

ROLE MODELS

WOMEN IN INDUSTRIAL RESEARCH IN EUROPE

2006



CONTENT

Foreword Hubert Gorbach, Austrian Vice-Chancellor and Federal Minister of Transport, Innovation and Technology		4
Preface FEMtech Project Team		5
Introduction		6
Role Models		
Austria	Katja L. Kienzl	10
	Doris Steinmüller Nethl	12
Belgium	Sofie Baeten	14
Czech Republic	Jaroslava Domkářová	16
	Marcela Šafářová	18
Denmark	Mette Glawind	20
	Ulla Grove Sidelmann	22
Finland	Taina Koskelo	24
France	Martine Schneider	26
	Barbara Zielinska	28
Germany	Karin Dürmeyer	30
	Christine Schilo	32
Greece	Irini Efthimiadou	34
Ireland	Ann Marie Holmes	36
Italy	Maria Antonietta Prassolo	38
Norway	Anne Foss Abrahamsen	40
	Kristin Eide Lunde	42
Romania	Carmen Iacoban	44
Spain	Nerea Anacabe	46
Sweden	Helena Berg	48
The Netherlands	Joke Driessen	50
United Kingdom	Alison Booth	52
FEMtech Women in Research and Technology		54
Imprint		58

Women Experts in European Industry Take the Stage!

European companies need top-notch experts to boost their innovation and, thus, their competitiveness. Women have high potentials that are still not being used adequately. In the past few years, more and more women have succeeded in the research departments of companies and universities. However, women continue to be underrepresented, particularly in higher positions. In comparison to some of the emerging Asian countries, Europe is lagging behind. This is especially true for the industrial sector that has a leading role in research, innovation and development.

Compared to young men, a much smaller proportion of women study natural sciences and technology even though this field offers attractive career opportunities. Even smaller is the proportion of young female scientists and researchers who start a career in high technology industries. To raise the interest of young women in an industrial career, more and more companies are working on creating attractive conditions for female high potentials. To support Austrian companies and non-university research institutions in introducing such structural measures, the Federal Ministry of Transport, Innovation and Technology (bmvit) initiated the programme FEMtech – Women in Research and Technology. Since its inception, FEMtech has been assisting numerous organisations that have adopted equal opportunity measures.

Knowing that other women have succeeded in achieving their professional targets is a great inspiration to young women on their own path to success. For this reason we searched for role models from all over Europe. In this publication, women who have leading positions in innovative companies in Europe report about the challenges of their profession and their passion for technology. This allows young people across the borders to have a glimpse into promising career options in industrial research and gives them an impetus to develop their talents in science and technology.



Hubert Gorbach

Vice-Chancellor and Federal Minister of
Transport, Innovation and Technology

Role Models for Young Women

When women experts in industry talk about why they chose their challenging career, they say that they wanted to develop innovative technologies for the benefit of humankind. But women are still in a minority in industrial research in most European countries.

The programme FEMtech – Women in Research and Technology of the Austrian Federal Ministry of Transport, Innovation and Technology (bmvit) supports organisations that introduce equal opportunity measures. This is an important step towards the realisation of equal opportunities in research and development.

Through contacts with other European programmes and companies and the organisation of an international conference jointly with the European Commission, FEMtech's action radius has increased. In our discussions we developed the idea to introduce women experts from all over Europe, report about their work and let young female researchers know the world of industrial research in some more detail.

This publication offers glimpses into the type of work, career steps and development of women experts from well-known companies in Europe. The women report about the reasons they opted for an industrial career, the hurdles they were confronted with, their experience in balancing their professional and private lives and the role models who accompanied them on their path. They also give recommendations to improve equal opportunity measures in companies. The publication offers a colourful spectrum of female research activities and European diversity.

We thank all women for their participation in this publication. We further thank the EU experts group WIST-Women in Science and Technology; CEWS-Center of Excellence, Women in Science, Germany; UK Resource Centre for Women in Science Engineering Technology; WITEC-European Association for Women in Science, Engineering and Technology; and the National Contact Centre-Women in Science, Czech Republic for assisting us with identifying these women. Due to the great number of outstanding researchers we cannot publish all portrayals in this publication. More role models will be introduced continuously at our website www.femtech.at.

We hope you gain as much respect and admiration as we did when you read the following portrayals.

Your FEMtech project team – Role Models. Women in Industrial Research in Europe



From left to right:
Beatrix Hausner (ÖGUT)
Gertraud Oberzaucher (bmvit)
Manuela Schein (FFG)
Inge Schrattecker (ÖGUT)

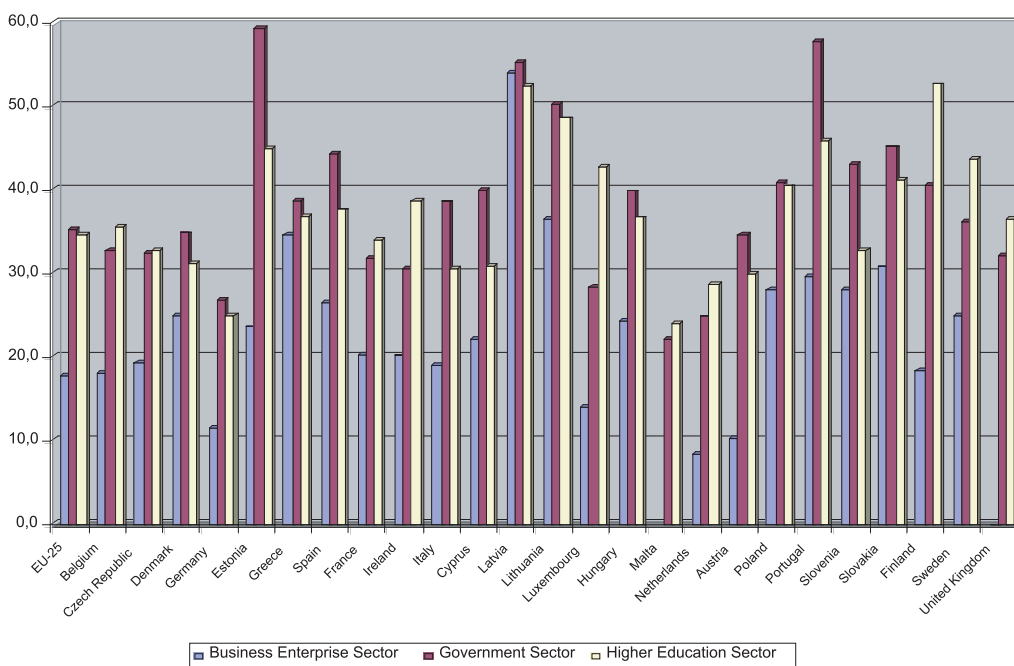
Women in Europe's Industrial Research - an Overview

The Lisbon target is designed to make Europe the "most competitive and dynamic knowledge-driven economy in the world" by 2010. This challenge will be met by various targets at the European level. A key contribution to achieving the Lisbon targets is to increase the R&D intensity. Furthermore, it is necessary to motivate more people to strive for a career in research, innovation and development.

The report "She Figures 2006" of the EU Commission presents an overview of key data with the latest numbers about the presence of women in scientific education and scientific professions. The numbers show the structure of employees in research, and the share of women working in industrial research, universities and the public sector. It shows that women are still clearly underrepresented in industrial research. On an EU average, the proportion of women in industrial research is currently 17.9 % - the illustration below shows clear differences among the European states.

Illustration:

Percentage of female researchers by sector in the EU Member States, 2003



Source of data: Eurostat S&T Statistics, EU-25 calculated by DG Research, Exceptions: CH (BES), PL: 2000; IS: 2001; BE (BES), AT, CH, FI, TR: 2002, Data unavailable: MT (BES), UK (BES); 1 Full time equivalent (FTE) instead of Head count (HC): IL

¹ European Commission: She Figures: Women and Statistics – Statistics and Indicators, Brussels, 2006

Particularly in the business sector, gender appears to be a disproportionately important factor. In almost every member state, women find it difficult to gain ground in industrial research. Yet industry plays a crucial role in the future development of human resources in Europe.

Career Decisions of Young Women

Although the number of young women opting for engineering and natural sciences studies has been continuously increasing in most states, a majority of young women still choose the social and human sciences. There are a variety of reasons for their choice. One of the reasons is that women perceive a difference between their self-image, which is socially oriented, as opposed to the machine-oriented image of research and technology. Studies further prove that the choice of profession is strongly influenced by role models. Girls usually have no information about women who work successfully in the fields of natural sciences and technology.

A recent report by the EU experts group WIST – Women in Science and Technology further shows that women – and also more and more men – are interested in a multidisciplinary curriculum in technical and engineering studies, particularly in the social and environmental aspects of technology. Young people also stress the importance of a social climate and team-oriented cooperation between men and women. This is one more reason why women are reluctant to pursue the technology oriented business sectors. Even graduates from technical and natural sciences studies ultimately choose a different career path. A recent study in the UK shows that 35 percent of female students who were about to graduate from studies in software engineering decide to pursue a career in consulting and banking.

The WIST report also shows that many women leave their industrial research jobs at the age of 30 to 40 because the demands of a family are not compatible with a career path in industry that often includes long stays abroad. Companies need to prove social responsibility if they want to keep and maintain female top-notch experts in the future.

² Women in Science and Technology - the business perspective: Report by the EU experts group WIST, Brussels, 2006

An Action Plan for Europe's Technology Industry

Not only the educational sector needs to create more attractive conditions for women – also Europe's industrial corporations must do it. Increasingly, companies offer measures for equal opportunities, with the support of various national initiatives.

In Austria, the initiative FEMtech provides support to research companies. The initiative by the Federal Ministry of Transport, Innovation and Technology also supports measures such as training on the issue of equal opportunity and career plans for systematic career planning of women, mentoring programmes, measures to increase the acceptance of fathers taking paternity leave, flexible work schedule models and part time work for managers in leading positions. All FEMtech measures are subjected to quality assurance measures.

It is very important to present role models to young women in order to make these promising talents aware of interesting career opportunities in industrial research. The role models talk about their challenging jobs, their career paths, their opportunities. In sharing their experiences and their insight into the problems of balancing their career and their private life, these women are role models to future generations. This brochure is dedicated to presenting a lively and spirited tableau of female researchers in Europe.



Role Models

**WOMEN IN INDUSTRIAL
RESEARCH IN EUROPE**

Katja L. Kienzl

Director of Components Supply at Infineon Technologies Austria

Telematics

PERSONAL PROFILE

Nationality: Austrian

Born in 1968 in Graz, Austria

Family: Cohabitation, one child:

Fedora-Anna (1/2 year)

Languages: German, English, Spanish

Hobbies: Walking + mountain climbing, cooking + eating, travelling + reading, pipes + cigars and a combination thereof, as I please



Photo:
Walter Luttenberger

WORKING PROFILE

- Development and global implementation of a network of RFID technology partners
- Development of certification programmes and analysis programmes for RFID system components with regard to quality and technical performance
- Assurance of the availability, usability and competitiveness of system parts
- Internal consulting with regard to preferred partners and technologies

Why did you choose this science field?

I am talented both in mathematics/physics and in communication. And I would like to use future-oriented technology in simple and secure applications to the benefit of humankind.

Why did you choose an industrial career?

I want to see how applications of new technologies are realized, and I want to learn what makes new technologies acceptable and successful in the market.

What kind of experiences have you made being a woman in technical sciences?

Obviously I am one of only very few women in most conferences, trade fairs and seminars. But the experience I have made is almost exclusively positive. As a woman I am easily recognized and remembered, contrary to many of my male colleagues. Once my expert knowledge was clear, I am invited to conferences time and again.

Also my work has been characterised by different values and perceptions, compared to my mostly male colleagues. In an open and well functioning cooperation, my colleagues and I consider each other's presence a privilege.

IMPORTANT CAREER STEPS

Director of Components Supply, business unit 'Ident Solutions' at Infineon Technologies Austria;

Marketing manager at Philips Semiconductors;

Project manager of industrial projects at Mikron, Austria;

Trainer at an adult learning centre

EDUCATION

Diploma in Telematics, Technical University of Graz, Austria



Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

I am convinced that there is a broad range of possibilities on what I focus in my life. This means that I can consciously change my focus when age and family situation demands it, in cooperation and with a great mutual understanding from my partner. We must be fully aware of what we need to keep the balance – then we can also consciously give up the balance for a few months. This is what I am doing now. I have a young baby daughter, and I am on maternal leave right now.

Can you name any role models who encouraged your interest in technical and natural science?

Early on both my parents and teachers at school and university supported me all along the way. I am the only daughter among several brothers, and my parents always encouraged my inte-

rest in technical issues, much to the dismay of all other relatives and the grandparents. This continued at school and the university. Teachers told me about famous female physicists and mathematicians, talked about their ideas and biographies. University professors and lecturers helped me to get jobs in university-related conferences even when I had bad grades. They wanted me to overcome the disadvantage I had for having graduated from a normal high school instead of a school with a strong technical focus, as many of my colleagues had done.

“It is a great benefit for every woman, for every team that includes women, and for every company to be able to see and perceive things also from a different angle.”

COMPANY PROFILE

INFINEON TECHNOLOGIES AUSTRIA

Total number of employees: 2700

Women employees: 300

Total number of researchers: 800

Women researchers: 80

Total number of researchers in management: 160

Women researchers in management: 5

Annual turnover: ~ 918 million €

Research and development investment: 181 million €

Headquarter location: Villach, Austria

Website: www.infineon.com

Data: 2005

My recommendation to companies

Change happens through the exchange of positive experiences of employees and managers on all levels – namely the experience of working with women and mixed teams. Create the space to pass on this positive experience, and make it possible for others to have a similar experience.

Doris Steinmüller-Nethl

Managing Director of r-BeSt coating GmbH

Physics

PERSONAL PROFILE

Nationality: German

Born in 1963 in Schlitz, Germany

Family: Married, 3 children: Philipp (9), Maximilian (7), Isabell (5)

Languages: German, English

Hobbies: Spend time with our children (playing, swimming, biking, cinema, etc.); physics, music, reading



Photo: Vandory

WORKING PROFILE

My work is divided in three parts: Together with my husband, I am responsible for the management (finances, employees, strategic decisions). I conduct the sales activities in the field of wear protection of tools and watches and research tasks of various projects in the field of bio-sensors, NEMS, tissue-engineering and doping of NCD. I also make strategic decisions regarding new research fields. The company's R&D work is done in close collaboration with national and international partners. I manage a variety of the networks and the corresponding projects.

What is the challenge of your profession?

Physics and trying to understand phenomena in nature is a challenge of its own. I get additional satisfaction when we start projects in new research fields, do pioneering work and, finally, when we create products with a high impact to support demands of people in health, electronics, etc. I have the possibility to do self-determined and independent work. A further challenge is that I am responsible both for the management and for R&D.

Why did you choose an industrial career?

This was the only opportunity for me to develop products closer to applications and the demand of people – not for publication but for the realisation of products. Additionally, the employment of people and my contribution to national economics is another reason why I chose my profession.

IMPORTANT CAREER STEPS

2000 *European Awards for the Spirit of Enterprise – winner in the category "Best European Innovative Enterprise"*

1996 *Foundation of the production company r-BeSt coating Hartstoffbeschichtungs GmbH*

1994 *Foundation of the R&D company Physikalisches Büro Steinmüller GmbH*

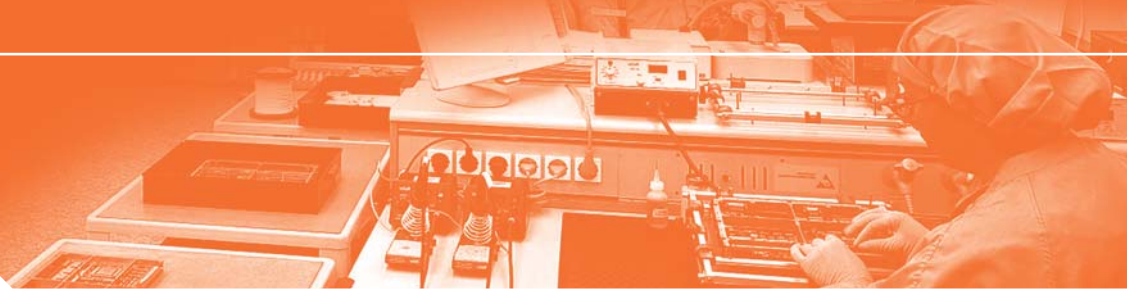
1994 *Award "High-tech Young Entrepreneur of Austria", awarded by Creditanstalt, IBM and the business magazine Gewinn*

Seven patents

EDUCATION

1988 *Diploma in theoretical physics, University of Innsbruck, Austria*

1993 *Doctorate in experimental physics, University of Innsbruck, Austria*



What was the most important experience in your professional career?

The opportunity to build up a company based on my own ideas – made possible by additional financial support (from the ERP funds, FFG – Austrian Research Promotion Agency, etc.) - was the first step for a successful industrial future. The realisation of our network project NaDiNe supported by two Austrian ministries, and the collaboration within the RTN project DRIVE supported by the European Commission are important for our R&D and our scientific future.

What kind of experiences have you made being a woman in technical sciences?

In the lectures at university, there were only few women, and sometimes I was the only one. There is always a majority of men, and thus the women adapt to this situation very quickly without thinking about possible disadvantages. From my experience there are no differences between women and men regarding the professional topics. Acceptance by male colleagues can be obtained fast by showing good work and excellent expertise. Only at the post-graduate level, problems arise. Men get preferential treatment because of the traditional role model – women might get pregnant ...

Have you been confronted with specific hurdles in your career?

No, due to my management position I have never been confronted with such hurdles. Quite to the contrary, I am now using my position to change the typical role of women. I support women in our company and I also work in collaboration with other institutions to support women.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

This is very difficult indeed. It takes hard work and demands great discipline to organise private needs such as child care, school, household, day-to-day work. There is not much support from the public sector. There is a lack of child care institutions and additional aid. I solved this problem with two other women employed in our company: We founded an institution for child care in our village, including lunch. The concept of an afternoon school which is planned in Austria is an excellent step in the right direction. But lack of child care for younger children is still a problem to be solved.

“It is important to choose a career with all the power you have and with complete persuasion – this is valid for all professions. Then you will develop the self-confidence to prevent intimidation. Full concentration on achieving an objective and getting the required professional qualification – this is the key to success.”

COMPANY PROFILE r-BeSt coating

Total number of employees: 20

Women employees: 11

Total number of researchers: 6

Women researchers: 2

Total number of researchers in management: 2

Women researchers in management: 1

Annual turnover: 2 million €

Research and development investment: 600,000 €

Headquarter location: Innsbruck, Austria

Website: www.rhobest.com

Data: 2006

My recommendation to companies

Companies are always confronted with pregnancies when employing young women. Therefore, different models and possibilities should be discussed in advance. If a woman wants to continue her work after the birth of her child as soon as possible – which is common in many countries -, facilities should be offered, such as additional money for childcare, flexibility in time, etc.

Gender diversity policy in your company:

Telework, work from home, working place for mothers with children is provided

Sofie Baeten

Market and Technology Intelligence Manager at NV Bekaert

Material

PERSONAL PROFILE

Nationality: Belgian

Born in 1970 in Gent, Belgium

Family: Married, two children: Fleur (5), Thomas (2)

Languages: Dutch, English, French, German

Hobbies: Thomas, Fleur and Wim; cycling, theatre



Photo: Jan Desmet

WORKING PROFILE

Coordinate and deliver market research studies: market-oriented coaching (senior advisor) of the technology project portfolio; deliver 'dedicated' market research reports on selected new technology platforms (themes); identify, establish and co-manage critical R&D outsourcing/co-development partnerships; foster and manage innovation and idea efforts; promote joined innovation efforts with business units.

What is the challenge in your career?

To foster creativity and entrepreneurship within an applied industrial research environment; to coach and motivate researchers to implement market application and business valorisation targets within their project planning; to be able to combine technical and technological know-how within the broad research domains of Bekaert with a business oriented mindset; to build an external (and internal) network.

Why did you choose an industrial career?

An industrial career opens a lot of opportunities for training, diversification and competence development. The knowledge you gather within an (central) industrial research environment is very broad and diverse. It is an ideal way of getting to know the company and its daily business and a perfect way to start and build an industrial career (career path planning) while learning managerial, operational and valorisation/market skills. Moreover, within a research environment, the pace is higher, the working environment multinational and multi-disciplinary. Research is more applied and recognised to be important for the future of the company. Teamwork is encouraged and innovation is a key-driver.

IMPORTANT CAREER STEPS

- *Market and Technology Intelligence Manager at NV Bekaert: Responsible for fostering innovation and entrepreneurship and accountable for the management of R&D partnering*
- *Business Development Manager at NV Bekaert*
- *R&D Manager at the Bekaert Technology Center*
- *Post doc at Catholic University Leuven, Department of Metallurgy and Materials Engineering, Leuven*
- *R&D Project Manager DaimlerChrysler, Munich, Germany*

EDUCATION

PhD in Material Science Engineering, Catholic University of Leuven, Belgium

Science

What was the most important negative experience in your professional career?

I have no negative experience yet. However, it is very difficult as a woman engineer in an engineering company to take up top in-line (Business Unit Manager) management or operational (plant manager) responsibilities or any top-technical function (CTO manager). For these careers, Bekaert has to-date no female role models. Career paths are more obvious in human resources, financial management or other staff functions, even as an engineer. Moreover, within a multinational company, an international career is almost obvious. However, this is far from easy when being part of a double career couple. To promote and motivate these couples to move abroad is a real challenge for a multinational company.

What kind of experiences have you made being a woman in technical sciences?

It is more difficult to initially prove your technical and engineering skills – technical and engineering skills are perceived as being a male thing. A positive effect is that people have noticed me quicker in a meeting or at a conference, and that I get more and easier attention because few women are around. Even after a couple of years, fellow researchers still remember me.

“An industrial career in research gives you the opportunity to further develop your (mostly non-technical) skills, to work in an international and multi-disciplinary environment where results and targets are directly related to the future of the company. It opens new networks, new career opportunities and allows you to further build on your strengths.”

COMPANY PROFILE NV BEKAERT BELGIUM

Total number of employees: 2083

Women employees: 311

Total number of researchers: 90-260 at the Technology Centre, including white and blue collars

Women researchers: 15

Annual turnover: 3 billion €

Research and development investment: 50 million €

Headquarter location: Kortrijk, Belgium

Website: www.bekaert.com

Data: 2006

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

I do admit that it is far from easy but a good balance between your (top) career and private life is possible (at least when your husband is willing to sacrifice part of his top career ambitions and takes over some family responsibilities). In Belgium, there are possibilities for full-time childcare though it is not optimal yet. Opening hours are not flexible, the holiday period is too long and the costs are high. The government and companies could play a role in creating flexible solutions to improve the quality of work and private life. In my own life, I had problems with the opening hours of childcare, finding care when the children are ill, and combine fulltime work with the health problems of my youngest son. And being in a double career couple also poses challenges for my own career – my mobility and willingness to travel, for example, is limited.

Can you name any role models who encouraged your interest in technical and natural science?

My parents, especially my father, have always encouraged me in developing my interests in science and engineering.

My recommendation to companies

Companies could make a deliberate effort to create a more flexible working environment, such as flexible working hours, work from home, part time work for a certain period, and to provide support for childcare. Both men and women would benefit from these initiatives.

Jaroslava Domkářová

Head of the Department of Genetic Resources at the Potato Research Institute, Chairwoman of the Supervisory Board

Genetic

PERSONAL PROFILE

Nationality: Czech

Born in 1964 in Havlíčkův Brod,
Czech Republic

Family: Married

Languages: Czech, some Russian, English
and German

Hobbies: Riding a bike, driving a car, walking
in nature, reading poetry



Photo:
Miluse Kucirková

WORKING PROFILE

Coordinator and grant winner of the Collection of Potato Gene Pool within the National Programme of Conservation and Utilization of Plant Genetic Resources and Agrobiodiversity;

Coordinator and grant winner of several research tasks focused on the evaluation of potato genetic resources and genetics and breeding;
Head of the Department of Potato Genetic Resources.

Why did you choose this science field?

After secondary school, which had a business focus, I entered the Department of Genetics and Breeding with the possibility to work in the accounting department as soon as a job opening occurred. However, I enjoyed working in the fields, greenhouses and laboratory on the development and evaluation of new materials. After two years I decided to enroll in the University of Agriculture in Prague. I specialized in phytotechnics and subsequently earned a PhD degree in this field.

Why did you choose an industrial career?

Choosing work in agriculture came to me very naturally. I grew up in a village, and during my childhood I used to spend all my holidays on a tractor with my father.

What was the most important experience in your professional career?

The most positive experience in my professional career is the fact that older specialists, the top people in their respective field, always gave me an advice when I gathered enough courage to speak to them.

IMPORTANT CAREER STEPS

since 2001 *Researcher and head of the Department of Genetic Resources at the Potato Research Institute*

1992-2002 *Researcher in the Department of Genetics and Breeding*

1987-1991 *Technician in the team of genetic resources, combination and resistance breeding*

1983-1986 *Worker in the Department of Genetics and Breeding*

EDUCATION

PhD at the Faculty of Agronomy, Czech Agricultural University

MBA at Nottingham Trent University, Brno International Business School

Resources

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Basically, this is true. We should not allow our job to swallow us, even if it is our hobby as well. I have had the experience of thinking too much about my job – then I decided to study another problem instead - just to force myself to do something else rather than think about work. At present, I am trying to go cycling and rowing and study English for half an hour or an hour every day.

Personally I do not have a problem balancing my private life and my career. I have a good relationship with my family, particularly my parents who have greatly supported me during my extramural studies. My closest colleagues also help me a lot: I can always rely on them, although they mostly feel my workload and my frame of mind.

"Do what you like to do and what you are interested in."

COMPANY PROFILE POTATO RESEARCH INSTITUTE

Total number of employees: 100

Women employees: 70

Total number of researchers: 41

Women researchers: 21

Total number of researchers in management: 4

Women researchers in management: 1

Annual turnover: 1.8 million €

Research and development investment: 63,000 €

Headquarter location: Havlíčkův Brod, Czech Republic

Website: www.vubhb.cz

Data: 2005

Can you name any role models who encouraged your interest in technical and natural science?

More than 20 years ago, Karel Dobiáš inspired me with his approach and his sedulity for the work in the field of potato genetics and breeding. Although now I cannot consult with him anymore, I consider him a great role model of a researcher who I would like to approximate in my work and assignments. At present, the current executive director Bohumil Vokál is a great support to me. He is a model to me for his ability to coordinate a top management function with the position of a researcher. He also possesses good communication skills and provides diplomatic solutions in various critical moments. He has been an inspiration to me. He is the person who can manage to "force" me to the activities I do not like but I need to do – and I am grateful for that.

My recommendation to companies

Companies should consider men and women as equal and use the potential of both genders. They greatly complement each other in all activities and contribute to the effectiveness of the community.

Marcela Šafářová

Chief Executive Officer at the Brown Coal Research Institute

Coal Science

PERSONAL PROFILE

Nationality: Czech

Born in 1955 in Chotboř, Czechoslovakia

Family: Married, a son: Jan (20)

Languages: Czech, English, Russian

Hobbies: Cross country skiing



Photo:
Pavel Schmidt

WORKING PROFILE

I am a chemist. Since 1999 I am the head of the testing laboratory of the Brown Coal Research Institute in Most. Since 2005 I am also the chief executive officer of the institute. The research institute deals with brown coal mining, geology, restoration, reclamation and environmental protection in the North Bohemian brown coal basin.

What is the challenge of your profession?

I would like to make the Brown Coal Research Institute the center of science and research development and get research projects on an international level. I am trying to form an excellent center to serve both the mining industry and the cause of environmental protection.

Why did you choose this science field?

I have been interested in chemistry since my childhood. I always wanted to be a researcher because I was fascinated by new knowledge in the field of technical science.

Why did you choose an industrial career?

Chemistry is very deeply connected with the industry.

IMPORTANT CAREER STEPS

Head of the testing laboratory department at the Brown Coal Research Institute (in Most)

Chief Executive Officer of the Brown Coal Research Institute (in Most)

Work in the Czech Science Foundation

Work in the Coal Advisory Group, Research Fund for Coal and Steel

EDUCATION

University of Chemistry, Pardubice, Czech Republic



What were the most important experiences, both positive and negative, in your professional career?

I have had a good experience with team work in research – finding new methods and procedures, and sharing the satisfaction when research projects are done successfully. It is a good feeling when people develop knowledge together and move things forward.

On the other hand, being unsuccessful at work is obviously negative. Sometimes it is difficult to transfer our research and science results into practice.

What kind of experiences have you made being a woman in technical sciences?

I have not experienced any difference between female and male colleagues.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

I do not have any negative experience. My private life and my career are in balance, thanks to my family.

“If you want to be successful in science, work hard, do a lot of studying, and don’t forget the foreign languages.”

COMPANY PROFILE BROWN COAL RESEARCH INSTITUTE

Total number of employees: 105

Women employees: 54

Total number of researchers: 43

Women researchers: 11

Total number of researchers in management: 13

Women researchers in management: 4

Annual turnover: ~ 2.8 million €

Headquarter location: Most, Czech Republic

Website: www.ruhu.cz

Data: 2005

My recommendation to companies

Provide men and women with equal access and equal conditions for work and career steps.

Mette Glawind

Centre Manager at the Danish Technological Institute

Building

PERSONAL PROFILE

Nationality: Danish

Born in 1963 in Denmark

Family: Co-habiting, two children:

Hans (13), Anne (9)

Languages: Danish, English

Hobbies: Family, playing keyboard in a blues band, aerobic, skating, skiing, friends.



Photo: Per Fledelius

WORKING PROFILE

I am the manager of the Concrete Centre at the Danish Technological Institute. The centre has approximately 40 employees doing testing, consultancy and R&D.

What is the challenge of your profession?

To do value-added consultancy service and foresighted R&D for a conservative building sector with a slow innovation rate.

Why did you choose this science field?

Buildings and structures seemed to be the most interesting field when studying at the university. Studying applied physics, chemistry and mathematics for something easy to imagine was appealing to me.

Why did you choose an industrial career?

After three years of doing my PhD study at the university, I realized that being close to the industry and working within specified deadlines was more appealing to me and seemed to be the best solution. The university environment was dusty and sleepy.

IMPORTANT CAREER STEPS

My PhD degree in 1993 and the appointment as Centre Manager in 2002 were important career steps. My career has developed from a focus on narrow scientific activities to broader aspects involving more and more management.

EDUCATION

PhD in Civil Engineering, Technical University of Denmark

Technology

What was the most important experience in your professional career?

To be accepted and respected internally at the Danish Technological Institute and amongst customers as the manager of the Concrete Centre. Carrying out R&D which has made a positive difference for the concrete industry has also been an important experience for me.

What kind of experiences have you made being a woman in technical sciences?

Not a lot – maybe I received more attention, which can be good if you are doing well but is bad if you are not doing so well.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Of course it is – but not much. It requires being able to give priority and to systematise the work. A work station at home makes it easier to be flexible. I myself have not had many problems in this regard. The most important issue was to find an agreement with my husband about the demands at home.

“Do it if you feel like doing it. The only hindrance would be yourself and your own expectations of being a perfect mother, wife and housewife.”

COMPANY PROFILE

DANISH TECHNOLOGICAL INSTITUTE

Total number of employees: 835

Women employees: 310

Total number of researchers: 250

Annual turnover: ~ 90 million €

Research and development investment: 25 million €

Headquarter location: Taastrup, Denmark

Website: www.danishtechnology.dk

Data: 2005

My recommendation to companies

Treat men and women equally. Women should be chosen because of their qualifications.

Ulla Grove Sidelmann

Vice President in Research at Novo Nordisk

Biotechnology

PERSONAL PROFILE

Nationality: Danish

Born in 1968 in Copenhagen, Denmark

Family: Married to Morten, one daughter: Cecilie (9)

Languages: Danish, English

Hobbies: Running, orientation running, skiing, golfing, gardening



Photo: Per Fledelius

WORKING PROFILE

I am responsible for a VP area called protein engineering where our role is to develop and maintain a world-class protein technology platform for progression of new biopharmaceuticals. This includes leading a multidisciplinary group with competencies in protein chemistry, biochemistry, molecular modeling, biophysics, NMR spectroscopy, x-ray crystallography, protein formulation and delivery. There are five departments in the area, and we have 90 people.

What is the challenge of your profession?

Outline of strategies for my area and alignment with the overall company strategy. People and talent development. Facilitating a highly innovative culture where new projects can be initiated. Continuously being aware of and evaluating biopharmaceutical opportunities for strategic alliances with external technology providers and biotech companies. Continuously assuring that we are on the top of our scientific field.

Why did you choose this science field?

I am a pharmacist by training. Going into the pharmaceutical industry was, therefore, an obvious choice. I chose pharmacy due to the integration of scientific fields in the education (biology, chemistry and pharmacy) and the fact that it was very application oriented.

Why did you choose an industrial career?

Initially after I had finished my PhD, I was pursuing an academic career. However, after a year I was given the opportunity to start as a research scientist at Novo Nordisk. I never regretted the move. I liked the fact that the research is product oriented and the dynamic and goal oriented atmosphere in the industry.

IMPORTANT CAREER STEPS

- 2002 Vice President, Protein Engineering at Novo Nordisk
- 2001 Head of the department Applied Trinomics
- 2001 Principle scientist and section head of the Metabonomics group
- 2001 Project manager of the Metabonomics project
- 1997 Research scientist at Novo Nordisk, department of drug metabolism
- 1996-97 Assistant professor at The Royal Danish School of Pharmacy

EDUCATION

PhD in Pharmacy



What was the most important positive experience in your professional career?

Early in my career, I had the good idea of a new technology platform that required a large investment. It was a fantastic experience to have the company's trust and support to establish it. This led to the establishment of a new department responsible for biomarker research and predictive toxicology in R&D. It was my initial move into line management. Later on it was a big tap on the shoulder when I was promoted to Vice President.

And the most important negative experience?

The problems after an organisational change: We were splitting into two separate business units, and I had to split my part of the organisation from the part of my former boss. Territory is one of the most difficult issues. It involves a lot of feelings.

What kind of experiences have you made being a woman in technical sciences?

As a scientist I don't see any differences to my male colleagues. As a VP, however, I am the only woman at my level in research. I therefore often participate in male dominated meetings. I don't see this as a problem, but I can see that I sometimes focus more on people issues and cross organisational collaboration than my male colleagues.

“Always have fun at your job otherwise it is not worth it, gain trust in your organisation, take responsibility for your own career (be risk willing), get support from your family and always be true to your values.”

COMPANY PROFILE NOVO NORDISK

Total number of employees: 22,460
 Women employees: 10,876
 Total number of researchers: 479
 Women researchers: 146
 Total number of researchers in management:
 56 managers, 20 VPs
 Women researchers in management: 12 managers, 2 VPs
 Annual turnover: ~ 4.5 billion €
 Research and development investment: 15 %
 Headquarter location: Bagsvaerd, Denmark
 Website: www.novonordisk.com
 Data: 2006

What has been the most important problem in balancing your private life and your career?

The most difficult problem is always to coordinate my work with the demands at home, especially when I have a busy travel schedule. I am lucky that my husband does not travel in his job.

Can you name any role models who encouraged your interest in technical and natural science?

I have had mentors all the way throughout my career who have been role models and who have encouraged me.

My recommendation to companies

We need to “push” women more out of their comfort zone. It comes down to good leadership: We need to spot the very talented women in the organisation and give them challenging tasks where they can show off. My experience is that men are much more likely to do this by themselves than women are.

Tania Koskelo

Member of the executive team & Director of Strategic Business Development at Vahanen

Industrial

PERSONAL PROFILE

Nationality: Finnish

Born in 1962 in Espoo, Finland

Family: Married, three children: Mari (20), Jarkko (18), Miska (15)

Languages: Finnish, English, Swedish, German

Hobbies: Reading, skiing, singing, jogging



Photo: Mika Koskelo

WORKING PROFILE

Development responsibilities:

Strategic business planning of the company (together with the managing director and the executive team); customer relations management; internal development projects, such as a product and services concept, human resources, organisation; co-ordinating research projects with research institutions and universities about building physics, renovation of old buildings, indoor air quality, HVAC (heating, ventilation, air conditioning) techniques; implementing new technologies; developing and managing strategic technical life cycle management services;

Business responsibilities:

Responsible for implementing and managing a new business line based on a total life-cycle cost model (TLCM), property development and program management.

What is the challenge in your career?

Being responsible for developing business strategies in a growing company in an interesting sector of real estate and construction management.

Being responsible for developing, implementing and managing new business lines.

IMPORTANT CAREER STEPS

1992-1997 *Researcher and project manager at the Laboratory of Structural Engineering and Building Physics, Helsinki University of Technology*

1983-1986 *Structural designer at Magnus Malmberg*

EDUCATION

MSc in Structural Engineering and Building Physics and

Doctor of Science in Industrial Management, Helsinki University of Technology, Finland



Management

Why did you choose this science field?

My whole family used to work in real estate and the construction business.

Why did you choose an industrial career?

I wanted to be able to develop real business.

What were the most important experiences in your professional career?

We succeeded to implement a new innovative business line that I had developed in my doctoral thesis.

What kind of experiences have you made being a woman in technical sciences?

I don't think there are big differences between men and women.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

I was lucky to be able to stay at home for five years with our kids. After that the grandparents used to take care of them. So for me, the balance between career and private life has not been hard to find.

Our children were born when we were young students. I was at home with the kids and studied at the same time when they were young. In addition I have always worked at flexible companies.

Can you name any role models who encouraged your interest in technical and natural science?

My father

"Just be You. There is no need to act like a man."

COMPANY PROFILE VAHANEN

Total number of employees: 230

Women employees: 45

Total number of researchers: 1

Women researchers: 1

Total number of researchers in management: 1

Women researchers in management: 1

Annual turnover: about 12.3 million €

Research and development investment: 3.5 %

Headquarter location: Helsinki, Finland

Website: www.vahanen.com

Data: 2005

Martine Schneider

Research and development project leader at AIR LIQUIDE

Process & Chem

PERSONAL PROFILE

Nationality: French

Born in 1975 in France

Family: Married, one child: Louise (1)

Languages: French, English, German

Hobbies: Family, piano, travels



Photo:
Wanda Kucharczyk

WORKING PROFILE

I am project leader in the group "Process & Energy" of Air Liquide's R&D center located close to Paris. About 10 researchers are contributing to the project. The project is highly business driven, with the objective to develop gas solutions for the optimization of customer processes.

Why did you choose this science field?

I have always been attracted to science and technology. There is also some idealism involved in understanding science. Technical and scientific actions can result in improving the way of life or in protecting the environment. Finally, I might have been influenced by the good reputation of engineers in the traditional French culture. Becoming an engineer is a way to gain recognition. Unfortunately, I have the feeling that the position of engineers, scientists and researchers is getting less important in comparison with financial & business positions.

Why did you choose an industrial career?

Industry is a very concrete environment. It is a way to be involved with progress, innovation and growth, and to combine the promotion of science and profit. Working in an international company provides me with the opportunity to travel, to discover new cultures and markets, to meet different people.

IMPORTANT CARRIER STEPS

since 2004: *Air Liquide (Paris) R&D project leader in the group Process & Energy: development of gas solutions applied to the oil & gas market*

2003-04: *Rhodia (Paris)
R&D Engineer: Process development & industrialization in the field of specialties polymers, management of 3 lab technicians*

2000-03: *BP (Marseille)
Process Engineer: Development of the polyethylene technology, support to BP & licensees units*

EDUCATION

2000 PhD in Process Engineering, University of Lyon, France



ical Engineering

What were the most important – positive and negative - experiences in your career?

My experience with BP gave me the opportunity to access BP's licensing business. Based on simulation and pilot results, I contributed to convincing one of BP's licensees in Indonesia to test a new technology. Then I participated in these industrial trials – they were successfully concluded by the implementation of the innovative technology. I highly appreciated my manager's trust to give me this job after only one year of experience with BP. I feel embarrassed that I left BP after three years for purely private reasons, although I liked working for the company a lot. I wanted to live closer to where my husband was located, and I wanted to acquire more management experience. Unfortunately, there was no such position within BP, so I left. This decision induced a feeling of infidelity or disloyalty towards BP, even if it was probably not shared by my colleagues and supervisors.

What has been your most important problem in balancing your private life with a top career?

The most critical point is to succeed as a dual career couple. In my case, and more generally among my friends and colleagues, I notice that women most often follow their husband in case of professional mobility. The wife will interrupt her career or change her employer. Of course, this can be a very rich and exciting experience. But I think that in most cases, previous experience from a former job is not adequately acknowledged and valued.

Can you name any role models who encouraged your interest in technical and natural science?

I would like to mention two women: Terry Wood, who I met during my period with BP (Technical & Engineering manager), and Colette Lewiner (Executive Vice President of Cap Gemini), who is the mother of a friend of mine.

“The image of research suffers because it is associated with the wrong idea of people working quite alone on very fundamental issues. On the contrary, my job offers lots of very interesting contacts, internally with the marketing, engineering, legal and operational departments and externally with customers and sub-contractors.”

COMPANY PROFILE AIR LIQUIDE

Total number of employees: 35,900

Women employees: 9,000

Total number of researchers: 500

Total number of researchers in management: 45

Women researchers in management: 8

Annual turnover: 10 billion € 2005

Research and development investment: 165 million € 2005

Headquarter location: Paris, France

Website: www.airliquide.com

Data: 2006

My recommendation to companies

I would encourage companies to promote an equilibrium between private and professional life, of course for women and men alike. No difference in career evolution should be made depending on gender. In particular, salaries have to be aligned. However, in some areas women are different, and some differences are clearly an additional strength for the company. And in the career path, the consequences of motherhood have to be better taken into account.

Gender diversity policy in your company:

Telework, flexible working hours, women network;

Dual careers: When Air Liquide employees get a new position abroad or at another location in France, their partners get support from a placement agency to search for a new job. Air Liquide also signed the CINDEK agreement: If the partner works for a company member of CINDEK, he/she can interrupt his/her contract during the international assignment of his/her spouse and return to the position at the end of the international assignment.

Barbara Zielinska

Section manager at Schlumberger

Physics -

PERSONAL PROFILE

Nationality: Dutch (Polish origin)

Born in 1951 in Jarocin, Poland

Family: Married, 2 daughters - Sarah (10) and Maya (13)

Languages: English, French, Polish, Dutch, German, Hebrew

Hobbies: Making jewellery, travel



Photo:
Evyatar Av-Ron

WORKING PROFILE

I manage a team that performs computational fluid dynamics and finite element analysis simulations. We provide support for tool development teams in several product centers in the company. After initial validations we perform virtual engineering tests that help reduce development cost and time. Besides managing the group I carry out simulations. As manager of a technical group it is important to have hands-on experience with technical issues.

What is the main challenge of your profession?

The challenge in an industrial environment is to come up with solutions that are not only feasible but manufacturable, which is to say simple and cheap. In other words, to come up with truly smart solutions.

Why did you choose this science field?

Like many things in life, chance had much to do with my choice. At the time of my PhD, problems in critical phenomena were popular, and I started working on hydrodynamic stability. Later I was hired by my current company as a fluid dynamics expert. The development of cheap, fast computers enabled us to build complex models that can help in designing sophisticated tools. So this is what I am doing now.

Why did you choose an industrial career?

After my PhD I started an academic career. But as an immigrant I learned that in academia the right background and nationality can be important. When after a few years I had an opportunity to apply for an industrial position I was very relieved to see that only my competence mattered. I was happy to be appreciated for what I was, earn a good living and provide financial security for my children.

IMPORTANT CAREER STEPS

Post doctoral positions at Weizmann Institute of Science (Israel), University of Nice (France), Kernforschungsanlage (Germany)

EDUCATION

PhD in physics at Leiden University, Netherlands



Hydrodynamics

What kind of experiences have you had as a woman in technical sciences?

During my career I have lived in many countries and I have learned that the attitude toward women in technical sciences can be very different from place to place. For example, I was the first woman to earn a PhD in theoretical physics from Leiden University since 1917! And I was an immigrant in Holland. On the other hand, in France the situation is very different as 20 per cent of the physicists are women and some of them have quite high positions. So yes, sometimes I felt like an outsider, as if I had to justify my position every day. I am lucky to work for a company that gives women real opportunities to advance. I feel appreciated for my technical knowledge.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Of course, two jobs are harder to do than one. Modern women have a choice between stress and depression, and I can handle stress much better. If I did not have a challenging job, I would be depressed and make everyone around me miserable. You have to know yourself. Some people do not tolerate stress, some thrive on it. I have a supportive husband and two healthy, beautiful daughters who I take care of while working. I feel I have the best of both worlds. My life would be incomplete with just one of them.

"I tell my daughters that we women have an obligation in life to use our capacities to the fullest. Whether we choose art, literature or natural sciences, we should use our talents to the extreme and not give up our interests because society demands it from us."

COMPANY PROFILE SCHLUMBERGER

Total number of employees: 58,500
 Women employees: 8,200
 Total number of researchers: 223
 Women researchers: 36
 Total number of researchers in management: 27
 Women researchers in management: 4
 Annual turnover: ~ 14 billion €
 Research and development investment: 420 million €
 Headquarter location: Paris, France & Houston, USA
 Website: www.sbl.com
 Data: 2006

Can you name any role models who encouraged your interest in technical and natural science?

In her memoirs, Simone de Beauvoir wrote that the freedom of a woman starts with her own purse (her own money). I also read Betty Friedan and other feminist authors. They encouraged me to take my freedom and to follow my interests. My father, who is a chemist, strongly encouraged me to follow a career in natural sciences.

My recommendation to companies

Give recruiting managers clear objectives on recruiting women. Promote capable female employees and use their success stories in recruiting. Change corporate culture by sponsoring women networking and awareness campaigns. Provide good maternity benefits.

Karin Dürmeyer

IBM Distinguished Engineer at IBM Germany

Information

PERSONAL PROFILE

Nationality: German

Born in 1958 in Hamburg, Germany

Languages: German, English

Hobbies: Bicycling, cross country skiing in Norway, playing mandola in an orchestra, painting



Photo: private

WORKING PROFILE

I am an IBM Distinguished Engineer (technical Executive position in IBM). I have specialised in the areas of application development and the implementation and integration of new technology in complex IT systems. I am well known for the design and development of complex commercial applications and the methods by which they can be successfully implemented. I am recognised for insight and expertise in Application Architecture, both inside and outside IBM.

Why did you choose this science field?

I like to do new things every day; I like to learn about new technology; I like to work with different companies. And the best of all is if I can build a system or solution that benefits society or the eco system.

Why did you choose an industrial career?

I really like to have the opportunity to translate new technology into business value – even if sometimes it takes years. I like to see how technology, like RFID, can help solve environmental problems. For example:

- Minimising and/or controlling traffic in major urban cities;
- Helping to control terrorist attacks by getting better control of everything that happens to shipping containers (another project I am involved in)

What was the most important experience in your professional career?

My election into the IBM Academy of Technology. Being part of this group of 300 Technical Experts from IBM all over the world is absolutely exciting. Here is an example: Our technology is used in many different areas. I am proud of being part of a global team that has developed the “landmark study of the human journey”. This project is a five-year, global DNA sampling research partnership of National Geographic and IBM.

IMPORTANT CAREER STEPS

2000 Appointment IT Architect Profession Leader Europa

1996 Appointment IBM Distinguished Engineer (first female in IBM Europe)

1996 Certification Senior IT Consultant

1995 Election IBM Academy of Technology

1995 Certification IT Consultant

1992 Certification IT Architect (first female in IBM Germany)

EDUCATION

1984 Diploma in Mathematics and Geography, University of Hamburg, Germany

Technology

What kind of experiences have you made being a woman in technical sciences?

A difference between men and women is how much we talk about what we are doing and the way to take risk. There are still male managers who have problems understanding the different behaviour of a woman in this respect. We are doing a lot of training sessions for our managers on these issues – it will get better.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Yes, it is true. This is the hardest part of my life. With internet and wireless connection we are available 24 hours, seven days a week. I need a break from time to time, otherwise I am not creative – I would no longer have good ideas. I take vacations without being connected – and the mobile phone is there only for an emergency. In the summer my friend and I are bicycling, and in winter cross country skiing. There is no electricity where we stay. I put this information in my “out of office” email that goes out to everybody who tries to contact me. The feedback I get is mostly funny, not upset.

I travel a lot, and sometimes this becomes a problem, for example when my mother is ill or somebody in the family needs help. For five years I used to work one week each month in the USA. I decided that this was too much, and stopped that job. I also rejected a two year assignment to the USA as I do not want to give up my friends over here. This may limit my career but at this point my private life has a higher priority for me. It is vital that I balance my life and work.

Can you name any role models who encouraged your interest in technical and natural science?

Yes, women and men:

- IBM Fellow Fran Allen – she is my role model of a technical women in IBM.
- Ginny Rometty, IBM VP of Enterprise Business Services world wide – she leads the part of IBM I work for.
- Nickolas Donofrio, IBM VP Innovation and Technology
- Monique Frize, professor at the University of Ottawa; she leads INWES, and she is the godmother of many women’s networks for engineers all over the world.

“It is exciting and fascinating to do new projects every day of every month of every year. To learn about and use new technology and to help to solve the problems of the environment or the underserved.”

COMPANY PROFILE IBM GERMANY

Total number of employees: 18,595

Women employees: 4069

Total number of technical resources: 984

Women technical resources: 113

Total number of women executives: 18

Technical female resources in executive positions: 1

German headquarter location: Stuttgart

Website: www.ibm.com

Data: 2006

My recommendation to companies

It is important to have a diversity programme, and to have male sponsors for this programme. It is important to build women networks, but at the same time to educate male managers about different behaviours and different approaches when trying to identify high potential female resources. In my view it is also important to measure success of the diversity programme – as it is not an easy approach and more important, there is no short term solution to this problem.

Christine Schilo

Project manager for international technology programmes at AIRBUS

Aeronautic

PERSONAL PROFILE

Nationality: German
Born in 1968 in Luckenwalde, Germany
Languages: German, English, Russian
Hobbies: Rowing, tennis, modern art, travelling, reading



Photo:
Airbus Archive

WORKING PROFILE

Steering and coordination of the EU funded Project CELINA with 19 international partners from the industry, universities and research centres. Securing of technical, financial and timing execution of the 3 year project and reporting to the European Commission. Planning and coordination of all EU funded projects with regard to fuel cell systems and the relating planning of the budget with all international project partners. Participating within the Implementation Panel of the Hydrogen and Fuel Cell Platform in order to influence and steer the "Strategic Research Agenda" for the application and maturity of the fuel cell systems on board of an aircraft. Negotiation and securing of cooperation between Airbus and international partners for the strategic benefit of all generated research results for aircraft application.

What is the challenge of your profession?

To work in R&T is very exciting because of the possibility to develop new technology to give trends for the future and to improve the products to be competitive. In order to investigate a new technology within the industry you have to be courageous with a pioneer spirit. The responsibility to make it happen within time, quality and cost is a big challenge. Another challenge is to make the company strategy aware to the partners from research institutes, industry and universities, so that they research into the right direction with a defined target. The steering of an international consortium with partners from different disciplines enables you to improve your skills, make compromises and achieve targets.

Why did you choose an industrial career?

The big diversity of possibilities in the industry and my very high interest for aircrafts motivated me to work in the industry. The high responsibility to deliver results in time, quality and cost and the step change of the technology keep up a steady challenge in daily life.

IMPORTANT CAREER STEPS

- Performance Engineer for flight operation
- Supervision for aircraft fleet (Airline Hapag Lloyd)
- Design Engineer for aircraft engines (Motoren- und Turbinen Union Munich)
- Performance Engineer for A380 APU

EDUCATION

Diploma for Aeronautic Engineering Science



Engineering

What was the most important positive experience in your professional career?

The most positive experience is the support of my bosses. This is very important, it is the baseline to make a career. Acceptance and confirmation of the bosses is the most important issue. A lot of people outside of the company honour what I do. My parents are proud of me. Another positive experience is that I have encouraged young beginners with the company spirit. I could contribute so that they found their way within the industry, I could help to extract their talents and help to invest their skills in the right place to be efficient.

What was the most important negative experience in your professional career?

Before the generational change (from old engineers to younger engineers), the old colleagues had a world view that women had to be at home and cook for their children. During that time, the old male engineers ignored the young lady engineers. They did not understand the world anymore. The young engineer ladies have been absolutely transparent in their wishes but they were not accepted in their role at all. The most negative fact was that you did not have a voice!

But since the generational change around the year 2000 up to now, the atmosphere within the "men's world" is slowly changing. It is getting more balanced. But you still have to establish your acceptance.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

It is very important to find a balance between the private life and a career. With a higher stress level you need more balance in the private life. A balance is possible but needs a lot of organisation, respect and mutual support by the partners. For a dual career couple that has to combine the demands of top management with the demands of children at home, the balance is certainly difficult. It also needs support by the employers, e.g. part-time jobs and possibilities for childcare, especially for single mothers with children.

„If a young woman is highly interested in mathematics and physics at school and has a passion for technology, then she should absolutely choose a technical profession to live her passion. A passion is very important – it is the power source to keep her on track so that she can reach her goals. It is always worth to turn your hobby into your profession.“

COMPANY PROFILE AIRBUS

Total number of employees: 22,000

Women employees: 2500

Total number of researchers: 4000

Women researchers: 500

Total number of researchers in management: 850

Women researchers in management: 20

Annual turnover: 4.6 billion €

Headquarter location: Hamburg, Germany

Website: www.airbus.com

Data: 2005

My recommendation to companies

Just do it. Take a woman. And make sure that her work will be accepted by all employees in the company. Mix teams with some women and do not put any hurdles on these teams. Just let them work. Women on the team will always improve the atmosphere.

Irini Efthimiadou

Managing Director at Intelin (Intelligent Innovation Systems)

Techn and Innovation

PERSONAL PROFILE

Nationality: Greek

Born in 1961 in Thessaloniki, Greece

Languages: Greek, English

Hobbies: Web design of personal web pages



Photo: private

WORKING PROFILE

Consulting in management, technology and development for the public and private sector, specialized in the management and implementation of projects and studies on technology and innovation management and in the implementation of quality and environmental management systems.

Managing Director of Intelin S.A. (Intelligent Innovation Systems), a private company for the development and promotion of products, tools, software and provision of corresponding consulting services on the management of innovation in organizations of the public and the private sector.

Why did you choose this science field?

Technology and innovation management is an increasingly important field, which gives opportunities for participating in the implementation of research work and technological development for production and provision of goods and services. It gives satisfaction in visualising the benefits of research work.

Why did you choose an industrial career?

For the reasons mentioned above, to make the results of research work more obvious in practice, and also to be able to transfer my knowledge to the production and entrepreneurial field.

IMPORTANT CAREER STEPS

- since 2004 *Managing Director of Intelin S.A., Euroconsultants Group, Thessaloniki;*
- 2001-2004 *Head of Innovation Management Unit, Euroconsultants S.A., Thessaloniki;*
- 1994-2001 *Senior consultant on technology, quality and environmental management, Euroconsultants S.A., Thessaloniki;*
- 1993 *Postdoctoral Research Associate, Chemical Process Engineering Research Institute, Thessaloniki;*
- 1989-1992 *Postdoctoral Research Associate, Advanced Process Control, Department of Chemical and Process Engineering, University of Newcastle upon Tyne (UK).*

EDUCATION

- 1990 *PhD Chemical Engineering, University of Birmingham, UK*

ology- Management

What was the most important experience in your professional career?

The recognition of my abilities and achievements by my fellow co-workers and supervisors. The need to try harder than my male colleagues to prove my abilities at work.

What kind of experiences have you made being a woman in technical sciences?

There are no differences in relation to technical knowledge and abilities.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

It is difficult to combine both and be excellent in both. Career women must put priorities and place emphasis on those areas which give them the greatest satisfaction.

“Always try to get satisfaction from your work, do it with zest and passion and believe in getting positive results from your job for yourself and the people you work for. Strive for excellence.”

COMPANY PROFILE INTELIN

Total number of employees: 3

Women employees: 2

Total number of researchers: 2

Women researchers: 1

Total number of researchers in management: 2

Women researchers in management: 1

Annual turnover: 101,200 €

Research and development investment: 30,000 €

Headquarter location: Thessaloniki, Greece

Data: 2006

Can you name any role models who encouraged your interest in technical and natural science?

My parents and school teachers encouraged me because they saw my talents and abilities in science when I was at school. They were my role models in society. My best school teachers were in maths and natural sciences, and they were women.

My recommendations to companies

Flexibility in working conditions, job performance evaluation based on results and not on working schedules.

Gender diversity policy

“Intelin is the subsidiary of a bigger consulting company for whom I was a consultant. When the new company was founded I was asked to become the manager. I was seen as the best person for this new position, regardless of gender.”

Ann-Marie Holmes

Engineering Manager at Intel Ireland

Mechanical

PERSONAL PROFILE

Nationality: Irish

Born in 1968 in Roscommon, Ireland

Family: Married, two children: Cian (7) and Ruth (4)

Languages: English, Irish and French

Hobbies: Reading and walking



WORKING PROFILE

I am an engineering manager at Intel Ireland's 300 mm semiconductor manufacturing site. I have a staff of approximately 80 engineers, technicians and engineering group leaders. We are responsible for the safety, quality and output for a number of areas (HDP, CVD, Implant, Metals deposition, Rapid Thermal processing toolsets) to meet required goals.

Why did you choose this science field?

I always liked maths, physics and chemistry in secondary school – I am quite logical in my approach to issues, and the way problem solving in maths or physics is approached just made sense to me. I suppose it just interested me.

Why did you choose an industrial career?

The excitement and challenge of not knowing what issue will have to be solved on any given day gives me a buzz. I like the uncertainty and I tend to be at my best in these types of situations. I was always interested in people management, and I think industry allowed me to combine my interest in technology and the people.

What was the most important experience in your professional career?

Becoming a people manager – having to lead folks to deliver the strategic objectives of the company and getting people to work at their best is very rewarding.

IMPORTANT CAREER STEPS

Becoming a people manager – making that transition from technical individual contributor to gain people management experience.

Becoming a technology transfer manager for the first 300 mm semiconductor manufacturing site in Ireland.

EDUCATION

Mechanical Engineering Degree from Trinity College, Dublin, Ireland



Engineering

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

I agree. It takes constant work and an ability to be as efficient as possible with time. I think that I do not have it exactly right but most of the time it is ok and as long as I can deliver my family commitments and my job commitments I will continue to do so.

My biggest problems? I think that being a dual career couple and having two children it is very hard to be mobile, e.g. do relocations to other sites. This, I think, has been ok in the past but will become a problem in the future.

Can you name any role models who encouraged your interest in technical and natural science?

I have been very fortunate to have worked for the most understanding of people – who never allowed me to think that I could not achieve what I wanted. I was always encouraged to try to reach for what I wanted and I believe that those same bosses always made me feel it was ok to balance my home and my work life in order to achieve both.

“If you do not try you cannot achieve your goal. It is better to have tried and lost than always wondering if you could have done it.”

COMPANY PROFILE INTEL IRELAND

Total number of employees: 4545

Women employees: 821

Irish headquarter location:

Collinstown Industrial Park, Leixlip, County Kildare

Website: www.intel.com

Data: 2005

My recommendations to companies

Allow people the space to work what the balance is for them without making them feel guilty for taking a day off to mind a sick child or to do a dentist run. If this becomes something that is measured then you will absolutely lose a great employee as they will never choose work over family. Don't sweat the small stuff.

Maria Antonietta (Marita) Prassolo

Executive IT Architecture at IBM Italy

IT

PERSONAL PROFILE

Nationality: Italian

Born in 1957 in Voghera, Italy

Languages: Italian, English

Hobbies: Classical music, historical books



Photo:
Michele Prassolo

WORKING PROFILE

I am a certified Executive IT Architect specialized in the area of infrastructure design and the implementation of new technologies in complex IT banking environments. I define the possible IT implementation based on business requirements: My focus is on High Availability and Performance systems with the goal to supply a continuously available business service.

I am also the technical reference for many IBM customers for all technological issues and improvements; after the design phase I am often involved in the implementation and tuning tasks, leading the technical team assigned to the tasks.

Why did you choose this science field?

It is exiting to work in innovative technological areas: After my graduation I started working in technology (my degree is in economics). I felt so comfortable right from the start that I decided that it was the best job I could choose.

Why did you choose an industrial career?

I believe that industry allows to work on real problems and real challenges that every day people are facing from a practical point of view.

What was the most important experience in your professional career?

My most important and positive experience was my election as the leader of the IBM Italian "Women in Technology", due to my recognized leadership and professional capabilities. A negative experience is when my technical designs or suggestions are discarded due to non-technical reasons, and I cannot influence the decision.

IMPORTANT CAREER STEPS

- since 2005 *IBM Executive IT Architect (first female in Italy)*
- since 2003 *Leader of Women in Technology Council in IBM Italy*
- since 2000 *Member of IBM Technical Expert Council (Italian affiliate of IBM Academy)*
- since 2000 *Member of IBM IT Architect Certification Board*
- 1999 *Certification IBM Consulting IT Architect*

EDUCATION

Economics Laurea



Architecture

What kind of experiences have you made being a woman in technical sciences?

I have been working at IBM for 25 years, and during the first years there were very few technical women. It was more difficult to share experiences and to have a female role model. Now networking is easier thanks to technology (internet, email, and so on). We can find female role models also outside the country borders and share our experience from different cultural points of view. I believe that the female approach to problem solving is different from the male approach. The best results come from team work and collaboration.

Have you been confronted to specific hurdles in your career?

In Italy, only few women choose technical and natural science studies. Therefore, one of the goals of the IBM Italy Women in Technology Council is to promote the science educational path in primary schools.

I am also involved in internal activities for the professional certification with particular focus on the technical female career.

Can you name any role models who encouraged your interest in technical and natural science?

During my career I have met many people who have encouraged me in the technical profession. Above all I would like to mention Karin Dürmeyer and Fulvio Capogrosso who are both strongly committed to promoting women in the technical profession. Karin Dürmeyer is IBM leader of Women in Technology, IT Architect professional leader and the first European female Distinguished Engineer and an IBM Academy member.

Fulvio Capogrosso is founder of the Italian Technical Expert Council and an IBM Academy of Technology member; he is also a Distinguished Engineer.

“If you like to build solutions, if you like to learn every day and to keep updated, if you like to team with others and share innovative ideas, then the technological career is for you!”

COMPANY PROFILE IBM ITALY

Total number of employees: 6930

Women employees: 2194

Total number of researchers: 361

Women researchers: 75

Total number of researchers in management: 14

Women researchers in management: 0

Italian headquarter location: Segrate, Italy

Website: www.ibm.com

Data: 2006

My recommendations to companies

To promote gender diversity as a value at work it is important to set up the following:

- A strong networking mechanism
- A mentoring system
- A manager's mindset

Anne Foss Abrahamsen

Leader of Microsoft Services in Norway

Information

PERSONAL PROFILE

Nationality: Norwegian
Born in 1963 in Oslo, Norway
Family: Cohabitant, one child: Håkon (1)
Languages: Norwegian, English
Hobbies: Skiing, literature, gardening



Photo: Microsoft

WORKING PROFILE

Microsoft Services ensures the adoption of Microsoft technologies in the enterprise customer segment. My role as a leader is to hire the right people into the unit, ensure they get the right training and development opportunities, ensure we sell the right projects to the right customers and meet our financial targets.

What is the challenge of your profession?

The IT industry is evolving rapidly and there is a strong need to stay up to date on new technology.

Why did you choose this science field?

I was fascinated by the logic of IT when I took my first programming class in college. In the consulting field I saw that I would constantly find new challenges and keep learning. I focused on the technology side because I was good at it – and I liked that it was more ‘systematic’ and ordered. Unfortunately, many very capable young women choose less technical schools and majors because that is what their friends do. But smart people can do amazing things! I myself was given a tremendous opportunity when I was chosen for a very technical role in my first project assignment – despite having an MBA in Finance!

Why did you choose an industrial career?

I never really considered an academic career. In the IT field I felt that the new technology solutions are developed in industry, not in academia.

IMPORTANT CAREER STEPS

I started my career with Accenture (then Arthur Andersen MICD) in Atlanta, Georgia in 1986. I progressed in technical roles there and became a manager in 1990. In 1993 I moved back to Norway, still with Accenture (then named Andersen Consulting). I became a partner in Accenture in 2000, and in 2004 I left to take on my current role as leader of Microsoft Services in Norway.

EDUCATION

1985 Master of Business Administration (MBA), Finance, University of Georgia, USA



Technology

What was the most important experience in your professional career?

Being trusted to go straight into the architecture design team on my very first project. We developed the architecture for a very large project, and 'my' online shells became the basis for over 200 computer programs. For the most part, I have not had many negative experiences. The job can be tough and the time is never sufficient to do everything one wants to.

What kind of experiences have you made being a woman in technical sciences?

I am used to being one of very few women in technology settings. Early in my career I learned to take advantage of this – if you are the only woman and you dress in red, you will be noticed!

Have you been confronted to specific hurdles in your career?

Yes, absolutely. When I started my career, we were 40% women at my level. When I left Accenture as a partner, there were less than 10% women among the partners. In Microsoft Services we are about 10% women. And most of the women are in 'staff' positions – not in the mainstream delivery, but in HR, Finance, and administration.

"In our future world, technology will only become more important. Choosing a career where you work with technology gives you the potential to have an impact, to shape this future world. It also gives you flexibility - you can focus on the technology or you can focus on how people use the technology."

COMPANY PROFILE MICROSOFT NORWAY

Total number of employees: 174

Women employees: 49

Total number of researchers in management: 32

Women researchers in management: 13

Annual turnover: 190 million €

Norwegian headquarter location: Oslo

Website: www.microsoft.com

Data: 2006

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Yes – it is tough. I had children very late (I was 41) and I had to change jobs to make it happen! My job as a partner in Accenture entailed so much travelling I had problems getting pregnant. I was also single for most of my 30's – and the work was absolutely a contributing factor – it is hard to make relationships work with long workweeks and extensive travelling.

Can you name any role models who encouraged your interest in technical and natural science?

My first manager was a woman - in a very technical role. She was unassuming but technically very strong and was probably instrumental in me not thinking about gender as an issue early in my career.

My recommendation for companies:

- Make sure women are presented with attractive career options in the technical direction.
- Encourage women to take operational roles in the main business. Too often, women are 'promoted' to HR, Finance and other staff roles because they are good at managing people. But you also need senior R&D directors, senior development leads etc. with these talents.
- Actively look for the good women - they are less likely to market themselves than men. Ask them to be on important committees.
- Be open about sometimes preferring a woman. I have had very positive experience with my mainly male staff openly requesting more women in the group as we are growing – they see that diversity is good.

Kristin Eide Lunde

Head of the Department Health, Safety, Environment at Norsk Hydro

Biotechnology

PERSONAL PROFILE

Nationality: Norwegian
Born in 1968 in Lillehammer, Norway
Family: Married, two children: Anna (9), Guro (6)
Languages: Norwegian, English
Hobbies: Family, outdoor activities, reading, friends



Photo: Gisle Nomme

WORKING PROFILE

I started at the Norsk Hydro Research Centre in Porsgrunn right after I had left the university. I began to work with the development of analytical methods for medicines and drugs. After a few years I changed job at the Research Centre: I started to work with eco-toxicity and other environmental topics. I continued in this position until six months ago when I was appointed head of department for health, safety, environment.

What is the challenge of your profession?

Coordinate the resources of the department according to the tasks; establish our role in the company; find the right strategic way for our work in the future; place HSE – health, safety, environment – as a topic in a technology driven environment.

Why did you choose this science field?

Because I find it interesting and because I see HSE as a very important topic for the future.

IMPORTANT CAREER STEPS

Head of the Department HSE (Health, Safety, Environment)
since October 2005

EDUCATION

MSc in Biotechnology



What were the most important – positive and negative – experiences in your professional career?

It is certainly positive that I will work with a topic that is important for future generations and for the industry. However, HSE is a topic that might not have much priority due to its costs.

What kind of experiences have you made being a woman in technical sciences?

I have mainly positive experiences as a woman in technical sciences. However, it can sometimes be difficult to explain and get understanding when I have other commitments, like my children, school, or when the children are sick.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Yes, it is difficult to have a good balance between private life and a career. You always want to spend more time either with your family or at your job.

The most important problem has been related to difficulty in coordinating both demands of home and work together with being a dual career couple.

“You have the opportunity to influence, and you have the opportunity to develop people by focusing on their strengths and knowledge.”

COMPANY PROFILE NORSK HYDRO

Total number of employees: 33,000

Total number of researchers in management: 0

Women researchers in management: 0

Research and development investment: ~ 92 million €

Headquarter location: Oslo, Norway

Website: www.hydro.com

Data: 2005

My recommendation to companies

Women see things in different ways than men, and they are especially aware of the individual employees and their strengths. Our most important resource are the employees. A female manager will give invaluable input to develop this resource in the best way possible.

Carmen Iacoban

Laboratory Director at the Forest Research Institute

Chemistry

PERSONAL PROFILE

Nationality: Romanian

Born in 1961 in Campulung Moldovenesc, Romania

Family: Married, two daughters: Smaranda (20), Ioana (18)

Languages: Romanian, English, French

Hobbies: Sport, classical music



Photo: Mihai Brandau

WORKING PROFILE

- Chemical analysis of water, soil and leaves;
- Monitoring of precipitation and soil solution samples in the framework of ICP Forests (= International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests);
- Interpretation of results in annual national reports;
- Participation in international intercalibration exercises: AQUACON project and the 8th Needle/Leaf Interlaboratory Comparison Test

What is the challenge of your profession?

I always have to learn new things, read literature in my research field, experience new analytical methods, publish the results of my work.

Why did you choose this science field?

I like to learn, experience new things and find out reasons for my scientific results, make connections with the knowledge I have or with results that other people obtained and published before me.

Why did you choose an industrial career?

I always liked mathematics, chemistry and I have practical skills.

I like to fix the electrical and mechanical domestic appliances, and I did it even as a teenager.

IMPORTANT CAREER STEPS

2001 *Principal scientific researcher, Forest Research Institute*

1998 *Scientific researcher, Forest Research Institute*

1995 *Chemical engineer, Forest Research Institute*

1989 *Chemical engineer in an enterprise for geological prospective and exploration*

1985 *Chemical engineer at a paper and cellulose enterprise*

EDUCATION

1985 *Chemical engineering at the Gh. Asachi Iasi University, Bucarest, Romania*



What were the most important – positive and negative – experiences in your professional career?

The most important positive experience was the support that André Clement, researcher at the INRA (National Institute for Agricultural Research) in Nancy, France, had offered me in the framework of the French-Romanian programme of cooperation on forest health. The negative experiences were at the beginning of my career at the Forest Research Institute when my boss and my colleagues did not believe that the results of my analysis were good.

What kind of experiences have you made being a woman in technical sciences?

I learned many things about mechanical problems because I had to fix myself some of the instruments I use in the laboratory. I have worked in industry as well as in research – in my view, the most important problem women face is that the male underdogs do not take orders they receive from a woman seriously.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

My parents encouraged and supported me in my career, but my husband didn't. So it was quite hard for me to take care of our children and to work for my affirmation.

I certainly had difficulties coordinating the demands of my private life (children, school schedules) and my work.

Can you name any role models who encouraged your interest in technical and natural science?

My parents, who were teachers in a military college, trusted and encouraged me. They made me believe that if I worked hard, I could succeed in any field.

Corneliu Oniscu, a professor at the University Gh. Asachi Iasi, Romania, encouraged me in the research work that I had to do for my diploma and told me that my results would be published. This motivated me a lot.

André Clement, laboratory director and chemist at INRA Nancy, France, encouraged me to verify the methods and results by international intercalibration exercises. He also convinced me to begin a PhD thesis.

"You always have to find answers and learn in order to progress. You must be in touch with everything that is new in your research field and that's a permanent challenge. You can never be bored if you work in research!"

COMPANY PROFILE

NATIONAL FOREST RESEARCH INSTITUTE

Total number of employees: 660

Women employees: 198

Total number of researchers: 298

Women researchers: 62

Headquarter location: Bucarest , Romania

Website: www.icas.ro/homeRO.htm, www.icassv.ro

Data: 2006

My recommendation to companies

Try to make women and men cooperate and work as a team. Motivate them in equal proportion.

Nerea Anacabe

Programme Director at INASMET-Tecnalia

Physics

PERSONAL PROFILE

Nationality: Spanish
Born in 1961 in Vitoria, Spain
Family: Married, three children
Languages: Spanish, English, French
Hobbies: Running, shopping



Photo:
Juan José Añorga

WORKING PROFILE

INASMET-Tecnalia focuses its activity on materials technology. It has two plants (in San Sebastián and Irún) and an office in Cádiz that also houses the laboratories and various pilot plants of prototype manufacturing.

I am in charge of getting financial support to develop the internal R&D projects in our Technological Centre.

Why did you choose this science field?

When I was a child I wanted to be an astronaut. The subject I liked most in school was mathematics. But I finally chose to study physics.

When you are young, you are often not so clear about choosing your future. You begin your career step by step, and you discover your goal while walking.

Why did you choose an industrial career?

When a woman finishes her technical studies, she has essentially three possibilities: The first option is to teach – this is what the majority of women do. The second option is to choose an industrial professional career – but only a small percentage of women land in jobs with responsibilities. The third option is to go into R&D in a technological centre – this is what I did.

What was the most important experience in your professional career?

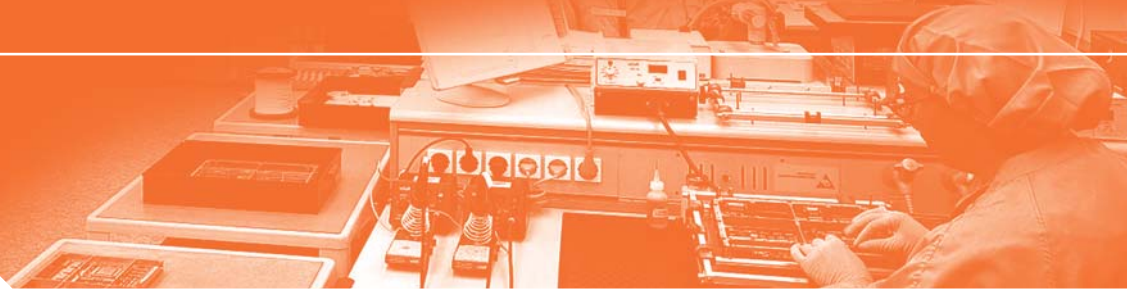
Since I have held positions with responsibilities, I have had the challenge to get contracts for R&D projects. I succeeded in obtaining an important number of contracts.

IMPORTANT CAREER STEPS

*Project manager of several R&D projects; management of the IT department at Inasmet for seven years, specialized in the finite elements method;
Collaboration with working groups to design the "Innovation, Technology and Science Plan 2005-2008" for the Basque government;
Collaboration with a network initiated by the Spanish Ministry of Science and Technology, with the goal to stimulate and increase the participation of Spanish small and medium enterprises in European projects.*

EDUCATION

Physics



What kind of experiences have you made being a woman in technical sciences?

Once, when I had just joined the Technological Centre, someone asked me if I had a boyfriend. When I said yes, he asked when I would get married. He thought that I would give up my professional career to take care of my children. Nobody ever asks a man such a question.

Have you been confronted with specific hurdles in your career?

I have met some women who left their job to stay at home. It takes much longer for a woman to reach a job with responsibilities than for a man – in all sectors, also in research and development. Many women leave out of frustration because their rise to a higher position takes so long. Cultural stereotypes play an important role. In my particular case, I was lucky to find many people around me who have continuously helped me, both in general and professionally. My best colleagues are men. I have been in contact with many industrial sectors, and I was given the chance to acquire technical knowledge and competence from the people in charge – predominantly men.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

Some men are beginning to realize this situation. Women have always felt it. It is really not easy to balance two “lives”. In my particular case, with my three children (16, 13, 10), it has not been easy to balance it. I am always “running”. Running for shopping, running for working, running for everything. I am always running!

Can you name any role models who encouraged your interest in technical and natural science?

In general, the women in R&D have not been role models. Mostly men have been successful during all those years. There are almost no women who have got prestigious awards or who are in top positions – not even in Sweden, in spite of the national model of equal opportunities for men and women. It is very important to make female role models more visible and encourage more women to leave their mark.

“It is very important that girls who have an interest in technical subjects choose a career in this field. This is where the decisive positions in a company are held, and where the empowerment of a company comes from.”

COMPANY PROFILE INASMET-Tecnalia

Total number of employees: 224

Women employees: 97

Total number of researchers: 165

Women researchers: 63

Total number of researchers in management: 43

Women researchers in management: 8

Annual turnover: 20 million €

Headquarter location: San Sebastián, Spain

Website: www.inasmet.es

Data: 2006

My recommendation to companies

Women add a different type of management and leadership - a style where negotiation and empowerment are key factors. By incorporating women in decision-making positions, the company can grow through a new management model where the focus will be on incorporating new values.

Helena Berg

Group Manager and Product Area Manager at Volvo Technology

PERSONAL PROFILE

Nationality: Swedish
Born in 1971 in Lidköping, Sweden
Family: Married
Languages: Swedish, English
Hobbies: Art, oil painting, sports



Photo: Per Rutquist

WORKING PROFILE

I am responsible for research and innovation in the areas of alternative drivetrains (hybrid and fuel cell vehicles mainly). My responsibility is to initiate and coordinate Volvo Technology's R&D in these areas internally, nationally and on a European level. Approximately 30 researchers are working in this field at Volvo Technology.

Why did you choose this science field?

Basic interest in chemistry led to graduate studies in the field of electrochemistry and especially advanced battery solutions. Volvo is one of the main actors in Sweden outside university dealing with advanced battery solutions.

Why did you choose an industrial career?

The tough climate within the research society as a young doctor. Moreover, to put the research into a product is challenging.

What were the most important - positive and negative - experiences in your professional career?

To be held in respect both as a person and as having a specific competence. To be treated in the same way as male colleagues. To have a job full of variety. It is positive to have the chance to promote an interesting and demanding research topic – the negative side of it is the enviousness from actors outside the field.

IMPORTANT CAREER STEPS

After the doctor degree I worked within the popular science field to introduce young people (up to the age of 12) into science.

Patent attorney at one of the largest patent agencies in Europe.

Development engineer at Volvo Technology and deputy group manager. After that, group manager for the same group.

EDUCATION

Doctor in Inorganic Chemistry



chemistry

What kind of experiences have you made being a woman in technical sciences?

Only positive experiences. Almost all respect my competence and do not treat me differently compared with male colleagues. However, some older male colleagues do not know how to talk to a woman more well-educated than them – but that's ridicule them, not me.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

It is easy to fall into the model of being "perfect" and over-do job tasks. We have to live in and focus on the present.

"Believe in yourself. Do not always think about what the women may think."

COMPANY PROFILE VOLVO TECHNOLOGY CORPORATION

Total number of employees: 82,000

Women employees: 13,900

Annual turnover: 24.7 billion €

Research and development investment: 803 million €

Headquarter location: Gothenburg, Sweden

Website: www.volvo.com

Data: 2006

My recommendations to companies

A group of people of the same way of thinking will soon come to a stage of stagnation and non-profitable growth, therefore a mix of male and female managers at all levels is preferable.

Gender diversity policy in your company

Volvo Group's Code of Conduct details the principles that govern the Group's relations with its employees, business partners and other stakeholders in matters relating to business principles, environmental care, human rights and the work environment.

Volvo Ways shows what we stand for and want to achieve. It is based on the conviction that every individual has the capability and the desire to improve our operations and, by so doing, also develop professionally. We work with energy, passion and respect for the individual.

Joke Driessen

Global Manager – Technology at Shell

Chemical

PERSONAL PROFILE

Nationality: Dutch

Born in 1961 in the Netherlands

Languages: Dutch, English, German and to a far lesser extent French and Mandarin Chinese

Hobbies: Golf, mountain walking, travel in non-western countries



WORKING PROFILE

I am responsible for all technology related topics for one product business unit in Shell. This includes maintenance of our competitive position (by supporting the related manufacturing plants with improvement and expansion projects), develop the next generation technology, research aimed at novel processes, understand our competitive field, maintain and defend our patent portfolio and support capital projects.

Why did you choose this science field?

I always wanted to work in a field where I could apply my science skills and actually connect up with "the real world" and where in doing so I would really interact with people and work in multidisciplinary teams. Applied mathematics really offered this possibility as it often provides a bridge between engineering practice and science. And from there going into industry appeared a natural choice for me. What specifically attracted me to Shell was that it seemed a company with many opportunities provided you would be willing to develop yourself. And I have not been disappointed.

Why did you choose an industrial career?

The possibility to really follow ideas through all the way to implementation and actually see them create value, this is what brings me satisfaction, and industry seemed the most likely area where that would happen.

IMPORTANT CAREER STEPS

- 1985 – 1991 *Joined Shell Research in Mathematics Modelling and later moved into a related experimental department Equipment Engineering (Netherlands)*
- 1991 – 1994 *Process Engineer for several capital investment projects (Netherlands, Shell)*
- 1995 *Short term Assignment in Manufacturing Operations (Germany, Shell)*
- 1996 – 2000 *Start-up a newly built manufacturing location and become Plant Manager (Singapore, Shell)*
- 2000 – 2003 *Plant Manager (UK, Shell)*
- 2004 – now *Global Manager – Technology (Netherlands, Shell)*

EDUCATION

Master in Applied Mathematics (1984), Master in Business Administration (1996)

Technology

What was the most important negative experience in your professional career?

Instances where I was not treated as an individual but as a member of a minority. An important personal negative experience in that sense was when I was told by a relatively senior manager that "they don't easily allow women in manufacturing, too much of a chance it doesn't work out, operators don't want female managers – of course I personally wouldn't have a problem". From then onwards I quietly plotted my way into manufacturing, but didn't tell my line managers anymore!

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

In my experience, you need to learn what is important for you personally and manage this with the job demands. Important is that you are the one who makes the choices and interestingly, the further I get the better I seem able to do so. Also I get great satisfaction from most of my job and hence don't experience the job as a sacrifice. When you don't get that satisfaction you will feel like giving up your private life and that is what I call decision time – you need to resolve that conflict in order to have a sustainable career. What I always find interesting is that because I am single, people believe that I never have a problem and am

free to do what I want. They forget though that being single also means that the responsibility for things like maintaining a healthy social life, the build up of a social life when moved and making your living comfortable are all on my shoulders as well – there are no kids' schools or coffee mornings for spouses which appear natural facilitators of this for most of my peers!

Can you name any role models who encouraged your interest in technical and natural science?

My granddad had a great impact in raising my interest in anything technical (despite the fact that he died when I was only 7 years old); he had a technical background and in my memories was a very nice person. He taught me all sorts of things (such as making a guitar from a cigar box, how to tie a shoe string) and was a great supporter of anything related to industry & harbours (even the skyline of the petrochemical industry near Rotterdam was beautiful through his eyes).

My dad who encouraged all his children to take up a technical study, as he believed and believes this leads to a secure career path. Some, but certainly not all, mathematics & physics teachers at secondary school. Especially the ones who made the link with daily life.

"It is a very rewarding career. You can really make an impact and be part of the future of the company whilst in research. At the same time you can see ideas through to implementation in the field and when you do so you work with people from various layers in the organisation and it can be very challenging to ensure they all buy into the project."

COMPANY PROFILE SHELL

Total number of employees: ~ 100,000

Women employees: 20,000

Total number of researchers: ~ 3,000

Women researchers: ~ 600

Total number of researchers in management: ~ 300

Women researchers in management: ~ 20

Annual turnover: ~ 250 billion €

Research and development investment: ~ 500 million €

Headquarter location: The Hague, Netherlands

Website: www.shell.com

Data: 2005

My recommendation to companies

You need to have role models – important for women but even more so for men and line managers.

Employee networks, in this case specifically run for and by women.

Always wonder: Are your appraisal and talent development discussions really objective or do you just look for the next man who fits a silently agreed profile? Is someone present in these discussions who can credibly challenge the perspective?

Alison Booth

Technology Innovations Manager at Atos Origin

Information

PERSONAL PROFILE

Nationality: British
Born 1967 in London
Family: Married
Languages: English



Photo: Tim Hill

WORKING PROFILE

I am responsible for keeping Atos Origin and their customers informed about new and emerging technologies, how and when they are likely to impact their business, and how they can best leverage the opportunities that these emerging technologies bring.

What is the challenge of your profession?

One of the biggest challenges is keeping up with the pace of innovation. The rate and number of new technologies emerging is growing exponentially. Keeping on top of what this means to a business can be quite daunting.

Further to this, all businesses must innovate. Understanding how to take advantage of new opportunities, whilst minimising risk and maximising returns is quite a challenge.

Why did you choose this science field?

I must admit that I fell into IT by chance more than anything else. After university, I started on a COBOL training course where I was expected to spend one day a week working within a business. The organisation that I was working with immediately took me off the course and offered me full time employment. I have never looked back since.

IMPORTANT CAREER STEPS

Initially a programmer with a bank.

Changing jobs I became a systems manager, involved in both systems management and commissioning, for around 4 years.

After changing jobs again, I was responsible for the design and implementation of a laboratory system for one of the major pharma companies.

Coming back to my previous employer, I started my role in research. Initially I developed internal systems around emerging technologies. I rapidly moved on to evaluating new and emerging technologies and companies.

EDUCATION

BSc in Mathematics; Currently studying for a Master in Management and Business Research Methods



Technology

What was the most important experience in your professional career?

My most positive experience was the faith that our Technical Director had in me. He gave me a lot of opportunities, but also encouraged me to promote myself within the business as a technical expert, both at a global and an international level.

What kind of experiences have you made being a woman in technical sciences?

During the period when I was working on a pharma system for a smaller company, the business was very male oriented and I did sometimes get comments from my line manager inferring that it was better for women to be at home. Additionally one of my male colleagues could not understand why I should be earning more than him when he had a wife and child to support. I truly feel that I had to be ten times better than my male colleagues to keep myself in the job.

Have you been confronted to specific hurdles in your career?

When working for the bank, I left because the bank would not promote me past a male colleague who was less experienced and less capable than myself.

I regularly come across women who used to work in the IT sector, but have now moved on to own their own businesses in completely different sectors.

I think that the leaky pipe is very real. A large number of women leave when they have a family and do not return, leaving fewer women in more senior positions.

Many women (and men) think it is difficult to find a balance between their private life and a top career position. What is your experience?

My life is very much a juggling act, but my employer does all it can to support me. When my husband is not well I am able to work at home, attend appointments and reduce the amount of travel I need to do.

It can still be a struggle to manage work and home life at times.

"The IT industry offers many diverse and exciting opportunities. The pace of change is fast and exhilarating. There is no doubt that this sector will continue to grow. If you want to step out of your comfort zone and face the new challenges of the future, then this is definitely where you need to be."

COMPANY PROFILE ATOS ORIGIN

Total number of employees: 47,000

Headquarter location: Paris, France & Zaventem, Belgium

Website: www.atosorigin.com

Data: 2006

My recommendation to companies

Businesses need to recognise the dual roles in many women's lives – the public facing worker and the private career at home. Long working hours, with meetings in the pub after work, should be discouraged. Many women are just not in a position to be able to take part, and as a result are disadvantaged.

Gender diversity in your company

A family-friendly policy, such as flexible working hours, is being reviewed at the moment.

FEMtech – Women in Research and Technology

The programme FEMtech supports a variety of activities to increase the visibility of female scientists in research and technology.

More Women into Science

Women are still a minority in technology-oriented research, and their performance is hardly noticed in public. The situation in industrial research is particularly alarming. While the proportion of female scientists employed in industrial research in EU countries is 15 percent, it is only nine percent in Austria. The percentage of women employees in non-university research institutions is slightly higher with 17.8 percent. Hardly any women hold a leading managerial position.

FEMtech Promotes a Variety of Measures

To change this gender imbalance, the FEMtech programme was initiated and implemented by the Austrian Federal Ministry of Transport, Innovation, and Technology as part of the fFORTE³ initiative.

The main objective of FEMtech is to break down gender barriers by improving basic conditions and career possibilities for women in research and technology in order to attract women to professions in those fields. Increased involvement of women in research and technology is not solely in the interest of women themselves. Utilising the potential of female scientists, engineers, and technicians enhances overall competitive ability and innovation potential of companies able to take advantage of an additional female pool of qualified experts.

FEMtech aims to promote and support participation of women in the following research- and technology-intensive occupational and educational areas:

- Companies
- Non-academic research institutions
- Universities of Applied Sciences
- RTD and innovation programmes

FEMtech provides companies and organisations with the opportunity to choose from a wide spectrum of possible approaches and measures in order to implement the most appropriate course of action.

³ fFORTE is a joint initiative of the Austrian Council for Research and Technology Development; the Federal Ministry of Education, Science, and Culture, the Federal Ministry of Transport, Innovation, and Technology; and the Federal Ministry of Economics and Labour to promote equal opportunities in research and technology.

FEMtech – Funding

FEMtech Career

FEMtech Career aims to increase the proportion of female scientists in industrial research. Therefore, FEMtech Career supports science- and technology-oriented companies and non-university research institutions in their endeavour to implement structural measures and initiatives to

- Facilitate equal opportunities (plans for affirmative action programmes for women, flexible working hours, etc.),
- Increase the proportion of female employees in research and technology,
- Support women in professional career development (coaching, mentoring activities, further education, training, etc.),
- Consider and provide for special needs and interests of female scientists.

FEMtech Universities of Applied Sciences

The universities of applied sciences are invited to analyse and subsequently improve their degree courses with regard to attractiveness for female students. The purpose of such improvements is to increase significantly the number of women enrolled at universities of applied sciences, especially in degree courses with predominantly male participants.

Ongoing projects are focussing on the following topics:

- Enhancing awareness of gender aspects with students and instructors,
- Selective and systematic acquisition of female students,
- Mentoring programmes,
- Networking facilities for female students,
- Revision of course materials, incorporating the study of soft skills into technical courses.

FEMtech – Activities

FEMtech Technology Programmes

FEMtech Technology Programmes promote activities for establishing equal opportunities within existing federal RTD programmes. Funding is targeted at measures to implement gender aspects

- in programme development,
- during programme execution,
- in call specifications and guidelines,
- in the scope of research content in terms of taking into account the special needs and interests of women.

The manual “Gender in den Forschungs- und Technologieprogrammen des bmvit” (Gender in research and technology oriented programmes of the Federal Ministry of Transport, Innovation, and Technology)⁴ was written to support these measures. The manual describes the way gender mainstreaming measures can be implemented in a concise and hands-on manner in the scope of the programmes mentioned above. The manual is also available as a free download on the FEMtech website www.femtech.at.

FEMtech Fundamentals

FEMtech Fundamentals initiates research to provide scientifically sound expertise for further development of the FEMtech programme itself. Gathering and evaluating data concerning the actual situation of women in research and technology is one example: basic data of this type helps to identify changes, opportunities, and new possibilities to further promote and support equal opportunities.

FEMtech Networking

Network meetings and various other events take place at regular intervals. Male and female supporters of the FEMtech principle of improving equal opportunities in the fields of science and technology are welcome to communicate their ideas and exchange experiences on this subject. Further detailed information on time and locations of network events is provided in our newsletters and published on the FEMtech website.

⁴ Available only in German

FEMtech Female Expert Database

Female experts in the fields of science and technology are invited to register in the FEMtech female expert database. The database makes expertise, skills, and capabilities conspicuous to the public and facilitates network integration and participation. Thanks to the availability of the FEMtech database, the argument of not having been able to find a female expert has become invalid. Approximately 500 female experts have already registered in the database. Registration is free of charge and is possible online on the FEMtech website.

The database is a service for institutions, research organisations, and companies looking for qualified female experts, such as for participation in an expert panel, an evaluation task, or a consulting assignment. Searching the database online is free of charge.

FEMtech Female Expert of the Month

Women are strongly underrepresented in technology-oriented research; their accomplishments are little appreciated in the public eye for lack of visibility. The nomination of a "FEMtech Female Expert of the Month" is to raise public perception and to emphasise effectively accomplishments of women in the fields of research and technology.

Female Experts of the Month have been selected among all registered members of the database on a monthly basis by an independent panel since 2005. Presentations of all female experts selected to date can be viewed at www.femtech.at. They are also published in the daily newspaper "Der Standard".

Imprint

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Design & Production:

Projektfabrik Waldhör KEG

Thanks to:

EU experts group WIST - Women in Science and Technology
European Association for Women in Science, Engineering and Technology (WITEC)
National Contact Centre - Women in Science in the Czech Republic
UK Resource Centre for Women in Science Engineering Technology (UKRC)





An initiative within the fFORTE programme
of the Federal Ministry of Transport, Innovation and Technology
www.femtech.at