



Linking Russia to the European Research Area

Coordination of MS/AC S&T programmes towards and with Russia

**Pilot Joint Calls 2012:
a spotlight on funded projects**



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Preface



Success is the result of a team effort: Without the dedication of all consortium members, the constructive input of European and Russian programme owners and the continuous support by the European Commission the achievements of the ERA-NET with Russia (ERA.Net RUS) addressing joint interests of the EU and Russia would not have been possible.

Apart from a few good practice examples it can be said that the development of joint funding schemes between programme owners in EU Member States/Associated Countries and Russia lags behind the opportunities and needs to raise the full potential of S&T co-operation between both science communities. Although Russian institutions are participating in other ERA-NET activities, for the time being there was no other example for a successful participation of programme owners from Russia in any multilateral joint call for S&T proposals. The ERA.NET with Russia has now closed this gap.

The expertise of all participating organisations, their long running experience in international science and technology cooperation and a common vision for future joint policy endeavours have been essential for the success of ERA.Net RUS. The valuable experience gained within this project's lifespan provides a firm base, on which sustainable future EU-Russia STI programmes will be built. In this regard, the upcoming ERA-NET RUS PLUS with Russia is already emerging on the horizon.

The story goes on!

This project represents a highlight in the work of the International Bureau and we are proud to have been entrusted with the coordination of ERA.Net RUS.

Jörg Sonnenburg

ERA.Net RUS Project Coordinator

Executive Director of the International Bureau of the German Federal Ministry of Education and Research



Meeting of the Group of Funding Parties for the Call on Collaborative S&T Projects, 14-15 February 2012, Bonn

Testimonials



**Michael
Ugrumov**

Advisor to the President of the Russian Academy of Sciences on international relations; Co-chair of the ERA.Net RUS Scientific Council

I am glad that we have managed to create a system of multilateral S&T cooperation between European countries and Russia based on principles of equal rights and mutual benefit. This means that on the one hand all the participating countries make an equal contribution to decision making, but on the other hand national legislations and features are respected and taken into account.

I would also like to emphasize the fact that the ERA.Net RUS Call created a precedent of combining international and (partially) national scientific expertise.

Experience showed that the Scientific Council, which provided advice during the evaluation of proposals and the Programme Owners' decision making on selecting projects for funding, played a key role for assuring quality and reliability of the process.



**Martine
Bonin**

Deputy Director
Russia and NIS;
International
Cooperation
Office CNRS

Over the FP7 period ERA.Net RUS has become the main instrument to facilitate multilateral cooperation involving French and Russian laboratories. The scientists appreciated the procedures for proposal submission within the Pilot Joint Call and the way the project selection was conducted, driven by independent international expertise, and consolidated by an international S&T Council.

The success of the Joint Call paves the way towards future joint activities, including larger scale calls, the development of joint programmes and promoting the adoption of common high-level standards for their implementation.

On the French side CNRS values that ERA.Net RUS has been able to strengthen a long-standing open dialogue with institutional partners from Russia. The project can serve as a positive example for multilateral cooperation with other Eastern Europe countries and other regions of the world.



**Michael
Schlicht**

Director for
Cooperation
with Russia,
CIS; German
Federal Ministry
of Education
and Research

STI cooperation with Russia plays an important role for Germany.

The activities in the recently finished German-Russian Year of Education, Research and Innovation emphasize this importance. The ERA.Net RUS as a European activity heading in the same direction is another important pillar. The numerous successful proposals with German participation or even coordination reflect the strong relationship between German and Russian researchers in a European context.

Therefore we are glad to be part of the ERA.Net RUS consortium and support subsequent measures like the forthcoming ERA-NET PLUS scheme.



**Jürgen
Sanders**

Project Officer;
European
Commission,
Directorate-
General for
Research

The future will show, if the efforts made by the ERA.Net RUS project, so far with two joint calls and extensive analytical work, will lead to even more.

For long term sustainability the project has produced a report with practical recommendations to develop thematic ERANETS; it has prepared a foresight study; and, recently, two additional partners have joined the project to set up a permanent Mirror Joint Call Secretariat in Russia.

Moreover, the Russian Ministry of Science and Education is now considering establishing a fund for supporting successful Russian participants in projects of Horizon 2020. Hence, the experience gained in cooperation between funding agencies can lead to joint activities on a larger scale.

It has been a privilege for me to be Project Officer for such a well-managed project and I thank all participants for the good work.

Background

ERA.Net RUS is a project funded by the European Commission within the Seventh Framework Programme for Research and Technological Development (FP7). ERA-NETs aim at enhancing the coordination of national or regional research programmes in the EU Member States and Associated Countries in order to overcome the fragmentation of the European Research Area (ERA).

As an international ERA-NET, ERA.Net RUS aims at strengthening and intensifying the S&T cooperation between Russia and the ERA. This will be achieved by a systematic exchange of information, the establishment of a joint funding programme and several accompanying measures.

ERA.Net RUS is targeted at stakeholders at policy and programme level, the research community and industry.



Objectives

- Raising knowledge on bilateral and national S&T programmes with or towards Russia and on relevant activities of other programme owners
- Learning lessons from ongoing (thematic) ERA-NETs involving Russian programme owners and identifying good practice from other international ERA-NETs
- Identifying common ground across bilateral S&T programmes of EU MS/AC with Russia and providing a basis for a joint programmatic approach
- Developing an appropriate instrumental setting for joint funding activities
- Testing a scenario and learning lessons from a pilot joint call
- Developing and promoting a sustainable joint programme with Russia

Main achievements and expected impact

In order to achieve these objectives ERA.Net RUS embraced a wide variety of activities, ranging from analytical groundwork over the implementation of two Pilot Joint Calls and accompanying measures like diverse dissemination activities, brokerage events etc. A sustainable S&T (and/or Innovation) programme to be agreed upon by interested programme owners from EU MS/AC and Russia shall be developed in the course of the project.


Main achievements of ERA.Net RUS are the compilation of various reports in regard to the Russian S&T System, the Russian S&T funding system from the perspective of international cooperation, the state of the art and perspectives of bilateral S&T programmes between EU MS/AC and Russia, the experiences from Russian participation in ERA-NETs and from ongoing international ERA-NETs and a report on "Opportunities and needs for advanced cooperation of S&T and innovation programme owners in EU MS/AC and Russia".




Particular emphasis in ERA.Net RUS is placed on actively involving Russian programme owners in the planning, implementation and assessment of the two pilot joint calls.


ERA.Net RUS will further emphasize the significance of the EU-Russian partnership and help to reach a new level in EU-Russian S&T cooperation by improving the coherence and coordination of European scientific cooperation with Russia and the complementarities between MS/AC and community activities.

ERA.Net RUS Consortium


-  • **Coordinator: International Bureau of the Federal Ministry of Education and Research c/o German Aerospace Center (PT-DLR)**
• Federal Ministry of Education and Research (BMBF)


-  • Centre for Social Innovation (ZSI)
• Federal Ministry of Science and Research (BWF)


-  • Estonian Research Council (ETAG)


-  • Academy of Finland (AKA)

-  • National Centre of Scientific Research (CNRS)
• Ministry of Higher Education and Science (MESR)
• Ministry of European and Foreign Affairs (MAEE)


-  • General Secretariat for Research and Technology (GSRT)

-  • National Innovation Office (NIH)

-  • Research Council of Norway (RCN)

-  • Russian Research Centre, Kurchatov Institute (KIAE)
• Higher School of Economics (HSE)
• Centre for the Study of International S&T and Educational Programmes (ICISTE)
• Institution of the Russian Academy of Sciences, A.N.Bach Institute of Biochemistry of RAS (INBI RAS)
• Institution of the Russian Academy of Sciences, Institute of Developmental Biology of RAS (IDB RAS)
• Russian Foundation for Basic Research (RFBR)

-  • The Scientific and Technological Research Council of Turkey (TÜBİTAK)

-  • Joint Research Centre, Institute of Prospective Technological Studies (IPTS)

Pilot Joint Calls

Two Pilot Joint Calls received great response from the applicants. For the Call for **Innovation Projects** with a special focus on involving SMEs, 52 eligible proposals were submitted. The Group of Funding Parties (GFP) decided to fund 11 proposals, following recommendations by the Scientific and Innovation Council.

Within the Pilot Joint Call for **Collaborative S&T Projects**, research proposals regarding the following four thematic fields could be submitted:



- Innovative materials and cutting edge technological processes,



- Environmental research and climatic change,



- Research on serious human health problems, and



- Contemporary socio-economic studies.

A total of 183 eligible proposals were submitted. 31 proposals were selected for funding by the GFP, covering all thematic fields. This brochure presents selected projects that reflect the intentions of the Pilot Joint Calls and the diversity of research topics covered by the successful projects.

Scientific and Innovation Council

To ensure the scientific quality of selected projects, the evaluation process of proposals was accompanied by the Scientific and Innovation Council, whose members supervised the external peer-reviews procedure and conducted evaluations of their own.

One expert per Funding Party was selected by the Groups of Funding Parties as members of the Scientific and Innovation Council.

The selection was made so as to ensure a fair balance of required competences, including expertise in the relevant S&T fields, experience with management or evaluation of projects, international S&T cooperation, technology transfer and innovation.

The Scientific and Innovation Council critically examined the results of the peer-review of project proposals performed by external evaluators in order to consolidate the results and recommended to the Group of Funding Parties a list of proposals proposed for funding.



Meeting of the Scientific and Innovation Council for the Call on Innovation Projects, Bonn, June 2011

Group of Funding Parties

The Group of Funding Parties comprised a total of 20 Funding Parties from 12 countries, among them 7 from Russia.

	<ul style="list-style-type: none"> Federal Ministry of Education and Research (BMBF)
	<ul style="list-style-type: none"> Estonian Research Council (ETAG)
	<ul style="list-style-type: none"> Academy of Finland (AKA)
	<ul style="list-style-type: none"> National Centre of Scientific Research (CNRS) Ministry of Higher Education and Science (MESR) French National Institute for Agricultural Research (INRA)
	<ul style="list-style-type: none"> General Secretariat for Research and Technology (GSRT)
	<ul style="list-style-type: none"> Israel Europe R&D Directorate (ISERD)
	<ul style="list-style-type: none"> Research Council of Norway (RCN)
	<ul style="list-style-type: none"> The National Centre for Research and Development (NCBIR)
	<ul style="list-style-type: none"> Central Branch of the Russian Academy of Sciences (CB RAS) Ural Branch of the Russian Academy of Sciences (UB RAS) Siberian Branch of the Russian Academy of Sciences (SB RAS) Far Eastern Branch of the Russian Academy of Sciences (FEB RAS) Russian Foundation for Basic Research (RFBR) Russian Foundation for Humanities (RFH) Foundation for Assistance to Small Innovative Enterprises (FASIE)
	<ul style="list-style-type: none"> Ministry of Economy and Competitiveness (MINECO)
	<ul style="list-style-type: none"> University of Geneva (Swiss Leading House for Swiss-Russian S&T Cooperation) acting on behalf of the Swiss State Secretariat for Education and Research
	<ul style="list-style-type: none"> The Scientific and Technological Research Council of Turkey (TÜBİTAK)

Exemplary funded projects

The following pages present a selection of the 11 Innovation Projects and the 31 Collaborative S&T Projects funded within the frame of ERA.Net RUS:

- ACPCA: Arctic Climate Processes Linked Through the Circulation of the Atmosphere
- AmelSynTox: Novel approaches to ameliorate a-synuclein aggregation and toxicity in Parkinson's Disease
- COPONAMRI: Coordination Polymer Nanoparticles
- DTEST-CLP: Development of novel diagnostic test system for cardio-metabolic disorders and cancer
- EGIDA: EpiGenetic mechanisms in Immune Deviation during Autoimmunity
- eHR: ePortfolio for Human Resources
- FPS-BIOMED: Fluorescent proteins, stable cell lines and lentiviral systems for biomedical studies
- GEOURBAN: Exploiting Earth Observation in Sustainable Urban Planning & management
- RADCOLLS: Selective Materials for decontamination of solids and prevention radionuclides from spreading
- SOMECAT: Social Media as Catalyser for Cross-National Learning
- TargetSOCE: Pathways of Store-Operated Calcium Entry as a novel therapeutic target
- TIROTAPS: TRPM7 in Regulation of T cell subsets and Purinergic Signaling
- EANOR: Long-term consequences of enhanced radioactivity for biota



"Arctic Climate Processes Linked Through the Circulation of the Atmosphere"

The climate of the Arctic is the product of a range of processes, involving not only the atmosphere but also the ocean, sea ice, land-surface conditions, and snow cover. These processes are linked through the atmospheric circulation. The circulation moves weather systems across the Arctic and controls surface climate and snow cover. It transports heat, water vapour, and aerosol particles from the midlatitudes into the Arctic, it distributes these quantities within the Arctic, and it affects sea ice through wind stress. At the same time, atmospheric circulation is affected by the energy balance of the Arctic surface and thus by sea-ice and snow cover as well as by factors outside the Arctic.

The goal of the project is to study the role of these interactions for decadal variability and trends in Arctic climate.

The five partners (see list on the right) will use newly available observation based data sets, long reanalyses, numerical techniques such as trajectory modeling or nudging, and different climate models that allow addressing effects of sea-ice and snow cover. The knowledge gained from better understanding the processes governing decadal climate variability in the Arctic may eventually lead to a better assessment of climate models, supporting an increased accuracy of seasonal predictions, projections, and adaptation plans.

Coordinator:

Stefan Brönnimann
 University of Bern
 Bern, Switzerland
stefan.broennimann@giub.unibe.ch

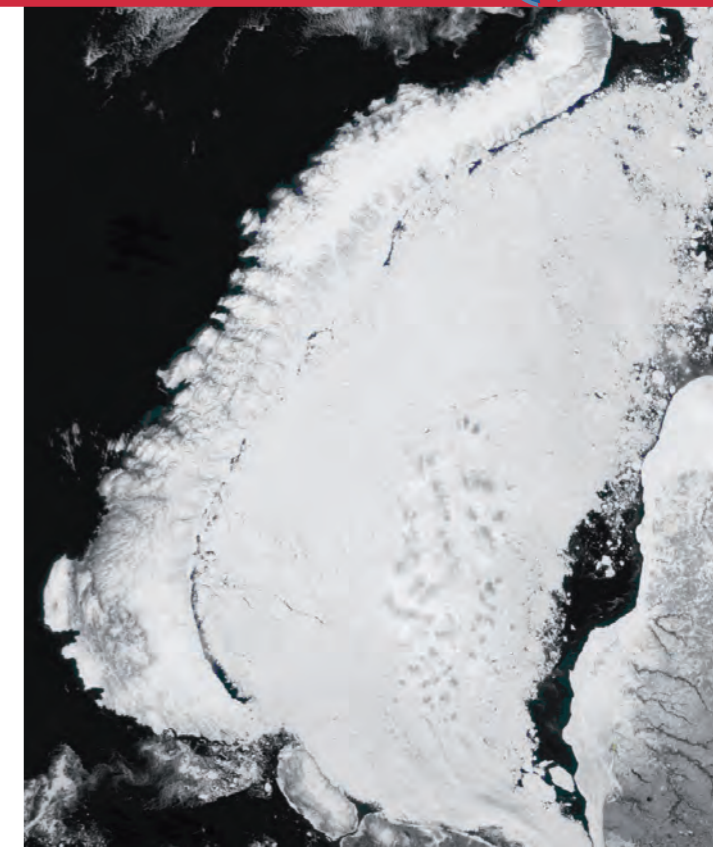
Partners:

Alexander Sterin
 Russian Research Institute for Hydrometeorological
 Information – World Data Center (RIHMI-WDC)
 Obninsk, Russia

Luis Gimeno
 Universidad de Vigo (UVIGO)
 Ourense, Spain

Yvan Orsolini
 Norwegian Institute for Air Research (NILU)
 Kjeller, Norway

Klaus Dethloff
 Alfred Wegener Institute, Research Unit Potsdam (AWI)
 Potsdam, Germany



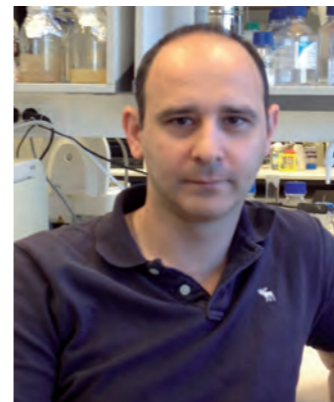


AmelSynTox

"Novel approaches to ameliorate a-synuclein aggregation and toxicity in Parkinson's Disease"

Mutations or increased levels of wild type a-synuclein (SNCA) are sufficient to cause Parkinson's disease and dementia with Lewy bodies. The aberrant function of SNCA is still not well understood but it is likely to stem from the excess accumulation of SNCA species that form toxic aggregates in presynaptic terminals affecting neurotransmitter release. Strategies aimed at lowering SNCA levels or blocking its aggregation may thus attenuate the development or progression of disease.

This proposal has two objectives, one aimed at characterizing newly identified mechanisms that control SNCA translation and the other aimed at testing and characterizing novel pharmacological therapies for ameliorating SNCA oligomer formation and toxicity in vivo.



Coordinator:

Epaminondas Doxakis
Biomedical Research
Foundation
Academy of Athens
Athens, Greece
edoxakis@bioacademy.gr



Partners:

Natalia N. Ninkina
Institute of Physiologically
Active Compounds
Russian Academy of
Sciences
Chernogolovka, Russia



Hilal A. Lashuel
Brain Mind Institute
The Swiss Federal
Institute of Technology
EPFL
Lausanne, Switzerland



COPONAMRI

"COordination POlymer NANoparticles: An evaluation of their toxicity and efficiency as MRI contrasts agents & biomarkers"

The aim of the project COPONAMRI is to develop a new generation of nanostructured magnetic particles that will constitute a qualitative step forward in the current state of the art on bimodal probes for medical imaging combining MRI and biolabelling.

To achieve this goal, it will be necessary to develop innovative strategies adapted to different stages ranging from the development of new building blocks with appropriate magnetic or optical properties, their self-assembly via a "chimie douce" approach leading to the formation of nanoparticles with a suitable coating for biomedical applications, and performance evaluation of the latter as a contrast agent in MRI and biomarkers as well as the most comprehensive assessment of their toxicity and ecotoxicity.



Team Spain

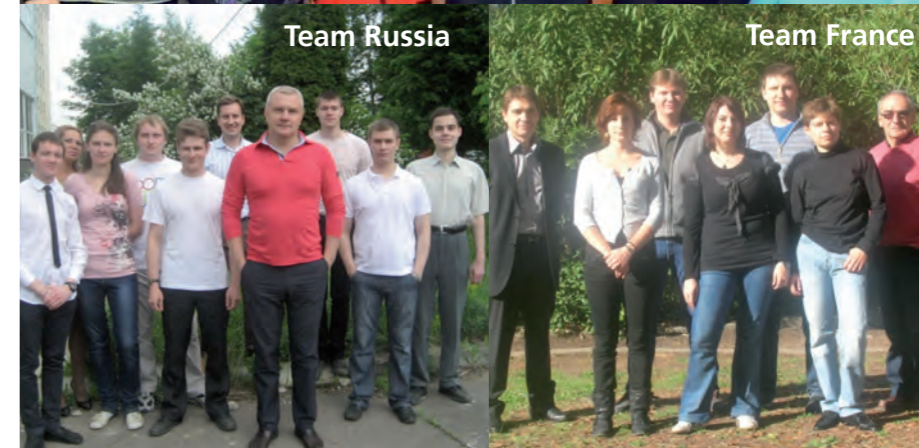
Coordinator:

Yannick Guari
 Institute Charles Gerhardt
 Montpellier, France
yannick.guari@univ-montp2.fr

Partners:

Miquel Borrás
 Barcelona Science Park
 Experimental Toxicology and
 Ecotoxicology Unit
 Barcelona, Spain

Alexander Trifonov
 Institute of organometallic chemistry
 of Russian academy of sciences
 Laboratory of chemistry of
 coordination compounds
 Nizhny Novgorod, Russia



Team Russia

Team France



DTEST-CLP

"Development of novel diagnostic test system for cardio-metabolic disorders and cancer based on chitinase-like proteins"

DTEST-CLP aims to develop an innovative diagnostic test system for the early detection of pathological changes during the development of cardio-metabolic disorders and cancer. This test system will be based on the detection of new biomarkers - chitinase-like proteins (CLP) YKL-39, YKL-40 and SI-CLP. CLPs are produced by cancer cells and by key innate immune cells – macrophages. An expression of CLPs is induced in sites of inflammation and in tumors. We will use an innovative approach to design antigens for the generation of anti-CLP antibodies and develop an advanced detection system to measure simultaneously concentrations of all three chitinase-like proteins in human blood circulation. Novel antibodies raised against various functional domains of CLP will be examined for their ability to block pathological action of CLP in functional cellular systems.

The validation of the diagnostic value of the CLP-based detection system will be performed on the cohorts of patients with different stages of atherosclerosis, type 2 diabetes and cancer. The novel diagnostic system developed by us will be rapid, affordable and highly sensitive, and will allow an early diagnostic of cardio-metabolic disorders and cancer before any clinical manifestation is detectable.

Developed antibodies will serve as a basis for the design of innovative therapeutic strategies. The project results will have high economical and social impact by decreasing diagnostics and therapy costs and by improving the quality of patients' lives.

Coordinator:

Julia Kzhyshkowska
University of Heidelberg,
Mannheim, Germany

julia.kzhyshkowska@umm.de

Partners:

Alexander N. Orekhov
INAT-Farma Ltd
Moscow, Russia

Yinon Shlomi
Adar Biotech LTD
Rehovot, Israel





EGIDA

"Epigenetic mechanisms in immune deviation during autoimmunity"

Due to increasing prevalence, autoimmune diseases have recently become a top priority of biomedical research. The main goal of our consortium is to explore the role of epigenetic gene regulation in safeguarding immunological self-tolerance on the one hand and in case of its deregulation in disposing to autoimmunity on the other hand.

The different members of the consortium will address these issues at various stages and levels of the (auto)-immune response in a complementary fashion. To this end we are planning to employ different methodological approaches, e.g. the functional analysis of miRNAs and other non-coding RNAs, genome-wide and site-specific DNA methylation, histone modifications and deep sequencing of the genome and transcriptome in relevant cell populations, i.e. regulatory T cells, thymic epithelial cell subsets, Rorc(γ t) positive populations of inflammatory and gut resident T cells. The epigenetic analysis will be related to the known role of these cell types in normal physiology, inflammation and autoimmunity with particular emphasis on the central nervous system autoimmune disease Multiple Sclerosis.

We expect the results of this consortium to contribute to a better understanding of the mechanisms underlying organ-specific auto-aggression and to guide the future design of new strategies for the successful treatment of human autoimmune diseases.



Coordinator:

Yuri Rubtsov
Lomonosov Moscow
State University
Faculty of Basic
Medicine
Moscow, Russia

yrubtsov@gmail.com



Partners:

Gerard Eberl
Lymphoid Tissue Development Unit
Institut Pasteur
Paris, France

Bruno Kyewski
Division of Developmental Immunology
Tumor Immunology Program
German Cancer Research Center
Heidelberg, Germany

Marcin P. Mycko
Department of Neurology, Laboratory of
Neuroimmunology, Medical University of Lodz
Lodz, Poland

Pärt Peterson
Laboratory of Molecular Pathology
Institute of General and Molecular Pathology
University of Tartu
Tartu, Estonia



"ePortfolio for Human Resources (eHR)"

A forward-looking perspective so far is to enhance traditional teaching by the usage of e-Learning tools. ePortfolio seems to be a tool which can not only be used to support students' self-regulated learning but their transition from schooling system to higher education and labor market.

An ePortfolio is a collection of electronic artifacts such as inputted text, electronic files, blog entries and multimedia (e.g. videos). Besides of using an ePortfolio to document, reflect and assess learning experiences it is an unconventional, complex way of self- presentation, especially for vocational related competencies e.g. creativity, digital literacy or project management skills. An ePortfolio can make these competencies visible even if they were acquired outside formal education institutions for example by including work references.

The project "ePortfolio for Human Resources" (eHR) aims to investigate the perception of ePortfolios as part of assessment processes within educational and vocational systems. To identify critical success factors in the acceptance of ePortfolios is essential to enhance the EU strategy. An objective is to add a media-oriented ePortfolio to the europass framework instruments.

Meeting of German and Russian project partners



Coordinator:

Heiner Barz
University of Düsseldorf
Düsseldorf, Germany
barz@phil.uni-duesseldorf.de

Partners:

Olga Smolyaninova
Siberian Federal University
Krasnoyarsk, Russia

Samuel Nowakowski
University of Lorraine
Vandoeuvre les Nancy,
France

Kai Pata
Tallinn University
Tallinn, Estonia



FPS-BIOMED

"Fluorescent proteins, stable cell lines and lentiviral systems for biomedical studies"

The project unites three ambitious research teams from

- Russia: Evrogen JSC, Moscow,
- Germany: Marinpharm GmbH, Luckenwalde and
- Greece: MCB-DUTH, Laboratory of Molecular Cell Biology, Department of Molecular Biology and Genetics, Democritus University of Thrace, Alexandroupolis

in their collaborative effort on development of innovative products for biomedical studies.

Within project consortium Evrogen concentrates on development of novel variants of fluorescent protein with optimized properties.

MCB-DUTH performs characterization of best variants and their validation as probes for light microscopy and high-resolution imaging.

Marinpharm generates a panel of stably transfected cell lines as well as lentiviral vectors, implementing these probes for wide use in biomedical studies.

Coordinator:

Dmitriy Chudakov
Evrogen JSC
Moscow, Russia

evrogen@evrogen.com

Partners:

Andreas Pachten
Marinpharm GmbH
Luckenwalde, Germany

Maria Koffa
Laboratory of Molecular Cell
Biology
Division Department of
Molecular Biology and Genetics
Democritus University of Thrace
Alexandroupolis, Greece



Team Russia



GEOURBAN

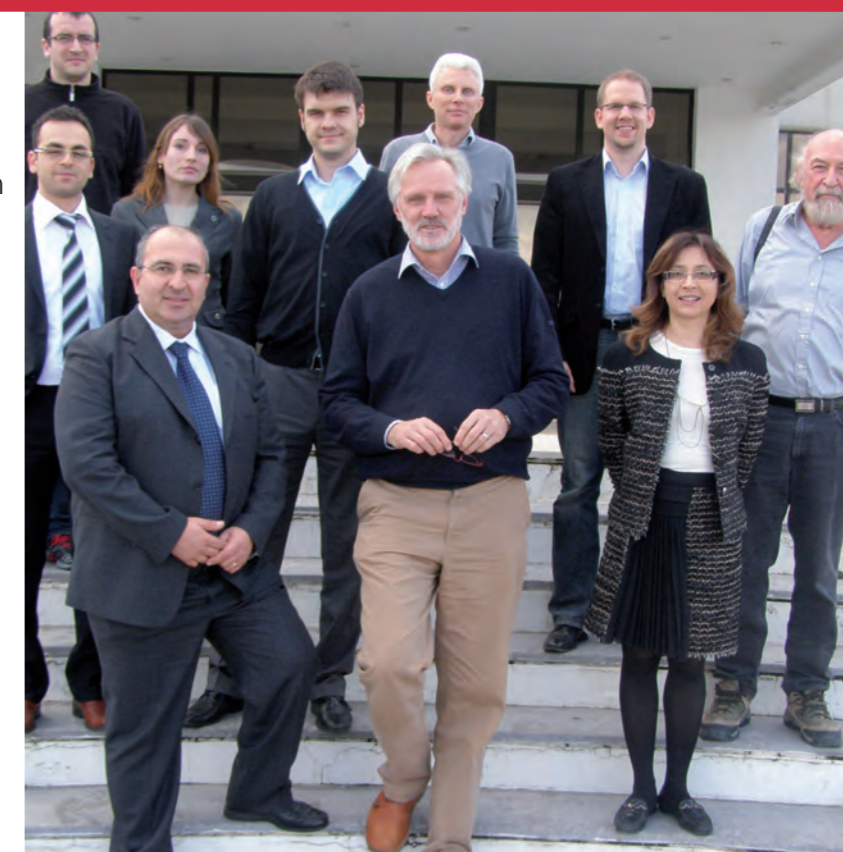
"Exploiting Earth Observation in Sustainable Urban Planning & management"

The increasing availability of Earth Observation (EO) technologies has provided new opportunities for a wide range of urban applications, such as mapping and monitoring of the urban environment, socio-economic estimations, characterization of urban climate, analysis of regional and global impacts and urban security and emergency preparedness.

However, a gap exists between the research-focused results offered by the urban EO community and the application of these data and products by urban planners and decision makers. The main objective of the GEOURBAN project is to bridge the gap between EO scientists and urban planners by demonstrating the ability of current and future EO systems to depict parameters of urban structure and urban environmental quality over large areas at detailed level.

GEOURBAN will also develop a web-based information system which will have the potential to support urban planning and management by providing a set of EO-based indicators easily transferable to any city and understood and by non-experts. Three cities with different typologies and planning perspectives are included as case studies: Tyumen (Russia), Tel-Aviv (Israel) and Basel (Switzerland). The adaptation of the system to future missions will be addressed, therefore it is expected that a fully operational tool can be developed in the future.

More information at: <http://geourban-fp7-eranet.com/>



Coordinator:

Nektarios Chrysoulakis
Foundation for Research
and Technology Hellas
Heraklion, Greece
zedd2@iacm.forth.gr

Partners:

Igor Penyeveskiy
GRAD – Inform Ltd.
Omsk, Russia

Abraham Tal
GARD Ltd.
Holon, Israel

Thomas Esch
German Aerospace
Center (DLR)
Oberpfaffenhofen,
Germany

Hafize Sebnem
Duzgun Kuzgun
Bilisim Ltd.
Ankara, Turkey

Eberhard Parlow
University of Basel
Basel, Switzerland



"Selective Materials for decontamination of solids and prevention radionuclides from spreading"

Despite significant progress in development of sorption technologies allowing localization of radioisotopes, there is still high demand in principally new materials, which can be used for suppression of radioactive dust and formation of stable impermeable films preventing spreading of radioactive materials from the surfaces and significantly reducing amount of soil and grounds to be removed and disposed after the nuclear accidents.

Within this project we suggest a new solution for decontamination of solids and preventing migration of radioactive materials using colloid-stable nanosized selective sorbents. New types of selective sorbents or solid extractants based on mixed metal pyrochlores, tetravalent oxides, barium/calcium sulfates and silicates, transition metals ferrocyanides immobilized in polymeric latexes will be synthesized and tested as sorbents and dust suppressors.

Coordinator:

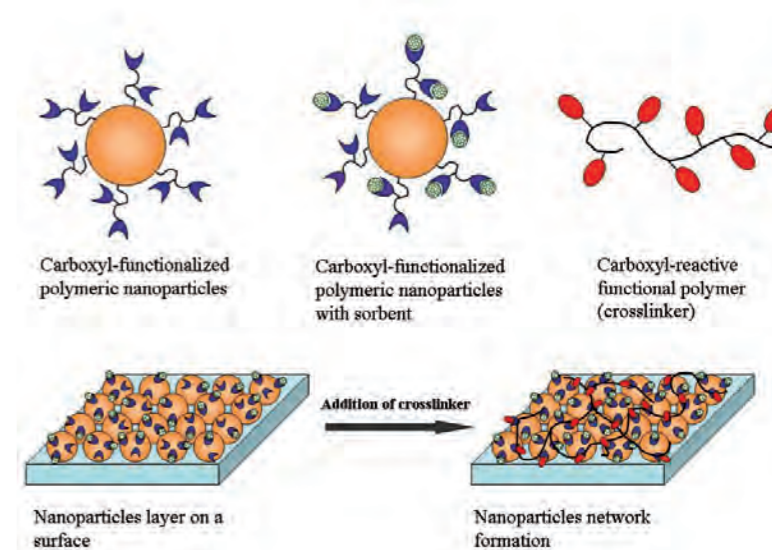
Svetlana Bratskaya
Institute of Chemistry
Far East Branch of Russian Academy of Sciences
Vladivostok, Russia
sbratska@ich.dvo.ru

Partners:

Risto Harjula
Helsinki University
Department of Chemistry
Laboratory of Radiochemistry
Helsinki, Finland

Anna Musyanovych
Max Planck Institute for Polymer Research
Mainz, Germany

Frank Simon
Leibniz Institute for Polymer Research
Dresden, Germany



Scheme of colloid sorbents (top) and dust-suppressing coatings (bottom) formation using nanosized selective sorbents stabilized in polymeric matrixes. Cross-linking step is optional depending on matrix properties.



SOMECAT

"Social Media as Catalyser for Cross-National Learning"

Social media is a vibrant research field. The project "SOMECAT" will expand knowledge in two branches with a geographical focus on the participating countries (Russia, Turkey, Germany and Switzerland):

1. To what extent is and can social media be used for teaching, learning and research?
2. Do diaspora groups use social media? How? If so, for what purposes?

Basing on the results, we will combine these two areas of research and investigate "to what extent diasporas use social media for learning, teaching and research". This question has not been researched yet in any systematic way. Taking into account the findings of the previous steps, we will develop an openly accessible social media toolkit for teaching, learning and research that can be utilised by relevant stakeholders and allows for exchange among them.

Coordinator:

Christian Rapp
Zuerich University of Applied Sciences
Winterthur, Switzerland
rapp@zhaw.ch

Partners:

Hans-Liudger Diemel
nexus Institute for Cooperation Management and Interdisciplinary Research
Berlin, Germany

Yasemin Gülbahar Güven
Ankara University
Ankara, Turkey

Martina Schäfer
Center for Technology and Society
Technische Universität Berlin
Berlin, Germany

Lyubov Fadeeva
Perm State University
Perm, Russia



Joint meeting in the Swiss mountains



TargetSOCE

"Pathways of Store-Operated Calcium Entry (SOCE) as a novel therapeutic target in neurodegenerative diseases"

There are no effective drugs to cure or to delay the progression of Alzheimer's and Huntington's diseases. It is clear that new target proteins respective pathways need to be addressed.

TargetSOCE will respond to it by targeting calcium (Ca²⁺) homeostasis as a potential site for new treatments as both diseases are accompanied by profound changes in the intracellular Ca²⁺ homeostasis.

Partners will study three transgenic mouse models, compare them and observe whether changes are specific for a certain pathological mechanism or are general downstream effects of neurodegeneration. In TargetSOCE, Russian, German and Polish groups complement one other. The expected results are highly relevant to prevailing neurodegenerative diseases in aging societies.

TargetSOCE

Coordinator:

Jacek Kuznicki

International Institute of Molecular and Cell Biology
Warsaw, Poland

jkuznicki@iimcb.gov.pl

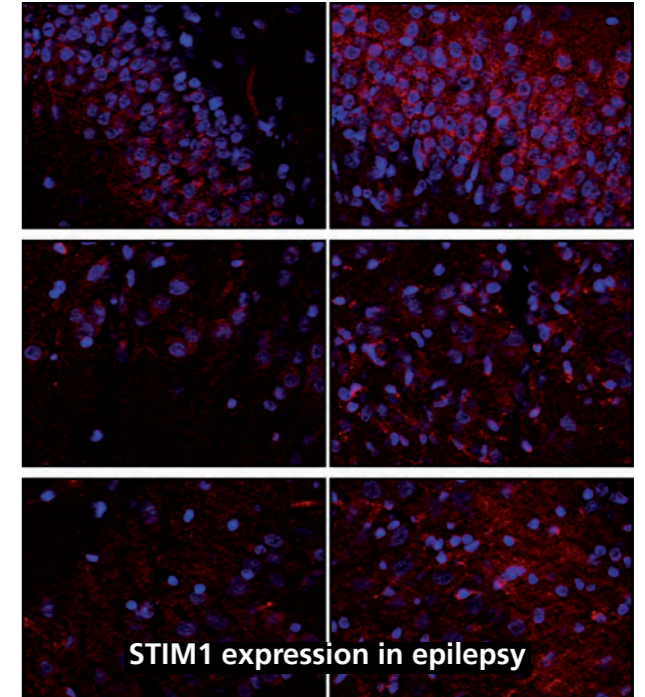
Partners:

Elena Kaznacheeva

Institute of Cytology Russian Academy of Sciences
Division Laboratory of Ionic Channels of Cell
Membranes
St. Petersburg, Russia

Axel Methner

Johannes Gutenberg University Medical Center Mainz
Department of Neurology
Mainz, Germany





TIROTAPS

"Transient Receptor Potential Melastatin-like 7' ion channel (TRPM7) in Regulation of T cell subsets and Purinergic Signaling"

T lymphocytes control the immune response toward pathogens or self tissues by promoting or inhibiting inflammatory destruction, respectively. A defective control of immune response to self tissues results in autoimmune diseases. Adenosine triphosphate (ATP) constitutes the source of chemical energy for the majority of cellular functions. However, ATP is also released in the extracellular space as a soluble signaling molecule, which activates purinergic receptors and stimulates the pro-inflammatory function of T lymphocytes.

Upon de novo synthesis ATP binds Magnesium²⁺ ions thus reducing intracellular Magnesium²⁺ content. The reduction in free Magnesium²⁺ results in opening of a channel for Magnesium²⁺ influx called TRPM7, which further promotes lymphocytes activation. This project is aimed at studying the so far unexplored relationship between ATP synthesis, Magnesium²⁺, purinergic signaling and TRPM7 activity in shaping T cell function.

Understanding the molecular mechanisms that govern T cell responsiveness will improve our knowledge of the pathogenesis of autoimmune diseases.

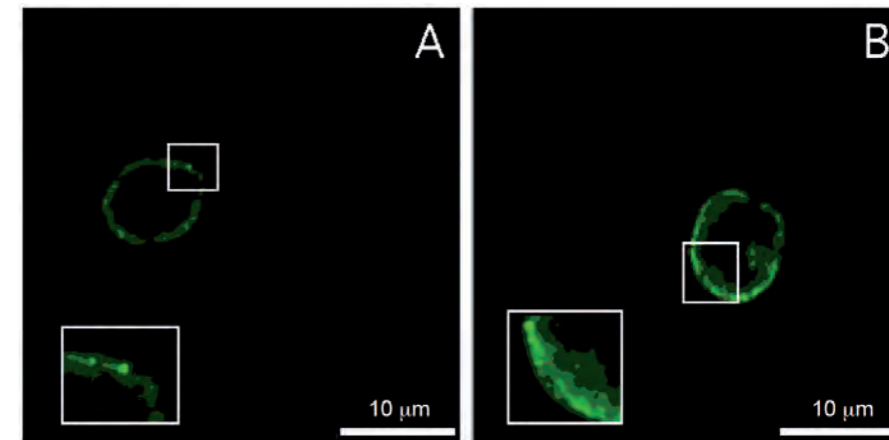
Coordinator:

Fabio Grassi
 Institute for Research in
 Biomedicine
 Bellinzona, Switzerland
fabio.grassi@irb.usi.ch

Partners:

Susanna Zierler
 Ludwig-Maximilians-University
 Munich
 Walther-Straub-Institute for
 Pharmacology und Toxicology
 Munich, Germany

Yuri Negulyaev
 Russian Academy of Science
 Institute of Cytology
 St. Petersburg, Russia



The figure shows the fluorescent staining of TRPM7 in a naïve CD4 T lymphocyte (A) and after differentiation to a pro-inflammatory T helper type 1 cell (B). The increase in fluorescence is indicative of increased expression of TRPM7 in pro-inflammatory CD4 T cells.



EANOR

"Long-term consequences of enhanced radioactivity and conventional chemical pollutants for biota at the scale of individuals, populations and communities"

Between 1931 and 1956 the Vodny area in the Komi Republic, Russia, was the main site of Soviet radium production. Wastes from the industry caused contamination of the environment, leading to high levels of radionuclides, heavy metals and rare-earth elements in the surroundings. The prolonged exposure of the ecosystem, combined with relatively low human activities, makes the site an excellent field laboratory for investigating the long-term effects of pollution. While it is well established that ionizing radiation and heavy metals can cause damage to plants and animals, little is known about chronic effects on biodiversity at an ecosystem level. In addition, the effects of combined exposure to radiation and conventional chemicals are less well understood.

The overall aim of the EANOR project is to assess the impacts of chronic exposure to enhanced radioactivity and chemical pollutants by studying the diversity of the natural plant and soil invertebrate populations. Joint field expeditions will document levels of contaminants and plant and soil invertebrate biodiversity, in combination with state-of-the-art measurements of cellular and molecular endpoints. The data produced is expected to be valuable to international activities looking at the impacts of ionising radiation on non-human species, where there is a widespread recognition of the need for information on chronic exposures and population and ecosystem level effects.

Coordinator:

Deborah Oughton
Norwegian University of Life Sciences
Aas, Norway
deborah.oughton@umb.no

Partners:

Tatiana Evseeva
Institute of Biology of Komi Scientific Center
Ural division of Russian Academy of Science
Syktyvkar, Russia

Sema Erenturk
Ege University
Izmir, Turkey



field work at Komi site

List of all collaborative S&T projects funded

Nr	Title	Institutions (coordinator given in bold type)
1	TRANSLUCE - TRAnsition-metal-doped Nano-crystal-Structured glasses and optical fibres for near infrared LUminescENCE	UMR6622 Laboratoire de physique de la matière condensée (LPMC), France; Fibers Optic Research Center of RAS, Russia; Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
2	COPONAMRI - COordination POLYmer NANoparticles: An evaluation of their toxicity and efficiency as MRI contrasts agents & biomarkers	UMR5253 Institut Charles Gerhardt, France; Institute of organometallic chemistry of Russian academy of sciences, Russia; Barcelona Science Park, Spain
3	NAMASTRECO - Nanostructured Multifunctional alloys with enhanced strength and electrical conductivity	UMR6634 Groupe de physique des matériaux (GPM), France; Warsaw University of Technology, Poland; Ufa State Aviation Technical University, Russia
4	NANO-C - NANOMaterials for Quantum Information Technology	UMR8580 Structures, propriétés et modélisation des solides, France; University of Oulu, Finland; Christian-Albrechts-Universität zu Kiel; Germany; A. F. Ioffe Physico-Technical Institute, Russia
5	InCoSiN - Integration of compound semiconductors and silicon in nanowires	Ecole Polytechnique Federale de Lausanne, Switzerland; UMR8622 Institut d'électronique fondamentale (IEF), France; Saint Petersburg Academic University, Russia; Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), Spain

Nr	Title	Institutions (coordinator given in bold type)
6	NANOQUINT - Nanomaterials for Quantum Information Technology	UMR8552 Laboratoire Kastler Brossel (LKB), France; Max-Planck Gesellschaft, Germany; Lomonosov Moscow State University, Russia; Saint Petersburg State University, Russia
7	PROTON - Development of scientific bases of tailor-made design of functionally graded nanocomposite cathode materials for both IT-SOFCs and PC-SOFCs	National Technical University of Athens, Greece; UMR8580 Structures, propriétés et modélisation des solides, France; Clausthal University of Technology, Germany; University of Oslo, Norway; Ural Federal University, Russia
8	EGIDA - Epigenetic mechanisms in immune deviation during autoimmunity	Lomonosov Moscow State University, Russia; University of Tartu Institute of General and Molecular Pathology, Estonia; URA1961 Activation, relaxation et homéostasie du système immunitaire (ARHSI), France; German Cancer Research Center, Germany; Medical University of Lodz, Poland
9	HELACAM - Hydrogen electrocatalysis in alkaline medium - theory meets experiments	UMR7515 Laboratoire des Matériaux, Surfaces et Procédés pour la Catalyse (LMSPC), France; UMR7177 Institut de Chimie de Strasbourg, France; University of Ulm, Germany; Borekov Institute of Catalysis, Russia
10	FilmSolar - Low cost and efficient thin-film solar cells	National Hellenic Research Foundation, Greece; University of Angers, France; P. N. Lebedev Physical Institute of RAS, Russia

List of all collaborative S&T projects funded

Nr	Title	Institutions (<i>coordinator given in bold type</i>)
11	NanoPhase - Shift of the phase equilibria in nanograined materials	A.A.Baikov Institute of Metallurgy and Materials Science of RAS, Russia; Tallinn University of Technology, Estonia; Institut Rayonnement Matière de Saclay (IRAMIS), Centre d'Études Nucléaires de Saclay, France; Universität Münster, Germany; Aristotle University of Thessaloniki, Greece; Polish Academy of Sciences, Poland; University of the Basque Country, Spain
12	NOVELMAG - Novel Magnesium based nanomaterials for advanced rechargeable batteries	Institute for Energy Technology, Norway; UMR7182 Institut de Chimie et des Matériaux Paris-Est (ICMPE), France; Karlsruhe Institute of Technology, Germany; Institute of Problems of Chemical Physics of RAS, Russia
13	A-WeSt-CC - The Agro-potential of Western Siberia Territories in a Changing Climate	INRA-Nancy, France; INRA-Clermont, France; INRA-Bordeaux, France; ZALF - Leibniz-Zentrums für Agrarlandschaftsforschung, Germany; Institute of Soil Science and Agrochemistry, Russia; Tomsk State University, Russia
14	eHR - ePortfolio for Human Resources	Heinrich Heine University Düsseldorf, Germany, Tallinn University, Estonia; University of Lorraine, France; Siberian Federal University, Russia
15	OMC - Optomechanical photonic crystals for novel optical devices and sensors	EPFL, Switzerland; UPR20 Laboratoire de photonique et de nanostructures (LPN), France; Lomonosov Moscow State University, Russia

Nr	Title	Institutions (<i>coordinator given in bold type</i>)
16	FeSuCo - New Layered Intermetallic Iron-based Superconductors and Related Compounds: Controlling Physical Properties by Using iso- and heterovalent substitutions	Leibniz-Institute IFW Dresden, Germany; UMR6508 Laboratoire de cristallographie et sciences des matériaux (CRISMAT), France; Lomonosov Moscow State University, Russia
17	ACPCA - Arctic Climate Processes Linked Through the Circulation of the Atmosphere	University of Bern, Switzerland; Stiftung Alfred-Wegener-Institut fuer Polar- und Meeresforschung, Germany; Norwegian Institute for Air Research, Norway; Russian Research Institute for Hydrometeorological Information - World data Center (RIHMI-WDC), Russia; University of Vigo, Spain
18	AN2 - Thermal-electric-field imprinting in nanocomposite materials for novel nanophotonic applications	University of Eastern Finland, Finland; Theoretical and Physical Chemistry Institute, Greece; St.-Petersburg State Polytechnic University, Russia
19	ECOON - Electrocatalytic CO ₂ conversion on mono- and bimetallic single crystal electrodes and nanoparticles	University of Bern, Switzerland; A.N. Frumkin Institute of Physical Chemistry and Electrochemistry of RAS, Russia; University of Alicante, Spain
20	SpinBar - Nanostructured MgO tunnel barrier for metal-semiconductor spin injection	Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Germany; Rzeszów University of Technology, Poland; A.V.Shubnikov Institute of Crystallography Russian Academy of Sciences, Russia

List of all collaborative S&T projects funded

Nr	Title	Institutions (<i>coordinator given in bold type</i>)
21	Treeline - Climate change driven treeline advances in the Urals and their impact on ecosystem functions	Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Switzerland; Ernst Moritz Arndt University Greifswald, Germany; Institute of Plant and Animal Ecology, Russia; Instituto Pirenaico de Ecología (Consejo Superior de Investigaciones Científicas), Spain
22	TIROTAPS - TRPM7 in Regulation of T cell subsets and Purinergic Signaling	Institute for Research in Biomedicine, Switzerland; Ludwig-Maximilians-University Munich/Walther-Straub-Institute for Pharmacology und Toxicology, Germany; Russian Academy of Science/Institute of Cytology, Russia
23	QUADSYS - Quantum Nano-Photonics with Ordered Semiconductor Quantum Dot Systems	Laboratory of Physics of Nanostructures, EPFL, Switzerland; Tampere University of Technology, Finland; P.N. Lebedev Physical Institute RAS, Russia; Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia
24	Squad:PA - Self-assembled quantum dot crystals: Physics and Application	Forschungszentrum Jülich GmbH, Germany; Siberian Branch Russian Academy of Science, Russia; University of Oslo, Norway; Paul Scherrer Institute, Switzerland
25	SILICAMPS - Bioinspired synthesis of silica materials and nanocomposites based on smart polymers as matrices	University of Crete, Greece; University of Helsinki, Finland; TU Dresden, Germany; Limnological Institute SB RAS, Russia
26	TargetSOCE - Pathways of Store-Operated Calcium Entry (SOCE) as a novel therapeutic target in neurodegenerative diseases	International Institute of Molecular and Cell Biology, Poland; University Hospital Düsseldorf, Germany; Institute of Cytology Russian Academy of Sciences, Russia

Nr	Title	Institutions (<i>coordinator given in bold type</i>)
27	EANOR - Long-term consequences of enhanced radioactivity and conventional chemical pollutants for biota at the scale of individuals, populations and communities.	Norwegian University of Life Sciences, Norway; Institution of Institute of biology of Komi Scientific center, Russia; Ege University, Turkey
28	AmelSynTox - Novel approaches to ameliorate a-synuclein aggregation and toxicity in Parkinson's Disease.	Biomedical Research Foundation, Academy of Athens, Greece; Institute of Physiologically Active Compounds, Russian Academy of Sciences, Russia; Brain Mind Institute, The Swiss Federal Institute of Technology EPFL, Switzerland
29	INTENT - Intelligent Materials and Nano-Structures for Optical Amplification	Tampere University of Technology, Finland; Optogear Oy, Finland; Institute of Applied Optics of Friedrich-Schiller-University, Germany; Institute of Photonic Technology, Germany; Kotelnikov Institute of Radio-Engineering and Electronics, Russia; Institute of Applied Physics Russian Academy of Science, Russia
30	SOMECAT - Social Media as Catalyser for Cross-National Learning	Zuerich University of Applied Sciences, Switzerland; nexus Institute for Cooperation Management and Interdisciplinary Research, Germany; Technische Universität Berlin, Germany; Perm State University, Russia; Ankara University, Turkey
31	RADCOLLS - Selective Materials for Decontamination of Solids and Preventing Radionuclides from Spreading	Institute of Chemistry, Far East Branch of Russian Academy of Sciences, Russia; Helsinki University, Finland; Max Planck Institute for Polymer Research, Germany; Leibniz Institute for Polymer Research, Germany

List of all innovation projects funded

Nr	Title	Institutions (coordinator given in bold type)
1	FPS-BIOMED - Fluorescent proteins, stable cell lines and lentiviral systems for biomedical studies.	Evrogen JSC, Moscow, Russia; Marinpharm GmbH, Luckenwalde, Germany; Laboratory of Molecular Cell Biology, Alexandroupolis, Greece
2	NGSforPGD - DNA sequencing as a tool for noninvasive prenatal diagnostics of fetus chromosomal abnormalities	Center, Moscow, Russia; Genoanalytica, Moscow, Russia; University of Geneva, Geneva, Switzerland; Alacris Theranostics GmbH, Mannheim, Germany
3	ADAPTOR - Advanced fibre-coupled superconducting single-photon detector	CJSC Superconducting nanotechnology (Scontel), Moscow, Russia; University of Geneva, Group of Applied Physics, Geneva, Switzerland; Nanonics Imaging Ltd., Jerusalem, Israel
4	DTEST-CLP - Development of novel diagnostic test system for cardio-metabolic disorders and cancer based on chitinase-like proteins	University of Heidelberg, Mannheim, Germany; INAT Farma, Moscow, Russia; Adar Biotech Ltd, Rehovot, Israel
5	LAGNP - Laser-assisted generation of functionalized metallic nanoparticles	PV Nanocell Ltd., Migdal Ha'Emek, Israel; Advanced Energy technologies Ltd, Moscow, Russia; Foundation for Research and Technology Hellas, Greece
6	GEOURBAN - Exploiting Earth Observation in Sustainable Urban Planning & Management	Foundation for Research and Technology - Hellas, Heraklion, Greece; GRAD – Inform Ltd., Omsk, Russia; GARD Ltd., Holon, Israel; Deutsches Zentrum für Luft- und Raumfahrt (DLR), Germany; Kuzgun Bilisim Ltd., Ankara, Turkey; University of Basel, Basel, Switzerland

Nr	Title	Institutions (coordinator given in bold type)
7	PITHEAS - Development of Novel Natural Product-based Imaging Probes for Early Diagnosis and Therapeutic Application in Multi-Drug Resistant Tumors	National Centre for Scientific Research "Demokritos", Athens, Greece; National Pharmaceutical Technologies LLL, Moscow, Russia; proACTINA SA, Koropi Attikis, Athens, Greece; Eczacibasi Monrol Nuclear Products Co., Kocaeli, Turkey
8	DSUNDT - Distributed System for Ultrasonic Non-Destructive (NDT) Tomography	ScanMaster Systems Ltd., Rosh Ha'ayin, Israel; Hochschule Darmstadt University of Applied Sciences, Darmstadt, Germany; Cyber Systems Development Ltd., Ulyanovsk, Russia
9	μECM - Innovative electrodes and processes for micro ECM	Hochschule Furtwangen University, Furtwangen, Germany; OOO "Novye Tehnologii", Tula, Russia; AMMT GmbH – Advanced Micromachining Tools, Frankenthal, Germany; Fachhochschule Nordwestschweiz, Windisch, Switzerland; Tula State University, Tula, Russia
10	HCRus - Self-replicating RNA Vaccine against Hepatitis C Virus Genotype 2, targeted to Dendritic Cells	Institute for Virology and Immunoprophylaxis, Mittelhäusern, Switzerland; Synthaur OOO (Ltd), Moscow, Russia; Helmholtz Centre for Infection Research, Braunschweig, Germany; Medipol SA, Lausanne, Switzerland
11	UNeCOM - Ultrasonic Net for Concrete Object Monitoring	Fraunhofer IZPF, Saarbrücken, Germany; UNeCOM, Germany; OPTENG Optimum Engineering, Ankara, Turkey; Acoustic Control Systems, Ltd. (ACSYS, Ltd.), Moscow, Russia

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Coordinator: International Bureau
of the Federal Ministry of
Education and Research at the
Project Management Agency
c/o German Aerospace Center

Dr. Jörn Sonnenburg

Phone: +49 228 / 3821-1451

Fax: +49 228 / 3821-1444

E-mail: Joern.Sonnenburg@dlr.de

Contact person:

Dr. Andreas Kahle

Phone: +49 228 / 3821-1829

E-mail: Andreas.Kahle@dlr.de



Imprint

Editor:

German Aerospace Center (DLR)
Project Management Agency at DLR
International Bureau of the BMBF
Heinrich-Konen-Straße 1
53227 Bonn
Germany

Phone: +49 228 / 3821-1801

Fax: +49 228 / 3821-1444

E-mail: ib@dlr.de

Homepage: www.internationales-buero.de/en

Edited by:

Oliver Rohde, Dr. Andreas Kahle
International Bureau of the BMBF
c/o Project Management Agency at
German Aerospace Center (DLR)

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