the University of California, Berkeley, 1987
3. MSRI member stipend, Mathematical Sciences Research Institute, Berkeley, 2000
4. *facultaire onderwijsprijs* for the best teacher in mathematics, Faculty of Science, 2004
5. nominated by the students of the Faculty of Science for the *Onderwijsprijs* (Education Prize) of the Leidse Studentenraad (LSR, Students Council), 2008

Other academic activities: Organization of the conferences:

1. Intercity number theory seminar – THE biweekly research platform for number theory in the Netherlands, 1993-2001
2. Lorentz Center workshops *L-functions from algebraic geometry* (2001), *Anabelian number theory and geometry* (2001), *Explicit algebraic number theory* (2002);

3. Workshop *Explicit Methods in Number Theory*, Pacific Institute for the Mathematical Sciences, Banff, Canada (2004);

4. Special Session on *Field extensions and algorithms* at the Annual Mathematical Meeting of the American Mathematical Society in San Antonio, Texas (2006);

5. Programme Committee member of the Algorithmic Number Theory Symposium *ANTS VII* in Berlin (2006);

6. Special Session on *Low Genus Curves and Applications* at the Annual Mathematical Meeting of the American Mathematical Society in San Diego, California (2008);

7. Workshop on *Computational number theory* at Foundations of Computational Mathematics, Hong Kong (2008).

Selected list of publications by Peter Stevenhagen

1. P. Stevenhagen, *The number of real quadratic fields having units of negative norm*, Exp. Math. **2** (2), 121–136 (1993).

2. H.W. Lenstra Jr, P. Stevenhagen, *Chebotarev and his density theorem*, Math. Intelligencer **18** (2) (1996).

3. P. Stevenhagen, *Hilbert's 12th problem, complex multiplication and Shimura reciprocity*, in: Class Field Theory - Its centenary and Prospect, 161–176, Adv. Stud. Pure Math. **30**, Math. Soc. Japan, Tokyo, (2001).

4. R. Bröker, P. Stevenhagen, *Efficient CM-constructions of elliptic curves over finite fields*, Math. Comp. 76 (2007), 2161-2179.

5. J.P. Buhler, P. Stevenhagen, *Algorithmic Number Theory: Lattices, Number Fields, Curves and Cryptography*, Cambridge University Press (2008).

Doctoral students.

- Alice Gee, 2001
- Johannes Roskam, 2003
- Reinier Bröker, 2006
- Willem Jan Palenstijn (with B. de Smit), expected 2009
- Marco Streng, expected 2010

Summary Curriculum Vitae
of
Lenny Taelman

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: taelman@math.leidenuniv.nl

Personal home page: http://www.math.leidenuniv.nl/~lenny/

Date of birth: March 31, 1980, Gent, Belgium **Citizenship:** Belgian

Summary of positions held.

1. PhD candidate at university of Groningen, 2002–2007.
2. Postdoc at university of Leiden, since 2007.

Other academic activities:

Organization of the conferences:

1. Workshop *MariusFest*, Groningen, April 2007
2. Poster session of the *5th European Congress of Mathematics*, Amsterdam, July 2008.
3. Instructional workshop *Counting points on varieties*, Leiden, April 2009.
4. Workshop *Counting points on varieties*, Leiden, April 2009.

Editor of the problem section of *Nieuw Archief voor Wiskunde*.

Selected list of publications by Lenny Taelman

1. L. Taelman, *Special L-values of t-motives: a conjecture.* To appear in Int. Math. Res. Not. (2009).
2. L. Taelman, *Artin t-motifs.* J. Number Theory 129 (2009), 142–157.
3. L. Taelman, M. van der Put, *Local p-adic differential equations.* p-adic mathematical physics, 291297, AIP Conf. Proc., 826, 2006.
4. L. Taelman, *Dieudonné determinants for skew polynomial rings.* J. Algebra Appl. 5 (2006), no. 1, 8993.
5. L. Taelman, J. Bosman, *On sums of sums of values of Dirichlet characters.* Nieuw Arch. Wiskd. (5) 2 (2001), no. 2, 133-134.

Summary Curriculum Vitae
of
Ronald Van Luijk

Affiliation: Mathematisch Instituut, Universiteit Leiden

Electronic mail: rmluijk@gmail.com

Personal home page: http://www.math.leidenuniv.nl/~rvl

Date of birth: April 11, 1977, Nederland **Citizenship:** Nederlands

Summary of positions held.

1. Institut Henri Poincaré, Paris, Fall 2004.
2. Centre de Recherches Mathématiques (CRM), Montréal, Fall 2005
3. Mathematical Sciences Research Institute (MSRI), Berkeley, Spring 2006
4. Universidad de los Andes, Bogotá, Fall 2006
5. Pacific Institute for the Mathematical Sciences (PIMS), SFU/UBC, Vancouver, 2006-2008
6. Jacobs University Bremen, ICTS, Summer 2007
7. Warwick, Marie-Curie Fellowship, Spring and Summer 2008
8. Universiteit Leiden, since 2008

Scholarships, prizes, distinctions.

1. VSB Fellowship and several other Dutch travel awards 1999–2001
2. Talentenprogramma Fellowship, 2000–2001
3. Outstanding Graduate Student Instructor Teaching Award, UC Berkeley, 2003
4. Three year fellowship from Deutsche Forschungsgemeinschaft (DFG), 2006 (declined, used instead by Damiano Testa)
5. PIMS Postdoctoral Fellowship, 2006
6. Marie-Curie Fellowship at Warwick, 2007
7. G. de B. Robinson Award, awarded by the Canadian Mathematical Society, 2007.

Other academic activities:

1. Organizer of postdoc seminar at MSRI, spring 2006
2. Organizer of workshop "Number theory in cryptography," Bogotá, Fall 2006
3. Organizer of workshop "Surfaces: geometry and arithmetic," Warwick, April 2008
4. Scientific organizer of workshop "The Hasse principle," Bogotá, October 2008
5. Organizer of conference "Arithmetic of K3 surfaces," Banff, December 2008
6. Organizer of workshop "Norm residue symbols," Leiden, February 2009
7. Organizer of workshop and conference "Counting points on varieties," Leiden, April 2009
8. Head Coordination (grading) International Mathematical Olympiad, 2011.

Selected list of publications by Ronald Van Luijk

1. R. Van Luijk, *An elliptic K3 surface associated to Heron triangles*, Journal of Number Theory, Volume 123 (2007), 92–119.
2. A. Baragar, R. Van Luijk, *K3 surfaces with Picard number three and canonical vector heights*, Mathematics of Computation, Volume 76 (2007), 1493–1498 (with Arthur Baragar).
3. R. Van Luijk, *K3 surfaces with Picard number one and infinitely many rational points*, Algebra and Number Theory, Vol. 1, No. 1 (2007), 1–15.
4. R. Van Luijk, *The diameter of the circumcircle of a Heron triangle*, Elemente der Mathematik, Vol. 63, Issue 3 (2008), p. 118–121.
5. R. Hartshorne, R. Van Luijk, *Non-Euclidean Pythagorean triples, a problem of Euler, and rational points on K3 surfaces*, Mathematical Intelligencer, Vol. 30, No. 4 (2008), 4–10.
6. A. Logan, R. Van Luijk, *Nontrivial elements of Sha explained through K3 surfaces*, Math. Comp. 78 (2009), 441–483.

Teaching staff
of the
Mundus Master ALGANT
in
MILANO

- Prof. A. Alzati
- Prof. F. Andreatta
- Prof. M. Bertolini
- Prof. M. Bianchi
- Prof. A. Lanteri
- Prof. M. Longo
- Prof. P. Stellari
- Prof. C. Turrini
- Prof. L. Barbieri Viale

Summary Curriculum Vitae
of
Alberto Alzati

Affiliation: Dipartimento di matematica "Federigo Enriques", Università Statale di Milano

Electronic mail: alberto.alzati@unimi.it

Personal home page: http://users.mat.unimi.it/users/alzati/

Date of birth: June 29, 1957, Rhoe, Itlay **Citizenship:** Italian

Summary of positions held.

1. Ricercatore from 1984 to 1992
2. Professore associato, Univ. di Milano, since 1992

Other academic activities:

Organization of the conferences:

1. *Giornate di Geometria Algebrica e argomenti correlati V* Gargnano del Garda 23/27-5-00 (co-organized with A. lanteri, A. Lopez)
2. *Birational and Projective Geometry of Algebraic Varieties* Ferrara 3/7-9-02 (co-organized with M. Mella, E. Mezzetti)
3. *Geometry of Algebraic Varieties* Ferrara 22/25-6-05 (co-organized with G. Casnati, M. Mella, E. Mezzetti)
4. Scuola di Dottorato *Geometria proiettiva e birazionale delle varietà algebriche* Gargnano del Garda, 10/14-4-07 (co-organized with A. Lanteri)
5. *Projective Algebraic Geometry in Milano*, Milano 11/12-6-09 (co-organized with M. Bertolini, M. Palleschi)

Selected list of publications by Alberto Alzati

1. A. Alzati, M. Bertolini, G.M. Besana, *Numerical criteria of very ampleness of divisors on projective bundles over an elliptic curve*, Canad. J. Math. 48 (6) (1996) pp. 1121-1137.

2. A. Alzati, F. Russo, *Special subhomaloidal systems of quadrics and varieties with one apparent double point*, Math. Proc. Camb. Phil. Soc. 134 (2003) pp. 65-82.

3. A. Alzati, A. Tortora, *On connected divisors*, Advances in Geometry 2 (2002) pp. 243-258.

4. A. Alzati, F. Russo, *Some extremal contractions between smooth varieties arising from projective geometry*, Proc. London Math. Soc. vol 89 (1) (2004) pp. 25-53.

5. A. Alzati, A. Tortora, *Connected monomial invariants*, Manuscripta Math. 116 (2005) pp.125-133.

6. A. Alzati, F. Tonoli, *An explicit construction of ruled surfaces*, J of Pure and Applied Algebra 213 (2009) pp. 329-348.

Summary Curriculum Vitae
of
Fabrizio Andreatta

Affiliation: Dipartimento di matematica "Federigo Enriques", Università Statale di Milano

Electronic mail: `fabrizio.andreatta@unimi.it`

Personal home page: `http://users.mat.unimi.it/~andreat`

Date of birth: April 7, 1972, Udine, Itlay **Citizenship:** Italian

Summary of positions held.

1. Assistant Professor at the Department of Pure and Applied MAthematics at the University of Padua, 2002-2006.
2. Associate professor at the Department of Mathematics of the University of Milano, since 2006.

Other academic activities:

Organization of the conference *Finite Group Schemes and p-divisible Groups*. Oberwolfach, May 2005, co-organized with R. Schoof and B. Conrad.

Selected list of publications by Fabrizio Andreatta

1. F. Andreatta, L. Barbieri-Viale, *Crystalline realizations of 1-motives*, Mathematische Annalen, vol. 331, pp. 111-172 (2005).
2. F. Andreatta, E.Z. Goren, *Hilbert modular forms: mod p and p-adic aspects*, Memoirs of the American Mathematical Society, vol. 173 n. 819 (2005).
3. F. Andreatta, *Generalized ring of norms and generalized (φ, Γ)-modules*, Ann. Scient. Éc. Norm. Sup., vol. 39, pp. 599-647 (2006).
4. F. Andreatta, C. Gasbarri, *The canonical subgroup for families of abelian varieties*, Compos. Math., vol. 143, pp. 566–602 (2007).
5. F. Andreatta, C. Gasbarri, *Torsors under some group schemes of order p^n*, Journal of Algebra, vol. 318, pp. 1057-1067 (2007).

Doctoral students.

- Riccardo Brasca, Valeria Marcucci, in progress

Summary Curriculum Vitae
of
Massimo Bertolini

Affiliation: Dipartimento di Matematica, Università degli Studi di Milano

Electronic mail: massimo.bertolini@unimi.it

Personal home page: http://www.mat.unimi.it/users/mbertoli/

Date of birth: October 30, 1961, Talamona (So), Italy **Citizenship:** Italy

Summary of positions held.

1. Assistant Professor, University of Pavia, 1992-1999
2. Associate Professor, University of Pavia, 1999-2000
3. Full Professor, University of Padova, 2000-2003
4. Full professor, University of Milano, since 2003

Scholarships, prizes, distinctions.

1. Editor of Rendiconti del Seminario Matematico dell'Università di Padova, 2002-present
2. Central coordinator of the European Marie-Curie RTN Network "Arithmetic Algebraic Geometry", 2004-2008
3. President of the Steering Committee, Department of Mathematics, University of Milano, 2004-2009
4. Socio Corrispondente, Instituto Lombardo Accademia di Scienze e Lettere, elected in 2005
5. Member of the Scientific Advisory Board (Fachbeirat), Max Planck Institute for Mathematics in Bonn, 2007-2012
6. Socio Corrispondente non residente, Istituto Veneto di Scienze Lettere e Arti, elected in 2009

Other academic activities:

Organisation of conferences:

1. Member of the scientific committee (with M. Rasetti, S. Salamon, G. Tomassini, U. Zannier) of the course "Advances in Number Theory and Riemannian Geometry" (director E. Bombieri), April 16-22, 2009, of the "Riemann International School of Mathematics".

2. Member of the scientific committee (with S. Bosch, B. Chiarellotto, M. Rapoport, A. Scholl) of the "Arithmetic Algebraic Geometry Conference", Cetraro (Italy), October 7-13, 2007.

3. Member of the scientific committee (with J. Cremona, B. Edixhoven, J. von zur Gathen, B. Green, A. Lauder, J. Nekovar, E. Peyre, G. Tenenbaum, P. Tretkoff, U. Zannier) of the XXV Journées Arithmétiques, July 2-6 2007, Edimburgh (UK).

Selected list of publications by Massimo Bertolini

1. M. Bertolini, H. Darmon, *Heegner points on Mumford-Tate curves,* Inventiones Math. **126**, Fasc. 3 (1996) 413-453.

2. M. Bertolini, H. Darmon, *A rigid analytic Gross-Zagier formula and arithmetic applications* (With an Appendix by B. Edixhoven), Annals of Mathematics **146** (1997) 111-147.

3. M. Bertolini, H. Darmon, *Heegner points, p-adic L-functions, and the Cerednik-Drinfeld uniformization,* Inventiones Mathematicae **131** (1998) 453-491.

4. M. Bertolini, H. Darmon, *Iwasawa's Main Conjecture for elliptic curves over anticyclotomic $\mathbf{Z}_p$-extensions,* Annals of Mathematics **162** (2005) pp. 1-64.

5. M. Bertolini, H. Darmon, *Hida families and rational points on elliptic curves*, Inventiones Mathematicae **168** (2007) no. 2, 371-431.

6. M. Bertolini, H. Darmon, *Rationality of Stark-Heegner points over genus fields of real quadratic fields,* to appear on Annals of Mathematics (July 2009 issue) 27 pages.

Doctoral students.

- Matteo Longo, 2004
- Stefano Vigni, 2005
- Nicola Marigonda, 2008
- Marco Seveso, 2009

Summary Curriculum Vitae
of
Mariagrazia Bianchi

Affiliation: Dipartimento di matematica "Federigo Enriques", Università Statale di Milano

Electronic mail: Mariagrazia.Bianchi@unimi.it

Personal home page: http://users.mat.unimi.it/~bianchi

Date of birth: June 12, 1954, Milano, Italy **Citizenship:** Italian

Summary of positions held.

1. Researcher, 1981-1987
2. Associate Professor, since 1987

Other academic activities:

Organization of the conference:

1. *XVII Convegno U.M.I.* (Milano 8-13 September 2003)
2. *Ischia Group Theory 2004* in honour of M.Herzog (April 2004)
3. *Groups and topological Groups* (Milano, June 2001 and 2005)
4. *Ischia Group Theory 2008* (March/April 2008)

Selected list of publications by Mariagrazia Bianchi

1. M. Bianchi, D. Chillag, A. Gillio Berta Mauri, *Finite Groups in which Every Irreducible Character Vanishes on at Most Two Conjugacy Classes*, Houston Journal of Mathematics, vol 26, n.3, (2000), pp.451-461.

2. M. Bianchi, A. Gillio Berta Mauri, M. Herzog, Guohua Qian-Wujie Shi, *Characterization of non-nilpotent groups with two irreducible character degrees*, Journal of Algebra 284(2005), pp.326-332.

3. M. Bianchi, D. Chillag, A. Gillio, *Finite Groups with many values in a column or a row of the character table* Publ. Math. Debrecen, vol 69 (2006), n.3, 281-29

4. M. Bianchi, D. Chillag, E. Pacifici, *A note on finite groups with few values in a column of the character table* Rend. Sem Mat.Univ. Padova,vol 115 (2006), 161-164

5. M. Bianchi, D. Chillag, M. Lewis, E. Pacifici, *Character degree graphs that are complete graphs*, Proc.Amer.math.Soc.135(2007), n.3, 671-676

6. M. Bianchi,D. Chillag, E. Pacifici, *Groups whose non linear irreducible characters separate element orders or conjugacy class sizes*, Arch.Math. 90 (2008), 1-13.

Summary Curriculum Vitae
of
Antonio Lanteri

Affiliation: Dipartimento di Matematica, Università di Milano

Electronic mail: antonio.lanteri@unimi.it

Personal home page: http://newrobin.mat.unimi.it/users/lanteri/

Date of birth: March 30, 1949, Varese, Italy **Citizenship:** Italy

Summary of positions held.

1. Research contract 1975-1980, researcher since 1981, and associate professor since 1985 at Università di Milano
2. Professor at Università di Milano, since 1987

Scholarships, prizes, distinctions.

1. Prize "Giulio Vivanti", Università di Milano, 1973

Other academic activities: Scientific Committee and / or organization of the following events:

1. *Hyperplane Sections*, International Conference, L'Aquila, 1988
2. *Geometry of Complex Projective Varieties*, International Conference, Cetraro, 1990, co-organised with Marino Palleschi and Daniele Struppa
3. *Algebraic Geometry and related topics, V*, National Conference, Gargnano del Garda, 2000, co-organised with Alberto Alzati and Angelo F. Lopez
4. *Algebraic Geometry (in memory of Paolo Francia)*, International Conference, Genova, 2001
5. *Projective Varieties with Unexpected Properties*, International Conference, Siena, 2004
6. *Geometry of Projective Varieties*, Doctoral School, Gargnano del Garda, 2007, co-organised with Alberto Alzati

Member of the Scientific Committee of the *Revista Matemática Complutense*, 1996-2003

Socio Corrispondente, Istituto Lombardo, Accademia di Scienze e Lettere (elected in 1998)

Coordinator of the Doctoral Program in Mathematics, Università di Milano, 2003-2005

Head of Department, 2005-

Selected list of publications by Antonio Lanteri

1. A. Lanteri, M. Palleschi, A.J. Sommese, *On the discriminant locus of an ample and spanned line bundle*, J. Reine Angew. Math. **477** (1996), 199-219.

2. A. Lanteri, H. Maeda, *Special varieties in adjunction theory and ample vector bundles*, Math. Proc. Camb. Phil. Soc. **130** (2001), 61–75.

3. A. Lanteri, R. Munoz, *Varieties with small discriminant variety*, Trans. Amer. Math. Soc. **358** (2006), 5565-5585.

4. A. Lanteri, R. Mallavibarrena, R. Piene, *Inflectional loci of scrolls*, Math. Z. **258** (2008), 557-564.

5. M. Beltrametti, T. de Fernex, A. Lanteri, *Ample subvarieties and rationally connected fibrations*, Math. Ann. **341** (2008), 897-926.

Doctoral students.

- Andrea Tironi, 2007

Summary Curriculum Vitae
of
Matteo Longo

Affiliation: Dipartimento di Matematica *Federigo Enriques*, Università degli Studi di Milano

Electronic mail: matteo.longo1@unimi.it

Date of birth: March 24, 1976, Venice, Italy **Citizenship:** Italian

Summary of positions held.

1. Assistant Professor, Dipartimento di Matematica *Federigo Enriques* Università degli Studi di Milano

Scholarships, prizes, distinctions.

1. January–June 2005: post-doctoral position at the Institut de Recherche Mathématique Avancée in Strasbourg (France).
2. September–December 2005: long term visitor at the Centre de Recherches Mathématiques at Montréal for the special year *Analysis in Number Theory 2005-2006*.
3. January–October 2006: post-doc position at Max-Planck-Institut für Mathematik, Bonn (Germany).

Selected list of publications by Matteo Longo

1. M. Longo, *Euler systems obtained from congruences between Hilbert modular forms*, Rend. Semin. Mat. Univ. Padova **118**, (2007), 1–34.

2. M. Longo, *On the Birch and Swinnerton-Dyer conjecture for modular elliptic curves over totally real fields*, Ann. Inst. Fourier (Grenoble) **56** (2006), no. 3, 689–733.

Summary Curriculum Vitae
of
Paolo Stellari

Affiliation: Dipartimento di Matematica F. Enriques, Univesrit'ęli Studi di Milano

Electronic mail: paolo.stellari@unimi.it

Personal home page: http://users.mat.unimi.it/~stellari

Date of birth: July 16, 1975, Lecco, Italy **Citizenship:** Italy

Summary of positions held.

1. Currently Assistant Professor (Ricercatore) at the Department of Mathematics of the Università degli Studi di Milano.
2. Post-doc position (Assegno di Ricerca) at the Department of Mathematics of the Università degli Studi di Milano (November 2006-August 2007).

Scholarships, prizes, distinctions.

1. Grant of the Mathematische Institut of the Universitt Bonn (July 2008, May-July 2009).
2. Fellowship for young researchers travelling abroad of the Istituto Nazionale di Alta Matematica (October 2006-December 2006).
3. EDGE pre-doc grant (November 2003-January 2004).
4. EAGER pre-doc grant (November 2002).
5. SOCRATES/ERASMUS Program (October 1997-February 1998).

Other academic activities: Organization of the conferences:

1. Spring School *Holomorphic Symplectic Manifolds and Derived Categories*. March 25-30, 2008; Palazzo Feltrinelli - Gargnano del Garda, Italy.
2. Workshop on Algebraic Geometry *Seminario di Natale*. Dipartimento di Matematica âF. Enriquesâ - Milano, Italy. Editions organized: 2006, 2007 and 2008.

Selected list of publications by Christine Bachoc

1. D. Huybrechts, P. Stellari, *Proof of Cäldärarus conjecture. An appendix to a paper by K. Yoshioka*, The 13th MSJ Inter. Research Inst. - Moduli Spaces and Arithmetic Geometry, Adv. Stud. Pure Math. 45 (2006), 31-42.

2. A. Canonaco, P. Stellari, *Twisted Fourier-Mukai functors*, Adv. Math. 212 (2007), 484-503.

3. P. Stellari, *Derived categories and Kummer varieties*, Math. Z. 256 (2007), 425-441.

4. P. Stellari, *A finite group acting on the moduli space of K3 surfaces*, Trans. Amer. Math. Soc. 360 (2008), 6631-6642.

5. E. Macrà, P. Stellari, *Automorphisms and autoequivalences of generic analytic K3 surfaces*, J. Geom. Phys. 58 (2008), 133-164.

6. D. Huybrechts, E. Macrà, P. Stellari, *Sability conditions for generic K3 categories*, Compositio Math. 144 (2008), 134-162.

Summary Curriculum Vitae
of
Cristina Turrini

Affiliation: Dipartimento di Matematica, Università degli Studi di Milano

Electronic mail: cristina.turrini@unimi.it

Personal home page: http://newrobin.mat.unimi.it/users/turrini/

Date of birth: January 18, 1955, Milano, Italy **Citizenship:** Italy

Summary of positions held.

1. 1977–1981 C.N.R. fellowship for researches in Algebra and Geometry;
2. 1981–1987 ricercatore confermato, Facoltà di Scienze Matematiche Fisiche e Naturali, Università degli Studi di Milano; since 1981
3. professore associato di Geometria, since 1987

Other academic activities:

1. Member of the scientific committee of matematita
2. Coordinator of Indirizzo Fisico Informatico e Matematico of SILSIS-Mi

Selected list of publications by Cristina Turrini

1. E. Arrondo, M. Bertolini, C. Turrini, *Focal loci in G(1,N)*, Asian J. Math. 9 (2005), **4**, 449–472
2. M. Bertolini, C. Turrini, *Critical configurations for 1-view in projections from Pk to P2*,J. Math. Imaging and Vision, **27** (2007), 277–287.
3. B. GianMario, M. Bertolini, C. Turrini, *Instability of projective reconstruction of dynamic scenes near critical configurations*,Proc. ICCV 2007- IEEE 11th International Conference on Computer Vision, pp.1-7, 14-21 Oct. 2007
4. B. GianMario, M. Bertolini, C. Turrini, *Applications of Multiview Tensors in Higher Dimensions*, To appear in Tensors in Image Processing and Computer Vision. Series: Advances in Pattern Recognition Aja-Fernández, S.; de Luis García, R.; Tao, D.; Li, X. (Eds.) Springer Berlin / Heidelberg (2009)
5. E. Arrondo, M. Enrique, C. Turrini, *On the ampleness of the normal bundle of line congruences*, to appear in Forum Math.

Summary Curriculum Vitae
of
Luca Barbieri Viale

Affiliation: Dipartimento di Matematica "F. Enriques" Università degli Studi di Milano

Electronic mail: Luca.Barbieri-Viale@unimi.it

Personal home page: http://users.unimi.it/barbieri/

Date of birth: July 13, 1960, Milano, Italy **Citizenship:** Italian

Summary of positions held.

1. Position of Ricercatore Universitario University of Genoa, 1990-1998
2. Position of Professore Associato University of Rome "La Sapienza", 1999-2004
3. Position of Professore Ordinario *Full Professorship* at the University of Padua from December 28, 2004 to September 30, 2008 and at the University of Milan from October 1, 2008 onwards

Scholarships

1. Grant I.N.D.A.M. (Rome, 1986)
2. Grant I.N.D.A.M. (Rome, 1987)
3. Ph.D. Grant (Milano, 1987-1990)
4. Stage in Paris (Paris 7) under the Ph.D. Program (1988-1989) in order to attend courses by J.-P. Serre (at Collège de France), A. Cartier (at École Polytecnique) and S. Lichtenbaum (III Cycle at Paris 7)

Other academic activities: Organization of the conferences:

1. Conference *Hodge Theory* Island of San Servolo (Venice, Italy) 2006
2. Summer School & Workshop *Motives, K-theory and Arithmetical Geometry* Sestri Levante (Genoa, Italy) 2004

Selected list of recent publications by Luca Barbieri Viale

Books

1. L. Barbieri Viale, V. Srinivas, *Albanese and Picard 1-motives*, Mémoires de la Société Mathématique de France (Paris) N. 87 (2001) p. 104.

2. L. Barbieri Viale, B. Kahn, *On the derived category of 1-motives*, (Part I, 144 pages) Prépublication Mathématique de l'IHÉS (M/07/22), June 2007

Journals

1. L. Barbieri Viale, A. Rosenschon, M. Saito, *Deligne's conjecture on 1-motives*, Annals of Mathematics(Princeton, USA) Vol. 158, N. 2, (2003) 593-633.

2. L. Barbieri Viale, *Formal Hodge theory*, Mathematical Research Letters, (International Press) Vol. 14 Issue 3 (2007) 385-394.

3. L. Barbieri Viale, B. Kahn, *A note on relative duality for Voevodsky motives*, Tohoku Mathematical Journal Vol. 60, No. 3 (2008) 349-356

4. L. Barbieri Viale, J. Ayoub, *1-motivic sheaves and the Albanese functor*, Journal of Pure and Applied Algebra (Elsevier) Vol. 213, No. 5 (2009) 809-839

Doctoral students.

- Nicola Mazzari, 2009

Teaching staff
of the
Mundus Master ALGANT
in
MONTREAL

- Prof. H. Darmon
- Prof. E. Goren
- Prof. A. Iovita
- Prof. A. Granville

Summary Curriculum Vitae
of
Henri Darmon

Affiliation: McGill University, Montréal, Università degli Studi di Padova, Padova

Electronic mail: darmon@math.mcgill.ca

Personal home page: http://www.math.mcgill.ca/darmon

Date of birth: October 22, 1965, Paris, France **Citizenship:** Canadian, French, Swiss

Summary of positions held.

1. Princeton University, Instructor, 1991-1994
2. Princeton University, Assistant Professor, 1994-1996
3. McGill University, Assistant Professor, 1994-1997
4. McGill University, Associate Professor, 1997-2000
5. McGill University, Professor, since 2000
6. James McGill Professor, McGill University, 2005-2012

Scholarships, prizes, distinctions.

1. G. De B. Robinson Award, 1996
2. André Aisenstadt Prize, 1997
3. Coxeter-James Prize of the Canadian Mathematical Society, 1998
4. E.W.R Steacie Memorial Fellowship, 2002
5. Ribenboim prize of the CNTA (Canadian Number Theory Association), 2002
6. Carrie M. Derick Award for graduate teaching and supervision, 2003
7. Earle Raymond Hedrick Lecturer of the MAA., 2003
8. Elected fellow of the Royal Society of Canada, 2003
9. Killam fellowship of the Canada Council of the Arts, 2008
10. John L. Synge Award of the Canadian Royal Society, 2008

Other academic activities: Organization of the conferences:

1. *Special semester on "Number theory as experimental and applied science"*, CRM, Montreal, winter 2010
2. *Scientific committee, special concentration period on arithmetic and modular forms*, CRM, Barcelona, Spain, fall 2009 and spring 2010.
3. *NATO Advanced Study Institute on computational problems in modular forms*, June 2009.

Selected list of publications by Henri Darmon

1. H. Darmon, *Heegner points, Stark-Heegner points, and values of L-series*, International Congress of Mathematicians. Vol. II, 313-345, Eur. Math. Soc., Zrich, 2006.
2. M. Bertolini, H. Darmon, S. Dasguptya, *Stark-Heegner points and special values of L-series*, Proceedings of a Durham symposium on L-series, to appear.
3. M. Bertolini, H. Darmon, *The rationality of Stark-Heegner points over genus fields of real quadratic fields*, Annals of Mathematics, to appear.
4. M. Bertolini, H. Darmon, *Hida families and rational points on elliptic curves*, Invent. Math. 168 (2007), no. 2, 371-431.
5. A. Iovita, H. Darmon, M. Bertolini, *Families of automorphic forms on definite quaternion algebras and Teitelbaum's conjecture*, Astérisque, to appear.
6. H. Darmon, R. Pollack, *The efficient calculation of Stark-Heegner points via overconvergent modular symbols*, Israel Journal of Mathematics, 153 (2006), 319-354.

Doctoral students

- Hassan Daghigh, 1998
- Ignazio Longhi, 2000
- Dominic Lemelin, 2001
- Lassina Dembéelé, 2002
- Isabelle Dechene, 2006
- Matthew Greenberg, 2006
- Hugo Chapdelaine, 2007
- Shahab Shahabi, 2008
- Yu Zhao, Cameron Franc, Marc Masdeu, Luis Takei, in progress

Summary Curriculum Vitae
of
Eyal Goren

Affiliation: McGill University, Montréal

Electronic mail: eyal.goren@mcgill.ca

Personal home page: www.math.mcgill.ca/goren

Summary of positions held.

1. Research/Teaching Assistant, Department of Mathematics, Hebrew University in Jerusalem, Israel, 1989
2. Research/Teaching Assistant, Department of Mathematics, Hebrew University in Jerusalem, Israel, 1991-1996
3. Visiting scholar, Department of Mathematics, Harvard University, Cambridge, Massachusetts, USA, 1996-1997
4. Visiting professor, Department of Mathematics, Utrecht University, Utrecht, The Netherlands, 1997
5. CICMA post-doctoral fellow, Department of Mathematics, McGill and Concordia Universities, Montreal, Québec, Canada, 1998-1999
6. Assistant Professor (Tenure track), Department of Mathematics and Statistics, McGill University, Montreal, Québec, Canada, 1999-2002
7. Associate Professor, Department of Mathematics and Statistics, McGill University, Montreal, Québec, Canada, since 2002

Scholarships, prizes, distinctions.

1. NSERC Equipment grant (Research Tools and Instruments - Category 1). Title: Server and workstations for mathematics and statistics. PI: Worsley, Keith. Co-applicants: Vandal, Alain C.; Tupper, Paul; Nigam, Nilima; Labute, John; Goren, Eyal; Darmon, Henri; Asgharian, Masoud, 2006-2007
2. Forchheimer Visiting Professor and Lady Davis Fellow. Hebrew University in Jerusalem, January 1 - July 31, 2006

3. Nominated by the department for the Leo Yaffe award (2007) and the Principal prize for excellence (2004, 2005, 2006) (once at the faculty level, 2006) at the associate professor category

4. FQRNT Team Grant (Applications des points de Heegner en theorie algebrique et analytique des nombres). Group consists of Henri Darmon (PI), Eyal Goren, Andrew Granville and Adrian Iovita, 2008-2011

5. NSERC discovery grant, 2004-2009

Other academic activities: Organization of the conferences:

1. Organizer of a special workshop on *Borcherds products and their applications to arithmetic geometry*, May 3-10, 2009(Main speaker: Prof. Jan H. Bruinier) in the Bellairs Research Inst., Barbados, 2009

2. Special session organizer in CNTA XI, 2010

3. Co-Organizer (with Henri Darmon) of the CRM Thematic semester on *Algebraic Geometry and Number Theory as Applied Science*, 2010

Selected list of publications by Eyal Goren

1. F. Andreatta, E. Goren, *Hilbert modular forms: mod p and p-adic aspects*, Mem. Amer. Math. Soc. 173 (2005), no. 819, 100 pp.

2. E. Goren, K. Lauter, *Class invariants for quartic CM fields.* Annales Inst. Fourier 57, 2 (2007), p.457-480.

3. E. Goren, P. Kassaei, *The canonical subgroup: a "subgroup-free" approach*, Comm. Math. Helv., Volume 81 (3) (2006), 617-641.

4. E. Goren, K. Lauter, *Evil primes and superspecial moduli*, Int. Math. Res. Not. 2006, Art. ID 53864, 19 pp.

5. D.X. Charles, E. Goren, K. Lauter, *Cryptographic hash functions from expander graphs*, 21 pp. Journal of Cryptology, DOI: 10.1007/s00145-007-9002-x.

6. E. Goren, K. Lauter, *The distance between superspecial abelian varieties with real multiplication*, 17pp. To appear in Journal of Number Theory.

Doctoral students

- Andrew Archibald, 2007
- Gabriel Chenevert, 2008
- Michael Musty, in progress

Summary Curriculum Vitae
of
Andrew Granville

Affiliation: Université de Montréal

Electronic mail: andrew@dms.umontreal.ca

Personal home page: http://www.dms.umontreal.ca/~andrew/

Date of birth: England **Citizenship:** English

Summary of positions held.

1. Member of the Institute for Advanced Study, Princeton, 1989-1991
2. Assistant Professor at The University of Georgia, 1991-1995
3. Full Professor with tenure, and David C. Barrow Chair of Mathematics at The University of Georgia, 1995-2002
4. Chaire de Recherche du Canada et professeur titulaire, Université de Montréal, since 2002

Scholarships, prizes, distinctions.

1. Alfred P. Sloan Research Fellowship, 1992-1995
2. Presidential Faculty Fellowship (from President Clinton), 1994-1999
3. Hasse Prize, Mathematical Association of America, 1995
4. Kloosterman Professor, University of Leiden, Holland, 1999
5. Ribenboim Prize, Canadian Number Theory Association, 1999
6. BBV Professor, Universidad Autonoma, Madrid, Spain, 2001
7. Jeffrey-Williams prize, Canadian Mathematical Society, 2006
8. Fellow of the Royal Society of Canada, 2006
9. Erdos memorial lecture, American Mathematical Society, 2007
10. Ford Award, Mathematical Association of America, 2007
11. Chauvenet Prize, Mathematical Association of America, 2008

Other academic activities: Organization of the conferences:

1. Organizing Committee, *Clay-Fields Conference on Additive Combinatorics*, Num- ber Theory, and Harmonic Analysis, Fields Institute, Toronto, 2008
2. Scientific Committee, *Thematic program on new trends in harmonic analysis*, Fields Institute, Toronto, 2008
3. Scientific Committee, *Workshop on Arithmetic and Hyperbolic geometry*, Montreal, 2008

Selected list of publications by Andrew Granville

1. A. Granville, K. Soundararajan, *The spectrum of multiplicative functions*, Annals of Mathe- matics 153 (2001), 407470.
2. A. Granville, K. Soundararajan, *Distribution of values of* $L(1, \chi_d)$, Geometric and Functional Analysis 13 (2003) 9921028.
3. V. Blomer, A. Granville, *Estimates for the representation numbers of binary quadratic forms*, Duke Mathematical Journal 135, (2006), 261302.
4. A. Granville, *Rational and integral points on quadratic twists of a given hyperelliptic curve*, Inter- national Mathematics Research Notices 27 (2007), 1-25.
5. A. Granville, K. Soundararajan, *An uncertainty principle for arithmetic sequences*, Annals of Mathematics 165 (2007), 593635.
6. A. Granville, P. Kurlberg, *Poisson statistics via the Chinese Remainder Theorem*, Advances in Mathematics 218 (2008), 2013-2042.

Doctoral students

- Alessandro Zaccagnini, 1993
- Jorge Jimenez, Anitha Srinivisan, 1995
- Glenn Fox, Kevin James, 1997
- Pamela Cutter, Ernie Croot, Dina Khalil, Mark Watkins, Gang Yu, 2000
- Mike Beck, Eric Pine, 2004
- Adrian Ubis, 2006
- Mohammed Bardestane, Tristan Freiburg, Daniel Fiorilli, Youness Lamzouri, Carlos Vinuesa, in progress

Summary Curriculum Vitae
of
Adrian Iovita

Affiliation: Concordia University, Montreal, Università degli Studi di Padova, Padova

Electronic mail: `iovita@mathstat.concordia.ca`

Personal home page: `http://www.mathstat.concordia.ca/faculty/iovita.html`

Date of birth: June 28, 1954, Timisoara, Romania **Citizenship:** Romanian

Summary of positions held.

1. Assiatnt Professor, Universtity of Washington, Seattle, USA, 1998-2003
2. Associate Professor, Concordia University, 2003-2008
3. Professor, Concordia University, 2009
4. Università degli Studi di Padova, 2007

Scholarships, prizes, distinctions.

1. Canada Research Chair, Tier II, 2003-2008, renewed 2008-2013
2. Ribemboim Prize for Reasearch in Number Theory, Award of the CNTA, 2008

Other academic activities: Organization of the conferences:

1. *Conference on p-Adic Galois Representations*, Banff, BIRNS, 2001, co-organized with Eyal Goren, Imin Chen and Vinayak Vatsal.
2. *Special Semester in p-Adic Representations*, CRM, Montreal, 2005, co-organized with Henri Darmon.

Selected list of publications by Adrian Iovita

1. R. Coleman, A. Iovita, *Frobenius and Monodromy Operators for Curves and Abelian Varieties*, Duke J. of Math., vol. 97-1, 171-217, (1999).

2. A. Iovita, A. Zaharescu, *Generating Elements for* B_{dR}^{+}, J. Math. Kyoto Univ., volume 39-2, 233-249, (1999)

3. A. Iovita, *Formal Sections and de Rham Cohomolgy of Semistable Abelian Varieties*, Israel J. of Math., 120, 429-447,(2000).

4. A. Iovita, M. Spiess, *Logarithmic differential forms on* p*-adic symmetric spaces*, Duke Math. Journal, vol 110, No 2, 253-278, (2001).

5. M. Bertolini, H. Darmon, A. Iovita, M. Spiess, *Teitelbaum's Exceptional Zero Conjecture*, AJM 124, 411-449, (2002).

6. A. Iovita, M. Spiess, *Derivatives of* p*-adic* L*-functions, Heegner cycles and monodromy modules attached to modular forms*, Invent. Math., 154, No 2, 333-384, (2003).

7. A. Iovita, A. Werner, p*-adic height pairings on abelian varieties with semistable ordinary reduction*, Journal f ur die reine und angewandte Mathematik, 564, 181-203, (2003).

8. A. Iovita, R. Pollack, *On Iwasawa theory of elliptic curves over* $\mathbb{Q}$ *at primes of supersingular reduction over* $\mathbb{Z}_p$*-extensions of number fields*, Journal für die reine und angewande Mathematik 598, 71-103, (2006).

9. H. Darmon, A. Iovita, *Anticyclotomic Main Conjecture for supersingular elliptic curves*, J. Inst. Math. Jussieu 7, No 2, 291-325, 2008.

10. F. Andreatta, A. Iovita, *Global applications of relative* $(\phi - \Gamma)$*-modules, I*, Asterisque 319, Societé Mathémathque de France, 339-420, 2009.

Docotoral students

- Radu Gaba, started 2004
- Rogelio Buendia, started September 2007
- Serge Mbella Mbella, started January 2009

Teaching staff
of the
Mundus Master ALGANT
in
ORSAY

- Dr. F. Benoist
- Prof. J.-M. Bismut
- Prof. K. Belabas
- Prof. J.-B. Bost
- Prof. E. Bouscaren
- Dr. P.-H. Chaudouard
- Prof. L. Clozel
- Prof. J.-L. Colliot-Thlne
- Prof. L. Fargues
- Dr. S. Fischler
- Prof. J.-M. Fontaine
- Prof. E. Fouvry
- Dr. O. Guichard
- Prof. D. Harari
- Prof. L. Illusie
- Prof. G. Laumon
- Prof. P. Pansu
- Dr. N. Ratazzi
- Dr. J. Riou
- Prof. D. Rossler
- Prof. N. Sibony
- Prof. E. Ullmo

Summary Curriculum Vitae
of
Franck Benoist

Affiliation: Département de Mathématiques d'Orsay, Université Paris-Sud 11

Electronic mail: franck.benoist@math.u-psud.fr

Date of birth: June 21, 1976, Gruchet-le-Valasse, France **Citizenship:** French

Diplomas:
Ph.D. Thesis: *Théorie des modèles des corps différentiellement clos*, Université Paris 7, 2005.

Summary of positions held:

1. Maître de conférences at Université Paris-Sud 11, since 2008

Selected list of publications by Franck Benoist:

1. F. Benoist, F. Delon, *Questions de corps de définition pour les variétés abéliennes en caractéristique positive*, Journal of the Inst. of Math. Jussieu **7** (2008), 623-639.

Summary Curriculum Vitae
of
Jean-Michel Bismut

Affiliation: Université Paris-Sud 11

Electronic mail: elisabeth.bouscaren@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~bouscare/

Date of birth: February 26, 1948, Lisbonne, Portugal **Citizenship:** France

Diplomas: Thèse de Doctorat D'Etat, Univ. -Sud (1973).

Summary of positions held.

1. Associate professor at Université Paris-Sud (Orsay), 1976-1980
2. Visiting professor at UBC (Vancouver), 1980
3. Professor University Paris-Sud (Orsay) since 1981

Scholarships, prizes, distinctions.

1. Montyon Prize of Académie des Sciences, 1984
2. Ampère prize of Académie des Sciences, 1990
3. Corresponding member of Académie des Sciences, 1990
4. Member of Académie des Sciences, 1991
5. Plenary speaker at ICM-1998 (Berlin) 1998.

Other academic activities:

Organization of Conferences:

- Coorganiser, with R. Melrose (MIT) and J. Bruning (Humboldt, Berlin) of Oberwolfach conferences in June 1998 and July 2000 *Analysis on singular spaces*
- Coorganiser of the ESF Conference at Obernai in symplectic geometry, 1999
- Coorganiser (with S.A. Chang, Princeton, and K. Okikiolu, San-Diego) of a conference at M.S.R.I. (Berkeley, 12-16 March 2001) *Spectral invariants: analytic and geometric aspects*

Selected list of publications by Jean-Michel Bismut

1. J.-M. Bismut, *Mécanique aléatoire*, Springer-Verlag, Berlin, 1981. With an English summary.

2. J.-M. Bismut, *Large deviations and the Malliavin calculus*, volume 45 of Progress in Mathematics.

3. J.-M. Bismut, G. Lebeau, *The hypoelliptic Laplacian and Ray-Singer metrics*, volume AM-167 of Annals of Mathematics Studies. Princeton University Press, Princeton, 2008.

4. J.-M. Bismut, *The hypoelliptic Laplacian on a compact Lie group*, J. Funct. Anal., 255(9):2190-2232, 2008.

5. J.-M. Bismut, *Loop spaces and the hypoelliptic Laplacian*, Comm. Pure Appl. Math., 61(4):559-593, 2008.

6. J.-M. Bismut, *Hypoelliptic Laplacian and orbital integrals*, to appear, 2009.

Summary Curriculum Vitae
of
Jean-Benoît Bost

Affiliation: Université Paris-Sud 11

Electronic mail: Jean-Benoit.Bost@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~bouscare/

Date of birth: July 27, 1961, Neuilly-sur-Seine, France **Citizenship:** French

Summary of positions held.

1. Agrégé-préparateur at Ecole Normale Supérieure, 1984-1988
2. Chargé de recherche (CR1) at C.N.R.S., 1988-1993
3. Directeur de recherche (DR2) at C.N.R.S., 1993-1998
4. Maître de conférences (part time) at Ecole Polytechnique, 1993-2005
5. Professor (second grade) at Université Paris-Sud, Orsay, 1998-1999
6. Professeur (first grade) at Université Paris-Sud, Orsay, 1999-2005
7. Professeur (exceptional grade) at Université Paris-Sud, Orsay, since 2005

Scholarships, prizes, distinctions.

1. Prix Peccot-Vimont (Collège de France), 1990
2. Cours Peccot at Collège de France, 1990
3. Elie Cartan Prize, 2002
4. Senior member of Institut Universitaire de France, 2005

Other academic activities:

Organization of Conferences

1. *Journée en l'honneur de Henri Cartan,* École Normale Supérieure, Paris, Juine 2004, with L. Illusie and F. Loeser
2. *Entre Bures et Orsay — une conférence de géométrie algébrique en l'honneur de Luc Illusie*, Orsay, June 2005, with J.-M. Fontaine, G. Laumon and M. Raynaud

3. *Arakelov Geometry,* Oberwolfach, September 2005, with K. Künnemann and D. Roessler

4. Member of the Scientific Comittee of the Conférence *Recent developments in the arithmetic of Shimura varieties and Arakelov geometry*, CRM, Barcelone, June 2006.

5. *Ecole d'été franco-asiatique de géométrie et théorie des nombres 2006: Autour des motifs* July 2006, with J.-P. Boruguignon, J.-M. Fontaine.

6. *Conférence en l'honneur de Jean-Marc Fontaine,* IHP et Orsay, March 2010, with C. Breuil, A. Mézard, M.-F. Vignéras and J.-P. Wintenberger

Selected list of publications of Jean-Benoît Bost

1. J.-B. Bost, H. Gillet, C. Soulé, *Heights of projective varieties and positive Green forms*, Journal of the A.M.S. 4 (1994), 903-1027.

2. J.-B. Bost, *Semi-stability and heights of cycles*, Invent. Math. 118 (1994), 223-253.

3. J.-B. Bost, A. Connes, *Hecke algebras, type III factors and phase transition with spontaneous symmetry breaking in number theory*, Selecta Mathematica, New Series, 1, n^0 3 (1995), 411-457.

4. J.-B. Bost, *Algebraic leaves of algebraic foliations over number fields*, Publ. Math. I.H.E.S. 93 (2001), 161-221.

5. J.-B. Bost, A. Chambert-Loir, *Analytic curves in algebraic varieties over number fields*, Algebra, Arithmetic and Geometry - Manin Festschrift, Y. Tschinkel et Y. Zahrin Ed., Birkhaüser, to be published.

6. J.-B. Bost, K. Künnemann, *Hermitian vector bundles and extension groups on arithmetic schemes II. The arithmetic Atiyah class*, to be published in Astérisque, Volume en l'honneur de J.-M. Bismut.

Doctoral students

- V. Maillot, 1997
- V. Lafforgue, 1998
- H. Randriambololona, 2002
- H. Chen, 2006
- G. Freixas i Montplet, 2007

Summary Curriculum Vitae
of
Elisabeth Bouscaren

Affiliation: Université Paris-Sud 11

Electronic mail: elisabeth.bouscaren@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~bouscare/

Date of birth: January 8, 1956, Suresnes, France **Citizenship:** France

Diplomas: Thèse de Doctorat D'Etat, Univ. Paris 7 (1985).

Summary of positions held.

1. Chargée de Recherche CNRS, Équipe de Logique Mathématique, Université Paris 7, 1981-2005
2. Chargée de Recherche CNRS, Équipe Arithmétique et Géométrie Algébrique UMR 8628 - Université Paris-Sud 11 2005-2007
3. Directeur de Recherche CNRS, Équipe Arithmétique et Géométrie Algébrique UMR 8628 - Université Paris-Sud 11, since 2007.

Scholarships, prizes, distinctions.

1. Conference at the Bourbaki Seminar, 2000.
2. Invited conference ICM 2002, Beijing.

Other academic activities:

International Programs:

1. Chair of the Appointments Committee for the FP6 Marie Curie Research Training Network in "Model Theory and its applications" MODNET (Jan. 2005 - Dec. 2008).
2. Since 2007 Member of the Scientific Committee of the Centre Emile Borel, at the Institut Henri Poincaré. (Paris, France).

Program committees or Organization of international conferences:

- Program Committee of the workshop "Introduction to Recent Applications of Model Theory", 29 Mars - 8 avril 2005, Newton Institute (Euro-training conference).

- Scientifc Committee of the MODNET Training workshop, "Model theory and applications", La Roche-en-Ardennes (Belgium), 20-25 April 2008.
- Program Committee of the "Final Conference of the MODNET Research Training Network in Model Theory", Barcelona (Spain), November 2008.

Organization of Summer Schools:

- Summer school, Manchester (GB), September 1994, "Model Theory and Algebraic Geometry: An introduction to E. Hrushovski's Proof of the geometric Mordell-Lang conjecture".
- Algebraic Model Theory, NATO Advanced Study Institute, Fields Institute, Toronto, août 1996.

Selected list of publications by Elisabeth Bouscaren

1. E. Bouscaren, E. Hrushovski, *One-based theories*, J. Symb. Logic 59 (1994), 579–595.
2. E. Bouscaren, F. Delon, *Groups definable in separably closed fields*, Trans. Amer. Soc. 354 (2002), 945–960.
3. E. Bouscaren, F. Delon, *Minimal groups in separably closed fields*, J. Symb.Logic 67 (2002), 239–259.
4. E. Bouscaren, *Groups interpretable in fields* in Proceedings of the International Congress of Mathematicians, Vol 2, Beijing 2002, Higher Education Press, 3–12.
5. E. Bouscaren, *Model theory and Geometry* in Logic Colloquium 2000, ASL, Lecture Notes in Logic, 2005, 3–31.
6. Editor and contributor of the book *Model Theory and Algebraic Geometry, An introduction to E. Hrushovski's proof of the geometric Mordell-Lang conjecture*, Lecture Notes in Mathematics vol. 1696, Springer, 1998.

Doctoral students

- Benoit Mariou, 1999
- Thomas Blossier, 2001
- Martin Koerwien, 2007
- Pierre Simon, in progress

Summary Curriculum Vitae
of
Pierre-Henri Chaudouard

Affiliation: Université Paris-Sud

Electronic mail: Pierre-Henri.Chaudouard@math.u-psud.fr

Date of birth: July 7, 1973, Mulhouse, France **Citizenship:** France

Diplomas : *Thèses*
2002 (directeur: J.-L. Waldspurger ; Université Paris 7)

Summary of positions held .

1. Agrégé-Préparateur ENS Cachan 1999-2003
2. Chargé de Recherches CNRS, UMR 8628, since sept. 2003

Advanced level teaching:

1. Short course *Automorphic forms for* $GL(2)$ (Luminy 2008)
2. *Introduction to the trace formule* (ICTP Trieste, 2007)

Selected list of publications

1. P.H. Chaudouard, G. Laumon, *Le lemme fondamental pondéré I : constructions géométriques*, 2009, http://fr.arxiv.org/abs/0902.2684v1
2. P.H. Chaudouard, G. Laumon, *Sur l'homologie des fibres de Springer affines tronquées*, Duke Math. J., 145(3):443–535, 2008.
3. P.H. Chaudouard, *Sur le changement de base stable des intégrales orbitales pondérées*, Ann. Sc. de l'E.N.S., 40:51–112, 2007.
4. P.H. Chaudouard, *Sur certaines identités endoscopiques entre transformées de Fourier*, J. Reine Angew. Math., 585:1–59, 2005.
5. P.H. Chaudouard, *Intégrales orbitales pondérées sur les algèbres de Lie: le cas* p*-adique*, Canad. J. Math., 54(2):263–302, 2002.
6. P.H. Chaudouard, *La formule des traces pour les algèbres de Lie*, Math. Ann., 322(2):347–382, 2002.

Summary Curriculum Vitae
of
Laurent Clozel

Affiliation: Université Paris-Sud 11

Electronic mail: laurent.clozel@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~clozel/

Date of birth: October 23, 1953, Gap, France **Citizenship:** French

Diplomas: Doctorat d'Etat en Mathématiques, Université Paris-VII, 1981.

Summary of positions held.

1. Chargé de Recherche, C.N.R.S., 1982-1987
2. Member of Institute for Advanced Study, Princeton (U.S.A.), 1983-1984
3. Assistant Professor, Princeton University, Princeton (U.S.A.), 1984-1985
4. Associate Professor, University of Michigan, Ann Arbor (U.S.A.), 1985-1988
5. Invited Lecturer, Harvard University (U.S.A.), February-May 1987
6. Associated Professor, Université Paris-VII, 1987-1988
7. Professor, Université Paris-Sud, since 1988

Scholarships, prizes, distinctions.

1. Invited lecturer, Conference in honour of Harish-Chandra, Princeton April 1984
2. Cours Peccot, Collège de France, May 1984
3. Invited lecturer, Internation Congress of Mathematics, Berkeley 1986
4. Sloan Fellow, 1986-1988
5. Presidential Young Investigator (NSF, U.S.A.), 1987
6. Silver Medal of C.N.R.S., 1989
7. Hermann Weyl Lectures (Institute for Advanced Study, Princeton, U.S.A.), October 1991
8. Jean-Reynaud Prize of Académie des Sciences, 1991

9. Junior Member of Institut Universitaire de France, 1993
10. Invited lecturer , Conference on Automorphic Forms, Geometry and Analysis (60th Birthday of R.P. Langlands), Princeton, October 1996
11. Elie-Cartan Prize of Académie des Sciences, 1999

Other academic activities:

Organization of Conferences:

1. Arbeitsgemeinschaft *Tamagawazahlen und die Selberg'sche Spurformel* (with M. Rapoport), Oberwolfach (R.F.A.), octobre 1989
2. Conference *L-indistinguishability* (with J.-P. Labesse), Marseille-Luminy, May 1992
3. Instructional Conf. in *Representation Theory and Automorphic Forms* (with M. Duflo, A. Knapp, T. Bailey) Edimbourg, March 1996
4. Conference *Formes automorphes et formules des traces* in honour of J.-P. Labesse, Paris, September 2003
5. Conference *Automorphic forms and the trace formula* in honour of J. Arthur, Toronto, October 2004.

Selected list of publications by Laurent Clozel

1. L. Clozel, J.S. Milne, *Automorphic forms, Shimura varieties and L-functions*, Proceedings of the Ann Arbor Conference (1988), Academic Press, 1990.
2. L. Clozel, E. Ullmo, *Equidistribution de mesures algébriques*, Compos. Math. 141 (2005), no. 5, 1255–1309.
3. L. Clozel, E. Ullmo, *Equidistribution des points de Hecke*, Contributions to automorphic forms, geometry, and number theory, 193–254, Johns Hopkins Univ. Press, Baltimore, MD, 2004.
4. L. Clozel, E. Ullmo, *Equidistribution de sous-variétés spéciales*, Ann. of Math. (2) 161 (2005), no. 3, 1571–1588.
5. N. Bergeron, L. Clozel, *Spectre automorphe des variétés hyperboliques et applications topologiques*, Astérisque No. 303 (2005).
6. L. Clozel, M. Harris, R. Taylor, *Automorphy for some l-adic lifts of automorphic mod l Galois representation*, with Appendix A, summarizing unpublished work of Russ Mann, and Appendix B by Marie-France Vignéras. Publ. Math. Inst. Hautes Études Sci. No. 108 (2008), 1–181.

Summary Curriculum Vitae
of
Jean-Louis Colliot-Thélène

Affiliation: Université Paris-Sud

Electronic mail: jlct@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~colliot/

Date of birth: Decembre 2, 1947, Quimper, France **Citizenship:** France

Diplomas :

Thèse d'Etat, Université Paris-Sud, 1978

Summary of positions held

1. CR CNRS, 1972-74 and 1975-1985
2. DR2 CNRS, 1985-1991
3. DR1 CNRS, since 1991

Scholarships, prizes, distinctions.

1. Lecturer ICM, 1986
2. Prix Fermat, 1991

Other academic activities:

Organization of the following conferences:

1. Participation to 2007–08 Warwick algebraic geometry symposium Conference : *Rational points on curves and higher dimensional varieties*, June 16–20, 2008 Organisers : J.-L. Colliot-Thélène, S. Siksek, A. N. Skorobogatov, M. Stoll
2. *Arithmetic of K3 surfaces*, Banff International Research Statio, Banff, Alberta, Canada Organisers : J.-L. Colliot-Thélène, A. Logan, D. McKinnon, A. N. Skorobogatov, R. van Luijk, Yu. Tschinkel. November 30-December 5, 2008.
3. *Quadratic forms, linear algebraic groups and cohomology*, Hyderabad, Inde, December 30, 2008-January 5, 2009 Organisers : J.-L. Colliot-Thélène, Skip Garibaldi, R. Sujatha, V. Suresh

Selected list of publicationsChoix de publications récentes de J.-L. Colliot-Thélèn

1. J.-L. Colliot-Thélène, R. Parimala, *Patching and local-global principles for homogeneous spaces over function fields of p-adic curves*, soumis à publication.

2. J.-L. Colliot-Thélène, B. Kunyavskii, V.L. Popov, Z. Reichstein, *Is the function field of a reductive Lie algebra purely transcendental over the field of invariants of the adjoint action?*, soumis à publication.

3. J.-L. Colliot-Thélène, F. Xu, *Brauer-Manin obstruction for integral points of homogeneous spaces and representation of integral quadratic forms*, à paraître dans Compositio Mathematica.

4. J.-L. Colliot-Thélène, *Résolutions flasques des groupes linéaires connexes*, J. für die reine und angewandte Mathematik (Crelle) 618 (2008) 77–133.

5. M. Borovoi, J.-L. Colliot-Thélène, A.N. Skorobogatov, *The elementary obstruction and homogeneous spaces*, Duke math. J. 141 (2008) 321-364.

6. J.-L. Colliot-Thélène, *Variétés presque rationnelles, leurs points rationnels et leurs dégénérescences*, (cours au CIME, Cetraro, septembre 2007), à paraître dans CIME 2007, Springer LNM.

Doctoral students.

- Wayne Raskind
- Emmanuel Peyre
- David Harari
- Chandan Dalawat
- Philippe Gille
- Emanuelle Frossard
- Antoine Ducros
- Tamás Szamuely
- David Madore
- Olivier Wittenberg
- Alena Pirutka, HU Yong, en cours

Summary Curriculum Vitae
of
Laurent Fargues

Affiliation: Université Paris-Sud 11

Electronic mail: laurent.fargues@math.u-psud.fr

Personal home page: http://www.math.u-psud/~fargues

Date of birth: January 8, 1956, Suresnes, France **Citizenship:** France

Summary of positions held.

1. Chargé de recherches CNRS, since 2002

Scholarships, prizes, distinctions.

1. Cours Peccot, Collège de France, 2004
2. Coordinator of the ACI jeunes chercheurs *Réalisations géométriques des correspondances de Langlands*, 2007
3. ANR Grant *Méthodes géométriques et p-adiques en théorie des formes automorphes*

Other academic activities: Organization of Conferences:

- Organizer with B.C. Ngo and D. Prasad of *Summer School and Conference on Automorphic Forms and Shimura Varieties*, ICTP, Trieste, July 2007
- Organizer with J.F. Dat and A. Genestier of *Comparaison entre les tours de Lubin Tate et Drinfeld*, IHES, 2004
- Organizer of the seminar SAGA in Orsay, since 2003

Selected list of publications by Laurent Fargues

1. L. Fargues, *Une suite spectrale de Hochschild-Serre pour l'uniformisation de Rapoport-Zink*, CRAS 334 (2002), no. 9, 739-742.
2. L. Fargues, *Cohomologie des espaces de modules de groupes p-divisibles et correspondances de Langlands locales*, Asterisque 291 (2004) pages 1-200.

3. L. Fargues, *Application de Hodge-Tate duale d'un groupe de Lubin-Tate, immeuble de Bruhat-Tits du groupe linéaire et filtrations de ramifications*, Duke Math vol. 140, No 3 (2007).

4. L. Fargues, *L'isomorphisme entres les tours de Lubin-Tate et de Drinfeld et applications cohomologiques*, Birkhauser, Progress in Math, vol. 262.

5. L. Fargues, *Filtration de monodromie et cycles evanescents formels*, to be published in Inventiones Mathematicae.

6. L. Fargues, *La filtration de Harder-Narasimhan des schémas en groupes finis et plats*, to be published in Journal für die reine und angewandte Mathematik.

Doctoral students

- Miaofen Chen, in progress

Summary Curriculum Vitae
of
Stéphane Fischler

Affiliation: Département de Mathématiques, Université Paris-Sud, Orsay.

Electronic mail: stephane.fischler@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~fischler

Date of birth: May 15, 1977, Paris, France **Citizenship:** France

Diplomas :
Doctorat de mathématiques, Université Paris VI, thesis defended on June 6, 2003.

Summary of positions held .

1. Agrégé-Préparateur, Ecole Normale Supérieure (Paris), 2000-2004
2. Maître de Conférences, Université Paris-Sud (Orsay), since 2004

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 2005

Other academic activities:

1. Organization of an *Indo-French Number Theory Day* on June 7th 2001.
2. Organization (with E. Gaudron et S. Khemira) of the conference *Formes Modulaires et Transcendance*, C.I.R.M. (Marseille), May 26–30 2003. Edition of the proceedings.
3. Organization of the exchange programme between Ecole Normale Supérieure and Chennai Mathematical Institute (Madras, India) from 2000 to 2004.

Selected list of publications by Stéphane Fischler

1. S. Fischler, T. Rivoal, *Approximants de Padé et séries hypergéométriques équilibrées*, J. Math. Pures Appl. 82.10 (2003), 1369–1394.

2. S. Fischler, S. Khemira, E. Gaudron (eds.), *Formes modulaires et transcendance*, proceedings of the conference held at C.I.R.M. (Marseille), May 26–30 2003, Séminaires et Congrès 12, Société Mathématique de France, 2005.

3. S. Fischler, *Interpolation on algebraic groups*, Compositio Math. 141 (2005), 907–925.

4. S. Fischler, *Palindromic Prefixes and Episturmian Words*, Journal of Combinatorial Theory, Series A, 113.7 (2006), 1281–1304.

5. S. Fischler, *Palindromic Prefixes and Diophantine Approximation*, Monatshefte Math. 151 (2007), 11–37.

6. J. Cresson, S. Fischler, T. Rivoal, *Phénomènes de symétrie dans des formes linéaires en polyzêtas*, J. Reine Angew. Math 617 (2008), 109–152.

Summary Curriculum Vitae
of
Jean-Marc Fontaine

Affiliation: Université Paris-Sud 11

Electronic mail: fontaine@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~fontaine/

Date of birth: 1944, France **Citizenship:** French

Summary of positions held.

1. Former student of École polytechnique, 1962
2. Docteur ès sciences, 1972
3. CNRS researcher, 1965-1971
4. Teaching assistant at Université Paris VI, 1971-1972
5. Professor at Université de Grenoble, 1972-1988
6. Professor at Université de Paris-Sud since 1988

Scholarships, prizes, distinctions.

1. Cours Peccot du Collège de France, 1973
2. Invited lecturer at the International Congress of Mathematics, Varsovie, 1983
3. Carrière Prize of Académie des sciences, 1984
4. Membre de l'Institut Universitaire de France, 1994
5. Member of Académie des sciences, 2002
6. Humboldt-Gay Lussac Prize, 2002
7. Invited lecturer at the International Congress of Mathematics, Pekin, 2002

Selected list of publications by Jean-Marc Fontaine

1. P. Colmez, J.-M. Fontaine, *Construction des représentations p-adiques semi-stables*, Invent. Math. 140 (2000), no. 1, 1-43.

2. J.-M. Fontaine, *Analyse p-adique et representations galoisiennes* in *Proceedings of the International Congress of Mathematicians, Vol. II* (Beijing, 2002), 139-148, Higher Ed. Press, Beijing, 2002.

3. J.-M. Fontaine, *Presque C_p-représentations*, Kazuya Kato's fiftieth birthday. Doc. Math. 2003, Extra Vol., 285-385.

4. J.-M. Fontaine, *Arithmétique des représentations galoisiennes p-adiques* in *Cohomologies p-adiques et applications arithmétiques. III*, Astérisque No. 295 (2004), xi, 1-115.

5. J.-M. Fontaine, M. Rapoport, *Existence de filtrations admissibles sur des isocristaux*, Bull. Soc. Math. France 133 (2005), no. 1, 73-86.

Summary Curriculum Vitae
of
Etienne Fouvry

Affiliation: Laboratoire de Mathématique, UMR 8628, Université Paris-Sud XI

Electronic mail: `Etienne.Fouvry@math.u-psud.fr`

Personal home page: `http://www.math.u-psud.fr/~fouvry/`

Date of birth: September 18, 1953, Pont–Audemer, France **Citizenship:** French

Diplomas :
Former student of École Normale Supérieure, 1972

Doctorat d'État, Université Bordeaux I, 1981

Habilitation à Diriger des Recherches, Université Bordeaux I, 1986

Summary of positions held .

1. Assistant, Maître–Assistant, Maître de Conférences Bordeaux I (1976–1986)
2. Professeur à l'Université Paris-Sud XI (since 1986)

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 1990

Advanced level teaching:

Every year, I supervise one "mémoire de M2" in analytic number theory.

Other academic activities:

Organization of the following conferences:

1. Session *États de la Recherche* : Théorie Analytique des Nombres, at Bordeaux 1, (december 2000).
2. *Rencontre de Théorie Analytique des Nombres* at CIRM (september 2006). Celebration of the 60 years of J–M. Deshouillers.
3. *Journées de Théorie Analytique des Nombres* at IHP to celebrate the retirement of Hedi Daboussi (october 2006).

Selected list of publications by Étienne Fouvry

1. E. Fouvry, H. Iwaniec, *Gaussian Primes*, Acta Arithmetica, LXXIX (1997) 249–287, Featured Review in Mathematical Reviews.

2. E. Fouvry, P. Michel, *Sur le changement de signe des sommes de Kloosterman*, Annals of Math. 165, (2007) 675–715.

3. A.C. Cojoracu, E. Fouvry, M.R. Murty, *The square sieve and the Lang–Trotter conjecture*, Canadian Journal of Maths 57, (2005) 1155–1177.

4. E. Fouvry, J. Klüners, *On the* 4*–rank of class groups of quadratic number fields*, (2007) 455–513.

5. E. Fouvry, J. Klüners, *On the negative Pell equation*, to be published in Annals of Math, available at www.math.u-psud.fr/ fouvry/.

Doctoral students.

- Jie Wu, 1990
- Joël Rivat, 1992
- Karim Belabas, 1996
- Cécile Dartyge, 1994
- Philippe Michel, 1995
- Emmanuel Royer, 2001
- Jimena Sivak, 2005

Summary Curriculum Vitae
of
Olivier Guichard

Affiliation: CNRS, Université Paris-Sud 11

Electronic mail: guichard@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~guichard/

Birth: June 5, 1977, Oloron-Sainte-Marie, France

Citizenship: French

Diplomas:
PhD thesis, under the supervision of Yves Benoist.

Summary of positions held .

1. Post-doc at the EPFL in Lausanne (Switzerland), 2004-2005
2. Researcher at Orsay's university (France), since 2005

Other academic activities:

1. Organisation of the weekly seminar *Geomtery-Topology-Dynamics* at Orsay University, 2006-2009

Selected list of publications by Olivier Guichard

1. O. Guichard, *Connexité et densité des représentations irréductibles des groupes de surface dans le groupe général linéaire*, Transform. Groups **12** (2007), no. 2, p. 251–292.
2. O. Guichard, A. Wienhard, *Convex foliated projective structures and the Hitchin component of* $SL(4,\mathbb{R})$, Duke Math. J. **144** (2008), no. 3, p. 381–445.
3. O. Guichard, *Composantes de Hitchin et représentations hyperconvexes de groupes de surface*, J. Differential Geom. **80** (2008), p. 391-431
4. T. Delzant, O. Guichard, F. Labourie, S. Mozes, *Well displacing representation and orbit maps*, to appear in Zimmer festschrift.
5. O. Guichard, A. Wienhard, *Topological Invariants of Anosov Representations*, preprint.

Summary Curriculum Vitae
of
David Harari

Affiliation: Université Paris-Sud 11

Electronic mail: david.harari@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~harari/

Date of birth: January 1, 1970, Suresnes, France **Citizenship:** France

Diplomas:
Ph. D. Thesis, under the supervision of J.-L. Colliot-Thélène, 1993
Habilitation à diriger des recherches, 1999

Summary of positions held.

1. Former Student in Ecole Normale Supérieure, Paris, 1988-1991
2. Teaching assistant, Ecole Normale Supéerieure, Paris, 1991-1996
3. 2nd class junior researcher in C.N.R.S., Strasbourg, 1996-2000
4. 1st class junior researcher in C.N.R.S., Ecole Normale Supéerieure, Paris, 2000-2005
5. Professor, Universitée de Paris-Sud (Orsay), since 2005
6. Deputy directorof the doctoral school in mathematics in Paris-Sud, since 2008

Selected list of publications by David Harari

1. D. Harari, *The Manin obstruction for torsors under connected algebraic groups*, Intern. Math. Res. Notices. 2006, 68632, 1-13.
2. D. Harari, *Quelques propriétés d'approximation reliées à la cohomologie galoisienne d'un groupe algébrique fini*, Bull. Soc. Math. France. 135, no 4, 549-564 (2007).
3. D. Harari, *Spécialisation des conditions de Manin pour les variétés fibrées au-dessus de l'espace projectif*, Compositio Math. 143, no 3, 603-617 (2007).
4. D. Harari, *Le défaut d'approximation forte pour les groupes algébriques commutatifs*, Algebra and number Theory 2, no 5, 595-611 (2008).
5. D. Harari, T. Szamuely, *Local-global principles for* 1*-motives*, Duke Math. J. 143, no 3, 531-557 (2008).

6. D. Harari, T. Szamuely, *Galois section for abelianized fundamental groups*, to be published in Math. Annalen, with an appendix by V. Flynn.

Doctoral students

- Dennis Eriksson, 2008
- Cyril Demarche, Yongqi Liang, Benoit Mariou, in progress

Summary Curriculum Vitae
of
Luc Illusie

Affiliation: Université Paris-Sud 11

Electronic mail: luc.illusie@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~illusie/

Date of birth: May 2, 1940, Nantes, France **Citizenship:** France

Summary of positions held.

1. Attaché de recherche at CNRS, 1963-1969
2. Chargé de recherche at CNRS, 1969-1973
3. Maître de recherche at CNRS, 1973-1976
4. Maître de conférences at Université Paris-Sud, 1976-1978
5. Professor of second grade at Université Paris-Sud, 1978-1980
6. Professor of first grade at Université Paris-Sud, 1980-1989
7. Professor of exceptional grade at Université Paris-Sud, 1989-2005
8. Professor émérite at Université Paris-Sud, since 2005

Selected list of publications by Luc Illusie

1. L. Illusie, *Cohomologie cristalline (d'après P. Berthelot)*, Séminaire Bourbaki (1974/1975: Exposés Nos. 453-470), Exp. No. 456, pp. 53–60. Lecture Notes in Math., Vol. 514, Springer, Berlin, 1976.
2. L. Illusie, *Complexe de de Rham- Witt et cohomologie cristalline*, Ann. Sci. Ecole Norm. Sup. (4) 12 (1979), no. 4, 501–661.
3. L. Illusie, M. Raynaud, *Les suites spectrales associées au complexe de de Rham-Witt*, Inst. Hautes études Sci. Publ. Math. No. 57 (1983), 73–212.
4. P. Deligne, L. Illusie, *Relèvements modulo p^2 et décomposition du complexe de de Rham*, Invent. Math. 89 (1987), no. 2, 247–270.
5. L. Illusie, *Réduction semi-stable et décomposition de complexes de de Rham à coefficients*, Duke Math. J. 60 (1990), no. 1, 139–185.

Doctoral students

- Maurizio Cailotto
- Philippe du Bois
- Torsten Ekedahl
- Michel Gros
- Gérard Laumon
- Pierre Lorenzon
- Abdellah Mokrane
- Fabrice Orgogozo
- Noriyuki Suwa
- Isabelle Vidal
- Weizhe Zheng

Summary Curriculum Vitae
of
Gérard Laumon

Affiliation: Département de Mathématique, Université Paris-Sud.

Electronic mail: gerard.laumon@math.u-psud.fr

Personal home page:
http://www.academie-sciences.fr/membres/L/Laumon_Gerard.htm

Date of birth: May 7, 1952, Lyon, France. **Citizenship:** French.

Summary of positions held.

1. Assistant at Université Paris-Sud from 1976 at 1984.
2. Chargé de recherche at CNRS and Université Paris-Sud from1984 to 1989.
3. Directeur de recherche at CNRS and Université Paris-Sud, since1989.

Scholarships, prizes, distinctions.

1. Thèse d'État de l'Université Paris-Sud (1983).
2. Médaille d'argent du CNRS 1987.
3. Prix Ernest Dechelle 1992.
4. Clay Research Award 2004.
5. Membre de l'Académie des Sciences 2005.

Other academic activities: Member of the Program Commitee of the ICM 2002.

Selected list of publications by Gérard Laumon.

1. G. Laumon, *La transformation de Fourier géométrique et ses applications*, Proceedings of the International Congress of Mathematicians 1990,Kyoto, Springer-Verlag (1991).

2. G. Laumon, M. Rapoport, U. Stuhler, *$\mathcal{D}$-elliptic sheaves and the local Langlands conjecture*, Inventiones Math. 113 (1993).

3. G. Laumon, *Sur la cohomologie à supports compacts des variétésde Shimura attachées à $GSp_4(\boldsymbol{Q})$*, Compositio Math. 105 (1997).

4. G. Laumon, *The work of Laurent Lafforgue*, Proceedings of the International Congress of Mathematicians 2002, Beijing, Higher Education Press (2002).

5. G. Laumon, B.C. Ngo, *Le lemme fondamental pour les groupes unitaires*, Ann. of Math. 168, (2008).

6. P.-H. Chaudouard, G. Laumon, *Le lemme fondamental pondéré dans le cas nonramifié*, Duke Math. Journal 145, (2008).

Books.

1. G. Laumon, *Cohomology of Drinfeld modular varieties, Parts I and II*, Cambridge University Press (1995, 1996).

2. G. Laumon, *Drinfeld Shtukas, CIME Session Vector bundles on Curves, New Directions (Cetraro, juin 1995)*, Lecture Notes in Math. 1649 (1996).

3. G. Laumon, L. Moret-Bailly, *Champs algébriques*, Springer-Verlag (1999).

Doctoral students.

- M. Saibi, A. Genestier, 1992
- L. Lafforgue, 1994
- B.C. Ngô, 1997
- P. Boyer, 1998
- S. Lysenko, 1999
- S. Morel, 2006
- Chen Zongbin, in progress

Summary Curriculum Vitae
of
Pierre Pansu

Affiliation: Université Paris-Sud 11, Ecole Normale Supérieure

Electronic mail: `Pierre.Pansu@math.u-psud.fr`

Personal home page: `http://www.math.u-psud.fr/~pansu/`

Date of birth: July 13, 1959, Lyon, France **Citizenship:** France

Diplomas :
Thèse d'Etat (1987).
Thèse de 3ème cycle, Université Paris 7 (1982), directeur : Marcel Berger.
Agrégation de mathématiques (1979).

Summary of positions held .

1. Elève Ecole Normale Supérieure (1977-1981).
2. Allocataire Ecole Polytechnique (1981-1982).
3. Service National (1982-83).
4. Chargé de recherches au CNRS (1983-1990).
5. Professeur à l'Université Paris-Sud 11 (1990-...).

Scholarships, prizes, distinctions. Prix Gegner de l'Académie des Sciences (1991). **Other academic activities:** Organization of the following conference:

1. Trimestre *Géométrie métrique, groupes et algorithmes*, Institut Henri Poincaré, january-march 2011. Co-organized with Guy Kindler, James Lee, Claire Mathieu, Assaf Naor, R. O'Donnell, Nicolas Schabanel, Lior Silberman.

Selected list of publications by Pierre Pansu

1. P. Pansu, *Cohomologie L^p en degré 1 des espaces homogènes*, Potential Anal., 27(2): 151–165, 2007.

2. P. Pierre, *Superrigidité géométrique et applications harmoniques*, In *Géométries à courbure négative ou nulle, groupes discrets et rigidités*, 375–422. Soc. Math. de France, Paris. Séminaires et congrès, 18, 2008.

3. P. Pierre, *Cohomologie L^p et pincement*, Comment. Math. Helv., 83(2): 327–357, 2008.

4. K. Inkang, P. Pierre, *Local rigidity of quaternionic hyperbolic lattices*, J. Europ. Math. Soc. to appear, 28 pages, 2007.

5. R. Grimaldi, S. Nardulli, P. Pierre, *Semianalyticity of isoperimetric profiles*, Differen. Geom. Appl. to appear, 8 pages, 2007.

Doctoral students.

- Olivier Biquard, 1991
- Michel Rumin, 1992
- Marc Bourdon, 1993
- Dragomirna Alexandru-Rugina, 1995
- Cornelia Drutu, 1996
- Laurent Lazzarini, 1999
- Yann Ollivier, 2003
- Fang Yong, 2004
- Stefano Nardulli, Alexandre Engoulatov, 2006
- Antoine Gournay, 2008
- Yashar Memarian, in progress

Summary Curriculum Vitae
of
Nicolas Ratazzi

Affiliation: Département de Mathématiques d'Orsay, Université Paris-Sud 11

Electronic mail: nicolas.ratazzi@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~ratazzi/

Date of birth: April 6, 1977, Paris, France **Citizenship:** France

Diplomas : Thèse de Mathématiques at Université Paris 6, May 2004

Summary of positions held .

1. Maitre de Conférences at Université Paris-Sud 11, since 2005

Scholarships, prizes, distinctions.

1. Prime d'encadrement doctoral et de recherche, since 2006
2. Member of the ANR Project DIOPHANTE

Other academic activities:

Referee for Crelle's Journal, Compositio Math, Commentarii Mathematici Helvetici.

Coorganizer with Laurent Fargues of the SAGA seminar (Séminaire d'Arithmétique et de Géométrie Algébrique) at Orsay since September 2008.

Organization of the following conferences:

1. *Développements récents en approximation diophantienne*, CIRM, October 2007, co-organised with Tanguy Rivoal and Boris Adamczewski
2. *Certains cas (très) particuliers de la conjecture de Zilber-Pink*, third meeting of the ANR project Diophante, Paris (IMJ-Orsay), April 2008.

Selected list of publications by Nicolas Ratazzi

1. N. Ratazzi, *Intersection de courbes et de sous-groupes et problèmes de minoration de hauteur dans les variétés abéliennes C.M.*, Ann. Inst. Fourier 58, No. 5, 1575-1633, 2008.

2. M. Nakamaye, N. Ratazzi, *Lemmes de multiplicités et constante de Seshadri*, Math. Z. 259, No. 4, 915-933, 2008.

3. N. Ratazzi, *Borne sur la torsion dans les variétés abéliennes de type CM*, Annales scientifiques de l'École Normale Supérieure, Sér. 4, 40 no. 6, 951-983, 2007.

4. N. Ratazzi, *Problème de Lehmer sur $\mathbb{G}_m$ et méthode des pentes*, Journal de Théorie des Nombres de Bordeaux, volume 19 Fasc.1, 2007.

5. N. Ratazzi, *Théorème de Dobrowolski-Laurent pour les extensions abéliennes sur une courbe elliptique à multiplication complexe*, IMRN, Volume 58, 2004, Pages 3121-3152.

Summary Curriculum Vitae
of
Joël Riou

Affiliation: Département de mathématiques, Université Paris-Sud 11

Electronic mail: joel.riou@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~riou/

Date of birth: December 7, 1979, Morlaix, France **Citizenship:** France

Diplomas : Thèse in Mathematics *Opérations sur la K-théorie algébrique et régulateurs* via *la théorie homotopique des schémas*, Université Paris 7 – Denis Diderot, 2006 (adviser: Bruno Kahn)

Summary of positions held.

1. ATER ($\sim$ teaching assistant), University Paris 7, 2006-2007
2. Maître de conférences, University Paris-Sud 11, since 2007

Selected list of publications by Joël Riou

1. J. Riou, *Dualité de Spanier-Whitehead en géométrie algébrique*, Comptes Rendus de l'Académie des Sciences, Mathématique, 340, n6, pages 431–436, 2005.
2. J. Riou, *Opérations sur la K-théorie algébrique et régulateurs via la théorie homotopique des schémas*, Comptes Rendus de l'Académie des Sciences, Mathématique, 344, pages 27–32, 2007.
3. J. Riou, *Catégorie homotopique stable d'un site suspendu avec intervalle*, Bulletin de la Société Mathématique de France 135, pages 495–547, 2007.

Summary Curriculum Vitae
of
Damian Rössler

Affiliation: Département de mathématiques, Université Paris XI

Electronic mail: damian.rossler@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~rossler

Date of birth: December 7th, 1970, Washington D.C., USA **Citizenship:** Germany

Diplomas : Ph.D. (Université Paris XIII, July 1996), Habilitation (Université Paris 7, June 2003)

Summary of positions held .

1. Chargé de Recherches CNRS, IMJ (Paris), 1999-2007
2. Assistant-Professor, ETHZ (Zürich, Switzerland), 2001-2004
3. Directeur de Recherches CNRS, Université Paris XI, since 2008

Scholarships, prizes, distinctions. PIMS Distinguished Lectureship (Vancouver, 2007)

Other academic activities:

1. Member of the ANR project *MVGA - Méthodes à la Voevodsky, motifs mixtes et Géométrie d'Arakelov (2008 - 2012).*
2. Member of the european network MRTN-CT-2004-512234 (MODNET), active from 2005 to 2008.
3. Member of the european network MRTN-CT2003-504917 (Arithmetic Algebraic Geometry), active from 2005 to 2008.
4. Coorganizer of the seminar *Autour de la Géométrie d'Arakelov (AGA)* with V. Maillot at the Univ. Paris 6, since 2005

Organization of the following conference *Arakelov Geometry*, MFO, Oberwolfach (coorganized with J.-B. Bost and K. Künnemann), Sept. 11-17, 2005.

Selected list of publications by Damian Rössler

1. D. Rössler, K. Köhler, *A Lefschetz fixed point theorem in Arakelov geometry I : statement and proof*, Invent. Math. **145** (2001), no. 2, 333–396.

2. D. Rössler, R. Pink, *On Hrushovski's proof of the Manin-Mumford conjecture*, Actes du congrès international des mathématiciens, vol. I (Péking, août 2002).

3. D. Rössler, V. Maillot, *Conjectures sur les dérivées logarithmiques des fonctions L d'Artin aux entiers négatifs*, Math. Res. Lett. **9** (2002), no. 5 and 6, 715–724.

4. D. Rössler, V. Maillot, *On the periods of motives with complex multiplication and a conjecture of Gross-Deligne*, Annals of Math. **160** (2004), 727–754.

5. D. Rössler, V. Maillot, *On the determinant bundles of abelian schemes*, Compositio Math. **144** (2008), 495–502.

Doctoral students.

- D. Eriksson, 2008
- B. Duma, S. Tang, in progress

Summary Curriculum Vitae
of
Nessim Sibony

Affiliation: Département de Mathématiques, Université Paris- Sud 11

Electronic mail: Nessim.Sibony@math.u-psud.fr

Date of birth: October 20, 1947, Marrakech, Maroc. **Citizenship:** France

Diplomas : Thèse: Doctorat d'Etat 1973

Summary of positions held .

1. Assistant, University of Paris, 1967-1968
2. Assistant, University Paris 11, 1968-1971
3. Assistant Professor University Paris-Sud, 1971-1979
4. Professor, Paris 11, 1980-1983
5. Full Professor, University Paris 11 (Orsay), 1984-1992
6. Professor classe exceptionnelle , Orsay, since 1992

Scholarships, prizes, distinctions.

1. Académie, Vaillant Price ICM Kyoto (19990), invited lecture.
2. Prime d'encadrement doctoral et de recherche, since 1990.

Selected list of publications by Nessim Sibony

1. N. Sibony, *Dynamique des applications rationnelles de* $\mathbf{P}^k$, Panoramas et Synthèses (1999), p.97-182.

2. B. Berndtsson, N. Sibony, *The* $\overline{\partial}$*-equation on a positive current*, Invent. math. 147, 371-428 (2002).

3. T.C. Dinh, N. Sibony, *Sur l'entropie topologique d'une application rationnelle*, Annals of Math. 161 (2005), 1637-1644.

4. J.E. Fornæss, N. Sibony, *Harmonic Currents of finite energy and laminations*, Gafa. 15 (2005) 291-312 (2005), 962-1003.

5. T.C. Dinh, N. Sibony, *) Green currents for holomorphic automorphisms of compact Kähler manifolds*, J.Amer.Math.Soc.18 (2005), 291-312.

6. T.C. Dinh, N. Sibony, *Super-potentials of positive closed currents*, theory of intersection and dynamics, 80 pages, Acta. Math., to appear.

Doctoral students.

- Vincent Guedj
- Charles Favre
- Romain Dujardin
- Gabriel Vigny, 2007

Summary Curriculum Vitae
of
Emmanuel Ullmo

Affiliation: Département de Mathématiques, Université Paris Sud 11

Electronic mail: emmanuel.ullmo@math.u-psud.fr

Personal home page: http://www.math.u-psud.fr/~ullmo/

Date of birth: 25 Juin , 1965, Paris, France **Citizenship:** France

Diplomas :

1. Thèse de doctorat under the supervision of L.Szpiro, 1993
2. Habilitation à diriger des recherches defended in Orsay, 1997

Summary of positions held .

1. Maître de conférence at Orsay University, 1995-1999
2. Assistant Professor at Princeton University, 1999-2001
3. Professeur at Orsay University, since 2001

Scholarships, prizes, distinctions.

1. NSF Grant, 1999-2001
2. Invited lecturer to the International Congress of Pékin, 2002
3. Member of Institut Universitaire de France, 2003
4. Elie Cartan Prize, 2006
5. Prime d'encadrement doctoral et de recherche, since 2002

Other academic activities:

1. Head of Mathematics Department in Orsay, 2006-2009
2. Main Editor of Inventiones Mathematicae, since 2008
3. Member of editorial comittee of Panoramas et Synthèses, since 2003

4. Member of Scientific comitte of centre Emile Borel, 2002-2006

5. Organisation with S. David , P. Philippon and P. Satgé of a trimester *géométrie diophantienne* at Emile Borel Center (January-March 1999)

6. Organisation with L. Illusie, M. Flexor and L. Moret-Bailly of a conference in honour of L. Szpiro at Orsay (4-6 July 2003)

Selected list of publications by Emmanuel Ullmo

1. L. Szpiro, E. Ullmo, S. Zhang, *Equidistribution des petits points*, Inventiones **127**, (1997), 337–347.

2. E. Ullmo, *Positivité et discrètion des points algébriques des courbes*, Annals of Maths **147** (1998), 167–179.

3. P. Michel, E. Ullmo, *Points de petite hauteur sur les courbes modulaires* $X_0(N)$, Inventiones **131**, Fasc **3** (1998), 645–674.

4. L. Clozel, H. Oh, E. Ullmo, *Hecke operators and equidistribution of Hecke points*, Invent. Math. **144**, (2001), p. 327-351.

5. L. Clozel, E. Ullmo, *Equidistribution de sous-variétés spéciales*, Annals of mathematics **161** (2005) p. 1571–1588.

6. E. Ullmo, A. Yafaev, *Galois orbits of special subvarieties of Shimura varieties: towards the André-Oort conjecture*, preprint 2006. Appendix by P. Gille and L. Moret-Bailly *Actions algébriques des groupes arithmétiques.*

Ph. D. students.

- Pascal Autissier, 2003
- Ricardo Menares, 2009
- Chen Ke, in progress

Teaching staff
of the
Mundus Master ALGANT
in
PADOVA

- Prof. F. Baldassarri (contact person)
- Prof. S. Bazzoni
- Dr. A. Bertapelle
- Prof. A. Calabri
- Prof. F. Cardin
- Dr. G. Carnovale
- Prof. B. Chiarellotto
- Prof. A. DAgnolo
- Prof. A. Facchini
- Dr. L. Fiorot
- Prof. M. Garuti
- Dr. A. Languasco
- Prof A. Lucchini

Summary Curriculum Vitae
of
Francesco Baldassarri

Affiliation: Dipartimento di Matematica P. & A. - Università di Padova

Electronic mail: baldassa@math.unipd.it

Personal home page: www.math.unipd.it/~baldassa

Date of birth: February 8, 1951, Venezia, Italy **Citizenship:** Italian

Summary of positions held.

1. Visiting Fellow at the Mathematics Department of Princeton University 1975-77 with Bernard Dwork.
2. Assistente di Geometria Università di Padova 1978-1979.
3. Visiting Research Mathematician at Princeton, Fall1978-79.
4. Professore di Geometria all'Università di Trieste 1981-1982
5. Professore ordinario di Geometria all'Università di Padova 1982 - today

Scholarships, prizes, distinctions.

1. Lauréat de l'Alliance Française 1966
2. Professeur Associé at Rennes, Paris 6, École Polytechnique, E.N.S., Nice '
3. JSPM Fellow
4. Member of the Istituto Veneto di Scienze Lettere ed Arti

Other academic activities:

1. Dean of Graduate Studies Padova 1990-1994.
2. Scientist in Charge" of the European Networks "p-adic Methods in Arithmetic Algebraic Geometry" 1994-97 and "Arithmetic Algebraic Geometry" 1997-2006
3. Managing Director of *Rendiconti del Seminario Matematico dell'Università di Padova* http://rendiconti.math.unipd.it/

Organization of the conferences:

1. *International Conference on p-adic Analysis*, Trento, 1989
2. *Instructional Conference on "p-adic methods in arithmetic algebraic geometry"*, Levico Terme, 1995.
3. *International Conference on "Arithmetic Algebraic Geometry"*, Venice, Italy, 1999.
4. *Dwork Trimester in Italy*, Padova, Varenna and Bressanone, 2001.
5. *Cohomological Week in Rennes*, for the 60-th anniversary of P. Berthelot.

Selected list of publications by Francesco Baldassarri

1. F. Baldassarri, B. Chiarellotto, *Formal and p-adic theory of differential systems with logarithmic singularities depending upon parameters*, Duke Math. J., 72 (1993), pp. 241-300;
2. F. Baldassarri, B. Chiarellotto, *Algebraic versus rigid cohomology with logarithmic coefficients*, in Barsotti Memorial Symposium, Perspectives in Mathe- matics Vol. 15, Academic Press 1994, p.11-50;
3. F. Baldassarri, Y. André, *De Rham Cohomology of Differential Modules on Algebraic Varieties*, Progress in Mathematics Vol. 189, Birkhaueser Verlag 2001, 214 p.;
4. F. Baldassarri, P. Berthelot , *On Dwork cohomology for singular hypersurfaces*, in Geometric Aspects of Dworks Theory. (vol. 1, pp. 177- 244). W. de Gruyter (2002);
5. F. Baldassarri, *Étale and crystalline beta and gamma functions via Fontaines periods*, Rend. Lincei Mat. e Appl. Vol. 17, 2, (2006), pp.175-198.

Doctoral students.

- Bruno Chiarellotto
- Cesare Furlanello
- Pier Ivan Pastro
- Maurizio Cailotto
- Francesca Tovena
- Luisa Fiorot
- Valentina di Proietto

Summary Curriculum Vitae
of
Silvana Bazzoni

Affiliation: Università di Padova

Electronic mail: bazzoni@math.unipd.it

Personal home page: http://www.math.unipd.it/~bazzoni/

Date of birth: January 14, 1952, Verona, Italy **Citizenship:** Italy

Summary of positions held at the Science Faculty of Padova University.

1. Assistant 1976-1981.
2. Researcher in Algebra 1981-1993.
3. Associated Professor in Algebra, since 1993.

Scholarships, prizes, distinctions.

1. One year C.N.R. (Italian National Research Council) grant for researches at the Padova Math. Department. (1975-1976)
2. One year C.N.R. (Italian National Research Council) grant for researches at the Tulane University, New Orleans. (1978-1979)
3. Grant from the Spanish Ministry of Science and Education for researches at the Centre de Recerca Matematica in Barcelona. (2006-2007)

Other academic activities: Organization of the conferences:

1. *International conference "Abelian groups and modules"*, Padova Italy, June 1994, co-organiser.
2. *"Algebra Conference for the 60th Birthday of Adalberto Orsatti"*, Padova Italy, June 1997, co-organiser.
3. *"Homological Methods in Module Theory"*, Cortona Italy, September 2002, co-organiser.
4. *"Algebra Conference Venezia 2002"*, Venezia Italy, June 2002, co-organiser
5. *"International Algebra Conference for the 60th Birthday of Luigi Salce"*, Padova Italy, June 2006, co-organiser.
6. *"Advanced course on Quasideterminats and Universal Localization*, Barcelona Spain, Febraury 2007, co-organiser.

Selected list of publications by Silvana Bazzoni

1. S. Bazzoni, *Cotilting modules are pure-injective*, Proc. Amer. Math. Soc. 131 (2003), 3665-3672

2. S. Bazzoni, P. Eklof, J. Trlifaj, *Tilting cotorsion pairs* Bull. London Math. Soc. 37 (2005), 683-696.

3. S. Bazzoni, D. Herbera, *One dimensional tilting modules are of finite type* Algebras and Representation Theory, 11 (2008), no.1, 43-61.

4. S. Bazzoni, Stovicek, *All tilting modules are of finite type*, Proc. Amer. Math. Soc. 135 (2007), no. 12, 3771Ñ3781

5. L. Angeleri Huegel, S. Bazzoni, D. Herbera, *A solution to the Baer splitting problem*, Trans. Am. Math. Soc. 360 (2008), no.5, 2409-2421.

6. S. Bazzoni, D. Herbera, *Cotorsion pair generated by modules of bounded projective dimension* to appear in Israel J. of Math.

7. S. Bazzoni, *When are definable classes tilting and cotilting classes?*, J. of Algebra. vol. 320, pp. 4281-4299 ISSN: 0021-8693.

Summary Curriculum Vitae
of
Alessandra Bertapelle

Affiliation: Mathematical Institute, Università degli Studi di Padova

Electronic mail: `bertapel@math.unipd.it`

Personal home page: `http://www.math.unipd.it/~bertapel/`

Date of birth: November 28, 1968, Bassano del Grappa, Italy. **Citizenship:** Italian.

Summary of positions held.

1. Post-doc at Mënster University, 1997–1999
2. Ricercatore (with teaching duties) at University of Padova, since February 2000

Selected list of publications by Alessandra Bertapelle.

1. A. Bertapelle, S. Bosch *Weil restriction and Grothendieck's duality conjecture*, J. Algebraic Geometry **9** (2000), 155–164.

2. A. Bertapelle *Formal Néron models and Weil restriction* , Math. Ann. **316** (2000), 437–463.

3. A. Bertapelle *On perfectness of Grothendieck's pairing for the ℓ-parts of component groups*, J. reine angew. Math. **538** (2001), 223–236.

4. A. Bertapelle *Local flat duality of abelian varieties*, Manuscripta Math. **111** (2003), 141–161.

5. A. Bertapelle, M. Candilera, V. Cristante *Monodromy of logarithmic Barsotti-Tate groups attached to 1-motives*, J. reine angew. Math. **573** (2004) 211–234

6. A. Bertapelle *Deligne's duality for de Rham realizations of* 1*-motives.* To appear in Math. Nach.

Summary Curriculum Vitae
of
Alberto Calabri

Affiliation: Dept. of Mathematical Methods and Models for Applied Sciences, University of Padua

Electronic mail: alberto.calabri@unipd.it

Personal home page: http://www.dmsa.unipd.it/~calabri/

Date of birth: November 26, 1970, Bologna, Italy **Citizenship:** Italian

Summary of positions held.

1. Temporary position, University of Rome "Tor Vergata", 1999-2002
2. Temporary position, University of Bologna, 2003-2005
3. Assistant Professor, University of Padua, since 2006

Scholarships, prizes, distinctions.

1. Ph. D. in Mathematics, University of Rome "La Sapienza", 1995–1999
2. "Young researcher" project, University of Rome "Tor Vergata", 2000–2001
3. Enriques prize, Centro Studi Enriques, Livorno, 2004

Other academic activities:
Organization of the NATO Advanced Research Workshop "Application of Algebraic Geometry to Coding Theory, Physics, and Computation", Eilat (Israel), February 25–March 1, 2001.

Selected list of publications by Alberto Calabri

1. A. Calabri, C. Ciliberto, F. Flamini, R. Miranda, *On the K^2 of Degenerations of Surfaces and the Multiple Point Formula*, Annals of Mathematics **165** (2007), n. 2, 335–395.
2. A. Calabri, C. Ciliberto, F. Flamini, R. Miranda, *On the genus of reducible surfaces and degenerations of surfaces*, Annales de l'Institut Fourier (Grenoble) **57** (2007), n. 2, 491–516.
3. A. Calabri, C. Ciliberto, M. Mendes Lopes, *Numerically Godeaux surfaces with an involution*, Transactions of the American Mathematical Society **359** (2007), n. 4, 1605–1632.
4. A. Calabri, M. Mendes Lopes, R. Pardini, *Involutions on numerically Campedelli surfaces*, Tohoku Mathematical Journal **60** (2008), n. 1, 1–22.

Summary Curriculum Vitae
of
Franco Cardin

Affiliation: Dipartimento di Matematica Pura ed Applicata, Università degli Studi di Padova

Electronic mail: cardin@math.unipd.it

Personal home page: http://www.math.unipd.it/~cardin/

Date of birth: July 16, 1951, Padova, Italia **Citizenship:** Italia

Summary of positions held.

1. Researcher at Università di Padova, 1980-1992
2. Associate Professor at Università di Padova, 1992-2000
3. Full Professor at Università di Padova, since 2000
4. Coordinator of the course of studies in 'Pure Mathematics' at the 'Scuola di Dottorato in Matematica' of the Università di Padova, since 2009

Scholarships, prizes, distinctions.

1. Degree in Physics
2. CNR Fellowship, before 1980

Other academic activities: Organization of the conferences:

1. *Entropy and Relative Entropy in Mathematical Physical and EngeeneringSciences*, co-organizer, 24-26 June 2004 Padova
2. *Meccanica e Logica* in the Honour of Aldo Bressan's 80th Anniversary, organizer, June 2006 Padova
3. *Third International School and Workshop on "Mathematical Methods in Quantum Mechanics"*, co-organizer, February 16 - 21, 2009 Brixen (Italy)

Selected list of publications by Franco Cardin

1. F. Cardin, A. Marigonda, *Global World Functions*, Journal of Geometry and Symmetry in Physics, vol. 2; p. 1-17 (2004)

2. P. Bettiol, F. Cardin, *Landscapes of necessary conditions for the maxima in optimal control using Lagrangian submanifolds' global parametrizations and generalized solutions* Journal of Mathematical Sciences, vol. 135; p. 3125-3144 (2006)

3. O. Bernardi, F. Cardin, *Minimax and viscosity solutions of Hamilton-Jacobi equations in the convex case*, Communications on Pure and Applied Analysis, vol. 5; p. 793-812 (2006)

4. F. Cardin, C. Viterbo, *Commuting Hamiltonians and Hamilton-Jacobi multi-time equations.*, Duke Mathematical Journal, vol. 144; p. 235-284 (2008)

5. F. Cardin, C. Tebaldi, *Finite Reductions for Dissipative Systems and Viscous Fluid-Dynamic Models on* $\mathbb{T}^2$, Journal of Mathematical analysis and applications, vol. 345/1; p. 213-222 (2008)

6. F. Cardin, A. Lovison, T. Gramchev, *Exponential estimates for oscillatory integrals with degenerate phase functions*, Nonlinearity, vol. 21; p. 409-433 (2008)

7. L. Zanelli, P. Guiotto, F. Cardin, *Integral Representations of the Schrödinger Propagator*, Reports on Mathematical Physics, vol. 62 issue 1, p. 19-56 (2008)

Doctoral students.

- Piernicola Bettiol, 2003
- Alberto Lovison, 2004
- Olga Bernardi, 2006
- Lorenzo Zanelli, 2007

Summary Curriculum Vitae
of
Giovanna Carnovale

Affiliation: Dipartimento di Matematica Pura e Applicata, Università di Padova

Electronic mail: carnoval@math.unipd.it

Personal home page: http://www.math.unipd.it/~carnoval

Date of birth: February 22, 1971, Roma, Italy **Citizenship:** Italy

Summary of positions held.

1. Post-doc in Cergy Pontoise, 1999
2. Post-doc TMR in Paris VI and Antwerp (6 months), 1999-2000
3. 2000-2001 borsa di ricerca senior INdAM, Rome Tor Vergata (9 months), 2001
4. Ricercatore in Algebra (Assistant professor), Università di Padova, since 2001

Selected list of publications by Giovanna Carnovale

1. N. Cantarini, G. Carnovale, M. Costantini, *Spherical orbits and representations of* $U_e(g)$, Transform. Groups 10 (2005), no. 1, 29-62.
2. G. Carnovale, *The Brauer group of modified supergroup algebras*, J. Algebra 305 (2006), 993-1036.
3. G. Carnovale, *Spherical conjugacy classes and involutions in the Weyl group* , Math. Z. 260 (2008), no. 1, 1-23.
4. G. Carnovale, F. Polizzi, *The classification of surfaces of general type with* $p_g = q = 1$ *isogenous to a product of curves* , Adv. Geom. 9 (2009) , no. 2, 233-256.
5. G. Carnovale, *Spherical conjugacy classes and Bruhat decomposition*, preprint arXiv:0808.1818v2, to appear in Ann. Inst. Fourier (Grenoble) 59 (2009).

Summary Curriculum Vitae
of
Bruno Chiarellotto

Affiliation: Dipartimento di Matematica, Universita' di Padova

Electronic mail: chiarbru@math.unipd.it

Personal home page: http://www.math.unipd.it/~chiarbru

Date of birth: August 16, 1961, Cornuda, Italy **Citizenship:** Italy

Summary of positions held.

1. Visiting Research Fellow Princeton University 1988-90
2. Ricercatore Universita' di Padova , 1991-1993
3. Visiting Fellow Univ. of California at Berkeley 1993-94
4. Professor at Universita' di Padova, since 1994

Scholarships, prizes, distinctions.

1. NATO Scholarships from 1986-88 (Paris VII).

Other academic activities:

Director of the Graduated School in Mathematics of Padova: 2001-2008.

Organization of the conferences:

1. *p-adic differential equations: a conference in honor of Gilles Christol*, Bressanone, Sept. 2008 , co-organised with Baldassarri, Tsuzuki, Loeser, Andre', Barsky. http://events.math.unipd.it/christol/
2. *Arithmetic Algebraic Geometry conference*, Cetraro , Oct. 2007, co-organised with Bertolini, Schappacher. http://www.math.unipd.it/aag/
3. *Hodge Theory*, Venice , June 2006 , co-organised with Barbieri Viale, Esnault, Van Geemen. http://ricerca.mat.uniroma3.it/GVA/HTVIU/
4. *Workshop in geometria algebrica: giovani ricercatori all'estero*, Padova, Gennaio 2004, co-organised with Garuti, Andreatta. http://www.math.unipr.it/ rivista/PDF/ESTERNO/locandina.pdf

Selected list of publications by Bruno Chiarellotto

1. B. Chiarellotto, A. Pulita *Arithmetic and differential Swan conductor of rank one representations with finite local monodromy* To appear in Am. J. of Math. (2008), arXiv:0711.0701v2.

2. B. Chiarellotto, N. Tsuzuki *Cohomological descent of rigid cohomology for etale coverings*, Rend. Sem. Mat.Univ. Padova **109**, (2003), 63-125.

3. B. Chiarellotto *Rigid Cohomology and invariant cycles*, Duke Math. Journal **97** (1999), 155-169.

4. B. Chiarellotto *Weights in Rigid Cohomology applications to unipotents F-isocrystals*, Ann. Ec. Normale Sup, **31** (1998), 683-715.

5. B. Chiarellotto, F. Baldassarri *Algebraic versus rigid cohomology with log coefficients*, *Barsotti Symposium in algebraic Geometry*,(Abano terme 1991)11-50, Perspective in Math. 15. Academic Press, San Diego CA, 1994.

Doctoral students.

- Marianna Fornasiero, 2004
- Andrea Pulita, 2005
- Alice Ciccioni, Valentina Settimi (current).

Summary Curriculum Vitae
of
Andrea D'Agnolo

Affiliation: Dipartimento di Matematica Pura e Applicata, Università di Padova

Electronic mail: dagnolo@math.unipd.it

Personal home page: http://www.math.unipd.it/~dagnolo/

Date of birth: November 11, 1966, Venice, Italy **Citizenship:** Italy

Summary of positions held.

1. Full professor Faculty of Engineering, University of Padua, since 2002

Other academic activities:

1. Rendiconti del Seminario Matematico dell'Università di Padova Editor-in-chief, since 2005
2. C.I.M.E. Foundation, Florence, Italy Member of the Scientific Committee, since 2005
3. Ph.D. School in Mathematical Sciences of the University of Padua Member of the Committee for Pure Mathematics, since 2005
4. Scientific Committee for Mathematical Sciences of the University of Padua, Vice-president, 2004-2008

Organization of the conferences:

1. *C.I.M.E. session: Representation theory and Complex Analysis*, Venice International University, June 10-17, 2004 (with E. Casadio Tarabusi and M. Picardello)
2. *Algebraic Analysis and Geometry*, special session at the joint SMF-UMI-SIMAI-SMAI meeting, University of Turin, 6 July 2006 (with B. Fantechi, S. Guillermou and B. Toe)
3. *Stacks for Algebraic Analysis*, University of Padua, June 7-8, 2008 (with S. Guillermou, C. Marastoni, I. Waschkies)

Selected list of publications by Andrea D'Agnolo

1. A. D'Agnolo, M. Eastwood*Radon and Fourier transforms for D-modules*, Adv. Math. 180 (2003), no. 2, 452-485.

2. A. D'Agnolo, P. Polesello, *Stacks of twisted modules and integral transform*, Geometric aspects of Dwork theory. Vol. I, Walter de Gruyter, 2004, pp. 463-507.

3. A. D'Agnolo, F. Baldassarri, *On Dwork cohomology and algebraic D-modules*, Geometric aspects of Dwork theory. Vol. I, Walter de Gruyter, 2004, pp. 245-253.

4. A. D'Agnolo, P. Schapira, *On twisted microdifferential modules. I. Non-existence of twisted wave equations*, Publ. Res. Inst. Math. Sci. 40 (2004), no. 3, 1093-1111.

5. A. D'Agnolo, P. Polesello, *Deformation quantization of complex involutive submanifolds*, Noncommutative geometry and physics (Yokohama, 2004), World Scienti

   c, 2005, pp. 127-137.

6. A. D'Agnolo, P. Schapira, *Quantization of complex Lagrangian submanifolds*, Adv. Math. 213 (2007), no. 1, 358-379.

Doctoral students.

- Pietro Polesello, 2003
- Giovanni Morando, 2006
- Luca Prelli, 2006

Summary Curriculum Vitae
of
Alberto Facchini

Affiliation: Dipartimento di Matematica P. & A. - Università di Padova

Electronic mail: facchini@math.unipd.it

Personal home page: www.math.unipd.it/~facchini

Date of birth: July 31, 1954, Pordenone, Italy **Citizenship:** Italian

Summary of positions held.

1. Associate Professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Udine, 1981-1987
2. Full Professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Udine, 1987-1999
3. Full Professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Padua, since 1999

Other academic activities:

1. Member of the Board of Examiners for 6 research grants of the National Institute of High Mathematics, 2004
2. President of the Board of Examiners for a position of researcher of "Algebra" at the University of Milan, 2004-2005
3. Member of the Board of Examiners for the confirmation of associate professors of "Algebra" at Italian Universities, 2005

Organization of the conferences:

1. Member of the scientific committee of the *Algebra Conference for the 60th Birthday of Adalberto Orsatti* held in Padova, June 19-21, 1997.
2. Member of the scientific committee of the *Algebra Conference Venezia 2002*, Venice, 3-8 June 2002
3. Member of the Scientific Committee and Editor of the *Proceedings of the International Conference on Algebras*, Modules and Rings, Lisbon, 14-18 July 2003.

4. Member of the Organizing Committee of the *International Algebraic Conference* dedicated to 250th anniversary of Moscow Sate University and 75th anniversary of the Department of Algebra, Moscow, 26 May - 2 June 2004.

Selected list of publications by Alberto Facchini

1. B. Amini, A. Amini, A. Facchini, *Equivalence of Diagonal Matrices over Local Rings*, J. Algebra 320 (2008), 1288-1310.

2. A. Amini, B. Amini, A. Facchini, *Weak Krull-Schmidt for infinite direct sums of cyclically presented modules over local rings*, accepted for publication in Rend. Sem. Mat. Univ. Padova, 2008.

3. A. Facchini, P. Prihoda, *Factor categories and infinite direct sums*, Int. Electron. J. Algebra 5 (2009), 1-34.

4. A. Facchini, *Subdirect Representations of Categories of Modules*, in Rings, Modules and Representations, N. V. Dung, F. Guerriero, L. Hammoudi and P. Kanwar, Eds., Contemporary Math. Series 480, Amer. Math. Soc., 2009, pp. 139-152.

5. A. Facchini, *Some regular direct-sum decompositions in module theory*, in Proceedings of the 41st Symposium on Ring Theory and Representation Theory, H. Fujita Ed., Tsukuba, 2009.

Summary Curriculum Vitae
of
Luisa Fiorot

Affiliation: Mathematical Institute, Università degli Studi di Padova

Electronic mail: `fiorot@math.unipd.it`

Personal home page: `http://www.math.unipd.it/~fiorot`

Date of birth: July 25, 1975, Padova, Italy. **Citizenship:** Italian.

Summary of positions held.

1. Post-doc at Strasbourg (2003).
2. Ricercatore (with teaching duties) at University of Padova, since 2005

Selected list of publications by Luisa Fiorot.

1. F. Baldassarri, M. Cailotto, L. Fiorot, *Poincaré duality for algebraic de Rham cohomology.* Manuscripta Mathematica, Springer-Verlag Hedelberg. **114**, Number 1, May 2004, pag. 61-116.

2. L. Fiorot, *On derived categories of differential complexes.* Journal of Algebra **312** (2007), 362-276.

3. M. Cailotto, L. Fiorot, *Algebraic Connections vs Algebraic $\mathcal{D}$-modules: inverse and direct image.* arXiv:0707.1748v1. To appear in Port. Math.

Summary Curriculum Vitae
of
Marco Garuti

Affiliation: Dipartimento di Matematica Pura e Applicata, Università di Padova

Electronic mail: mgaruti@math.unipd.it

Personal home page: http://www.math.unipd.it/~mgaruti

Date of birth: April 19, 1968, Roma, Italy **Citizenship:** Italy

Summary of positions held.

1. Post-doc at Graduiertenkolleg, Münster University (Germany, 4 months), 1995-1996
2. Post-doc TMR in Utrecht University (The Netherlands, 11 months), 1996-1998
3. Ricercatore Universitario (faculty member), Università di Padova, since 1998

Selected list of publications by Giovanna Carnovale

1. M.A. Garuti, *Prolongement de revêtements galoisiens en géométrie rigide*, Compositio Math. **104**, 305-331 (1996).
2. M.A. Garuti, *Géométrie rigide et géométrie formelle*, in *Courbes semi-stables et groupe fondamental en géométrie algébrique*, J.-B. Bost, F. Loeser, M. Raynaud eds., Progress in Math., vol **187**, 7-19, Birkhäuser (2000).
3. M.A. Garuti, *Linear systems attached to cyclic inertia*, Proceedings of Symposia in Pure Mathematics **70**, 377-386 (2002), M. Fried and Y. Ihara eds.G. Carnovale.
4. M.A. Garuti, *Barsotti-Tate groups and p-adic representations of the fundamental group scheme*, Mathematische Annalen **341**, 603-622 (2008).
5. M.A. Garuti, *On the "Galois closure" for torsors*, to appear in Proceedings of the A.M.S.

Summary Curriculum Vitae
of
Alessandro Languasco

Affiliation: Dipartimento di Matematica Pura e Applicata, Università di Padova

Electronic mail: languasc@math.unipd.it

Personal home page: http://www.math.unipd.it/~languasc/

Date of birth: December 23, 1966, Imperia, Italy **Citizenship:** Italy

Summary of positions held.

1. Ricercatore, Università di Padova, 1998-2006
2. Professore Associato, Università di Padova, since 2006

Selected list of publications by Alessandro Languasco

1. A. Languasco, A. Perelli, *"On Linnik's theorem on Goldbach numbers in short intervals and related problems"*, Annales de l'Institut Fourier, **44** (1994), 307-322.
2. A. Languasco, A. Perelli, *"A pair correlation hypothesis and the exceptional set in Goldbach's problem"*, Mathematika, **43** (1996), 349-361.
3. A. Languasco, A. Perelli, *"Pair correlation of zeros, primes in short intervals and exponential sums over primes"*, Journal of Number Theory **84** (2000), 292-304,
4. A. Languasco, A. Zaccagnini, *"A note on Mertens' formula for arithmetic progressions"*, Journal of Number Theory, **127** (2007), 37–46.
5. A. Languasco, J. Pintz, A. Zaccagnini, *"On the sum of two primes and k powers of two"*, Bulletin of the London Mathematical Society, **39** (2007), 771–780.
6. A. Languasco, A. Zaccagnini, *"On the constant in the Mertens product for arithmetic progressions. II. Numerical values"*, Math. Comp. **78** (2009), 315-326.

Doctoral students.

- Valentina Settimi, 2008

Summary Curriculum Vitae
of
Andrea Lucchini

Affiliation: Dipartimento di Matematica Pura e Applicata, Università di Padova

Electronic mail: `lucchini@math.unipd.it`

Personal home page: `http://www.math.unipd.it/~lucchini/`

Date of birth: July, 1960, Legnago (Vr), Italy **Citizenship:** Italy

Summary of positions held.

1. Visitor at the University of Aachen with a six month C.N.R. grant, in 1985
2. Research fellow at the University of Padova, 1990-1992
3. Associate Professor of Algebra at the University of Brescia, 1992-2001
4. Full Professor of Algebra at the University of Brescia, 2001-2007
5. Full Professor of Algebra at the University of Padova, since 2007

Other academic activities:

1. Scientific Coordinator of the national research projects (PRIN) bearing the title "Group Theory and Applications" from 2006 to 2007 2006-2007
2. In the editorial board of the journal "Rendiconti del Seminario Matematico dell'Università di Padova", since January 2009

Organization of the conferences:

1. *Workshop Teoria dei gruppi e applicazioni*, Brescia, November 2000
2. *Groups in Bressanone*, Bressanone, June 2004, co-organised with Lino di Martino, Federico Menegazzo and Thomas Weigel
3. *Incontro di teoria dei gruppi*, Padova, September 2008, co-organised with Marta Morigi, Orazio Puglisi and Chiara Tamburini

Selected list of publications by Andrea Lucchini

1. E. Detomi, A. Lucchini, *Profinite groups with a rational probabilistic zeta function*, J. Group Theory **9** (2006), no. 2, 203–217.

2. A. Lucchini, F. Menegazzo, M. Morigi, *On the probability of generating prosoluble groups*, Israel J. Math. **155** (2006), 93–115.

3. E. Damian, A. Lucchini, *The probabilistic zeta function of finite simple groups*, J. Algebra, **313** (2007), 957-971.

4. E. Damian, A. Lucchini, *Finite groups with p-multiplicative probabilistic zeta function*, Comm. Algebra, **11** (2007), 3451-3472.

5. A. Lucchini, F. Menegazzo, M. Morigi, *Complements of the socle in monolithic groups*, Groups, Geometry and Dynamics, **4** (2007), 585-611.

6. A. Lucchini, A. Maroti, D. Semmen, *d-wise generation of some infinite groups*, J. Algebra Appl.**7** (2008) 717-723.

Doctoral students.

- Marilena Massa, 2007

Teaching staff
of the
Mundus Master ALGANT
in
STELLENBOSCH

- Prof. F. Breuer
- Prof. B. Green
- Prof. A. Keet
- Prof. S. Wagner

Summary Curriculum Vitae
of
Florian Breuer

Affiliation: University of Stellenbosch

Electronic mail: fbreuer@sun.ac.za

Personal home page: http://math.sun.ac.za/~flo/

Date of birth: February 19, 1977, Vienna, Austria **Citizenship:** German, South African

Summary of positions held.

1. Senior Lecturer, University of Stellenbosch, 2004-2007
2. Associate Professor, University of Stellenbosch, since 2007

Scholarships, prizes, distinctions.

1. Subcommittee-B Research Fund, University of Stellenbosch, 2005-2006.
2. Developement Fund for Promising Young Researchers, University of Stellenbosch, 2005-2007.
3. IMU Travel Grant to attend the International Congress of Mathematicians, Madrid, Spain, August 2006.
4. Meiring Naudé Medal of the Royal Society of South Africa, 2007
5. ALGANT Mobility Grant, 2009.
6. Alexander von Humboldt Fellowship for Experienced Researchers, 2009-2010.

Other academic activities: Organization of the conferences:

1. *November Workshop* (in honour of Barry Green's 50th birthday), University of Stellenbosch, South Africa, 7-9 November 2005.
2. *International Conference on Arithmetic Geometry and Applications*, University of Stellenbosch, South Africa, 29 Jan - 2 Feb 2007. Attended by 18 international visitors from France, Germany, Israel, Italy, Japan, Netherlands, UK and USA. (Organised together with B.W. Green)
3. *Conference on Arithmetic Geometry and Applications*, University of Stellenbosch, South Africa, 4-9 April 2009. Attended by 10 international visitors from Brazil, Denmark, France and Germany. (Organised together with B.W. Green)

Selected list of publications by Florian Breuer

1. F. Breuer, *Ducci sequences in higher dimensions*, Integers: Electronic Journal of Combinatorial Number Theory 7 (2007).
2. F. Breuer, *André-Oort conjecture for Drinfeld modular varieties*, C. R. Math. Acad. Sci. Paris, 344 (2007): 733-736.
3. F. Breuer, B.-H. Im, *Heegner points and the rank of elliptic curves over large extensions of global elds*, Canadian J. Math. 60 (2008), no.3: 481-490.
4. F. Breuer, H.-G. Rauck, *Drinfeld modular polynomials in higher rank*, J. Number Theory 129 (2009), 59-83.
5. F. Breuer, *Ducci sequences and cyclotomic fields*, to appear in J. Difference Eq. Appl.

Doctoral students

- Mr. J. V. van Zyl, Mr. A. C. Karumbidza, in progress

Summary Curriculum Vitae
of
Barry Green

Affiliation: University of Stellenbosch

Electronic mail: bwg@sun.ac.za

Date of birth: August 14, 1955, Kimberley, South Africa **Citizenship:** South African

Summary of positions held.

1. Senior Lecturer, University of Stellenbosch, South Africa, 1996
2. Associate Professor in Mathematics, University of Stellenbosch, 1997-1998
3. Professor in Mathematics, University of Stellenbosch, since 1999
4. Chairman of the Department of Mathematics, University of Stellenbosch, 2002-2005
5. Head of the Department of Mathematical Sciences, University of Stellenbosch 2006-2010

Scholarships, prizes, distinctions.

1. South African National Research Foundation grant holder Y rating, 1985-1988; B3 rating, 1997-2002; current rating B2, 2003-2007
2. Harry Crossley Research Awards: 1987, 1988
3. South African leader of a Volkswagen-Foundation Partnership Project between German and South African mathematicians, 1997-2001
4. Senior Visiting Professor, University of East Carolina, USA, January-May 1998
5. Member of the Scientific Committee for the International Conference and Workshop on Valuation Theory, Univ. of Saskatoon, Canada, 26 July-11 August 1999
6. The South African Mathematical Society Award for Research Distinction in Mathematics, 2007

Selected list of publications by Barry Green

1. B. Green, *Contributions to the Arithmetic of Fields*, Notices of the SAMS, 29 (1997), 45 - 60.

2. B. Green, *Geometric families of Constant Reductions and the Skolem Property*, Trans. A.M.S., Vol 350 no. 4, (April 1998), 1379 - 1393.

3. B. Green, M. Matignon, *Liftings of Galois Covers of Smooth Curves*, Compositio Math., 113 no. 3 (1998), 239 - 274.

4. B. Green, M. Matignon, *Order p automorphisms of the open disc of a p-adic field*, J. of the Amer. Math. Soc., Vol 12 no.1 (1999), 269 - 303.

5. B. Green, *Deformations of curves and Lubin-Tate formal groups*, Israel Journal of Mathematics, 139 (2004), 139 - 148.

Doctoral students

- H. Knaf, 1997
- E. Lotter, 2007
- L. Wessels, M. Kriel, in progress

Summary Curriculum Vitae
of
Arnold Keet

Affiliation: University of Stellenbosch

Date of birth: November 20, 1954

Summary of positions held.

1. Tutor at UCT, 1978-1980
2. TA at Princeton U., 1980-1981
3. Tutor at UCT, 1982
4. Assistant Lecturer at UCT, 1985-1990
5. Lecturer at Unisa, 1991-1999
6. Senior Lecturer at Unisa, 2000-2002
7. Senior Lecturer at Stellenbosch U., since 2002

Selected list of publications by Arnold Keet

1. A. Keet, *Additive families of invariants of skewsymmetric tensors*, Quaestiones Mathematicae, 21 (1998), 289-302.
2. A. Keet, *Decomposition of a higher degree form*, Communications in Algebra, 30, no. 10, pp. 4945-4963, 2002.
3. A. Keet, *Additive invariants of Schur functors*, accepted for publication.

Summary Curriculum Vitae
of
Stephan Wagner

Affiliation: University of Stellenbosch

Date of birth: October 15, 1982, Graz, Austria **Citizenship:** Austrian

Summary of positions held.

1. Collaborator, Research Project Algorithmic Diophantine Problems, Graz University of Technology, 2003-2004
2. Research Assistant, Research Project Algorithmic Diophantine Problems, Graz University of Technology, 2004-2005
3. Research Assistant, Research Project The Hardy-Littlewood method in the analysis of digit problems and enumerative combinatorics, Graz University of Technology, 2006
4. Lecturer, Department of Mathematical Sciences, Stellenbosch University, 2007-2008
5. Senior Lecturer, Department of Mathematical Sciences, Stellenbosch University, since 2008

Selected list of publications by Stephan Wagner

1. S. Wagner, H. Wang, G. Yu, *Molecular graphs and the inverse Wiener index problem*, Discrete Applied Mathematics 157/7 (2009), 1544-1554.
2. S. Wagner, H. Wang, *On the parity of the Wiener index*, European Journal of Combinatorics 30/4 (2009), 996-1004.
3. S. Wagner, *On tries, contention trees and their analysis*, Annals of Combinatorics 12/4 (2009), 493-507.
4. C. Heuberger, S. Wagner, *On a Class of Extremal Trees for Various Indices*, MATCH Communications in Mathematical and in Computer Chemistry 62/3 (2009), 437-464.
5. C. Heuberger, S. Wagner, *Chemical Trees Minimizing Energy and Hosoya Index*, Journal of Mathematical Chemistry 46/1 (2009), 214-230.
6. M.H. Khalifeh, H. Yousefi-Azari, A.R. Ashrafi, S. Wagner, *Some new results on distance-based graph invariants*, European Journal of Combinatorics 30/5 (2009), 1149-1163.

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

2.1. CVs
2.2. Website – Analysis of information systems
2.3. Application form for candidates

2.2. Website – Analysis of information systems

Functional analysis for an information system to run a training programme in international cooperation.

Contents

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

1 Project context and objectives

1.1 About this document:

This document outlines the definition phase of the project for implementing an information system aimed at the management of an international cooperation programme. The main objective of the project is to create a tool or set of tools to improve the workflow of documents and collaboration between the various people involved in organising, assisting and monitoring the international mobility of students.

The international affairs office of Université de Bordeaux 1 manages at any given time, a number of programs that involve, student recruiting, student selection, student registration, student mobility and course coordination. Currently a variety of tools have evolved specifically for each one of those programmes. In some cases a different set of tools or systems are being used to carry out very similar or identical tasks. The analysis that is being carried out by the ALGANT team aims at identifying the elements that are generic to every programme and find workable solutions for each program that seamlessly integrate generic information and tasks with the specific administrative needs of individual programmes.

1.2 Context:

Université Bordeaux 1 runs a number of training programmes in international cooperation. Some, like ALGANT already involve a number of institutions throughout Europe, others are in cooperation with institutions overseas.

These training programmes are integrated thanks to a number structural components based on :

- Administrative tasks with regards to the students applications and status.
- Information provided by the international relations offices of the university departments.
- E-learning resources.
- Course coordination and information sharing.

In what follows we refer to the ALGANT experience to illustrate the specific information needs that a programme may have however it is important to keep in mind that the analysis and the deliverables will have to serve other integrated programmes.

Currently information about ALGANT can be found on the site http://www.math.u-bordeaux.fr/ALGANT/, this site contains a description of the Masters course, application information, frequently asked questions and access to Algant Master theses. Further information about courses is distributed on the servers of the the various mathematics departments.

ALGANT wants to build on existing experience and infrastructure to improve the service it provides for its students. Projected activity will focus on two areas :

- A streamlined distributed system for administrative purposes.
- An on-line publishing framework that will enable/improve day to day ALGANT information publishing and exchange.

1.3 Project objectives:

1.3.1 A Brief outline of the administrative tools.

The system that will be put in place must respond to the needs of the multiple departments involved. The objective will be to enhance the current document workflow and provide solutions for all the users according to their profile.

The central item of information in this system is the Student “file” or “account”. This file will have an integrated workflow that goes from the moment the student applies to the programme through to the moment of obtaining a diploma. The system will have to provide solutions for :

- Publishing a complete application form for collecting information and documents that will lead to the constitution of a student file.
- Application **form** validation by programme coordination administration.
- Making validated applications available to a team for evaluation purposes.
- Application validation.
- Preparation of student registration and enrolment.
- Student relationship management over the period of the course involving:
  - Student status,
  - Student requests,
  - Student results,
  - miscellaneous information.
- Reporting and information exporting tools.
- A document request system for students and alumni (eg. Request for a reference).
- Archives management for previous programme years.

1.3.2 Brief outline of the publishing framework.

In order to promote themselves and maintain a network of students and collaborators most programmes of this type maintain websites.

The ALGANT team wishes to make use of up to date Web technology and features to provide a number of online services for it's members. Amongst these is the following list :

- A publishing platform with a defined workflow for the ALGANT site to enable multiple contributors with responsibilities for different content on the site. (for example course presentation)
- Community building and services for Alumni and current students.
- Direct mailing tool with segmented receivers lists for distributing targeted emails.
- An online application form that provides for document uploads and validation.
- An archiving system to make programme publications available to users throughout the world.

In the current project ALGANT will look to implement a system that will allow for interface design and layout changes without having to rebuild the system and also permit the addition of services and feature blocks. Furthermore the chosen system will comply to current world wide web standards of content/presentation separation and allow for as high a level as possible of content accessibility to internet users with disabilities.

1.3.3 Project organisation and work phases:

In the context of this project ALGANT may call on outside experience and know-how in order to assist the team in analysing their needs, formalizing the necessary specifications documentation for the project and developing an deploying the project.

The team will proceed in the following four stages :

Phase 01 : Information system analysis

The following content of this document outlines the analysis of the system. A complete specifications document is being drafted that defines and details all the major functionalities of the system and the information that comes into play.

Phase 02 : Solutions and deployment plan

The specifications document will be used to assess existing systems with regards to their applicability to the international programme problematic. The assessment will lead to a decision to choose a pre-existing system or to develop a tailor made solution.

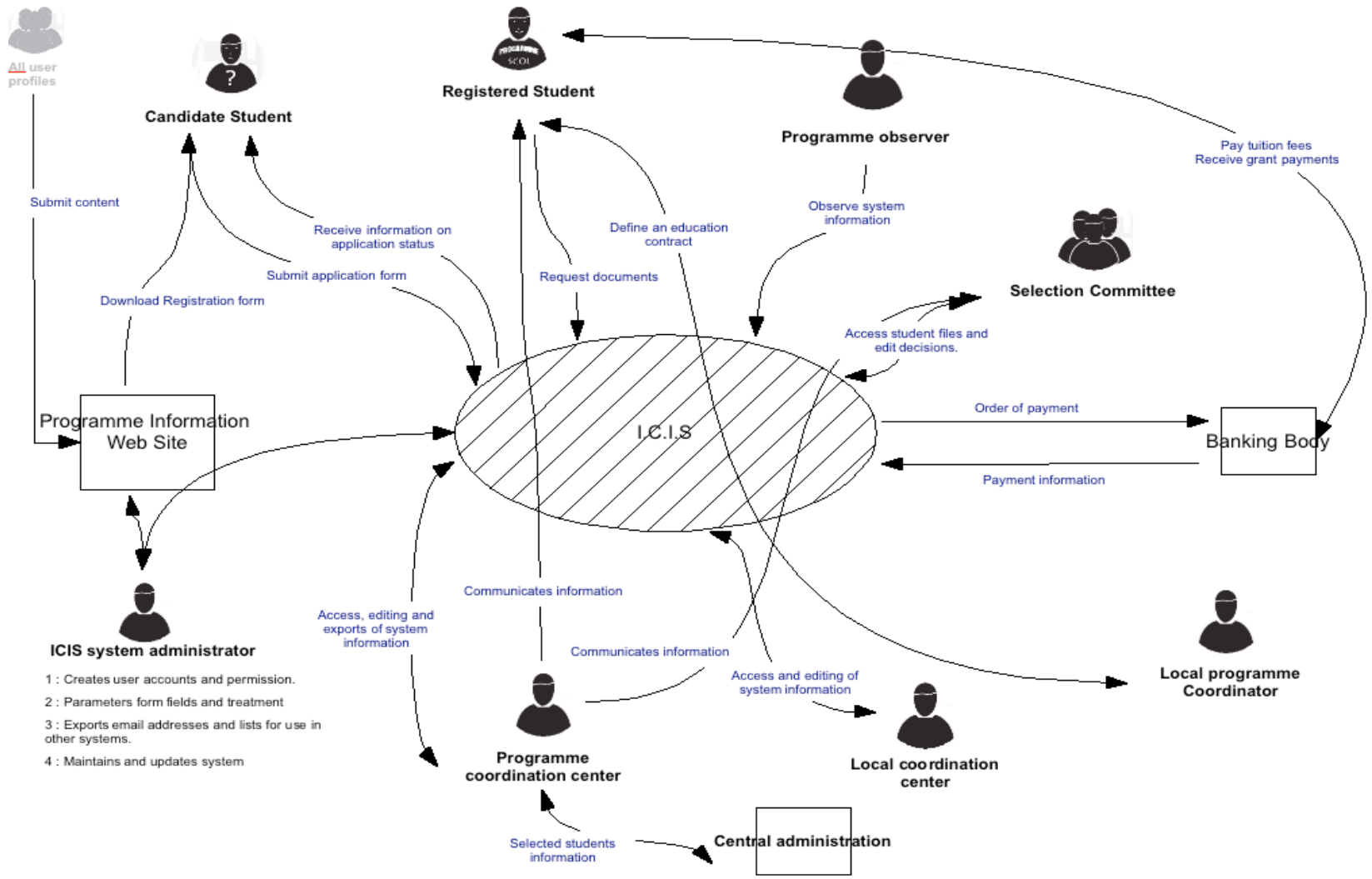
Phase 03 : Design, development and implementation

In the event of the deployment plan defining the need for creating new software the specifications document will be used as a basis for system design and conception. The scope and timeframe for this phase will be defined in the deployment plan.

Phase 04 : System maintenance and improvement

Any information system requires regular maintenance and improvement over its life cycle. Typically this phase would comprise the creation of improved data mining and reporting tools.

2 The system in its working environment



3 “Student status” stages.

The study has shown that whatever the programme in view student's files pass through a number of states from the moment a student decides to apply to the moment they graduate from the course regardless of specific information that may be needed by a course.

Student status are described in the following table:

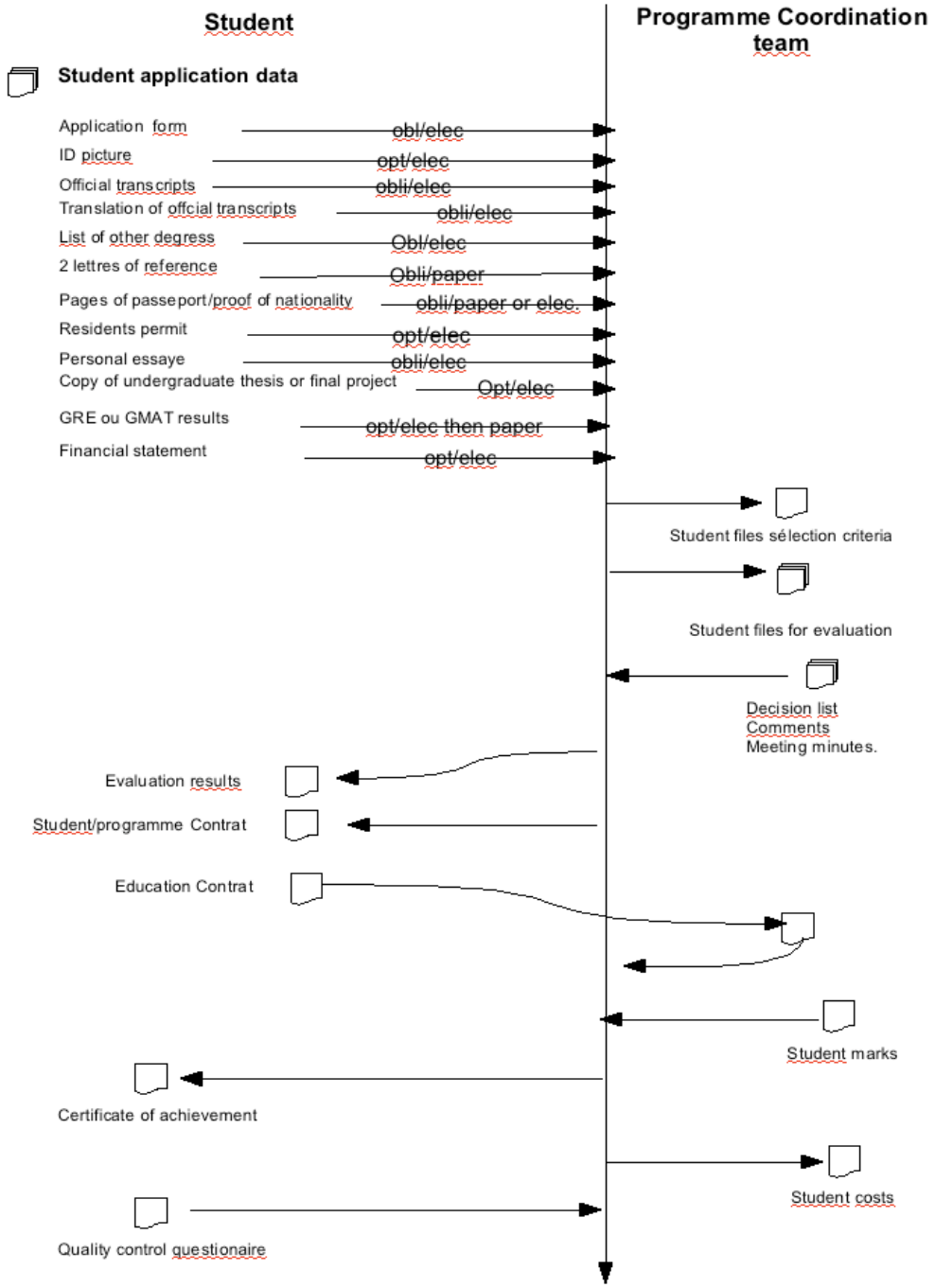
<table>
<tr><td>  </td><td colspan="3">1: Candidate student
- having accessed the online application for the student has submitted information the system. The user is registered and can return to the application form to update or add information until the application file is validated.
- each programme has a certain amount of specific information requests, all the programmes share a given amount of information requests.</td></tr>
<tr><td>  </td><td colspan="3">2 : Candidate's application file in the process of evaluation.
- The application process has been completed and submitted the appropriate information for the file to be validated.
- Student status remains in this state until an evaluation process takes place.</td></tr>
<tr><td rowspan="2">  </td><td colspan="3">The evaluation process leads to a list of candidates divided into three groups :</td></tr>
<tr><td>3a : Main list, the student has been accepted on the course and grant financing is possible</td><td>3b : Reserve list, the student has the required level to follow the program but financing is not possible</td><td>3c : Rejected list, student does not pass the required criteria for taking part in the program.</td></tr>
<tr><td>  </td><td colspan="3">4 : The student has accepted the invitation and is registered to take part in the programme. The student still has to register with the receiving university.
- The student validates an education contract which will define activity over the following semesters until the end of the programme.</td></tr>
<tr><td>  </td><td colspan="3">5 : Student has finalised administrative registration with the university.</td></tr>
<tr><td rowspan="2">  </td><td colspan="3">At the outcome of the programme period the student sits exams on chosen subjects and submits results to the programme coordinators. This can leads to one of the following two statuses:</td></tr>
<tr><td colspan="2">6a : Alumni</td><td>6b : Student does not acquire diploma</td></tr>
</table>

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

4 Documents entering and being produced by the system.

The following diagram illustrates formal documents that are submitted to and are produced by the ALGANT system. Apart from input information that will be managed through online forms and a database application there are a number of formalised documents that the system must be able to manage and allow the coordination team to monitor.

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01



5 System users, roles and permissions.

The system will have an increasing number of users, currently there is 1 administration user per university, 12 members of the selection committee and roughly 50 students and as many local

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

coordinators a year. Every user will have one or more of the following profiles :

Libellé	Description
System Administrator	A member of the programme team who can parameter the system.
Programme supervisor	Person playing a coordinator role in the programme project who can access all information without necessarily having edit permissions on the content.
Programme Administration	A member of the coordination team who can access and edit all shared information regarding students in the system. Has access to the main system functionalities.
Local Administration	A member of the coordination team who can access and edit all information regarding students in the host university. Has access to the selected system functionalities.
Local coordinator	A teacher in the host university who can validate a student education contract and who has edit access to registered student marks in the system.
Programme candidate	This is a potential programme student who, having read about the programme on-line decides to fill out the application form and create an application file.
Selected student	This is a candidate who having completed the application form has been accepted into the programme by the selection committee.
Registered student	This is a selected student who has accepted the invitation, has established an education contract and who has registered into the course.
Selection committee member	Members of the committee that can access valid student files and evaluate students in order to establish a selection decision.
Alumni	Student who has passed successfully through the system and has obtained a diploma.
Former students	Students who have been in the programme but did not complete it.
(...)	

As the system evolves it is possible that new needs to filter access to information may appear. The system must allow the system administrator to implement these profiles by means of a user management interface.

6 Main functionalities of the system

Analysis of current administrative activity has brought to light 12 main functionalities that the system must provide for its users.

In this document these twelve functionalities have been broken down into sub-features. In the main specifications these features are described in detail and list and qualify relevant information.

The system must make it possible to :

1. Manage a variety of system users with varying expectations of the system:
    - Define user profiles that can be attributed to groups of users
    - Define user roles in order to manage document workflow and validation
    - Define user permissions to the information managed by the system.
    - Attribute or remove user permissions and profiles when and if necessary
    - Create new users / remove users from the system / archive user information

2. Manage an online application and registration form:

    - Publish an on-line application form with document up-load and input testing features.
    - Enable the definition of the fields in the on-line application form and information rules.

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

- Monitor student application progress and access student data
- Automate communication with the candidate about application form.
- Validate application form
- Archive student applications for future reference.
- Allow candidates to complete their forms in more than one sitting.

3. Prepare information for the assessment/selection of students for the programme.

   - Present student information in an ergonomic user friendly format for members of a selection committee.
   - Automate communication with members of the selection committee.
   - Establish results with evaluation/selection results by the selection committee.
   - Access evaluation/selection results.
   - Automate communication to students after work of committee.

4. Generate lists of students involved in the programme.

   - List student application requests with reference links to information in student file.
   - List program students by year.
   - Allow system users to define information that will appear in lists.

5. Input course modules that will be available to students in each university each year.

6. Input and monitor the modules selected by a student : establish a learning agreement.

7. Input and monitor student results for given modules and assessment criteria.

8. Monitor student status during the course

   - Prepare information for registration.
   - Generate information checklists.

9. Establish reporting tables for program activity.

   - Allow for information mining in the database.
   - Enable programme cost evaluation.

10. Enable anonymous student feedback on the programme.

11. Use stored information for reporting purposes

    - Export defined information from the database into spreadsheet and database formats.
    - Generate filtered lists of information for specific uses ie: define fields and organisation for the information that will appear in extracted data.

12. Archiving information for quick access and full system back-ups.

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

7 A programme webspace.

The objective of the programme webspace is to promote the programme and to consolidate the network of students, alumni and teachers involved with the courses.

Currently the ALGANT site is maintained by editing html files manually and uploading said files to a webserver from which they can be accessed over the internet. This makes content contributions from other members of the consortium difficult and time consuming, and does not allow for the possibility of easily created content within the ALGANT design. For example in order to access relevant course information a user has to navigate from site to site within the consortium websites. In the current project ALGANT will seek provide a publication service for its partners with easily managed content input that is subject to workflow principles and validations.

Over the last few years publishing and maintaining content on the world wide web has evolved with the emergence of Content Management Systems and frameworks. These systems offer the advantage of making it possible to use CMS functionalities as building blocks for a desired online service without having to rewrite code. An institution providing an online service can focus on the service itself and on maintaining content once the site has been set up. Furthermore the most prominent CMSs are standards compliant and open source, with site administrators benefiting from regular code and security updates. An institution wishing to add features to its website can choose from a number of modules and plugins which have been tried and tested.

Although some of the ALGANT content will remain in static webpages the analysis will seek to define which of the most prominent CMS is best equipped to enable the following website features:

7.1 Publishing information about the programme

This aspect of the website covers basic editorial content that is organised in a navigational tree with items such as :

- Home page : containing general information and identification of the programme, references to partners and programme coordination
- About us : containing more precise information about the courses the organisation of the programme.
- The course : containing precise course details and listing the modules available in all of the universities in the consortium.
- Applying: which contains all relevant information to applying to the programme.
- FAQ : a frequently asked questions page which lists and answers all relevant questions that have been sent to the programme coordination over the years.
- Contact : containing all relevant contact information for the programme.

7.2 Managing programme publications

Currently the number and volume of ALGANT publications does not justify the effort of a formal tool for managing this kind of content. However with time this sort of tool will become relevant to ALGANT's needs: a system for listing and searching within the publications based on document metadata and publication of abstracts combined with taxonomy management features.

7.3 A collaborative webspace.

The following features are aimed at building a community around the ALGANT project and allowing for both the gathering and publication of relevant current information in the area of study but also communicating up to date information about the programme courses.

7.3.1 Program blog

A programme blog will be set up to which every profile of ALGANT user will have access and contribution

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

permissions. The blog will be coordinated, and moderated when necessary, by one of the ALGANT members. The exact layout and features of the blog will be detailed at the conception phase prior to the new system going online, however it will be important to choose a blogging system that allows the blog administrator to parameter the way in which the blog functions in order to adapt it to user requirements over time. Blog users will be encouraged to subscribe to the blog RSS feeds in order to keep updated on the programme activity and current events in the field of number theory.

7.3.2 Photo gallery

A photo gallery of ALGANT events is online and plays an important role in showing the results of ALGANT activity. Currently ALGANT relies on a third party service for this feature and cannot display the images within the ALGNAT graphical design. The objective here is to find a solution to be able to display these images within the user experience of the ALGANT website.

7.3.3 Mailing lists

Correct and strategic use of mailing lists over the internet have proved to be very successful in contributing to creating a solid work environment. For example answering questions to ALGANT candidates and informing students and staff of events using mailing lists cans significantly improve the service provided by the ALGANT team and save lots of time.

7.3.4 Other possibilities

Having chosen a reliable and flexible content management system and relying on feedback from users ALGANT will be able to study further possibilities for improving it's online community in the future, for example:

- On-line forums and message boards : for encouraging and maintaining up to date information about research in its field and ALGANT organisation.
- Bookmarking services: where lists of websites and services relevant to number theory can be qualified and commented.
- Information feeds : The use of RSS on the world wide web has become widespread and is extremely useful in getting users to return to the site.

7.4 Promoting the programme through the web

7.4.1 Creating a web presence.

Having an online service and depending on students finding it through search engine results alone is not enough. Maintaining a website also means creating an environment in which the web site can be situated. Over the coming months the ALGANT team will look to creating a domain name for the service and getting links posted on relevant sites to the website URL. This not only improves site visibility but also plays an important role in search engine optimisation.

7.4.2 Social networking.

The use of existing online social networking systems will be studied as a means of consolidating the network of students, alumni and professors who have participated or who are linked to the ALGANT programme. The ALGANT team will look into the pros and cons of each system and decide on ways of using system features to create the network. Proposed social networks for study are :

- Facebook : http://www.facebook.fr
- Linkedin : http://www.linkedin.com/
- Viadeo : http://www.viadeo.com

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

7.5 Quality check-lists for site conception and validation.

In order to offer the best quality on-line service possible the site will be tested against the relevant best practices of the Opquast best practices checklist (www.opquast.com). And with regards to accessibility issues both the structure/presentation of the site and content will seek to achieve a high as level as possible of success against the relevant criteria of WCAG 2.0 (Web Content Accessibility Guidelines: http://www.w3.org/TR/WCAG20/)

Specifically for the ALGANT website the following content checklist will be applied to ensure that important content is available and easily visible :

- Programme is identified as being Erasmus Mundus
- Programme provides link to EM home page (http://www.em-a.eu/)
- Logo of the DG EAC is present
- Members of the consortia are listed with links to their websites
- Course title, co-ordinator and co-ordinating institution correspond to the Agency's information
- Type of degree awarded is specified (including the name(s) in the languages of the institutions participating)
- Course description is given
- Number of ECTS of the course is indicated
- Student mobility tracks are explained (including the possibility of placements)
- Language of instruction is indicated
- Admission criteria are stated
- The application procedure is clearly outlined
- Student application form is available (paper only/paper & electronic/electronic only)
- Document "checklist" for application is given (good practice)
- Website is updated with pertinent information (closing dates etc)
- information about the availability of different kinds scholarships and the corresponding eligibility conditions are provided.
- Information on fees is given
  - including difference between fees for EU and third-country
  - students if applicable
- Information is provided on what the fees cover (e.g. accommodation, EU travel, fieldwork, etc)
- Information for EU students is clear and specific for the EM course (avoiding overlapping with national courses)
- There is a FAQ section (good practice)
- A contact telephone/email address is given

Université Bordeaux 1 - Chateau Bonnefont (bat. A 37) 351, cours de la libération - 33 405 Talence Cedex
Tél : +33 (0)5 40 00 60 40 Fax : +33 (0)5 40 00 31 01

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

2.1. CVs
2.2. Website – Analysis of information systems
2.3. Application form for candidates

2.3. Application form for candidates

Université Bordeaux 1

Leiden University

Università di Padova

Université Paris-Sud 11

ALGANT Erasmus Mundus Master Programme

Application for Admission

Please read the instructions carefully before completing this application form.
Only complete application forms will be processed.

This application form consists of the following twelve parts:

Part A Personal Details
Part B Programme Details
Part C Language Proficiency
Part D Academic Qualification
Part E Curriculum Vitae and Employment Information
Part F References
Part G Information about undergraduate studies
Part H Financial Information
Part J Survey
Part K Checklist
Part L Declaration and Signature
Part M Reference Form

Who should use this application form?
All students applying to the ALGANT Mundus Master programme should use this form.

How to complete this application form

- Please write clearly in black ink using block letters
- All documents should be submitted in the same envelope
- All documents must either be originals or be certified copies
- A non-refundable application fee must accompany this application. The fee may be paid in the form of a bank draft made payable to Agent Comptable Université Bordeaux 1 or by credit card. (See part H for details)
- If you are currently a student, please forward your final transcripts as soon as they are available
- Ensure that you complete the checklist and sign the declaration at the end of this form

NOTE: Applications which are not signed cannot be processed.

Deadline for application: January 31st, 2009
Although late applications may be considered, applicants are advised to apply as early as possible.
Please refer to our website www.math.u-bordeaux1.fr/ALGANT for further information.

Please return the form, by registered post, to:
(We recommend keeping photocopies of your application)

Prof. B. Erez
Institut de Mathématiques
Université Bordeaux 1
351, cours de la Libération
F-33405 Talence, France

Phone: +33 (0)5.4000 6641
Fax: +33 (0)5.4000 6955
Please send a copy of your application to:
masterALGANT@math.u-bordeaux1.fr

Application for ALGANT Erasmus Mundus Master Programme

Université Bordeaux 1/Leiden University/
Università di Padova/Université Parsi-Sud 11

Photograph

Please write your name and date of birth at the back of your picture

Deadlines for application

31st January 2009

Although late applications may be considered, applicants are advised to apply as early as possible.

Part A *Personal Details*

Mr ☐ Mrs ☐ Ms ☐

First name:.....

Last name:.....

Other initials:.....

Date of birth (dd/mm/yy):.....

Place of birth (city, country):.....

Nationality:.....

Marital status:.....

Do you have a French/Dutch/Italian residence permit? yes ☐ no ☐

Please specify:

Do you need a student visa for France/The Netherlands/Italy?

yes ☐ no ☐

Please specify:

NOTE: You do not need a visa if you are a citizen of one of the countries belonging to the European Union or of: Switzerland, Liechtenstein, Monaco, Iceland, Norway, Japan, Australia, New Zealand, Canada or the U.S.A. Citizens of the above mentioned countries should however apply for a residence permit after arrival.

Please note that it is your responsibility to obtain a visa. However, if you are accepted in the ALGANT programme, we will assist you with your visa application.

Address for correspondence

Street and number: .....

.....

.....

City:..... Postal code:.....

State:.....Country:.....

Telephone:.....

Mobile:.....

Fax number:.....

E-mail address:.....

Permanent address (e.g. next of kin)

Street and number:.....

.....

City:.....Postal code:.....

State:.....Country:.....

Telephone:.....

Mobile:.....

Fax number:.....

E-mail address:.....

Part B *Programme Details*

You have to attend at least two of the partner institutions in two different countries. Please specify the mobility scheme you plan to follow (e.g. Padova in year one and Leiden in year two).

- .....
- .....
- .....

Please refer to our website for details about mobility conditions:
www.math.u-bordeaux.fr/ALGANT/

Month/Year of entry you are applying for:

.....

Please enclose an **essay** about why you chose the ALGANT programme and the above mobility scheme.

Part C *Language Proficiency*

English Language Proficiency
All non-native speakers must demonstrate their English proficiency e.g. with a test result in the International English Testing System (IELTS) (See www.ielts.org)

Please check the programme information for the required score. The period between the proficiency test and this application should not exceed two years.

Please complete the following if applicable.

1) Date of IELTS test (dd/mm/yy):.....
   Score obtained:.....
   .....
2) Other (dd/mm/yy):.....
   Score obtained:.....
   .....
3) Do you fluently speak and/or read other languages?
   .....
   ……..

Part D *Academic Qualifications*

NOTE: All applicants should include official transcripts of every institute of higher education attended, including a list of courses still in progress. Please forward final grades of courses still in progress as soon as they are available. Documents not in English/French/Dutch or Italian should be accompanied by an official certified translation.

1) Undergraduate Degree(s) or First University Degree(s) (BA, BSc, etc.)

Type of degree:.....
Institution:.....
Field:.....
Major……Minor……
Date obtained (dd/mm/yy):.....

2) (Post)-Graduate Degree(s) (Bachelors, Masters, etc.)

Type of degree:.....
Institution:.....
Field:.....
Specialisation:……...
Date obtained (dd/mm/yy):.....

If you have obtained more than one degree, please enclose a list on a separate page.

3) Are you currently enrolled in a (non-) degree course or educational training relevant to your application?

……
……

Part E *Curriculum Vitae & Employment Information*

1) Curriculum Vitae
All applicants should include an up-to-date curriculum vitae (resume) attached to this application on a separate page.

2) Employment information (if applicable or relevant)

a. Present employment:.....
   Position:.....
   Organisation:.....
   Duration of employment:.....
b. Other professional information and/or extracurricular activities relevant to your application (e.g. memberships, associations, courses completed).
   .....
   .....
   .....
c. Relevant skills acquired (e.g. computer skills). Please specify.
   .....
   .....
   ……

Part F *References*

Please list the two persons you have asked to write a letter of recommendation for you. Preferably, one letter of recommendation should be academic. The letters are to be signed, and preferably printed on letter head or the provided reference form may be used.

1) First reference:

Name:.....……..

Title:.....

Organisation:.....

Telephone:.....

Fax number:.....

E-mail address:.....

2) Second reference:

Name:….....……..

Title:.....

Organisation:.....

Telephone:.....

Fax number:.....

E-mail address:.....

Part G *Information about undergraduate studies*

Applications should include:

1) A copy of the thesis or final assignment of the BSc study and state credits, grade and workload (hours spent on this project). In case the final assignment has not yet been finished, give an indication of its contents and expected date of completion.

2) Scores from the Graduate Record Examination (GRE) General Test and Subject Test in a relevant area are normally required. See www.gre.org

Date of GRE test (dd/mm/yy):.....

Score:.....

If you feel you should be exempted from GRE, please explain in a cover letter.

Part H *Financial Information*

Application Fee and Deposit
All applicants must include a non-refundable application fee of €50 (contact us for possible waiver).

Cheque or money order for the application fee made payable to Agent Comptable, Université Bordeaux 1.

Bank charges are the responsability of the applicant.

☐ Credit card (we can only accept):

- ☐ Master Card
- ☐ American Express
- ☐ Visa

Card number:.....

Expiration date:.....

Full name of cardholder:.....

Address of cardholder (street and number):.....

.....……

City, postal code, state, country:.....

.....

Signature:.....

2) Statement of financial resources
Students must be able to finance their study and living expenses. This is one of the requirements for being granted a residence permit. As a guideline, a single student needs approximately €10,000-12,000 per year to cover living and other expenses, in The Netherlands. This is in addition to the tuition fee.

Please fill out this statement of financial resources (in Euro), to prove that you have sufficient financial support from a sponsor or bank demonstrating your ability to pay the tuition fee and living expenses, in case you intend to apply even if you do not benefit from an Erasmus Mundus grant.

Family contribution:.....

Loans:.....

Student's own contribution:.....

Expected (summer) earnings:.....
Sponsorships:.....
Other resources:.....
Total Resources:.....
Name of Sponsor (if applicable).....
……

Part J *Survey*

Please fill out this short survey. It will help us to update and maintain our information.

Please indicate how you initially learned about our programmes and courses.

- ☐ Via World Wide Web
- ☐ Contact with one of the partner universities (Bordeaux/Leiden/Padova/Paris-Sud) (personal, phone, visit)(please specify)
- ☐ Via our brochures and/or flyers
- ☐ Via advertisements in magazine/newspaper (please specify which one*)
- ☐ An education exhibition (which one*)
- ☐ Graduates of our programmes
- ☐ Family/friends
- ☐ Other (please specify*)

*.....
.....
.....…….

Part K *Checklist*

I have included the following documents with my application.

yes ☐	no ☐	n/a ☐	Official transcripts: Undergraduate Graduate Postgraduate
yes ☐	no ☐	n/a ☐	Certified English translation of transcripts, if necessary
yes ☐	no ☐	n/a ☐	List of other degrees (See Part D)
yes ☐	no ☐	n/a ☐	English language proficiency (See Part C for details)
yes ☐	no ☐	n/a ☐	An up-to-date curriculum vitae
yes ☐	no ☐	n/a ☐	Two letters of reference (one preferably academic) printed on letter head and signed or use the reference form provided
yes ☐	no ☐	n/a ☐	Clear copy of **all pages of** passport and, if available, residence permit
yes ☐	no ☐	n/a ☐	Personal essay about why I chose this programme (Max. 500 words)
yes ☐	no ☐	n/a ☐	A copy of my undergraduate thesis or final project
yes ☐	no ☐	n/a ☐	GRE or GMAT results in relevant subject
yes ☐	no ☐	n/a ☐	Application fee paid (or accepted request for waiver)
yes ☐	no ☐	n/a ☐	Financial statement (See Part H)

Please provide an explanation if you did not provide the required information with this application. Use a separate sheet if necessary.

……
……

Part L *Declaration & Signature*

I declare that the information provided by me is correct and complete. I understand that incomplete information will delay the application process and I accept that incorrect information will render the application invalid.

Date (dd/mm/yy):.....

City, country:.....……

Name of applicant:.....

Signature:.....

NOTE: Please ensure that you filled in the city and country in this declaration.

Part M *Reference Form*

To the Applicant:
All applicants should submit references from two persons; preferably, one academic reference from a professor or advisor. Under no circumstances should an applicant review or prepare a letter of reference.

You may copy this form.

To the Reference:
Thank you for assisting us in our admission process. We welcome references that provide relevant information that cannot be found elsewhere in the application materials or that can provide an insight into the applicant's abilities and suitability.

Applicant:

Last name:.....First/given:.....Other initials:..….

Applying for the ALGANT Mundus Master programme.

Reference Address:

Last name:.....First/given:.....Other initials:.....

Street and number:.....

City:.....Postal code:.....

State:.....Country:.....

Phone number:.....

E-mail address:.....

How long have you known the candidate and in what capacity?

.....

.....

.....

.....

.....

.....

We are interested in learning about the applicant's suitability for advanced studies, as well as his or her promise for success. We welcome your thoughts on the applicant's intellectual strengths and character. Please be as detailed and frank as possible. You may also use a separate letter (preferably on your own letterhead stationary) and attach it to this form.

.....

.....

.....

.....

Please fill out the following table:

	Excellent	Above Average	Average	Below Average	Unable to Rate
Knowledge in area of specialisation	.....	.....	.....	.....	.....
Ability to plan and carry out research/independent study	.....	.....	.....	.....	.....
Analytical ability	.....	.....	.....	.....	.....
Maturity	.....	.....	.....	.....	.....
Motivation	.....	.....	.....	.....	.....
Leadership potential					
Social skills	.....	.....	.....	.....	.....
Intercultural skills	.....	.....	.....	.....	.....
Flexibility	.....	.....	.....	.....	.....
Creativity	.....	.....	.....	.....	.....
Oral communication skills	.....	.....	.....	.....	.....
Written communication skills	.....	.....	.....	.....	.....
Integrity	.....	.....	.....	.....	.....

Please indicate whether you would recommend the applicant for the programme he/she applied for and why.

.....
.....
.....
.....
.....
.....
.....
.....
.....

Signature:.....
.....
.....

City, country:..... Date (dd/mm/yy):.....

The applicant should receive this form in a sealed and signed envelope. The applicant should send the recommendations together with the application to:

Prof. B. Erez
Institut de Mathématiques
Université Bordeaux 1
351, cours de la Libération
F-33405 Talence
France

Alternatively, please send this form separately to the above address.

3. Degree

3.1. Diploma supplement specimen

D I P L O M A S U P P L E M E N T

This Diploma Supplement is an integral part of the original Master's diploma for the Erasmus Mundus Programme ALGANT, which is offered by Universiteit Leiden, Université Bordeaux 1, Università degli Studi di Padova and Université Paris-Sud 11. It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on this Supplement. The purpose of this Supplement is to provide sufficient independent data to institutes at home and abroad for fair academic and professional recognition of diplomas. An appendix with additional information has been added.

The holder of the qualification

Family name(s)	xx
Given name(s)	xx
Date of Birth	xx
Place of Birth	xx
Country of Birth	xx
Student ID number	xx
Date MSc-exam	xx

Qualification-related information

Qualification	Master of Science (MSc)
Institution	Universiteit Leiden (Leiden University)
Name programme	Mathematics
Accreditation	The degree programme has received accreditation by the Accreditation Organisation of The Netherlands and Flanders (NVAO).
Language	English
Duration	The master's programme covers two years, for a total of 120 European Credits (EC); 60 EC per year.
Requirements	A BSc degree in Mathematics from any university in the Netherlands or a BSc major in Mathematics. The prior education of anyone with a diploma other than the ones mentioned will be evaluated individually, which may involve entrance examination.
Objectives	The aims and objectives of the master programme is that the participants: - obtain scientific knowledge, insight, and skills and become familiar with scientific methods from the field so that he/she is capable to perform research under limited supervision. - obtain an academic attitude with capacity to engage in individual and independent scientific thought and action. - prepare for a scientific and post graduate education and for a career in society.
Further study	The MSc is eligible to a PhD programme.

Job market The MSc usually obtains a job in scientific research or other fields where scientific competence is required.

Information Available at the website of the Faculty of Mathematics and Natural Sciences.
http://www.science.leidenuniv.nl/
E-mail: info@edufwn.Leidenuniv.nl

Address Education and Student Office
Faculty of Mathematics and Natural Sciences.
Huygens Laboratory, Niels Bohrweg 2
P.O. Box 9504
2300 RA Leiden, The Netherlands

Student-related information

Algebra, Geometry and Number Theory

The track Algebra, Geometry and Number Theory of the MSc programme in Mathematics leads to a high level of knowledge in this area. The programme consists of advanced courses from the field and a final research project including a master thesis and an oral presentation of it.

Individual programme details and results

The following index lists the courses of the programme the student has attended, the number of EC attributed to each course and the final mark the student has acquired for the course.

The courses 1 up to 13 were attended at Università degli Studi di Padova. The courses 14 up to 16 were attended at Universiteit Leiden.

Explanation

EC: European Credit, equal to 28 hours of study, in accordance with the European Credit Transfer System.

Years 1 and 2		Subject	EC	Date	Grade
Padova	1	Introduction to Ring Theory	6	15-02-2007	8.5
	2	Number Theory 1	6	07-03-2007	7.5
	3	Commutative Algebra	6	07-03-2007	8
	4	Cryptography	6	20-03-2007	8.5
	5	Introduction to Group Theory	6	02-04-2007	7.5
	6	Complex Analysis	4	16-04-2007	7.5
	7	Advanced Mechanics	6	22-05-2007	6
	8	Modular forms and Elliptic Curves	4	30-05-2007	7
	9	Differential Geometry	6	16-06-2007	7.5
	10	Rings and Modules 1	6	03-07-2007	7.5
	11	Algebraic Geometry 1	6	17-07-2007	8.5
	12	Topology 2	6	19-07-2007	8.5
	13	Homology and Cohomology	6	25-07-2007	8.5
Leiden	14	Introduction to Manifolds	6	31-01-2008	9.5
	15	Combinatorial and Analytic Number Theory	6	07-04-2008	8
	16	Master's Research Project Mathematics supervised by dr. M. Lübke,			

	Thesis: "Diagonalization and maximal torus reduction"	34	09-07-2008	8
	Total	120		

Remarks

Elective courses and credits

The index below lists, if relevant, extra-curricular courses the student has attended, the number of EC attributed to each course and the final mark the student has acquired for the course.

Not applicable.

Certification of the supplement

Date date of last fulfilled subject, e.g. date of defence

Signatures

Capacity Chairman and Secretary of the Board of Examiners

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

3.1. Diploma supplement specimen
3.2. Joint-diploma Bordeaux-Padua

3.2. Joint-diploma Bordeaux-Padua

Joint Master

international partnership in

Algebra, Geometry and Number Theory

Having regard to the Cooperation agreement signed on November the 21st, 2006 by Université Bordeaux 1, Università degli Studi di Padova, Universiteit Leiden and Université Paris-Sud 11.
Having regard to the Protocol of joint administrative management signed on April the 15th, 2008.
Having regard to the documents submitted by Mr/Ms ..... (First Name Surname) born on ..... in ..... (place, country) for his/her enrollment into the master.
Having regard to the examination committee's decisions,

The Algant Master (Algebra, Geometry and Number Theory) diploma is awarded to:

Mr/Ms ..... (First Name Surname)

In ..... (place), on ..... (date)

Master Sciences, Technologies, Santé, mention mathématiques,
spécialité mathématiques approfondies, à finalité recherche. (D.M 11/05/2005)

Laurea specialistica in Matematica, Classe n.45/s delle Lauree
Specialistiche in Matematica (D.M 28/11/2000)

The recipient

Président de l'Université Bordeaux 1
Alain BOUDOU

Recteur de l'Académie de Bordeaux
William MAROIS

Magnifico Rettore della Università degli Studi di Padova
Vincenzo MILANESI

Within the framework of the ALGANT consortium

Universiteit Leiden

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

N° ..... BO

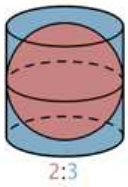
Diploma N° : .....

4. Quality Assurance

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

4.1. Code of Ethics
4.2. Evaluation form
4.3. Alumni master
4.4. ALGANT Scholars' reports

4.1. Code of Ethics



ALGANT Consortium

Université Bordeaux 1 – FR
Chennai Mathematical Institute – IN
Universiteit Leiden – NL
Università degli Studi di Milano - IT
Concordia University/CRM/ISM – CA
Università degli Studi di Padova – IT
Université Paris Sud 11 – FR
Stellenbosch University/AIMS – ZA

Education and Culture
Erasmus Mundus

Rajouter algant

CODE OF ETHICS

Preamble

ALGANT is a consortium of European and third country universities, who commits to facilitate the structured cooperation among the partners towards the creation of an offer of enhanced quality in the fields of mathematics and of international mobility organisation. The partners work together to:

- improve their attractiveness both within the European Union and beyond its borders,
- enhance the career prospects of young researchers
- promote intercultural understanding through cooperation with third countries.

The consortium felt the need to establish a framework for high standards of professional behaviour and responsibilities for those taking part in the activities it organises and takes responsibility for. The aim of this code is to state what the consortium stands for and to list objectives, rules and principles, which members and participants will be expected to adhere to. It is intended as a framework for creating a good, safe and stimulating work and study environment within the consortium, whereby participants behave respectfully towards one another and mutual acceptance and trust are important values.

The ALGANT consortium is a cooperative organization, and those who shall conform to its rules are also those who benefit from the conformity of others. Each has a stake in maintaining general compliance.

The universities members of ALGANT aim to further improve and strengthen international cooperation, and they wish to brand themselves as contributing to the construction of the European Higher Education Area and the European Research Area. They wish to attract good international students.

Higher education institutions, in principle, give equal treatment to all of their students, but information to and care for international students require further regulation to some extent, which is what the institutions member of ALGANT aim to achieve with this code. Note that all students in the programme are required to be mobile, so they will indeed all be “international” at some point.

ALGANT is a consortium built around cooperation in the field of mathematics. This code will thus also integrate guidelines, which reflect expectations of behaviour for members of the mathematical community at large.

This code is one element of the policy applied by the members of ALGANT in the context of providing a safe and non-discriminatory work and study environment. More instruments are of course employed by the partner institutions to deal for instance with complaint and mediation about (sexual) intimidation, aggression, violence and discrimination. Also, members refer to the European Charter for Researchers and Code of conduct for the recruitment of researchers as the general framework to carry

out research activities.

Furthermore, the guidelines contained in this code are not a complete expression of the principles that underlie them but will, it is expected, be modified and amplified by events and experience.

Prepared in March 2009 by the coordinators of the ALGANT consortium, this code will be reviewed following the process described at the end of the document.[1]

Definition of terminology

Lecturers: all staff, including student counsellors, early-stage researchers, student assistants, trainees, temporary staff and visiting staff who teach or supervise students, including individually, or assess their performance.

Students: all those who follow educational programmes, including doctoral programmes, at institutions members of the ALGANT consortium.

International student: a student who has had his/her preparatory training and qualification(s) in a country different from that of his/her (next) hosting institution and who, on the basis of that preparatory training, wishes to continue his/her education/work wholly or partly at that higher education institution.

Researchers: Professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned.

Early-stage researcher: researchers in the first four years (full-time equivalent) of their research activity, including the period of research training.

Administrative staff: personnel employed by the institutions members of the ALGANT consortium to support the activities developed by the consortium in offices in charge of international relations, student affairs, pedagogical secretariats, financial administration, ….

Proper standards of behaviour: standards of behaviour and conduct experienced as desirable or proper in general social contacts.

Undesirable behaviour: behaviour experienced in general social contacts as unwanted or improper. Undesirable behaviour in particular includes (psychological and sexual) harassment, aggression, violence and discrimination.

Scope

The guidelines set out in this code apply to all lecturers, researchers, students and administrative staff that take part in the activities of the ALGANT consortium. In particular it applies to the contacts between them in the context of professional activities or study activities and those, which take place outside these contexts.

Code of conduct (for the individual actors alone and in their mutual relations)

The public reputation for honesty and integrity of the mathematical community at large, and of the departments/research units part of the ALGANT consortium in particular, is its collective treasure.

[1] The main sources of inspiration for this code have been the Code of conduct of Leiden University, the Guidelines published by the American Mathematical Society and the C&C.

The quality of their scientific production and of their teaching is their legacy. The results obtained in the past are the best guarantee for the future.

Lectures and researchers individually should therefore exercise critical self-discipline and judgement in using, extending and transmitting knowledge.

In particular they should acknowledge academic debts. The correct attribution of mathematical results is essential, both as it encourages creativity by benefiting the creator whose career may depend on the recognition of the work and as it informs the community of when, where, and sometimes how original ideas have entered into the chain of mathematical thought. To that end mathematicians have certain responsibilities which include the following: to be knowledgeable; to be aware of related work; to be certain of the originality of their own work; to give proper credit even to unpublished sources[2]; to use no language that suppresses or improperly detracts from the work of others; and to correct in a timely way or withdraw work that is erroneous or previously published.

Lecturers and researchers will be aware of their exemplary role and will promote the standards of behaviour prescribed in this code, both in word and deed.

It is the duty of individual lecturers and researchers to reveal unethical professional acts or practices of which they may have knowledge. When this may bring retaliation, the consortium is obligated to help protect the "whistleblower", particularly when the complaint has been made to the consortium.

Students should provide non-falsified documents, avoid plagiarism and attend the programme's activities with assiduity.

Students are expected to inform the local coordinators of problems they are aware of concerning their fellow students in the ALGANT programme, if these problems pose a threat to the fellow student's mental or physical health.

The **relations between the consortium and students** should possibly be guided by the following principles.

It is important for the consortium to give students a clear and unambiguous picture of the ALGANT programme. The consortium will thus strive to provide clear and accessible information on the quality and content of the study programme, the way it implicates the partner universities, the services and provisions offered to students, the costs of study and living, as well as the admission requirements and the degrees awarded. More precisely, *the consortium provides timely, reliable and easily accessible information to students* concerning:

- the status of the study programme in terms of accreditation;
- the quality criteria that study programmes must comply with and the internal procedures guaranteeing such quality;
- a description of the study programme and the degrees that will be obtained, and the examination regulations or a summary thereof;
- a description of the knowledge and skills that the international student will have acquired when successfully completing the study programme;
- the admission requirements for the study programme, including procedures for admission and registration and the associated costs;
- the language of teaching;
- supplementary charges required by the higher education institution from the student for the services offered;
- this code of conduct.

[2] Because the knowledge that something is true or false is valuable, however it is obtained.

This information shall be provided in English.

The consortium ensures that its *marketing and external presentation* clearly indicate the nature of the partner higher education institutions, and when recruiting students, it will act in accordance with the local rules and standards.

International students who apply for *registration* with the consortium must show that they have the required preparatory education, sufficient language skills, and diplomas for participating in the ALGANT programme. The consortium determines the preparatory education requirements prior to the recruitment of students for the programme and checks prior to admission whether the student meets the requirements.

Selection. Mathematical ability must be respected wherever it is found, without regard to race, gender, ethnicity, sexual orientation, or religious or political belief. The selection criteria employed are made public before the application procedure is launched. Even the appearance of bias in selection decisions must be scrupulously avoided.

Selection decision notification. The consortium notifies the student in writing and with a motivation of any refusal to admit and/or register him/her. [The consortium also reports any legal remedies that the student may have recourse to in connection with the refusal.]

Language command by lecturers. The consortium will ensure that lecturers have sufficient command of the language in which courses are offered.

The consortium clarifies what *services* it provides to students concerning with obtaining a visa and a residence permit, housing, introduction and assistance.

If the consortium becomes aware that a student is no longer following the study programme without having urgent or important reasons for this, it will notify the competent authorities[3].

The consortium will provide the education offered. If the study programme needs to be modified in an important way for valid reasons, then the consortium will propose a suitable alternative in consultation with the selected student, and will inform him/her about the procedures to follow.

Granting of degrees. An institution granting a degree in mathematics is certifying that competence and must take full responsibility for it.

For doctorates it should ensure the high level and originality of the thesis work and sufficient knowledge by the recipient of important branches of mathematics outside the scope of the thesis. A doctorate thesis must adhere to the same rules as a publication and should be publishable in a recognized journal. When, despite diligent search by the doctoral candidate and without the candidate's knowledge or fault, the work is found to have been anticipated in the literature, the degree should be granted. But when there is evidence of plagiarism, it must be carefully investigated, even if it comes to light after granting the degree, and, if proven, the degree shall be revoked.

Guidelines for contact between lecturers and students. Lecturers and students will at all times demonstrate proper behaviour in their contacts with one another. Treating one another in a respectful manner is a primary requirement of this behaviour. Lecturers and students should show particular respect for differences relating to ethnic or national origins, religious convictions, gender, sexual preferences and handicaps.

Lecturers and students will refrain from any undesirable behaviour, in particular (psychological and sexual) harassment, aggression, violence and discrimination.

Lecturers will observe the necessary detachment in their relations with individual students and will

[3] This includes, if applicable, immigration services.

keep these relations on a professional basis. They will not abuse the (confidential) relationship, which exists between lecturers and students.

In their relations with students, lecturers will be mindful of the disparity of their relationship in terms of dependence and authority.

Lecturers and students will ensure that all forms of mixing personal and professional relationships are avoided. Should a relationship of a personal or intimate nature develop between a lecturer and student, the lecturer will ensure that he/she is not required to assess the student's study or research performance, nor to take decisions of any other nature regarding the student. The lecturer will inform his direct supervisor regarding the existence of the relationship.

Lecturers will avoid personal contact with individual students in situations or in places where this could give rise to the semblance of (psychological and sexual) harassment or abuse of power.

Lecturers and students should raise the issue of undesirable behaviour where necessary and alert one another to any (possible) incidence of such behaviour.

Implementation, enforcement, revision

Implementation. This code shall be published on the ALGANT web site and it shall be distributed among lecturers and administrative staff involved in the ALGANT programme. It will also be include in the individual agreements between the students/early-stage researchers and the consortium.

Enforcement. A party concerned that believes that another party has not acted in accordance with this code should first submit a complaint to the local coordinator of his/her (hosting) university or to the ALGANT coordinator. The coordinator will ensure that existing or, if necessary, new internal complaint procedures are available for complaints under the code. The coordinator shall also bring the complaint to the attention of the relevant bodies in the complaining party's (hosting) university.

Revision. The consortium will review the contents of this code on a yearly basis, after consulting all the principal stakeholders, *e.g.* by foreseeing an *ad hoc* section in the internal evaluation procedure.

The first review will take place at the common graduation ceremony to be held in Leiden between July 5th and 7th, 2009.

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

4.1. Code of Ethics
4.2. Evaluation form
4.3. Alumni master
4.4. ALGANT Scholars' reports

4.2. Evaluation form

EVALUATION FORM

To be completed by every ALGANT student at the end of every academic year and in the second year by the date of the master thesis' defense.

This questionnaire is aimed at collecting your impressions on the ALGANT program in order to improve its content and its organization.

We would be grateful if you could take some of your time to respond to the following questions.

The questionnaire is anonymous.

1/ Your mobility plan *during the passed year* has lead you to follow courses at universities

A: ……

B: ……

1B/ If you are at the end of the first year, please describe your first contacts with the ALGANT consortium:

……
……

2/ Why have you chosen the ALGANT consortium and your mobility plan?

……
……

2.1/ Did you dispose of sufficient information for making your choice?

□ **Yes** □ **No**

2.2/ How did you obtain your information (you can check more than one box)?

- ❑ **Through the ALGANT web site**
- ❑ **Through the European Commission's web site**
- ❑ **By exchanging with the ALGANT teachers**
- ❑ **Through other means (please specify)**

2.3/ Would you have liked to have more information before your enrolment ?

……
……

Your time at University A

3. Academic guidance

3.1. Have you been met by a teacher?

□ **Yes** □ **No**

3.2. Have you been followed by a tutor?

□ **Yes** □ **No**

3.3. Teachers availability at University A has been:

□ **Remarkable** □ **Sufficient** □ **Not sufficient**

Remarks:

……
……

4. Courses and examinations

4.1. Have you found the courses at University A:

□ **Very hard** □ **Challenging** □ **Easy**

4.2. Did you find examinations at University A fair?

□ **Yes** □ **No**

If No, please explain:

……
……

4.3. Have you made **contact with research**?

□ **Yes** □ **No**

If Yes, please explain how:

……
……

5. Administrative support

5.1. Have you benefited from the **services** offered by the office of the international relations?

□ **Yes** □ **No**

5.2. Have you interacted with the university's administration?

□ **Yes** □ **No**

5.3. Administrative services and the international office have been:

□ **Very helpful** □ **Helpful** □ **A burden**

Remarks:

……
……

6. Cultural activities

6.1. Have you participated in any programme of **cultural studies or activities**?

□ **Yes** □ **No**

6.2. Have you been attending **language training courses**?

□ **Yes** □ **No**

6.3. Have you found cultural activities and language training:

□ **Very helpful** □ **Helpful** □ **Useless**

How could we improve this aspect of ALGANT programme:

……
……

7. Housing

7.1.You have been living:

□ **In university housing** □ **Elsewhere**

7.2. Are you:

□ **Very satisfied** □ **Satisfied** □ **Content** □ **Not Satisfied**

Remarks:

……
……

8. Student life

8.1. Would you say that student life at University A is:

□ **Rich** □ **Rather poor**

8.2. What have you liked most?

……
……

8.3. What have you liked least?

……
……

8.4. What did you miss? What would you suggest?

……
……

9. Overall studying conditions

9.1. The **overall quality of studying conditions** at University A are:

□ **Very good** □ **Good** □ **Average** □ **Bad**

Remarks:

……
……

9.2. According to you, what are good reasons to study at University A?

……
……

9.3. If you are at the end of the second year, please give an overall appreciation of the ALGANT program.

……
……
……
……
……
……
……
……

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

4.1. Code of Ethics
4.2. Evaluation form
4.3. Alumni master
4.4. ALGANT Scholars' reports

4.4. ALGANT Scholars' reports

ALGANT Alumni – Directory
As of April 2009

So far, **42 students graduated** from the ALGANT Master Course:

- 2 from the first edition,
- 18 from the second edition,
- 22 from the third edition.

We have **reliable information concerning 41** of them (2 confirmed status from the first edition, during the preparatory year; 17 for the second; 22 for the third)

33 graduates have started doctoral studies.

1 has become **a teacher at University**.

3 graduates work in the private sector, including one who intends to start doctoral studies soon.

4 students just graduated and don't have a position yet.

4 students did not complete their master's degree yet.

FIST EDITION 2004 - 2006			
Name	**Mobility**	**Actual occupation**	**contact**
Paolo ZAMPOLINI		Works in private sector in Padova.	
Anna MORRA	Padova – Bordeaux	Doctoral Candidate in **Bordeaux 1, France**.	
SECOND EDITION 2005-2007			
Menny AKA	Leiden - Bordeaux	Doctoral Candidate at **Weizman Institute**, **Rehovot, Israel**. Supervisor: Alex Lubotzky. Subject: arithmetic subgroups of linear algebraic groups and their profinite completions	mennyaka@gmail.com
Catalina ANGHEL	Bordeaux - Padova	Doctoral Candidate at **Toronto** University, **Canada**.	Catalina.anghel@utoronto.edu 2009 phone: Canada + 416-946-3727
Esmail ARASTEH RAD	Leiden - Padova	Doctoral Candidate with Prof. Hartl in University of **Münster**, **Germany.**	marasteh@studenti.math.unipd.it 2009 – Phone: DE+(0251) 83-32727
N.V.A. ARYASOMAYA-JULA	Padova - Leiden	Doctoral Candidate at HU **Berlin, Germany**. Thesis supervisor: Juerg Kramer. Title: Hyperbolic and canonical metrics.	aryasoma@math.hu-berlin.de
Sara CHECCOLI	Padova - Bordeaux	Doctoral Candidate in **Pisa** University, **Italy**. Supervisor: Prof. Zannier.	bobolons@libero.it , checcoli@mail.dm.unipi.it 2009: tel: (ita+) 050-22.13.237
Barry AMADOU DIOGO	Bordeaux – Leiden	Started work on a doctorate, but currently stopped for lack of funding.	
Vladislav FRANK	Leiden - Bordeaux	Teaches at **Saint-Petersburg** University, Aerospace Intrumentation, Dpt of higher mathematics, **Russia**.	vlad.frank@gmail.com
Paul JOUBERT	Bordeaux - Leiden	Works in industry in **Stellenbosch, South Africa** at ISS, security aspects in mining industry.	pauljjoubert@gmail.com
Zeljka LJUJIC	Bordeaux - Leiden	Doctoral Candidate at **CUNY** (City University of New-York), **US.** Title: the Erdos-Fuchs theorem in additive number theory. Supervisor: M. Nathanson.	zeljka.ljujic@gmail.com
Huajun LU	Padova – Bordeaux	Doctoral Candidate in **Bordeaux 1**, **France**.	uniquejun@163.com
Marco PERONE	Padova - Leiden		
Camilo SANABRIA MALAGON	Bordeaux - Leiden	Doctoral Candidate at **CUNY** (City University of New-York), **US.** Has publication on ArXiv.	camilo.sanabria@gmail.com
Valentina SETTIMI	Padova – Bordeaux	Doctoral candidate at **Padua** University (**Italy**). Subject: a countig point algorithm for trigonal curves, using rigid cohomology.	valentina.settimi@libero.it

Anastasia STAVROVA	Padova - Leiden	Doctoral candidate at St. **Petersburg State University (Russia)**. Thesis on Structure of isotropic reductive groups (Connections between the theory of algebraic groups, graded Lie algebras, and algebraic structures similar to Jordan algebras). Supervisor: N.A. Vavilov. Has publication on ArXiv.	a_stavrova@mail.ru
Alvise TREVISAN	Padova - Leiden	Doctoral candidate at **Vrije Universiteit** in **Amsterdam**, Supervisor: Dietrich Notbohm. Subject: Topic topology– **Netherlands.**	A.Trevisan@few.vu.nl phone: +31 (0)20 598 7673.
Nelly VIL-LAMIZAR	Leiden – Bordeaux	Went back to **Colombia**; is in contact with Ronald van Luijk for possible doctorate work.	nvillami@gmail.com
Shanwen WANG	Padova – Bordeaux	Doctoral candidate at **Polytechnique** within CMLS research department. Supervisor: Pierre Colmez. Thesis title : "Fonctions L p-adiques de formes modulaires". (Number theory). **France**.	wetiron1984@yahoo.com.cn
Heer ZHAO	Padova - Leiden	Doctoral candidate with Tony Scholl and Luca Barbieri-Viale. **Cambridge** (and **Milano**), **UK**	hzhao@math.leidenuniv.nl ?
Margorye CARDENAS		Did not complete her degree.	
THIRD EDITION 2006 - 2008			
Name	**Mobility**	**Actual occupation**	**contact**
Mohammad Ebrahim AHARPOUR	Padova - Leiden	Works for a consultancy company KPMG in **Den Haag, Netherlands**. Will probably start a doctorate in near future.	E_AHARPOUR@yahoo.com , maharpou@studenti.math.unipd.it
Soumya BAHATTA-CHARYA	Bordeaux – Padova	Doctoral Candidate at **Max Planck Institute** in **Bonn, Germany**. Supervisor: Don Zagier. Subject: in the areas of Modular forms / Automorphic forms.	soumya.bhattacharya@gmail.com
Hugo CASTILLO LAGOS	Padova - Bordeaux	Will start a doctorate at **King's College**, **London-UK** on K-theoric methods in number theory.	hcastillo@gmail.com
Saurav CHATTERJEE	Bordeaux – Padova	Doctoral candidate at **Paris Sud, France**. Supervisors: L. Clozel/A. Mokrane/J. Tilouine	saurav@math.tifr.res.in
Ustav CHOUDHURY	Paris Sud – Padova	Doctoral Candidate at **Zürich University**, **Switzerland**. Supervisor: J. Ayoub.	prabrishik@yahoo.com
Valérie GAUTHIER	Bordeaux – Padova	Doctoral Candidate at **Technical University of Denmark**. Post Quantum Cryptology : New Cryptology.	valerieg24@yahoo.com.mx , v.g.umana@mat.dtu.dk 2009 : Phone +45 45253008
Somayeh HABIBI	Padova – Bordeaux	Doctoral candidate in **Milano University** with Barbieri-Viale. **Italy**.	somayeh.habibi@etu.u-bordeaux1.fr
Yong HU	Paris Sud - Leiden	Doctoral candidate at **Paris Sud, France**. Supervisor: J.-L. Colliot-Thélène. Title: Fibres spéciales des variétés rationnellement connexes. (Special fibres of rationally connected varieties). Field: Pure Math. Arithmetic and Algebraic Geometry.	huyong@mails.tsinghua.edu.cn
Shane KELLY	Paris Sud	Doctoral candidate with A. Neeman in	shanekelly64@h

	– Padova	**Canberra-Australia**	otmail.com
Abhijit LASKAR	Padova – Bordeaux	Doctoral candidate at IRMA Institute, **Strasbourg** University, **France**. Title : Relèvements vers la caractéristique 0 des variétés abéliennes. Supervisor: Rutger Noot	abhijit.laskar@gmail.com , abhijit@cmi.ac.in
Wen Wei LI	Paris Sud - Leiden	Doctoral Candidate at University **Paris 7** (Diderot)**, France**. Title: Transfert et lemme fondamental pour le groupe métaplectique. Number Theory, Group Theory, Automorphic Forms.	b89201002@ntu.edu.tw
Yong Qi LIANG	Padova – Paris Sud	Doctoral Candidate at **Paris Sud, France**. Supervisor: David Harari	yongqiliang@amss.ac.cn
Shoumin LIU	Bordeaux – Leiden	Doctoral candidate at University of Technology, **Eindhoven, Netherlands**. Works on discrete geometry and algebra. Supervisor: Arjeh Cohen	liushoumin2003@163.com
Roni MITRA	Padova - Bordeaux	Doctoral Candidate of University of **Texas** at **Austin - US.**	roni.mitra@gmail.com Phone: US +texas+475-8140
Abolfazl MOHAJER-NASER	Padova – Leiden	Doctoral candidate at **Essen**, **Germany**. Supervisor: Hélène Esnault.	amohajer@khayam.ut.ac.ir , mohajer84_9970@yahoo.com
Stefano MORRA	Padova – Paris Sud	Doctoral candidate with Ariane Mézard, - **Versailles – Saint-Quentin** University- **France** - in the field of the arithmetic geometry - programme of Langlands p-adique.	stefano.morra@inwind.it
Aprameyo PAL	Leiden – Bordeaux	Doctoral Candidate at **Heidelberg** University, **Germany**. Thesis title: vanishing of Mu invariant for Elliptic curve with complex multiplivation. (Iwasawa theory of Elliptic curves). Supervisor: Prof Otmar Venjakob.	aprameyo@gmail.com
Shun TANG	Padova – Paris Sud	Doctoral Candidate at **Paris Sud, France**. Supervisor: D. Roessler	eummos@hotmail.com , stang@amss.ac.cn
Neeraja SAHAS-RABUDHE	Leiden – Bordeaux	Doctoral Candidate in **Padova**, (**Italy**). Just started, no title yet; Algebraic geometry.	neeraja.sigma@gmail.com
Chen ZONGBIN	Paris Sud – Leiden	Doctoral candidate at **Paris Sud, France**. Supervisor: G. Laumon.	zongbin.chen@hotmail.com
Martino GARONZI	Padova – Paris Sud	Graduated March 2009	
Valentina MASAROTTO		Graduated March 2009	
Giovanni A. DIMATTEO	Padova – Bordeaux	Is about to graduate.	Giovanni.dimatteo@gmail.com
J.V. BAGALKOTE	Padova-	Did not complete his degree yet.	
Rohit VARMA	Bordeaux – Leiden	Did not complete his degree yet.	coxeter@gmail.com

ALGANT VISITING SCHOLARS' REPORTS

Several third-country scholars have participated in the ALGANT Master course programme networking and teaching activities. They reported on their contribution to ALGANT programme and expressed their opinion on the programme. We present the main parts of these reports hereafter, focusing on the academic part. It must be pointed out that one scholar commented on the fact that the consortium was not quick enough to reimburse their expenses and another thought that it was a pity that European students could not have access to Mundus scholarships.

The scholars have different levels of seniority and their participation reflects the different objectives that the consortium pursues with their appointment: enrich the scientific content of the programme, networking and establishment/deepening of research cooperation.

1/ Yi OUYANG
2/ Eyal GOREN
3/ Ching-Li CHAI
4/ Chia-Fu YU
5/ Florian LUCA
6/ Cristian David GONZALES AVILES
7/ Eduardo FRIEDMAN
8/ Dino LORENZINI
9/ Ted CHINBURG

1/ Yi Ouyang,
University of Science and Technology of China.
<yiouyang@ustc.edu.cn>

I had the honour to be twice an ALGANT scholar, during the periods April-June 2006 and May- July 2007. In 2006, I visited Padova, Leiden and Bordeaux, one month in each place. I gave a short course (on Iwasawa theory) in Padova and attended the spring school on Abelian varieties in Utrecht and the workshop on p-adic representation theory in Bordeaux. In 2007, I visited Padova in May and again gave a short course (on p-adic L-functions) there. Then, I visited Paris-Sud in June and July, and attended the Luminy conference on Serre's conjecture in July. During my stay in Orsay, I also worked with Jean-Marc Fontaine on a book project about p-adic Galois representations.

In my opinion the ALGANT program is very successful. I myself learned a lot from the activities and daily conversation with other professors and students. Many Chinese students I recommended to the program are now working on their Ph. D's in Europe, mostly in Paris. They drew very high praise from people there. Should they have stayed in China, or even went to USA, they would learn much less and have much less opportunity to blossom. So each year if I find a qualified student, I would recommend him/her to think about ALGANT. In China most good students would like to study in the USA, but ALGANT gives them a very good reason to study in Europe. The only shortcoming I can think about the program is that it is only a Master program. I hope it would be more flexible so that students willing to work on Ph.D (after master in ALGANT) will benefit from the program too.

2/ Eyal Goren,
McGill University.
<eyal.goren@mcgill.ca>
Associate Professor,
Department of Mathematics and Statistics
www.math.mcgill.ca/goren

My visit under the ALGANT program was divided into two parts.

a. A visit to Padova University in the summer of 2007, where I have taught a graduate course to the ALGANT students, interacted with faculty and gave seminar lectures.

b. A following visit to Leiden University where I interacted with students and faculty and gave a seminar lecture on my research.

I was very impressed with the ALGANT program and the students participating in it. The ALGANT program offers its students a suite of graduate courses at a very high level, comprising a broad education program by some of the leading worldwide experts in the respective fields. The students are generally gifted and motivated and I have found the experience of teaching a course to the students and interacting with them stimulating. During my stay in Padova and Leiden I had also the chance of reporting on my own research in several lectures, which was beneficial for me as I was able to get interesting input from faculty and students. Later on, some students from the program applied to my university to continue to a Ph.D. degree, where the motivation to apply there resulted, I think, also from having already some connection to McGill through me. I see that as a sign of success of the ALGANT program.

Another aspect of being a visiting scholar to Padova and Leiden is that it allowed increasing the level of cooperation between the Canadian and European communities. For example, in June 2009 a summer school in Automorphic forms and L-functions, a subject central to number theory (one of the core subjects of ALGANT) is to take place in Montreal. The ALGANT program is sending students to participate in this international instructional event and we, on our side, have done many efforts to help support financially the participating students. I think that this may have not taken place if it weren't for the connections between me and my colleagues in Montreal (A. Iovita and H. Darmon) with the scholars in the ALGANT program. For example, when I visited Padova, I had ample contact with Professors Baldassarri, Chiarellotto, Garuti and Languasco and in Leiden with Professors Edixhoven, de Jong and Stevenhagen. I have fond memories of the visits and I am grateful for their kind hospitality.

3/ Ching-Li Chai,
University of Pennsylvania.
<chai@math.upenn.edu>

Ching-Li Chai visited the Netherlands in May and June 2006 supported by ALGANT. He contributed four hours of lectures in the Spring School on Abelian Varieties, explaining Ribet's method for p-adic monodromy. He also spoke in the Conference on Abelian Varieties held in Amsterdam from May 29 to May 31, in part two of a two-part talk joint with Frans Oort, titled "Monodromy and Irreducibility of Leaves". The lecture notes are available on line,
< http://www.math.uu.nl/people/oort/> and also <http://www.math.upenn.edu/~chai/>.

There was extensive interchange of ideas, especially intensive during the conference. Two directions of research benefited enormously.

1) p-adic monodromy and irreducibility in characteristic p. A draft of a paper with Frans Oort was completed during the visit.

The main result establishes (a) irreducibility of all non-supersingular Newton polygon strata in the moduli space of g-dimensional principally polarized abelian varieties, as well as the irreducibility of every non-supersingular leaf in the moduli space of g-dimensional abelian varieties with a fixed polarization degree, and (b) maximality of p-adic monodromy for every non-supersingular leaf. Two group-theoretic methods for p-adic monodromy are presented in the paper. The first method was discussed and completed during the visit; the second method, inspired by Hida, was found after the conference and was added to the final version of the paper "Monodromy and irreducibility of leaves", available from the URLs above.

2) CM lifting of abelian varieties and p-divisible groups.

Three questions on CM liftings for abelian varieties over finite fields were formulated during the conference, in discussion with Brian Conrad and Frans Oort. An obstruction called the «residual reflex condition» and a counterexample for CM liftings up to isogeny over normal domains was discussed. These questions were pursued after the conference; all three questions have been solved. The main results are: (a) the residual reflex condition mentioned above is the only obstruction for CM lifting over normal domains, (b) the obstruction to CM lifting first found by Oort, from the size of fields of definition of the underlying p-divisible group, is analyzed and generalized, (c) CM lifting up to isogeny, without extending the base finite field, holds for all abelian varieties over finite fields. A monograph containing these results is planned; preliminary versions exist and some chapters are already available from the above URLs.

4/ Chia-Fu Yu,
Academia Sinica, Taiwan.
<chiafu@math.sinica.edu.tw>

The ALGANT scholar visit was split into two periods: the first month was in Leiden in February 2008 and the remaining two months were in Padova, in May-July 2008 and January 24 - February 21, 2008. Institution(s) of the visit: Mathematisch Instituut, Universiteit Leiden. Host: Professor Bas Edixhoven.

Projects worked on:
- Supersingular Kottwitz-Rapoport strata and Deligne-Lusztig varieties (joint with Prof. Ulrich Goertz).
- Superspecial abelian varieties with parahoric level structure (joint with Prof. Ulrich Goertz).

Lectures and Talks:
- I gave 4 weeks lectures on Algberaic Number Theory, which covered fundamental materials of algebraic number fields, including the unique factorization of ideals of a Dekekind domain.
- ``An exact geometric mass formula", Number Theory Seminar, Mathematisch Instituut, Universiteit Leiden, Leiden.
- ``On geometric mass formulas", Intercity Number Theory Seminar, Mathematisch Instituut, Universiteit Leiden, Leiden.

Period of visit: May 20 - July 15, 2008.

Institution(s) of the visit: Dipartimento di Matematica Pura ed Applicata, Universit`a degli Studi di Padova, Italy. Host: Professor Marco Garuti.

Lectures and Talks
- I gave a 3 weeks intensive course on Abelian Varieties, which covered the first chapter of Mumford's book and gave a detailed proof of the positivity of the Rosati involution.
- ``Superspecial abelian varieties with parahoric structure", Seminar on Number Theory and Arithematic Geometry, University of Padova.

We think it is very important to have such an international program that attracts very brilliant students from the world and especially Asia into Europe to study for their master degrees and then Ph. Ds. These students will both make a good input in the European research community and establish good cooperation basis between Europe and Asia.

5/ **Florian Luca,**
Mexico Institute of Mathematics.
<fluca@matmor.unam.mx>

Florian Luca visited the University of Bordeaux from January to March of 2009 as an ALGANT scholar.

During his visit, Luca got involved with the graduate program in Mathematics of the University of Bordeaux by delivering one lecture on sieves in the Graduate Student seminar, and by working with Benjamin Dupuy on Diophantine Problems related to prime factors of Lucas sequences. This research will be included in the Ph.D. dissertation of Dupuy under Professor Yuri Bilu. It is expected that Dupuy will defend his thesis in early July, 2009.

Researchwise, Luca worked with Bilu on a local to global principle for zeros of linearly recurrent sequence. Namely, given a linearly recurrent sequence having a zero modulo m for all positive integers m, is it then the case that the sequence, or some suitable extension of it, has a term equal to zero? We now know that the answer is yes in several particular cases, but the answer to the general question still alludes us.

During his affiliation with the University of Bordeaux as an ALGANT scholar, Luca also visited a couple of other Institutions in Europe where he delivered Mathematical talks, such as the University of Nancy in France, and the Max-Planck Institute in Bonn.

All in all Luca had a good professional experience as an ALGANT scholar in Bordeaux.

6/ Cristian David Gonzalez-Aviles,
University of La Serena.
<cgonzalez@userena.cl>

I visited Leiden University as an ALGANT scholar from January 3rd to March 27th, 2009. During this period I taught a masters level course and conducted research. The course went well and the students seemed quite interested in the subject of my course, to the point of writing computer programs to implement certain algorithms (this they did voluntarily and was not required for passing my class). Overall, I'm satisfied with the response from the students. As regards my research activity, having had the chance to discuss certain technical issues with local researchers enabled me to quickly complete one of my best papers so far. I'm thankful to the ALGANT program for giving me the opportunity to interact with Dutch mathematicians.

Summarizing, my opinion of the ALGANT program is very positive and I certainly hope that the program will be continued for many years, so that other Chilean mathematicians can interact with future ALGANT students and benefit from contact with European mathematicians.

7/ Eduardo Friedman,
University of Chile.
From: friedman@uchile.cl

I was an ALGANT visiting scholar in January, February and March 2006.

During January I gave a short course in Bordeaux on Lehmer's conjecture. In February I taught two weeks of the regular number theory course for ALGANT students in Padova, lecturing on the Riemann zeta function and its p-adic version. In March I gave two long lectures (in Leiden and Utrecht) on Lehmer's conjecture. I also did research with colleagues at Bordeaux.

I thought there were very good students at the ALGANT program and I hope my lectures were useful to some of them. I think the best variant was the one adopted in Padova, as I lectured at length and interacted actively with the students. Research with colleagues was also very pleasant. I think the ALGANT program is a very good idea. If possible, you should indeed link it more explicitly with Ph. D. programs at the host universities. That would be very attractive to prospective students. Of course, it would also be better to have European and non-European students in the program, all together and equal, but it seems the august European Commission thinks otherwise.

8/ Dino Lorenzini,
University of Georgia.
<lorenzin@uga.edu>

Here is a short report on my interaction with ALGANT. I became officially associated with ALGANT last year only. Due to the birth of my son in March 2009, I have not been able to do much travelling this year, and have not yet recently visited institutions of the ALGANT consortium except for Bordeaux.

First let me state that the European funds used to support the `ALGANT concept' are in my view well-used.

Inviting undergraduate students from outside the EU to study in the EU is key if the EU is to compete with the US and the rest of the world for the most talented scientific `brains'. The students finishing their Masters through ALGANT will either continue their studies in the EU, obtaining a PhD and later possibly settling in the EU and becoming highly skilled and productive workers contributing to the EU economies. If they return to their home countries, new links, through them, will be established between the EU and their home countries.

Just an anecdote: The competition for highly educated workers is fierce in the US. I am a member of a committee at my institution (the University of Georgia) which awards internal seed-grants to our recently hired research faculty in mathematics and the sciences. I was struck when I realized that over 80% of the faculty applicants had done their undergraduate studies outside the US, mostly in Europe and China. In other words, my university `imports' 80% of its research faculty in math and sciences. My institution is probably no different than most large research institutions in the US.

The ALGANT program well-deserves EU support. I personally know many of the faculty members at the four participating institutions, all top-notch researchers. The program of study is well thought-out. I had discussions in the Spring of 2008 with participants in the program at Bordeaux. Most were very happy with the scientific content of the program, and found the faculty at Bordeaux welcoming. Some did mention language problems (lack of knowledge of French) in their everyday life outside the university.

9/ Ted Chinburg,
University of Pennsylvania.
ted@math.upenn.edu

[Apart from conducting research and interacting with members and students from the ALGANT consortium individually], I gave a set of [...] lectures for graduate students as part of a program

organized at the Lorentz Center of the University of Leiden. [The programme's] goal was to give the students an overview of some of the topics they were likely to see during the conference at the Lorentz center on Counting Points on Varieties which took place the following week, April 20 to April 24.

My lectures for the graduate students had to do with these topics:

1. The parallels between recognizing manifolds from their Laplacian spectrum and recognizing number fields from their zeta functions.

2. Artin L-functions, Selberg zeta functions and length zeta functions.

3. Etale cohomology and the Weil conjectures.

[...] I wrote problems for the graduate students to work on illustrating some of the ideas in the lectures. Once the students had a chance to work on these problems we met with them in a large group and had them present at the board their solutions.

I had a very nice time talking with the students, and I hope the lectures and problems were useful to them.

Having to prepare these was also quite useful to me! For example, while writing up some problems about etale cohomology, I ran into some difficulties with the exposition of the Weil conjectures in R. Hartshorne's book, "Algebraic Geometry." There are some potential confusions in this book concerning what one means by a smooth projective variety over a field which is not algebraically closed. In my last lecture at the graduate conference I focused on an example illustrating the fact that one has to be careful about whether one assumes geometric irreducibility in the definition. I wouldn't have been as familiar with that if I hadn't had to write some problems about the Weil conjectures.

5. References

5.1. Abbreviations

ABBREVIATIONS

AAG	Arithmetic Algebraic Geometry Network (FP6 RTN)
AIMS	African Institute for Mathematical Science (located in South Africa)
ALExS	ALGANT Excellence Scholarship programme
ALGANT	Algebra, Geometry and Number Theory Master Course
ARWU	Academic Ranking of World Universities (Shanghai)
AS	Academia Sinica, Institute of Mathematics (Taiwan)
CEA	Commissariat à l'Energie Atomique / Technological Research organisation
CJC	Confédération des Jeunes Chercheurs / French Association of young researchers
CMI	Chennai Mathematical Institute (India)
CNRS	Centre National de la Recherche Scientifique / National Centre for Scientific Research
CRA	Conseil Regional d'Aquitaine / Aquitaine Regional Council
CRM	Centre de Recherches Mathématiques (Montréal)
CWI	Centrum Wiskunde & Informatica / Dutch research institute
ECMI	European Consortium of Mathematics for Industry (ECMI, created in 1987)
ECMIMIM	ECMI Master in Mathematics
ECTS	European Credit Transfer System
ECW	External Cooperation Window
EMA	Erasmus Mundus Students and Alumni Association
EMJD	Erasmus Mundus Joint Doctorate
EMM-Nano	Master in Nano-science and nano-technology – Erasmus Mundus
EMMC	Erasmus Mundus Master Course
EPMA	European Professional Master in Aeronautical Engineering – Erasmus Mundus Master
EVAN	European Virtual Anthropology Network - RTN
FAME	NoE in Functionalized Advanced Materials and Engineering
FAME	Erasmus Mundus Master in Functionalized Advanced Materials and Engineering
GTEM	Galois Theory and Explicit Methods
HEI(s)	Higher Education Institution(s)
IFCPAR	Indo-French Centre for the Promotion of Advanced Research
IMB	Institut de Mathématiques de Bordeaux
INRA	Institut National de la Recherche Agronomique / National Institute for Research on Agronomics
INRIA	Institut National de Recherche en Informatique et Automatique
INSERM	Institut National de la Santé et de la Recherche Médicale / French public organization entirely dedicated to biological, medical and public health research.
Interop	Interoperability for Networked Enterprises applications and software
ISM	Institut des Sciences Mathématiques (Montréal)
JOIMAN	Joint Degree Management and Administration Network
JSPS	Japan Society for Promotion of Science
LERU	League of European Research Universities
LLL	Lifelong Learning
MiLMI	Master in Laser Materials Interactions
NCPS	National Centre for Theoretical Science (Taiwan)
NoE	Network(s) of excellence
NORAD	Norwegian Agency for Development Cooperation
NRF	National Research Foundation (South Africa)
NTU	National Taiwan University
NUFU	Norwegian Programme for Development, Research and Education
RTN	Research Training Network
SANORD	South African – Nordic Centre
SARChI	South African Research Chairs Initiative
SINTEF	Largest independent research organisation in Scandinavia
UB1	Université Bordeaux 1 / Bordeaux 1 University

1. Core application
2. Academic quality
3. Degree
4. Quality Assurance
5. References

5.1. Abbreviations
5.2. Websites

5.2. Websites

REFERENCES and WEBSITES

Academia Sinica, Taiwan	http://www.sinica.edu.tw/main_e.shtml
Academic Ranking of World Universities	http://www.arwu.org/
Academy of Science (France)	http://www.academie-sciences.fr/
AIMS	http://www.aims.ac.za/
ALGANT	http://algant.eu/
Aquimob, mobility centre	https://www.aquimob.fr/
Aquitaine Regional Council	http://aquitaine.fr/en/
Arithmetic Algebraic Geometry Network	http://www.arithgeom-network.univ-rennes1.fr/
Bologna process	http://ec.europa.eu/education/higher-education/doc1290_en.htm
Bordeaux 1 University	http://www.u-bordeaux1.fr/
Bordeaux 1 Mathematics Department	http://www.ufr-mi.u-bordeaux1.fr/
CEA (French research organisation)	http://www.cea.fr/english_portal
Confédération des Jeunes Chercheurs	http://cjc.jeunes-chercheurs.org/presentation/index.en.php
Chennai Mathematical Institute	http://www.cmi.ac.in
CNRS (French research organisation)	http://www.cnrs.fr/
Centre de Recherches Mathématiques	http://www.crm.umontreal.ca/
Concordia University	http://www.mathstat.concordia.ca
CWI (Dutch research organisation)	http://www.cwi.nl/
Diploma Supplement	http://ec.europa.eu/education/policies/rec_qual/recognition/diploma_en.html
DST/NRF Centres of Excellence	http://www.nrf.ac.za/centres/index.html
Dutch Master Programme in Mathematics	http://www.mastermath.nl

École Normale Supérieure	http://www.ens.fr/
ECTS conversion table	http://www.unipd.it/programmi/erasmus/doc/distr_stat.htm
EMM-Nano (Erasmus Mundus Master Course)	http://www.emm-nano.org/indexnano.htm
EPMA (Erasmus Mundus Master Course)	http://www.epma.aero/
Erasmus Mundus Quality Assurance Project	http://www.emqa.eu/
Erasmus Mundus Students and Alumni Ass.	http://www.em-a.eu/
Erasmus University Charter	http://eacea.ec.europa.eu/llp/erasmus/euc_en.html
European Credit Transfer System	http://ec.europa.eu/education/lifelong-learning-policy/doc48_en.htm
External Cooperation Window	http://eacea.ec.europa.eu/extcoop/call/index.htm
European Charter for Researchers	http://ec.europa.eu/eracareers/pdf/am509774CEE_EN_E4.pdf
European Council of Doctoral Candidates	http://www.eurodoc.net/
European Higher Education Area	http://ec.europa.eu/education/lifelong-learning-policy/doc62_en.htm
European Mathematical Society	http://www.euro-math-soc.eu/
European Research Area	http://ec.europa.eu/research/era/index_en.html
EVAN – RTN	http://www.evan.at/
FAME – Master	http://www.fame-master.com/
FAME – NoE	ftp://ftp.cordis.europa.eu/pub/infrastructures/docs/fame.pdf
Fieds Medal	http://www.mathunion.org/general/prizes/fields/details/
GTEM network	http://websites.math.leidenuniv.nl/gtem/index.php?mn=project&pg=1
IFCPAR (Indo-French cooperation programme)	http://www.cefipra.org/cefipra/home.htm
Institut de Mathématiques de Bordeaux	http://www.math.u-bordeaux1.fr/maths/
Institut des Sciences Mathématiques (Canada)	http://www.math.uqam.ca/ism/
INRA (French Research Institute)	http://www.international.inra.fr/
INSERM (French Research Institute)	http://www.inserm.fr/en/home.html
Intercity Number Theory Seminar	http://www.math.leidenuniv.nl/~desmit/ic/current.html
JOIMAN	https://www.joiman.eu/default.aspx
Journal de Théorie des Nombres Bordeaux	http://jtnb.cedram.org/
JSPS core-to-core programme	http://www.jsps.go.jp/english/core_to_core/pdf/18005_04_plan_e.pdf
League of European Research Universities	http://www.leru.org/
Leiden University	http://www.leiden.edu
Leiden University Mathematical Institute	http://www.math.leidenuniv.nl/en/home/
Lifelong Learning strategy	http://ec.europa.eu/education/lifelong-learning-policy/doc28_en.htm
Lorentz Center (Research and conferences)	http://www.lorentzcenter.nl/
Marie Curie Actions	http://ec.europa.eu/research/fp6/mariecurie-actions/action/level_en.html
Milan University	http://www.unimi.it

Milan University Mathematic Department	http://www.mat.unimi.it/index_eng.php
National Research Foundation (South Africa)	http://www.nrf.ac.za/
NCTS (Taiwan)	http://math.cts.ntu.edu.tw
Networks of excellence	http://ec.europa.eu/research/fp6/index_en.cfm?p=0_instruments
Nobel Prize	http://nobelprize.org/
NORAD (cooperation with Stellenbosch)	http://www.norad.no/
NTU, Department of Mathematics	http://www.math.ntu.edu.tw/newenglish/
NUFU (cooperation with Stellenbosch)	http://siu.no/en/Programme-overview/The-NUFU-programme
Padua University	http://www.unipd.it
Padua University – Mathematics Department	http://www.math.unipd.it/
Paris Sud 11 University	http://www.u-psud.fr
Paris Sud 11 - Mathematics Department	http://www.math.u-psud.fr
Quality Assurance	http://ec.europa.eu/education/policies/2010/qualitynet_en.html
Research Training Networks	http://ec.europa.eu/research/fp6/mariecurie-actions/action/training_en.html
SINTEF (cooperation with Stellenbosch)	http://www.sintef.no/Home/About-us/
South African–Nordic Centre	http://sanord.uwc.ac.za/
South African Research Chairs Initiative	http://www.nrf.ac.za/sarchi/index.stm
Stellenbosch University	http://math.sun.ac.za
Stellenbosch Mathematics Department	http://mathsci.sun.ac.za/
Study in Europe	http://www.study-in-europe.org/index.cfm?objectid=D4A8D186-3FFF-AEA2-32B627E7DA291125
Tempus	http://ec.europa.eu/education/external-relation-programmes/doc70_en.htm
Tuning Educational Structures	http://unideusto.org/tuning/