

Marie Curie Fellows Association
Women in Science Working Group

ROLE MODELS FOR MOBILITY OF **MCFA WOMEN** SCIENTISTS



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EDITOR: Reia M. Chmielowski

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COORDINATOR: Gianna Avellis



LIFE IS NOT EASY FOR ANY OF US.
BUT WHAT OF THAT?

WE MUST HAVE PERSEVERANCE
AND ABOVE ALL CONFIDENCE IN
OURSELVES.

WE MUST BELIEVE THAT WE ARE
GIFTED FOR SOMETHING AND
THAT THIS THING MUST BE ATTAINED.

Marie Curie

INTRODUCTION

An important factor in fostering a positive attitude toward science and scientific careers in young women researchers has been providing them with scientific role models who are women. Such stories give them realistic information about career opportunities. Therefore this booklet has been developed to provide young women scientists with a collection of role models who have benefited from mobility in their careers.

These are not famous scientists, but rather real examples of people who express all the passion to “explore, dream, and discover” the world of science. It is hoped that reading about successful scientists who have achieved a healthy work-life balance while moving to new locations will be particularly helpful for those individuals considering mobility in their own career. An e-mail address is included in the profile for each scientist.

You are welcome to approach us with questions you may have as to how we dealt with the situations we have faced in our careers as you undertake similar adventures in your own. This booklet is available to be used by programs that support the development of systematic approaches to increasing the representation and advancement of women

in science, engineering and technology, since mobility plays a key role in these programs. The stories contained herein will be useful to mentoring or advising program focusing on career, networking opportunities, discussion and grants opportunities in conjunction with mobility.

There is still a gap between female graduates and the pool of female job applicants – even though the proportion of female graduate students and postdocs in most scientific fields is higher today than it is ever been. Therefore we suggest that focus should be placed on examining the real challenges which women need to overcome, particularly when “mobility” comes into play.

**NO MATTER WHERE
YOUR CAREER TAKES YOU,
THERE ARE ALWAYS NEW
AND EXCITING THINGS
TO LEARN.**

**BEING OPEN TO TRAVEL
AND MOBILITY
STRENGTHENS YOUR
ABILITY AS A SCIENTIST.**

Reia Chmielowski, p. 17

Role models who have overcome these challenges will continue to play an important part for moving in the right direction, because it may take Role models for mobility of MCFA women scientists some time to achieve true gender equity in science.

In general people choose mobility as a path to acquiring new and different skills with respect to those available in their country of origin, but the aim of each individual who chooses mobility depends mainly on their previous occupation and age. At an early stage of their career undertaking a PhD or a Post-doc position in a different institution may add substantial scientific value to the CV. For those who already hold an established position, mobility may be seen as a way to improve their scientific profile, to make it internationally competitive and to gain experience in managing projects and disseminating research results profitably. The benefits gained from the mobility experience and the ease of reintegration afterwards also depend largely on the career stage and country of origin.

Challenges may arise in the early career stages,

for example just after completing a PhD, when one may encounter a lack of funds or specific equipment necessary to implement new or different techniques.

In addition some individuals experience challenges arising from discrimination or scarce opportunities in their own home lands to obtain a stable position. For people facing such issues the availability of role models who have triumphed over similar situations can be inspiring. Challenges specific to mobility can arise due to family situations; often it can be difficult to fulfil the needs of dual careers. Even when one’s partner is willing and able to relocate, it is not always straightforward to find him a job or a position close to the wife’s new working place. When children are involved, in particular when they are little, special attention must be devoted in order to organise their new life, as well. Therefore role models for dual career couples are needed.

*Gianna Avellis & Nusrat Sanghamitra
Coordinators of m-WiSET and board
members of MCFA*



MCFA

The Marie Curie Fellows Association (MCFA) (<http://mcfa.eu>) is the association of scientists (Marie Curie Fellows) who were awarded a Marie Curie Fellowship or a Mobility Research Training Grant by the European Community. The Association gathers scientists from more than 50 countries, both in Europe and outside of it. The MCFA has a high (around 40%) representation of women compared to other European research associations. Proposals within MC actions are evaluated based on many criteria, which also take into account gender issues in an attempt of providing equal opportunities to women researchers. Grants are established under European RTD framework programmes to encourage and finance the training and mobility of researchers in the European Community.

The association was founded in October 1996 and is organized in hierarchical lines with local groups (National Groups) and at an international level (Administrative Board elected by members annually and an Advisory Board). There are also horizontal structures as committees and working groups, such as Women in Science and Science Policy.

The above-mentioned concentration of women in MCFA is relevant; there are more than 1,000 women scientists actively involved at all levels in several scientific research fields in this association. This allows for significant surveys and statistical analysis on mobile women researchers, compilation of case stories and different career experiences.



M-WISET

The Women in Science working group, named m-WiSET (mobile Women in Science, Engineering and Technology) is a working group within MCFA.

It was created in 2006 and is aimed primarily at promoting and encouraging mobility amongst women scientists. Basic questions addressed by the m-WiSET group include whether/in what manner mobility can effectively enhance the scientific career, what difficulties are anticipated by women researchers considering taking up mobility programs, and what problems were actually encountered by those who have done so. Our activities also extend to the field of women participation in SET, career development, excellence, and decision-making.

The overall activity of the organization is also aimed at providing feedback and recommendations to and from policy makers (especially the EC) and stakeholders. Our action highlights the need for involving more and more women scientists in the strengthening of the ERA, increasing their active participation in research programmes.



Name: ANTONELLA DI TRAPANI
Nationality: Italian
Year born: 1973
Research field: Chemistry
Doctorate: Trinity College Dublin (Ireland), 2002
Marie-Curie fellowships: Trinity College Dublin (Ireland), 1999-2002 ; Johnson Matthey Technology Centre, Reading (UK), 2002-2004
Currently: Research Programme Officer at ERC, Brussels (Belgium)
Languages spoken: English, French, German, Italian, Russian, Spanish
E-mail: antodt@gmail.com

EXPLORE, DREAM, DISCOVER

Relocating to other countries is not easy, but it is often 'a must' for someone who wants to be a 'scientist'. A scientific career quite often means long hours at work, even on weekends, a scarce social life, and delays in setting up a family, all with the hope of one day achieving a professorship. But sometimes a career in science, which starts at the University's bench, can lead to a different destination as new paths open up; new horizons can expand if one is ready to grab opportunities, be open minded, flexible, willing to travel and not be afraid of changes and challenges.

Antonella always loved to travel and to learn languages, but after her secondary school diploma she had to choose between studying languages or science. She had been told at school that chemistry is like cooking, and so, being already very good at cooking, she embarked on a degree in chemistry at the University of Palermo, Italy, her home town. In her first year of study, women made up almost half of the class, but among the teachers there were only men, and she felt the lack of female role models for inspiration. When the opportunity presented she left her home country to spend six months studying at UCL in London, thanks to an Erasmus studentship, and thus acquired that "mobility" bug that has stayed with her ever since. While there she improved her English as well as her skills and her love for research and discovery—both for new molecules and for new countries. After completing her degree in Chemistry, she looked for a grant to start her postgraduate studies abroad, and was awarded an TMR (Training and Mobility of Researchers) Research Grant (which later became Marie Curie Fellowships) from the European Commission to do her PhD at Trinity College Dublin, Ireland, on "Nanometer metal-complexes: magnetic materials and DNA Probes". Between the occasional pint of Guinness and Irish dancing, she set up hundreds of reactions in the lab, not only discovering the difficulties of initiating reactions in the kinetically inert Cr(III) complex, but also discovering a beautiful green country and its people. At the end of her PhD she decided to continue her career in research—moving from academia to Industry. In 2002, she was hired as a Marie Curie Industry-Host Fellow for a two year post-doctoral position at Johnson Matthey Technology Centre (UK). Her research there focused on optoelectronic materials, from OLED to Q-Dots to Photovoltaics. Through this position she discovered the differences between research in academia and in industry, which is more focused and applied. She has fond memories of her time in industry where she enjoyed the teamwork spirit and sharing of knowledge, which was quite different from the individualist work she had known in academia. In addition she was exposed to the commercial side of the company, which led her to learn new techniques and skills while enjoying the higher salaries and increased opportunities for career promotion as compared to the academic world. After completing her two years as a Marie Curie post-doctoral fellow she accepted a permanent position as Research Scientist in the same company. It was during that period that she became involved in the Marie Curie Fellows Association (MCFA), becoming a National Group Coordinator of the UK group, first as Treasurer and then as Chair. She founded the Women in Science working group and participated in the Science Policy working group. She became exposed to the EU science management and science policy which she enjoyed more than doing 'bench-work'. At the end, "I loved everything about science except doing research" she says, "so I tried to explore new avenues where I could still use my chemistry background, but not working at the bench anymore". Looking for new opportunities to use her skills and scientific background, wanting to try something new and looking for new challenges and opportunities, she joined the European Science Foundation in Strasbourg, France as Science Officer, where she spent almost three years managing the EUROCORES (European Collaborative Research) Programmes in Chemistry, Physics, Nanomaterials and Engineering. This broadened her knowledge of science and exposed her to a true international organization involved in science policy, management and communication. She particularly enjoyed the networking of scientists through the organization of conferences and workshops, which

WHAT I HAVE LEARNED
IN ALL THESE YEARS
IS TO BE FLEXIBLE AND ADAPT
QUICKLY TO SITUATIONS

(...)

quite often ended up in new collaborations and research ideas, and the travel involved, which brought her around Europe and also as far as the US and India to disseminate the achievements of the scientists involved in her projects. In between working trips, she was able also to improve her French and enjoy the 'l'art de vivre' and 'la bonne cuisine'. However, due to the lack of permanent contracts at ESF, it was soon time to look again for a new opportunity. Soon she found one and went to work for the newly-born European Research Council (ERC) in Brussels, packing her belongings and moving to yet again to another new country. She has now spent more than two years as Research Programme Officer, for both Starting and Advanced Grants in Chemistry and Materials, coordinating 1.5-2.5 M € budget for grants for scientists to do research in Europe and to set up the best research groups so as to be able to compete with the rest of the world. "In this job I really feel I am doing something to make science better in Europe by investing in the brightest brains we have. I find it very challenging and exciting".

She has found that, since she started her studies the situation in the world of science has not changed much. At all career stages women in science, particularly in the "hard sciences", are not well represented— sometimes they are less than 20% of the academic population. It can be very difficult to reach a gender balance on science panels: "I am sitting in rooms where we are outnumbered 10 to 2" she says. Antonella hopes things will change soon and women will be given the same opportunities as men and strive to reach really high positions in science. She considers herself very lucky to have had such a successful career, achieving a very good position in the top EU institution for research while still at very young age. She hopes she will be of example and serve as 'role model' to many other women. Her successful career has been recognized by her peers as she delivers talks as key-note speaker to several scientific conferences, Young researchers' careers and Women in science events.

Having changed country five times and also changed her career path each time she moved she has found that the main difficulty is settling down in the new country, dealing with bureaucracy, building up a new circle of friends, adapting to the new culture and to the new working environment. All this can be stressful and it can be difficult to combine the science and the necessary bureaucracy with a personal life. "What I have learned in all these years is to be flexible and adapt quickly to situations, but I also think that I would not have been here if I had not started with my Marie Curie grants and I would not have grabbed opportunities along the way, been flexible and not afraid of changes. The mobility offered by the Marie Curie Fellowships provided that 'mobility bug' that shaped my career and helped me to make some important choices in my life, fulfilling my objectives and my love for science. My life has been one of continuous change, and I have not remained in the same country or same kind of job for more than 2-4 years, but I regret nothing". Her motto, quoting Mark Twain, is: "Twenty years from now you will be more disappointed by the things you didn't do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbour. Catch the trade winds in your sails. Explore. Dream. Discover." That's her advice to all of the women scientists out there.

LEFT: Antonella at her desk at ESF in Strasbourg (France).

RIGHT: Antonella as key-note speaker at the 2010 EURAXESS "Where Knowledge Has No Borders" event in Brussels (Belgium).



Name: ELENI CHATZICHRISTOU

Nationality: Greek

Year born: 1962

Research field: Astrophysics

Doctorate: Leiden University (The Netherlands), 1999

Marie-Curie fellowships: National Observatory of Athens (Greece), 2005-2008

Currently: Scientific collaborator at the National Observatory & Academic Dean at the City University of Seattle, both in Athens (Greece)

Languages spoken: English, French, Greek, Spanish

E-mail: elthchatz@gmail.com

TRAVELLING THE WORLD OF SCIENCE: BREAKING BOUNDARIES AND EXPLORING THE COSMOS

Eleni was born in Athens and as far back as she can remember she wanted to "fly to the stars". She dreamt of the absolute silence of space, the ability to view the whole world in just one glimpse of the eye, and the complete lack of gravity (in any sense). As far back as she can remember she drew pictures of herself, wearing a spacesuit, while traveling through the cosmos in spaceships. The mysteries of the Universe were a real fascination for her long before she graduated from the Physics department of the National University in Athens. Therefore, there was naturally no other option for her but to set off to follow her dream.

Her first stop was Paris, where she obtained her Masters degree in Astronomy at the Observatoire de Paris. She then immediately applied to become an astronaut. Unfortunately, it has proven to be much more difficult to explore the cosmos in a spaceship in reality than it was in her dreams. However, Eleni has not given up. She was determined to approach the distant Universe as much as she could, even if this meant that she would have to employ a telescope to do this. She started active research at the Observatoire de Meudon, while at the same time teaching science courses and astronomy at French high schools.

This was great, for a while, but was not enough to be the whole story: she had to set off for a bigger trip to pursue her dream further. Five years after her arrival in Paris she left again for her next stop, the Netherlands. She worked for two years at the Dutch Space Research Organization in Leiden before she decided to embark on a PhD. This was also the time when she shifted her scientific interests from the young emission-line Be stars to the exotic most distant active galaxies. At this time she spent six months in Uppsala Sweden, in order to set the project on a firm footing and to start collecting her data. It was summer time, the famous Scandinavian summer, and Eleni still remembers the endless days at the historical observatory and the sunny Stockholm archipelagos that so reminded her of her home country. It being necessary to collect massive amounts of data for her thesis, she went to Chile to the European Southern Observatory (ESO), where it was love at first sight.

Eleni felt she had to return to this country as soon as possible. Therefore she quickly applied for an ESO studentship and off she moved to Chile half a year later. Her aim was still to collect data for her thesis, but once she set foot in the Andes Mountains she felt closer than ever to her dream. She could spend weeks in a row at 2500 meters observing the sky. When the night fell she was taken by the awe inspiring starry sky. In the complete darkness one felt as though one were floating in space, between the earth and the sky, just like an astronaut. It was a living dream she wished would never end, yet it did.

Two years later she collected her tons of data and went back to Leiden to write up her thesis.

In June 1999 Eleni was already an accomplished scientist. She had Masters and PhD degrees in astronomy and had in her portfolio several years of research and hands-on observational work. Thus it was not difficult to land her next dream job, a National Research Council fellowship at NASA's Goddard Space Flight Center, Maryland. This time she set sail for yet a different part of the world, North America. Eleni found in the USA a new home country where she absolutely loved her job, the new friends she was making, the multi-cultural character

A SHIP IS SAFER IN THE HARBOR,
BUT THIS IS NOT WHAT SHIPS ARE MADE FOR

(...)

of pretty much every aspect of life, and the amazing and diverse landscapes. The two years at Goddard elapsed quickly and Eleni moved on to work at Space Telescope Science Institute in Baltimore. Six months later her director moved to Yale University to establish the Yale Center for Astronomy and Astrophysics and Eleni moved along as well. More time passed and the 18 years of absence from her home country started weighing on her. She had also just turned 40 and, even though she had consciously chosen to postpone starting a family, she started realizing that she wouldn't be able (biologically speaking) to do so for much longer if she wanted to have one. Therefore she quit her job and went back to Greece, ready to change her professional field if necessary. The first year of her return passed quickly as Eleni was amazed at how many things had changed in the country. At this time she won a Marie Curie International Reintegration Grant, this helped her to get established as an astronomer in her home country. She started getting deeply involved in science education and, as a result, she participated and/or coordinated several EU-funded projects promoting new technologies in education and inquiry based science communication.

She is the national node for Greece of the EU Hands-on Universe and the Europlanet-RI projects, and coordinates the Greek activities for the two projects. She also co-coordinates the European Planetary Media Center. Finally, she has co-founded and is member of the Board of Directors of the European Institute of Law, Science and Technology, based in Brussels. The Marie Curie grant came in a very timely manner for Eleni to be able to open up all these new possibilities in her home country at a critical turn in her career. "As a senior researcher in several renowned institutions worldwide, I have experienced first-hand extremely stimulating international environments, handled state-of-the-art observational facilities, established very useful collaborations, and developed excellent interpersonal and communication skills. I had no clue how I would be able to apply all these skills and qualities in the limited research environment that Greece provides". The answer came through the Marie Curie grant. At the same time, Eleni started teaching intensively, offering science courses at the graduate and undergraduate level. She moved up the ladder quickly and a couple of years ago she was offered the position of Dean of Academic Affairs at the City University of Seattle, Athens site. "I consider this to be one of my most rewarding experiences". Eleni is the author of 23 refereed papers in international journals and 41 papers in conference proceedings, gathering more than 1,200 citations. She has also written more than 350 science popularization articles and one book.

She has served as reviewer of NASA's FUSE Observatory proposals, member of the advising committee for NASA's "Kronos" mission, reviewer of NSF research proposals and, until now, reviewer of Marie Curie research proposals (physics panel). Her dream to start up a family was also fulfilled while in Greece, and Eleni gave birth to a wonderful boy. She may eventually experience rough times having to deal with two demanding jobs and single motherhood, but she hasn't thought for a moment that this is impossible. Career and personal life can definitely co-exist when one is ready for it. So, what next? When time comes Eleni will be ready to sail off to new adventures and undiscovered landscapes (this time accompanied by a young traveller on her side) because her motto has always been "a ship is safer in the harbor, but this is not what ships are made for".

LEFT: Eleni delivering a public talk at the Eugenides Planetarium of Athens (Greece). RIGHT: Eleni, then pregnant with her son, relaxing during an expedition (March 2006) to Kastellorizo (Greece) with the Athens Observatory to observe the total solar eclipse.



Name: GIANNA AVELLIS
Nationality: Italian
Year born: 1959
Research field: Computer science MCFA activity: Founding member of the Woman in Science working group m-WiSET
Marie-Curie fellowships: Imperial College, London (UK), 1992-1994
Currently: Senior researcher at Innovapuglia SPA, Bari (Italy)
Languages spoken: English, French, Italian
E-mail: g.avellis@innova.puglia.it

DUAL CAREER AND MOBILITY AGAINST THE BRAIN DRAIN

Gianna is a senior researcher in ICT, Consulting and Technical Assistance, at Innovapuglia SPA, Bari, Apulia, Italy. She has been involved as a coordinator and project manager in a number of European projects in Software Engineering, Multimedia projects, and Mobile Telecommunications.

She is on the board and is a founding member of Italian Women Innovators and Inventors Network (ITWIIN) and board member of Marie Curie Fellows Association (MCFA) where she founded the WiS working group m-WiSET with other fellows. Currently, she plays the role of evaluator and monitor of research projects of SMEs with Universities and research centres for Apulia region. She served the EU Commission as independent expert evaluator of European project in Software & Services. Her current research interests are in mobile learning. She has a degree in Computer Science, with 24 years spent in industrial research and 2 in academic research at Imperial College, London funded by a Marie Curie fellowship. Her thesis was on "An algorithmic logic for non deterministic programs". She has about 60 papers in conferences and journals in Combinatorics, Software Engineering, Multimedia Systems, Mobile Communications and Training, e-learning and Mobile elearning. Gianna has achieved a different goal in her mobility experience: to exploit her research results in her home country. She realised that to fully develop her potentialities both as a researcher and as a woman, she needed to return to her roots, her home institution was Tecnopolis CSATA, the Scientific and Technological Park in Valenzano, near Bari.

This goal of bringing young researchers home is shared by the president of Apulia Region, who has launched programmes to fund thousands of young researchers to study abroad, after having subscribed to an ethical contract to return to Apulia to develop the impact of their research in the region. He wishes to prevent the diaspora of mobile researchers from Italy. Gianna spent 18 months on a fellowship in 1992-1994, at Imperial College of Science, Technology and Medicine, Dept. of Computing, Distributed Software Engineering Laboratory, London, UK, when the Marie Curie fellowship scheme first started as the Human Capital and Mobility (HCM) scheme. Her research was on Requirements traceability and Domain Modelling, namely "Constructive Modeling of Composite Systems", and passed with credit the Spoken English for Industry and Commerce-Advanced level, from London Chamber of Commerce. Besides the period she spent in London, she also travelled in Europe and the USA to various research laboratories. Thereafter she decided to come back to Italy to apply the results and contacts developed abroad to the Distributed Software Laboratory of Tecnopolis. She maintained her contacts with the host institution and they continue to partake in fruitful collaboration.

In addition she formed and maintained new links with researchers at the Open University (OU) in the field of mobile learning. She feels that the reintegration problems are related to gender issues; it is difficult for women to reintegrate with other researchers who hardly accept the new competences the fellows gained during the period abroad. When she returned from London, she decided to move to another department, the multimedia laboratory. This move did not prevent her from applying the knowledge and research results she gained in London for Requirement Engineering to the new field of Multimedia Educational Software. She was also able to produce relevant publications with her supervisor in London. Mobility means also developing an "open mind" attitude towards finding new research opportunities. This was true in many European research project proposals written in this field in the home country.

MOBILITY MEANS ALSO DEVELOPING AN “OPEN MIND” ATTITUDE TOWARDS FINDING NEW RESEARCH OPPORTUNITIES

(...)

A side result of her mobility was the different approach to her work: while she was interested in very technological issues on research in Software Engineering, she is now more open to tackle different fields, especially the ones that have a direct impact with the social environment. For Gianna returning to her home country was an “ethical” choice. Mobility is a good thing not only for the fellow travelling, but also for the researchers at the host institution where they can see different life styles and can choose different careers.

Gianna's experience with a part of a dual career couple also resulted in a change of career and scientific interests for her husband. Before her fellowship at Imperial College her husband was a teacher of Combinatorics at University of Bari, Dept. of Mathematics, but he opted to take a oneyear sabbatical from his university to join her in London. He thought to use the time to plan the development of his contacts with some Imperial College researchers in order to study a series of topics. However, he also had a secondary didactic goal: to find a bibliography about the origin of the “formal thinking”, i.e. that human skill of thinking by signs manipulation, such as in Logic or in Computing. To this end, he began to go to the British Library every day, which was situated in the British Museum building. Perhaps, it was the charm of the wood seats of the library, whereon some of the greatest modern thinkers spent their study hours, or the intriguing aspects of the new topic; it happened that slowly the historical enquiry from the secondary goal turned to the main and ultimately exclusive goal. He got in touch with a professor of history of mathematics, who first read his first drafts on the new topic. When a year later Gianna and her husband left London to come back to Italy, he had changed thoroughly his interests and also the contents and style of his teaching: he had settled that, after twenty years spent playing with mathematical signs, he wanted to spend the next twenty years trying to understand their origin. Because of his time in London he completely changed his field of interest of his research and started a new research studying ancient Greek philosophy and the roots of modern computers. His research produced a book called “The Computer of Plato” where the fundamentals of modern computers logics were founded in Plato, Aristotle, and other Greek Philosophers.

His second book “The Computer of Ockam” analyses the evolution of formal thinking in middle age and Renaissance, and now he is writing a third book analysing the evolution of formal thinking in modern age. In the meantime, he also is contributing to Garzanti encyclopaedia with a section on the history of Mathematics. He also changed the topics of his teaching, from very technical courses for Mathematicians and Computer Science to more historical and philosophical oriented courses to Computing, Mathematics and also Philosophy of Science students, such as History and Fundamentals of Mathematics to Mathematics and Philosophy of Science students, Mathematical Logics and History of the Logic and Algorithm to Computer Science students. Their combined experience shows that sharing the same logistic and temporal aspects of studying abroad was a great advantage for both. The mobility experience was a key for Gianna to develop new skills and opportunities as well as to make new contacts and to consolidate the existing ones with other universities and research institutes, such as Bremen University, Germany, and Schlumberger Laboratory for Computer Science in Austin, Texas, USA. Further, but most important for her career, she reached a good scientific level in Software Engineering which is demonstrated by her many publications in the field.



Gianna at the EU presidency conference on “Training, Career and Mobility of Researchers in the Innovation Union”, June 2011, Budapest (Hungary).



Name:	SILVIA GIORDANI
Nationality:	Italian
Year born:	1973
Research field:	Chemistry, Nanoscience
Doctorate:	University of Miami (USA), 2003
Marie-Curie fellowships:	Trinity College Dublin (Ireland) & University of Trieste (Italy), 2003-2007
Currently:	Research lecturer & Principal investigator at Trinity College Dublin (Ireland)
Languages spoken:	English, Italian, Spanish
E-mail:	giordans@tcd.ie

MOBILITY IS A TRUE PRIVILEGE

Dr. Silvia Giordani represents a new generation of multidisciplinary scientists that, thanks to a high level of interdisciplinary training and mobility, bring together research expertise and know-how from a wide range of subject areas in a concerted effort to bring about new advances and future applications of nanoscience.

She received a Laurea in Pharmaceutical Chemistry and Technology from the University of Milan, Italy and a PhD in Organic Chemistry from the University of Miami, USA. She then moved to the School of Physics at Trinity College Dublin, Ireland to work on a Marie Curie Research Training Network project on “Template Grown Molecular Nanomaterials”. During her post-doctoral training she acquired extensive and interdisciplinary expertise in the characterization of nanomaterials. In particular, she focused on the problem of controlling the aggregation of single-walled carbon nanotubes (SWNTs), which has been the major bottleneck to applications. She was able to develop a novel simple methodology to disperse and de-bundle SWNT using organic solvents as dispersants.

She has been successful in a Marie Curie re-integration grant application to work on her original project in one of the leading group on functionalization of nanotubes at the University of Trieste, Italy. Dr. Giordani's independent career was launched in 2007, when she won the prestigious Science Foundation Ireland President of Ireland Young Researcher Award (PIYRA) for a research proposal entitled “Functionalizing Nanotubes with Molecular Switches for Smart and Sensitive Devices”. This prize, SFI's most prestigious award geared towards bringing the very best young researchers from around the world to Ireland, provides 1 M€ over a five-year period in support of Dr. Giordani's research program. Since 2007 she has been a research lecturer in the TCD School of Chemistry and an Investigator in the Institute of Nanoscience (CRANN) where she is running an international and interdisciplinary research group which currently includes three postgraduate students, four postdoctoral fellows and two undergraduate students. The research team is working on the design, synthesis, and characterization of photoactive molecules for sensing and light-activated delivery and on the functionalization and characterization of nanomaterials that are intended for applications in smart and responsive bio-related nanotechnologies.



Silvia with Mary McAleese, President of Ireland, during the PIYRA award ceremony, May 2007.



Silvia explains nanotechnology to the audience during “The third night of science” at Bergamo Science Festival (Italy), October 2010. Photo courtesy: Ass. BergamoScienza.

...TO EFFECTIVELY PERFORM MODERN INTERDISCIPLINARY RESEARCH IT IS CRITICAL TO ESTABLISH A NETWORK OF ACADEMIC AND INDUSTRIAL COLLABORATORS

(...)

To date, Dr. Giordani has authored 40 peer-reviewed publications that collectively have received over 1,200 citations and her results have been highlighted in journals such as Science, Nature, and New Scientist. She has also presented her work at numerous conferences around the world e.g. in Japan, Brazil, Chile, United States, and across most of Europe. In order to effectively perform modern interdisciplinary research it is critical to establish a network of academic and industrial collaborators, and Dr. Giordani has already initiated fruitful collaborations with several Irish- / European- /US- based groups with complementary skill-sets.

Dr. Giordani is also mindful of the importance of enhancing the general public's understanding and appreciation of research and is passionate at communicating science to young people. She has given lectures to high school students both in Ireland and in Italy and she has been invited to speak at many wide audience events, Women in Science Workshops, National Youth Orientation Day and Science Festivals. Since 2008 she has been an active member of the Leonardo group, the "brain trust" of Science Gallery and has been on the steering group for the SFI "Summer Undergraduate Research Experience".

Recently she coordinated a visit to TCD for a group of students from her old high school, the Giulio Natta Institute in Bergamo. She organized two days of lectures, demonstrations and tours around CRANN labs and Science Gallery. The visit was part of her "mentoring juniors" project, sponsored by Zaninoni Foundation and Confindustria Bergamo, which gives the young students a unique opportunity to experience what it is like to work in scientific research and provides them a taste of possible future careers. The high school students under the supervision of Silvia, the tutors and their professors are researching projects on energy and cancer.

LEFT: Silvia and collaborators showcase photochromic molecules during "Lightwave" at the Science Gallery, January 2009.
RIGHT: Silvia with Pia Locatelli, president of Zaninoni Foundation, and students-researchers, May 2011.



Name: CORINNE MARTIN
Nationality: French
Year born: 1976
Research field: Spatial Ecology
Doctorate: University of Wales, Swansea (UK), 2003
Marie-Curie fellowships: Hellenic Centre for Marine Research, Heraklion (Greece), 2010-2012
Currently: Marie-Curie Fellow at Hellenic Centre for Marine Research, Heraklion (Greece)
Languages spoken: English, French, Greek
E-mail: corinne.sophie.martin@gmail.com

"LEAD YOUR LIFE LIKE AN ADVENTURE" JEAN-LOUIS ETIENNE

Whenever people ask her where she comes from Corinne, of course, answers "Marseille!" as the place where one grows up usually defines so many features of a person. On those rare occasions when her home town does not take over the conversation, she adds that since leaving her home city 14 years ago the other places she has lived have defined her just as much as her upbringing, and that this was made possible by the European Union. How? Well, her first leap abroad (to England) came in the form of an undergraduate student exchange program called Socrates-Erasmus, funded by the EU. Later, thanks to agreements at EU level, she was able to study for a PhD (in Wales, on the "behavioural ecology of marine turtles") whilst paying the same (reduced) tuition fees as local students. For her first post-doctoral position, she returned to England to work on a cross-border research project with France, funded by the EU's Interreg scheme. The project (called CHARM¹) was successful at gaining two further rounds of funding from Interreg; this allowed her to build strong working relationships as well as friendships with researchers on both sides of the English Channel. After returning to France with the beginning of the third phase of the CHARM project, Corinne now continues her EU adventure with a Marie Curie Intra-European Fellowship in Greece. This bursary allows her to entirely dedicate herself to working on her own research project, whilst improving her future employability through varied career development activities (e.g. training courses, conferences, etc).

In addition to the opportunities she has enjoyed from her personal mobility, Corinne's research work has greatly benefited from European funding through the availability of datasets (particularly sea survey datasets) that would not have otherwise been collected. She has participated in a number of surveys on-board oceanographic research vessels that collected data as part of multi-national research projects in the North Sea, English Channel and Mediterranean. She says that "I feel lucky to have had this experience of going to sea. Despite all the hard work in sometimes difficult conditions, I now know these datasets from within."

By having lived and worked in three countries, she likes to say: "I can pick and choose the best of each country, be it English tea, French patisserie or Greek sea food", though she also applies this philosophy to her work (currently, marine species spatial distributions and modelled habitats) and other aspects of everyday life. Granted, it is not easy to move to another country, leaving family and friends behind and having to learn all about the new place, everything from finding a good garage to service the car to the social security and fiscal systems, but along the way, new friends are made and new places are discovered as a local resident, giving a unique insight into the people and their culture. She admits that she feels very much like a citizen of Europe, and thinks that her children might well feel the same when they grow up, since, thanks to their Greek father, they are bi-national.

(Note) 1 Channel Habitat Atlas for Marine Resources Management

PHOTO: Corinne on-board a fishing research vessel in the Mediterranean Sea.

... HAVING LIVED AND WORKED IN THREE COUNTRIES, "I CAN PICK AND CHOOSE THE BEST OF EACH COUNTRY"



Name: REIA CHMIELOWSKI
Nationality: Australian, US Citizen
Year born: 1966
Research field: Geology
Doctorate: University of Tasmania, Hobart, Tasmania (Australia), 2009
Marie-Curie fellowships: University of Milan (Italy), 2009-2010
Recently: Marie-Curie Fellow, University of Milan (Italy)
Languages spoken: English, Swedish
E-mail: reia.chmielowski@gmail.com

A WORLD FULL OF ADVENTURES

The study of Earth Science is one which lends itself well to world-travel; not only do countries differ in climate and culture, the rocks themselves vary from one place to another.

Stories of adventures undertaken in the name of science, told by one of her undergraduate teachers of his days doing geologic mapping, inspired Reia to choose geology as her life's work. Her own pursuit of such adventure, in turn, has led her to travel the globe doing research. Reia's undergraduate degree was awarded from Southern Oregon University, in Ashland, Oregon, a town which is fortunate to have examples of all major rock-types within a couple of hour's drive, making it an ideal location for a solid grounding in Geology. From there her love of learning lead Reia north, to Alaska, for her Master of Science degree, where she studied the Structural Geometry and Evolution of the Toyuk Thrust Zone, Brooks Range, Alaska. This is the furthest north mountain range in the US, and the arctic conditions and recent glaciation have resulted in spectacular displays of rock "outcrop" which reveal the folding and faulting of the layers which make up the range, making it an excellent natural laboratory.

Having studied in the far north Reia then travelled to the far south, undertaking a PhD on The Cambrian Metamorphic History of Tasmania, Australia's southern-most state. Her Tasmanian research sheds light on the formation of some of the oldest rocks in the state (510 Ma). The contrast in the geology between Alaska and the island of Tasmania is profound, and her skills as a geologist are the better for having had the opportunity to work in both locations. After completing her PhD Reia accepted a 1.5 year contract in Europe, as a Marie Curie Research Fellow at the Università degli Studi di Milano in Italy, where she conducted experiments as part of the international research project "c2c" (Crust to Core) investigating "subduction-zone processes". Her contribution to this project was an investigation of how different minerals will form from the same starting composition due to different temperatures and pressures. She accomplished this using a "piston-cylinder apparatus", which can apply intense pressure to a powdered rock, permitting new crystals to grow therein. Examining those crystals, knowing the pressure and temperature at which they grew, helps us to better understand the conditions under which mineral crystals form in rocks deep within subduction zones. Having occasionally interspersed adventures outside of academia in between her years of research, Reia still counts an "early-career researcher", yet her career has already spanned three continents. As a result of this travel, in addition to learning about rocks and better understanding the processes involved in the formation of mountain ranges (plate tectonics) she has also learned that "No matter where your career takes you, there are always new and exciting things to learn. Being open to travel and mobility strengthens your ability as a scientist." Thus far she has published four papers in peer-reviewed journals and contributed talks or posters to 14 different international conferences. She looks forward to seeing where her career takes her next.

BEING OPEN TO TRAVEL AND MOBILITY STRENGTHENS YOUR ABILITY AS A SCIENTIST

PHOTO ON TOP / Reia in the Field: James Dalton
Mountain, BrooksRange, Alaska (USA).



Name: MARIA BOSTENARU
Nationality: Romanian, Hungarian
Year born: 1974
Research field: Engineering
Doctorate: University of Architecture and Urbanism, Bucharest (Romania), 2008-(on going)
Marie-Curie fellowships: ROSE School, Pavia (Italy), 2002-2003 & 2005-2007 ; Foundation ERGOROM '99, Bucharest (Romania), 2007-2010
Currently: Researcher at the University of Architecture and Urbanism, Bucharest (Romania)
Languages spoken: English, German, Hungarian, Italian, Romanian
E-mail: maria.bostenaru@iaim.ro

THROUGH MOBILITY YOU CAN LEARN MORE OF THE WAY OF LIFE OF PEOPLE IN OTHER PLACES

About 300 years ago, the people called Danube Swabians came from Southern Germany to establish themselves in the then—Habsburg governed Sathmar and Banat areas. Maria Bostenaru Dan's grandfather is a descendant of those people, but he studied veterinary medicine in Budapest and then lived in Romania, in the northern part of Transylvania—an area which has often changed hands. At the beginning of the 20th century it was Hungarian; it then became Romanian, then Hungarian again during WWII and finally it once again became Romanian. Maria's grandmother was from the territory of contemporary Hungary, and came to Romania exactly during one of the times of transition, during WWII, as Hungarian language teacher for Romanian children. Thus, mobility has long been a part of Maria's family history. In 1996 Maria applied for a TEMPUS scholarship to go to Southern Germany, to the Universität Karlsruhe, where, in addition to her studies, she could learn something of her roots.

She liked it enough to wish to remain there, so she applied on her return to be regular student in Germany, and then, after graduating in 1999 as Dipl.-Ing. (the title received by architecture graduates in Germany) she embraced a postgraduate study. During this time she was offered a research assistant position in a co-operation project with Romania regarding civil engineering designed to minimize danger from earthquakes, and opted to continue this topic with a doctorate, both Deutsche Forschungsgemeinschaft (German Research Foundation DFG) funded. This was not her first DFG funding, her very first contact with research and mobility, a short 2 week stay, had sent her to Myslakowice, Poland, the country of Marie Curie, for a building survey. While engaged in her research in Germany she noticed the importance that German companies were giving to experience abroad. She realized that any work experience she could have gained in Romania, would not have counted as such, since Romania was her home country.

Therefore she looked for opportunities that would count as "abroad" both from a German and a Romanian perspective, and found a Marie Curie host fellowship in one of the most renowned institutions in earthquake engineering, the ROSE School, located in Pavia, Italy. This location has its link to her family as well; the brother of her Hungarian grandmother emigrated in 1956, the year of the Hungarian Revolution, from Hungary to Canada with a long stop in Italy. So Italy did not feel completely foreign to her.



The cover page of one of Maria's published books, "The rediscovered green space".

SHE CHOSE SCIENCE, IN PART, BECAUSE IT WOULD GIVE HER THESE OPPORTUNITIES FOR WORLD TRAVEL

(...)

During the time spent in Italy she made links with fellow researchers, and after her scholarship expired in Germany, she applied for an experienced researcher individual fellowship under the Marie Curie scheme, which was approved. It was hard for her to leave Germany after spending more than 9 years there. She would have liked to have remained and applied for citizenship, but it was not an option.

While the requirement for citizenship is eight years as a resident, time spent on a student visas does not count. To ease the “homesickness” of leaving Germany, she travelled once or sometimes twice a month between Italy and Germany that first year she was in Italy. Anticipating that this move would also be a long-term relocation she moved all her belongings to Italy. However, it did not work out that way, and she found herself needing to make quick decisions as to where to go next. After looking over the options she could find, she applied with the Foundation ERGOROM '99 for a reintegration grant to return to her home country of Romania.

The application process was challenging. While she had links with the “Ion Mincu” University for Architecture and Urbanism, where she studied before her TEMPUS scholarship, they could not guarantee that she would be employed, so she had to look further afield. However, once she was back in Romania, she was offered a researcher position in addition to the reintegration grant at this university, which she still holds. She acknowledges that while she gained many benefits and much knowledge about other peoples and cultures in her many years away, in some ways her career lags behind those of her colleagues who never left. It is to be hoped that the same strength which saw her surmount challenges during the times of transition as she moved from one location to another will also see her through the challenges which await her now, and hopes that she will find an opportunity to return, once again, to Germany, once she finally finishes that doctorate degree, and in the mean time she has applied for a second citizenship (Hungarian). She admits that she chose science, in part, because it would give her these opportunities for world travel, and she has enjoyed the chance to learn about people who are both different, yet also tied to her own, personal, family history.

LEFT: Maria speaking at the TIEMS conference, 2011, Bucharest (Romania).

RIGHT: Maria on the panel on career paths of mobile women, 2011, Budapest (Hungary).



Name: NATALIA BALCAZAR
Nationality: Spanish
Year born: 1966
Research field: Geology and environmental science
Doctorate: University of Madrid (Spain), 1992
Marie-Curie fellowships: FEhS, Duisburg (Germany), 1996-1998
Currently: Owner & CEO of ENVIROpro, Duisburg (Germany)
Languages spoken: English, French, German, Spanish
E-mail: n.balcazar@enviro-pro.eu

IF YOU DON'T ASK, YOU ALREADY HAVE 'NO' FOR AN ANSWER... – A SHORT LIFETIME REPORT

Natalia was a 14-year old student when she first recognized that she wanted to learn more about Geology, while she painted a volcano at the board. She began her geology studies in 1984, but was very aware that there were more students interested in this career path than there would be jobs available.

After presenting her doctoral thesis she sought a stay abroad, in the hopes of increasing her chances of obtaining a position at the research institute in Madrid where she had done her first research, on environmental management of by-products from the steel industry. This search led to an opportunity to go to Germany for 10 months with a DAAD-Fellowship, to a partner institute that was conducting research in the same areas; she was already acquainted with some of her new colleagues at this institute from her thesis research, which was part of a joint European project (ECSC). Her career path looked so clear at that point—a brief stay abroad and then return home to settle into a stable job and family life in Madrid.

She arrived in Duisburg in September 1994, with her small car full of things. Her husband travelled with her and then flew back to Spain alone, since this was to be only a 10-month stay for her. She says that “The first time was not easy.” Issues she had to deal with included loneliness and not yet speaking the local language. Working through these problems let her develop friendships which have lasted to the present day. Despite the initial plans for this being a short term placement, she applied for, and received, an extension on that fellowship, which gave her an opportunity to continue her language learning as well as her research, but the cost was her relationship; she found herself single and needing to start over in her personal life. Fortunately, she then found a supportive partner who has encouraged her in every stage of her career; this loving friendship has made it easier for her to face each new challenge as it arose. Thanks to that extension, and other funding opportunities that arose thereafter, she spent five years working at that research institute (two years of it with a Training and Mobility of Researchers fellowship from FP5), during which time her German improved. Once she had exhausted all funding possibilities to remain at that research institution she then knocked at lot of doors looking for other potential positions.

One of the people whom she contacted, a professor at the University in Bochum, was not interested engaging her himself, but suggested that she ask in different department, and she



Natalia moderating the start event of the “Environmental Days in Duisburg”, May 2011 (Germany), with representatives from EU-Commission, EU-Parliament, City of Duisburg and Land North-Rhine – Westphalia.

I NEVER THOUGHT OF MYSELF AS THE KIND OF PERSON WHO WOULD DO THIS – START A COMPANY

(...)

thought for herself: “if you don’t ask, you already have ‘no’ for an answer”. Thanks to that inspiration, she asked, and found an interested department leader; together they asked for a project with the German Research Association. However, she found it necessary to work temporary jobs for a year while waiting for the research proposal to be evaluated and approved. Once the project actually began she enjoyed “earning money while looking at minerals through the microscope!”

However, she also found that the requirement to achieve a “Habilitation” was not compatible with her interests and she found herself not motivated to try to stay long term at the university, which brought her to the crossroads once again. Fortunately, she was now quite familiar with the feelings that come with starting over, and this time she found it easier than it had been six years previously; she could speak the language, had a stable private life, and had learned that “when a door closes, a window opens”. Therefore, with appropriate preparation, she undertook a focused search for a new job that she enjoyed, and found one in only a few months.

She found herself a position in which she flourished - her experience, language fluency, know-how, and capabilities combined, giving her the position of project manager working with international partners. She says that “I had found a place where I felt that I could be myself. I could engage, I could arrange ideas and tasks; I was happy.” Sadly, that position lasted only four years before external economic factors affected the company and sent her again to the market. This time, rather than undergo another job search, she opted to take control of her own destiny and to try selfemployment. Therefore she called upon the support of her network to start her own company. Since July 2005 she has been the owner and CEO from ENVIROpro, and she is very proud of it. She says “I never thought of myself as the kind of person who would do this - start a company”, yet here she is, planning for growth and adding an employee, keeping her spirit, getting new ideas, doing tasks that interest

her and seeding around for more sustainability and energy efficiency. She tells those who are also considering running their own business “To lead a company - even a very small one - has positive aspects: you can choose when you do what, you can influence which kind of jobs and projects you get involved in and you can develop further. But you have also the full responsibility to get the things working”.

LEFT: Natalia speaking at the European Conference “Sustainable Development: A Challenge For European Research” (http://ec.europa.eu/research/sd/conference/2009/index_en.cfm?pg=speaker&speaker=balcazar).

RIGHT: Natalia and friends with motorbikes on the road (2010).



Name: SVETLANA BACA
Nationality: Ukrainian
Year born: 1961
Research field: Chemistry
Marie-Curie fellowships: Academy of Sciences, Chisinau (Moldova), 1996
Currently: Marie-Curie Fellow at the Institute of Chemistry, RWTH Aachen University (Germany)
Languages spoken: English, Russian, Ukrainian
E-mail: sbaca_md@yahoo.com

BELIEVE IN YOURSELF AND FOLLOW YOUR DREAMS

“The reason most people never reach their goals is that they don’t define them, learn about them, or even seriously consider them as believable or achievable. Winners can tell you where they are going, what they plan to do along the way, and who will.” Denis Waitley When she was 14 years old, Svetlana read “Running on waves”, a romantic novel by Aleksander Grin, about a girl who can run on the waves of the sea to follow her dreams, because she believed in herself. Years later Svetlana still remembers how impressed she was by the message of this book: that – if you truly believe in yourself, you can make your dreams become reality. Chemistry, the science concerned with the composition, structure, and properties of matter, was a subject that Svetlana especially liked at school.

Studying the different substances and creating new compounds - what could be more interesting? Following her dream in 1978, Svetlana moved from Tomaspoli, a small town in the Ukraine, to Chisinau, the capital of the Republic of Moldova, where Svetlana began studying chemistry at the Moldova State University. Having defended her Master’s thesis “Photochemical disintegration of Fe(III) glyoxylate complex” supervised by Professor Gh. Duca, Svetlana obtained her M.S. in 1984. With this master degree, she held in her hands “a pass” to her desires and the profession of a teacher and investigator. Supported in her dreams by her young family of husband Ivan and their 1-year old daughter Ana, Svetlana decided to continue her career as a researcher and began work in the field of Nuclear Magnetic Resonance (NMR) at the Institute of Chemistry, Academy of Sciences of Moldova. It was a new world for her and it was so exiting. Having invited Svetlana to his laboratory in 1989, the renowned scientist, Professor N. Gerbeleu, enticed Svetlana to study the template-controlled synthesis of macrocyclic compounds. Her doctoral thesis “Template synthesis, study and properties of hexaazamacrocyclic complexes of nickel(II) with ligands based on S-alkylisothiocarbohydrazides” mainly dealt with various aspects of template synthesis of polyazamacrocyclic compounds. Svetlana received a PhD in Inorganic Chemistry in 1996.

In the same year, she was awarded the First Class Prize of the Praesidium of the Academy of Sciences of Moldova, conferred to distinguished young scientist in recognition of scientific achievement. After completing her doctoral degree Svetlana obtained numerous travel grants from various sources including the American Society of Chemistry, the Royal Society, the Swiss National Science Foundation, and the German Foreign Exchange Service (DAAD) in order to carry out postdoctoral research in laboratories in the USA, UK, Switzerland and Germany.

In 2005, Svetlana became an Associate Professor in Inorganic Chemistry at Institute of Chemistry, Moldova Academy of Sciences. In the same year, she was awarded a Marie Curie Incoming International Fellowship under FP6 to study the photophysical properties of polymetallic coordination compounds with a focus on cyanidebridged coordination networks at the University of Sheffield, UK. There she, collaborated with Professor M. Ward and enjoyed a rigorous and unique cross-disciplinary experience that opened new opportunities for her to advance her scientific career. At Sheffield, Svetlana took part in some of a wide range of professional development courses provided by the university. These included language training, courses in information technology and in effective communication and presentation skills, report writing, managing and leading small groups, and time management.

... IF YOU TRULY BELIEVE IN YOURSELF, YOU CAN
MAKE YOUR DREAMS BECOME REALITY

(...)

Upon returning to her home institution in Moldova, Svetlana implemented her newly acquired skills in two major ways. First, exposure to new physical techniques and methods associated with coordination chemistry (synthesis, photophysics, crystallography and so on) allowed her research to expand in several new directions. Second, the enhanced skills in other areas (such as language, management, presentation and communication) allowed Svetlana to engage more effectively in other collaborative ventures with an international component.

Several projects, in which Svetlana generated new ideas, were successful and supported financially by the various international and national scientific funds. One of the projects funded by German Federal Ministry of Education and Research, led to the second Marie Curie Incoming Fellowship for Svetlana under FP7 in 2010, allowing her to visit Professor P. Kögerler's group at RWTH Aachen University for two years to develop functional materials via controlled assembly of coordination polymers based on metal-clusters and multitopic organic ligands. Recently, Svetlana's daughter Ana, who had enjoyed a successful career as a professional ballet dancer, has also decided to follow her new dreams: "Mama, I always remember your favourite story about the girl who easily ran on the waves to a beautiful magnificent and mysterious island to achieve her dreams" she recalled.

"All of the top achievers I know are life-long learners...
Looking for new skills, insights, and ideas.
If they're not learning, they're not growing...
not moving toward excellence."

Denis Waitley

LEFT: Svetlana at the 1st International Conference on Metal-Organic frameworks and Open Framework Compounds (MOF08), 2008, Ausburg (Germany). RIGHT: "World in your hand", Svetlana near Atomium, 2007, Brussels (Belgium).



Name: THEODOTA LAGOURI
Nationality: Greek
Year born: 1970
Research field: Nuclear and high energy physics
Doctorate: Aristotle University of Thessaloniki, (Greece), 1997
Marie-Curie fellowships: Max-Planck Institut für Physik, Munich (Germany), 1998-2000 ; Aristotle University of Thessaloniki, (Greece), 2003-2004
Currently: Research scientist at CERN, Geneva (Switzerland)
Languages spoken: Greek, English, French, German, Spanish
E-mail: theodota.lagouri@cern.ch

"NOTHING IN LIFE IS TO BE FEARED.
IT IS ONLY TO BE UNDERSTOOD"
MME MARIE CURIE "Τα πάντα ρέι", HERACLITUS

Theodota is currently a research scientist in High Energy Physics working at CERN, Geneva, Switzerland. Since 2006 she has been working with the University Autonoma de Madrid (UAM) on the discovery of Higgs particle in the ATLAS experiment at the LHC. Natural sciences fascinated Theodota from a very early age, so the decision came naturally, while she was still in high school, to study Physics. With it came an early realization that this is her way to better understand the fundamental workings of the world and the basis of life itself. Theodota comes from a very connected family of 3 sisters with parents who were supportive of the idea of their daughters pursuing scientific university studies. Her eldest sister followed the life sciences, biology, and her twin sister decided to study chemistry.

Theodota started studying Physics in 1987 in her hometown of Thessaloniki in Greece and then decided to specialize in nuclear and particle physics during her second year. She defended her diploma thesis on "Positron annihilation Studies of Point Defects in Neutron Transmutation Doped Czochralski-Grown Silicon" and graduated in July 1991. She then continued to work in the same group to study "Positron Annihilation Studies in High-Tc Superconductors Y 1:2:3" a topic of considerable interest to better understand properties of these new materials. After several years of intense work Theodota received her PhD in Physics in May 1997. Even before the completion of her PhD, Theodota had her first positive experience with the EU mobility programs. She benefited from the ERASMUS program to learn more on her research subject during the summer months of 1994, working in Positron Physics Laboratory of Helsinki University of Technology in Finland. This introduction helped her to realize that she liked to travel and meet people from other cultures and languages – a trait that she still holds today. A new research position in the nuclear physics laboratory gave her the opportunity to work, during the summer months of 1996, for the newly set up ATLAS experiment at the Large Hadron Collider (LHC) at CERN in Geneva, Switzerland. This new, intriguing field of research that was opening up, with new high energy physics experiments, immediately attracted Theodota's interest. This field did not yet have possibilities for post-doc work in Greece, so Theodota successfully applied for a TMR Marie Curie Research Training Grant fellowship to pursue this area of interest elsewhere. She accepted the challenge to work in Germany though she didn't know the language and was aware of that there would be a different culture and mentality of the German people as compared with what she was accustomed to in Greece. With the grant, Theodota worked in the ATLAS group at the Max-Planck Institut für Physik, in Munich, Germany (1998-2000) on the topic of "High Accuracy Momentum Measurement of Muons in a new generation p-p Collision experiment". This work gave her the opportunity to explore the high-energy experimental physics domain with the ATLAS experiment. The grant gave her several opportunities to participate actively in various conferences and workshops - enriching her scientific knowledge and gave her various opportunities to present her work. Since her work also needed computing knowledge she attended the CERN School of Computing in Prague (Czech Republic) in 1997. She represented her institute at the 3rd Workshop of Marie Curie Fellows: Research Training in Progress that was held with host the Max-Planck Institut für Physik in 2009. At the beginning it was not very easy to adjust to life in Germany, she communicated only in English at work and outside, but soon after attending a language school in the evenings she started to understand the people.

SHE IS DEDICATED TO THE HIGGS PHYSICS FOR THE HUNTING OF THE ELUSIVE “GOD” (HIGGS) PARTICLE

(...)

She realized that knowing the language of the place where you live is a very important step to come closer and understand the people's mentality and integrate faster, something that she followed since then. Returning to her home institute in 2003, after the completion of her term in Germany, the Marie Curie Individual Fellowship Return Grant, allowed Theodota to continue for one year her research in this interesting area with the ATLAS experiment. She contributed significantly to the software to reconstruct and identify muon tracks in the ATLAS detector. She participated in various international conferences and schools like the CERN School of Computing in Krems (Austria) in 2003, where she met her future husband, also a CERN high-energy physicist and moved with him to Geneva, Switzerland. At the end of her return grant with Thessaloniki, Theodota received a post-doc position at Charles University in Prague (2004-2006) with the Marie Curie Research Training Network “The Third Generation as a Probe for New Physics: Experimental and Technological Approach”. This post allowed her to work on the muon trigger software of the ATLAS experiment and interact with the international scientific community presenting her work in the RTN workshops in Karlsruhe (Germany), Corfu (Greece), and in Prague (Czech Republic). She was member of the organizing committee of her host institute for the RTN workshop in Prague (2006). During these years she faced the difficulties of commuting between Prague and Geneva and without knowing the Czech language she found it more difficult to integrate in such a short term placement. In 2006 she was happy to get her current research position with the University Autonoma de Madrid based at CERN. Since then she is dedicated to hunting for the elusive “God” (Higgs) particle as a member of the ATLAS Higgs physics group. Working in such an international organization, like CERN with official languages of English and French, is another challenge.

Theodota is coming into contact every day with people of different countries and cultures, so by now she is used to hearing English, French, Italian or Spanish spoken in the same room without getting a headache at the end of the day. She shares with her partner the same interests in physics and other areas; they are discussing and collaborating even if they work for different “competitive” CERN experiments. Theodota's first motivation to follow the EU mobility programs was her desire to learn more on her scientific research subject and explore new research areas, initially hoping that it would be a good experience and it would help her to return in a short time to her home country, more advanced than before and perhaps fit for an academic post. However, in the meantime, things changed, and rather than returning promptly to Greece she found that the EU mobility programs were much more important for her scientific life than she had anticipated; as a matter of fact, they helped form her personality and in parallel to the scientific benefits they also affected her personal life. Despite the practical difficulties of mobility, she learned to adjust faster and remember only the positive experiences after all is said and done. On her way she learned to be more open-minded and to not be afraid of the unknown. Catching the new opportunities she realized soon that nothing is static, everything changes, as Heraclitus said: “ἡ φύσις ἀεὶ κινεῖται”. She feels now that EUROPE as a whole is her new home country.

Theodota has published about 60 papers in scientific journals and 20 in conference proceedings. She is member of the MCFA association, the MC Women in Science (m-WISET) working group, the Hellenic High Energy Physics Society and she is member of the CERN personnel.

LEFT: Theodota at work in her CERN office, Geneva (Switzerland).
RIGHT: Theodota with her sisters at a conference in Rome (Italy).



Name: NUSRAT SANGHAMITRA

Nationality: Indian

Year born: 1977

Research field: Chemistry

Doctorate: Indian Institute of Science, Bangalore (India), 2005

Marie-Curie fellowships: Leiden University (The Netherlands), 2008-2009

Currently: Program specific researcher at the Institute of Integrated Cell-Material Science (iCeMS), Kyoto University (Japan)

Languages spoken: English, Indian

E-mail: nusrat.tif@gmail.com

CROSSING THE BOUNDARIES: CROSS DISCIPLINARY RESEARCH THROUGH CROSS COUNTRY TRAVEL

Nusrat J M Sanghamitra, senior researcher at Institute of Integrated Cell-Material Research, Kyoto University gives a glimpse of her career, actuated and shaped by “mobility”. Right after completing high school, she sailed away from the safe harbour, and continues to sail free now, twenty years later. When first she stepped out of home it was looked at with suspicious eyes by her society, for she was a Muslim girl from a small town in India, to do so; it was the early nineties and she had to cross many boundaries of social prejudices.

But she took up the challenge of mobility, brought out her courageous self and stood strong with absolute tenacity and studied not only in the best college and university of the province but she also earned her Ph.D degree from one of the best institutes of India (Indian Institute of Science, Bangalore), which was 1,700 km away from her home town. India, being a vast country has completely different languages, food habits, and culture in every province. So crossing a province in India brings with it the challenge of complete relocation of body and mind. She not only relocated herself physically but also integrated mobility into her research area and opted for interdisciplinary research. Although, she obtained her masters in chemistry, she chose her doctoral thesis in bioinorganic chemistry and studied anticancer activity of copper (I) phosphine complexes. This was a period when, in India, bioinorganic chemistry and indeed interdisciplinary research was still in its infancy.

She remembers an unknown quote “success is not what you have achieved but how you achieved it” and says studying anticancer activity was not a big thing but working on this area in an Inorganic Chemistry department was indeed a challenge. Although, she was at a premier research institute of India, where the biology departments were fully equipped, there was no facility of biological studies was available in the chemistry department. As a result it was a challenge for her to cross the disciplines and collaborate with biology department on day to day basis, particularly in the early stage of her career, when not many inorganic chemists in the department were appreciating this research topic. She chased the question of mechanistic investigation of anticancer drugs and after successful completion of her doctoral thesis, moved on to study the folding and unfolding of a cytochrome c oxidase subunit, which is a key protein targeted by anticancer drugs in another top research institute of India, Tata Institute of Fundamental Research, Mumbai.

But her real mobility started with her selection as a Marie Curie Fellow in a research training network (RTN), EdRox hosted by Leiden University in the Netherlands. With this offer and appointment at the Leiden Institute of Physics, she not only crossed continents but also took another challenge in research and opted for biophysics and studied electron transfer and tunnelling properties of molecularly wired metalloproteins onto the surface. Nusrat says that being part of an RTN shaped her research career in a unique way. RTN, EdRox had seven internationally well-known research groups and two SMIs spanned three countries (Italy, Netherlands and England).

This gave her the opportunity to discuss science with the international researchers in these groups during the RTN biannual meetings; she also took minutes in the steering committee meetings and was part of gender action committee of the RTN. Such association with international researchers made her more confident, increased her soft skills and brought about positive changes in her personality. During the fellowship, she got an opportunity to visit and work at Oxford University as part of secondment program which was quite memorable and challenging for her in terms of professional development and inter-personal skills.

... “ACQUIRE KNOWLEDGE, EVEN IF YOU HAVE TO CROSS COUNTRIES AND CONTINENTS AND GO TILL CHINA, DO IT”

(...)

At the end, she says “Thanks to MC Fellowship and MC actions programmes in RTN, it not only gave me an exposure to internationally challenging interdisciplinary research but also provided me an opportunity to travel to many European countries and broaden my ideas about different cultures, languages and professional work environments during the short 18 months fellowship. I attended a Marie Curie conference and ESOF 2008 in Barcelona and joined the MCFA administration board. Joining this board added several positive points in my career.

For two years, on behalf of MCFA, I served as a science career editor in a springer journal, Reviews in Environmental Science and/ Biotechnology. It was a unique and interesting experience. Overall, my international exposure in various ways due to the MC Fellowship also had an effect in my selection in my next job in Japan and I again moved to a different country which has completely different work ethics, culture, language and overall system. Interestingly, I am again working on an interdisciplinary project on development of biomaterials for the growth and differentiation of human embryonic and induce pluripotent stem (ES and iPS) cells.”

“Although, it has been really difficult to relocate mentally and physically and read just to completely new system every two or three years it has been stimulating and challenging. I would have been more disappointed, had I not taken up these challenges however hard and demanding they have been. Last but not the least, thanks to my religious upbringing and teaching of the founder of my religion who instructs us To acquire knowledge, even if you have to cross countries and continents and go till China, do it, it always kept the light ignited in me to cross boundaries.”

“Dream anything that you want to dream. That’s the beauty of the human mind. Do anything that you want to do. That is the strength of the human will. Trust yourself to test your limits. That is the courage to succeed.” Bernard Edmond



Name: ELENA MARTINES
Nationality: Italian
Year born: 1977
Research field: Biomedical engineering
Doctorate: University of Glasgow (UK), 2005
Marie-Curie fellowships: University College Dublin (Ireland), 2010-(on going)
Currently: Marie-Curie Fellow at the University College Dublin (Ireland)
Languages spoken: English, French, Italian, Spanish
E-mail: elenamartines@gmail.com

ALL YOU NEED IS LOVE

“I have lived abroad since I was 19. At times I have wished I settled in a place, and I have longed for stability. But each time an exciting opportunity showed up, I was never able to say no!”

Like many of the children who grow up on the Sicilian coast, Elena spent most of her childhood on the seashore, fascinated by the many shapes and colours of the marine world. Her interest in nature increased during high school, where she was very lucky to have a science teacher who transmitted to the students a lot of passion for science and a general curiosity towards all the natural phenomena, from the reaction of chemicals to the eruption of volcanoes. Like many teenagers, Elena also longed for world travel, and the perfect opportunity appeared when the National Institute of Applied Sciences (INSA) in Lyon, France, advertised their international undergraduate program (EURINSA), where she enrolled in 1996. “The experience at INSA has completely changed my life and shaped my personality. I was only 19, coming from an island where most innovations arrive later than in the rest of the country, and I found myself in a thriving multicultural environment, with friends of different nationalities in a vibrant European city”. The initial adaptation was difficult. Of all the relocations that have followed, none was as hard as the first one. But after a few months Elena was perfectly integrated, fluent in French and very excited about the new travel opportunities that her studies were offering. In 1999 she was selected to spend a year as Erasmus student in the Kungliga Tekniska Högskolan,, Stockholm, Sweden, where she specialised in Biomedical Engineering in collaboration with the Karolinska Institute.

When she returned to Lyon she had made two decisions. First, she wanted to work in the field of biosciences and second, she wanted to relocate again to a different country. As a result, she contacted the Centre for Cell Engineering at the University of Glasgow, UK, and asked to do her Masters’ thesis there. She was accepted, and after getting her MEng in Mechanical and Design Engineering from INSA in September 2001, she returned to the University of Glasgow to embark on a PhD. Her PhD was a second major life change, and not only because of the new Scottish lifestyle. In the Centre for Cell Engineering Elena entered the world of nanotechnology, studying the biocompatibility of nano-engineered surfaces, a completely different perspective than the macroscopic approach of her mechanical engineering background. As a PhD student in this extremely multidisciplinary field, sometimes termed “nanobioscience”, Elena gained hands on experience in nanofabrication, advanced microscopy techniques, cell biology and surface chemistry.

Elena got her PhD in Cell Engineering in 2005. At this point she realised that she had been disconnected from her home country for too long, and she decided to go back with a postdoctoral contract in the Chemistry Department at the University of Catania, Italy. She felt happy at home. But one year later she still had a drive to discover the molecular mechanisms of cell adhesion, so she decided to relocate again, this time to Spain, to work in the Centre for Cooperative Research in Biomaterials (CICBiomaGUNE, San Sebastián, Spain).

Moving out from home is harder then moving from any other place and leaving Sicily a second time was difficult, but this time her husband followed her. Elena worked for over two years in CICBiomaGUNE, investigating the molecular mechanisms of HIV infection. She was very happy to contribute to the search for effective anti- HIV microbicides and she filed two international patents in the field of Atomic Force Microscopy. But mobility is contagious and while in Spain her husband decided to move to Ireland.

Nusrat at work at the University of Kyoto (Japan).



WHEN YOU LOVE BOTH SCIENCE AND YOUR FAMILY,
YOU WILL EXCEL IN BOTH

(...)

After more than one year of travelling between Spain and Ireland, eventually Elena moved to Dublin and a few months later she was awarded a Marie Curie Intra- European fellowship to study models of the molecules that might be involved in Alzheimer’s disease. “All my early interests seem to have come together: today I work in biophysics and I enjoy writing scientific papers. Working in a multidisciplinary environment is very exciting. As a scientist I learnt a lot, I moved across countries and across scientific fields.

Today I am able to communicate with people at all levels and with different backgrounds, I supervise a team of researchers and I manage my own research project.” In Ireland Elena also got involved in the setting up of her husband’s company, an adventure that they might have never started if they had not moved to another country. “Living abroad can give you a flare for opportunities that sometimes only a multicultural experience can help you seize. Starting up a company is a lot of work, but if you are a determined self-starter, it is incredibly exciting! In our case, we have solved the “dual career” issue by following each other in turn. We were lucky to be able to be that flexible”. In Dublin Elena had her first baby boy.

“He will have two nationalities and will speak two mother tongues. This is what my mobility is giving him as a legacy”. Today she is one of many women who are juggling work and family while establishing their career. Initially she was worried about finding time out to have a baby, but she was very lucky to have had role models during her PhD.

“Seeing the women postdocs in my lab work happily while expecting a baby, take maternity leave and come back to work with passion made me realise that having a competitive career is compatible with building a family. There are difficult moments, and sometimes I feel that I cannot keep up with everything, but then I always manage. When you love both your work and your family, you will excel in both”.

To date Elena’s publications have received over 300 citations and she has presented her work at several conferences across Europe. She is the National Marie Curie Group Co-ordinator for Ireland and a member of the MCFA Mobile Women in Science and Technology (m-WiSET) working group.

LEFT: Elena at work in the Bionanoscience laboratory at University College Dublin (Ireland).
RIGHT: Elena with her son (five-months old).



Name:	SYLVIE BLANGY
Nationality:	French
Year born:	1955
Research field:	Rural economics, geography
Doctorate:	Montpellier III University (France), 2010
Marie-Curie fellowships:	Carleton University (Canada), 2006-2008 & Montpellier III University (France), 2008-2009
Currently:	Researcher, CNRS, INEE, CEFE, Montpellier III University (France) & Adjunct professor, UQAM, Tourism chair, Montreal (Canada)
Languages spoken:	English, French, Spanish
E-mail:	sblangy@gmail.com

FOLLOW YOUR PASSION, PURSUE YOUR DREAMS

“Being a mother can be both a challenge and an asset for a woman with a scientific career so can switching from a consulting job in the private sector to a research position in the middle of your career”. “To engage in research, you need to have a vision and an obsessive desire to question. You also need flexibility and enthusiasm, a taste for mobility, and a commitment to combine your profession and family”.

Beginning in early childhood, Sylvie was interested in people, the way they live and travel. That interest grew as she worked at the reception desk of her parents’ campground for eight consecutive summers. She made friends and got invited to places all over Europe. At twenty, she rushed to experience other summer jobs abroad. As a university student at a time when Erasmus did not exist, she created her own mobility program. She went to England while preparing her bachelor’s degree, to Finland to do her master of arts internship while teaching French, and then returned to France to complete her master’s degree in rural economics. Settling for a while in France, Sylvie worked for the Ministry of Agriculture to analyse the role of rural tourism in maintaining farmers on the land and sustaining their cultural and natural heritage. Eight years later, Sylvie had another opportunity to move abroad when a two-year research grant was awarded to her husband. At the Discovery Tours department of the Museum of Natural History in New York, she analysed ecotourism guidelines, and minimum impact policies of the tourism industry. Sylvie was interested in the impacts and benefits of ecotourism on local communities and their natural resources. Back in France, she became an international ecotourism consultant. From her base-camp, Montpellier, she carried out 60 assignments in 40 countries and on four continents for international agencies such as the United Nations Environment Programme (UNEP), the World Tourism Organization (WTO), the European Union, several Development Agencies, and the World Bank. Ecotourism was viewed as “THE” way to reconcile biodiversity conservation and sustainable development. Her field trips were used to look at how ecotourism can generate new strategies to manage biological and cultural diversity. She kept publishing while consulting for 13 years. Sylvie’s need to deepen, transfer and conceptualise all the knowledge she had gained encouraged her to devote more time to teaching and to research.

She helped launch a master’s degree program in ecotourism and sustainable development at Montpellier III University and taught in several other universities to enthusiastic students (mainly women) who were attracted by the ethical component of the ecotourism approach. To further share what she learned in the field, Sylvie published the first ecotourism guide, Le Guide des Destinations Indigenes, which is based on 200 tourism initiatives (www.aboriginal-ecotourism.org). To focus more on research, Sylvie applied successfully to the only research grant program available to people like her, the Marie Curie Outgoing Fellowship. For this threeyear mobility grant she chose Canada. Her grant proposal described her intention to explore whether communitybased ecotourism generated sustainable land and natural resource management strategies. More generally, Sylvie wished to improve knowledge and understanding of the links among community-based tourism, land management, and conservation of biodiversity. She also wished to explore further an approach called “Participatory Action Research”. In July 2006, Sylvie’s family settled in Ottawa. Sylvie was hosted by the Department of Geography and Environmental Studies at Carleton University, which had a stimulating team of academics with long-term experience in research methodology, a focus on Arctic communities, participatory action research, environmental impact assessment, and geomatics. There, Sylvie benefited from the mentorship of Jacques Chevalier, an anthropologist from Carleton. She adapted his techniques to aboriginal contexts and applied software tools to promote participatory social analysis, integrate research in action, and explore cultural factors and systems of knowledge and learning (www.sas2.net). Sylvie quickly developed strong and lasting

A UNIVERSITY STUDENT, AT A TIME WHEN ERASMUS DID NOT EXIST, SHE CREATED HER OWN MOBILITY PROGRAM

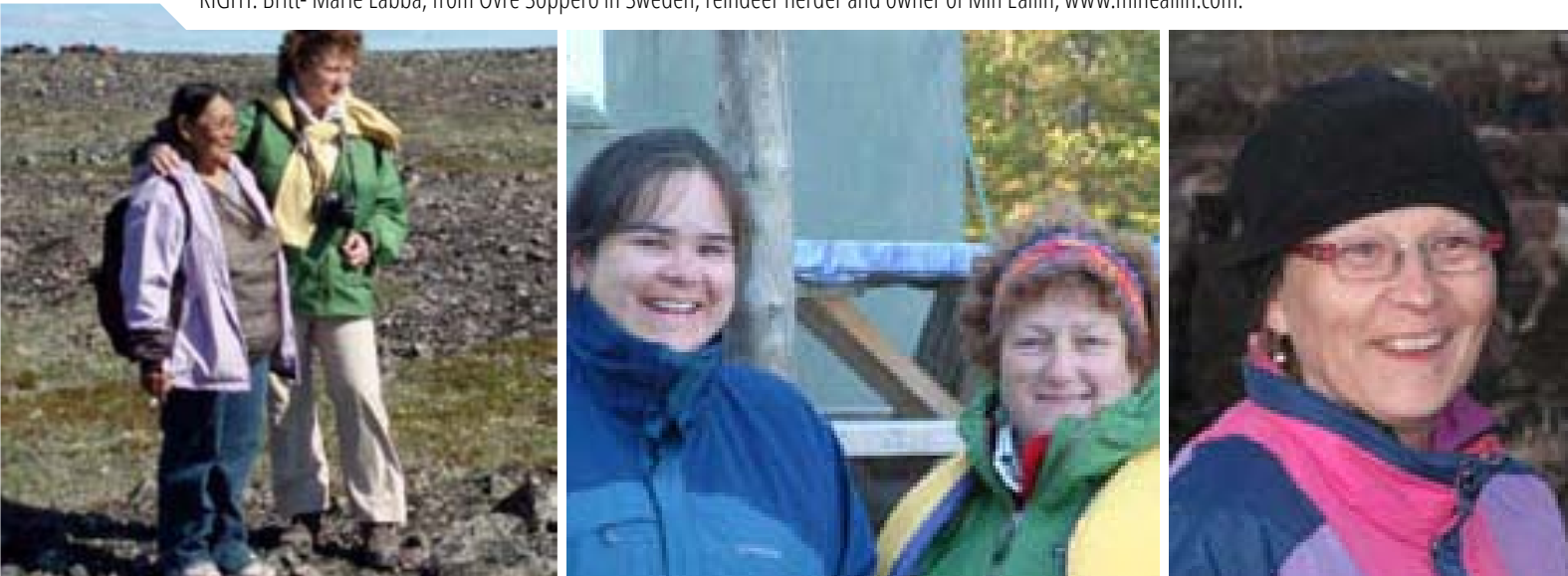
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collaborations with three cultural groups: the Cree of Eeyou Istchee in Quebec, the Inuit of Qamani'tuaq in Nunavut and the Saami of Övre Soppero in Sweden. In each community, she teamed up with a local researcher. Her Inuit, Saami and Cree colleagues were all experienced women deeply involved in community counseling and development, who took ownership of the collaborative research processes, facilitated workshops on their own, and developed aboriginal research techniques and methodologies.

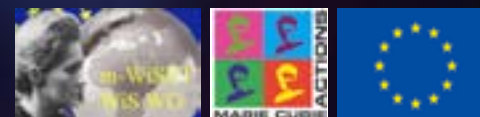
New questions and community-based projects were then co-designed addressing community concerns: the generation gap, language loss, the cumulative impact of mining, climate change and logging on reindeer and caribou populations, and adaptation strategies. Tourism was no longer a research priority, but instead was a point of entry. Together, Sylvie and these communities started exploring new ways to do research in aboriginal contexts, particularly cross-cultural research programs between communities and triangular research collaborations between community, academics and the private industry. With the support of the French "Centre National de la Recherche Scientifique" (CNRS), Social Sciences and Humanity Research Council of Canada (SSHRC) and the French Polar Research Institute (IPEV), Sylvie was able to gather all her aboriginal co-researchers and their academic partners in three international workshops. A network of community-based research and interdisciplinary programs emerged. Northern communities have been somewhat over-researched in the past and have received little benefit from it. Researchers are not always welcome.

Sylvie's previous background as a facilitator and local development officer, along with her knowledge of aboriginal issues, have helped her interact with and build trust within these communities. Her being a woman and a mother facilitated her integration and acceptance by her co-researchers. After two enriching years in Canada, Sylvie went back to France for her reintegration phase. The challenge was to find a full-time position to pursue her research projects. She completed a doctoral dissertation based on her work in Canada and accepted a job in Montreal. The Université de Québec à Montréal (UQAM) research position at the Transat tourism Chair is meant to address the Quebec tourism industry's adaptation strategies to adjust to climate change. For this project, she left her family in Montpellier. But the challenge was worth it. Being back in Canada allowed her to pursue her collaboration with Arctic communities. Sylvie has since settled back to France to work for the French CNRS and the Ecology and Environment Institute (INEE), to develop an interdisciplinary research program in the Arctic, a strategic vision, and a range of new tools such as the Human-Environment Observatories (OHM-Observatoire Homme Milieu). The two-year stay in Canada benefited Sylvie's whole family. Sylvie's husband, also a scientist, strengthened his Canadian research network and developed new research programs and collaborations that became key elements of his research activities once he returned to France. Her daughter came back fluent in English and returned to the French school system with a confidence in her ability to adapt to different cultural contexts.

Sylvie and her main research collaborators. LEFT: Sylvie and the Late Vera Avaala, Inuit from Qamanittuaq, Nunavut. CENTRE: Sylvie and Robin McGinley, Cree from Eeyou Istchee, Director of COTA, the Cree Outfitting Tourism Association, www.creetourism.ca. RIGHT: Britt-Marie Labba, from Övre Soppero in Sweden, reindeer herder and owner of Min Eallin, www.mineallin.com.



ROLE MODELS FOR MOBILITY OF MCFA WOMEN SCIENTISTS



Marie Curie Fellows Association
Women in Science Working Group