



A main information pool is the website [www.womeninnano.de](http://www.womeninnano.de)

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## STRENGTHENING THE ROLE OF WOMEN SCIENTISTS IN NANOSCIENCE

### WomenInNano

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Research, Science and Society, Women and Science

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WomenInNano



SCIENCE AND SOCIETY



# Introduction

The European Commission regards the promotion of equality between women and men in research as an essential condition for an optimum development of European Research. At present women scientists are underrepresented in scientific institutions, especially in key positions, and this appears to hold constant across national boundaries as well as scientific disciplines. An improved gender balance at all levels and a better consideration of the gender dimension in research are also key elements in strengthening public confidence in science.

A set of *positive action measures* which can help in supporting women in their scientific careers has been proposed by the Helsinki Group on 'Women and Science'. These include i) support of networks of women in science and ii) development of female 'role models' along with mentoring schemes.

*Networking* is an essential tool for empowering women scientists in Europe. The potential of women is still underutilized and women are undervalued both socially and economically due to lack of recognition of their contributions to the advancement of science. In many European countries women scientists do not have contact with 'role models'. This makes it difficult for them to believe that they can achieve their professional ambitions. Role models, given a high profile in the mass-media, would demonstrate that it is possible to be an expert scientist as well as a woman.



*WomenInNano* was a Specific Support Action in FP6 - a pilot initiative of a network of 11 high-level female scientists experienced in nanoscience who act as "Ambassadors for Women and Science". They provide role models for girls and young women with view to encouraging them to consider studies and pursue careers in the challenging research to be found in nanomaterials & nanotechnologies. The project succeeded in enlarging and empowering the group of women working in nanoscience and helped increase their visibility in the international scientific community as well as the public eye. It created and stimulated links at national, regional and European levels between scientists (female and male), policymakers and society. It also contributed considerably to the goal of bringing nanoscience itself closer to public.



# WomenInNano Objectives

*WomenInNano* ([www.womeninnano.de](http://www.womeninnano.de)) was a Specific Support Action funded by the European Commission within the 6. Framework Program for Research under the topic of Science and Society. It was started in October 2005 for a 30 month period and was carried out by 11 partners from 9 European countries: Germany, Romania, Sweden, Spain, Slovenia, UK, Bulgaria, Italy and France. The consortium was coordinated by the Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden), Germany.

*The objectives of the WomenInNano project were:*

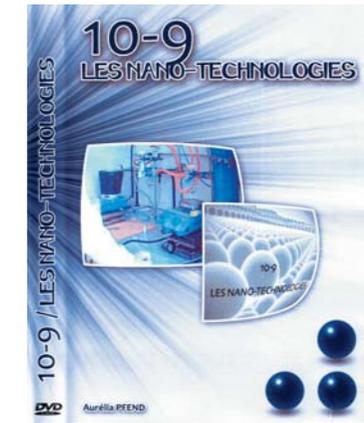
- Encouraging young women to follow a scientific career
- Attracting youth to 'Nano'
- Strengthening the role of women scientists already working in nanoscience
- Networking women nanoscientists at national, regional and European levels
- Increasing the visibility of female scientists in the international scientific community
- Mobilising women scientists in nanoscience to participate in EU programs
- Mobilising stakeholders in favour of gender equality in scientific research
- Stimulating and facilitating a science-society dialog

Project activities were planned in eight work packages conducted in three stages:

In the *first stage* the project team reviewed the particular situation of women working in nanoscience and identified and mapped their competences at national, regional and European levels.

The *second stage* was devoted to appearances in the mass media, participation in open and public events, organization of lab visits, regional workshops, a summer school and a winter school. The activities were part of a campaign to make scientific careers more attractive, especially for younger women and to bring nanoscience out of the lab into the public arena.

A *third stage* was dedicated to contacting decision makers in research, politics and industry at national and European levels in order to discuss gender dimensions in science. The aim was to develop 'best practice' policies in the recruiting and employment of scientists, as well as to outline the intellectual potential and contributions of women scientists in advanced research. Those activities helped to enhance the recognition of women scientists in the international scientific community and to increase their level of networking.



# WomenInNano Activities

## ■ Mapping of women experts in nanoscience in Europe

A starting point of the mapping activities was the general fact that women in engineering and natural sciences are integrated to a much lower degree in career development/tracks leading to higher academic positions than men. At the time of the project start there was no database with information on specific situations of women in the rapidly growing interdisciplinary field of nanoscience.

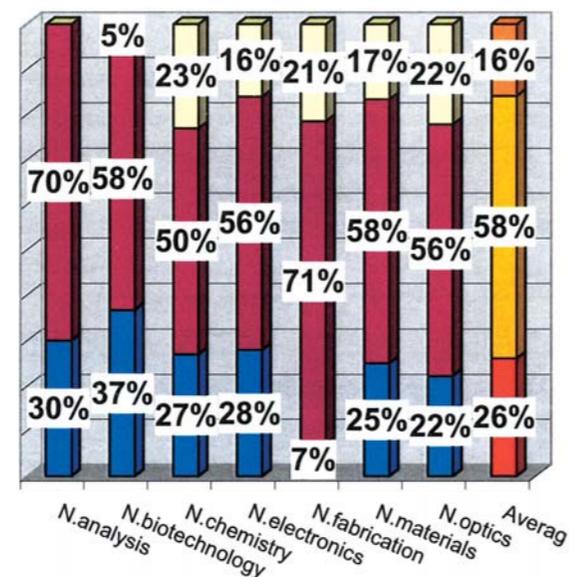
Two main actions to map female competences working in nanoscience were initiated:

An *institutional survey* aimed at identifying research institutions (universities and governmental) in the European project partner countries, which are active in nanoscience and the proportion of women scientists involved in the scientific work at different levels.

*Individual surveys* were conducted in order to analyse the situation of women from a cross-national perspective, i.e. their working conditions, career opportunities, salary level, compatibility of professional and family needs. In addition, the surveys were designed to identify structural barriers for women in scientific systems which favour male researchers. The institutional survey was lead by Prof. Uta Klement from Chalmers University Göteborg, Sweden. The project partners tried to summarize research groups working in nanoscience in their country, but this was difficult. In part because the organizational structures and contact persons of scientific institutions are often not clearly presented to the public (on websites). Also, the response rate of research institutions, which were invited to participate in the survey was unsatisfactorily low for almost all of the countries.

Moreover, little is known about career structures and factors influencing them in nano-science in Europe. Individual surveys for an exploratory study were conducted by means of online questionnaires by Prof. Birgit Pfau-Effinger and her team at the University Hamburg, Germany. The study revealed that

differences between national scientific systems regarding career paths and promotion structures apparently have few effects on the career opportunities of women. Other factors like the overall structure of national employment systems (regarding typical employment and income distribution) and cultural values (concerning gender roles and reconciliation of work and family life) seem to be important in explaining cross-national differences and/or interactions with subtle differences in scientific systems. However, there are differences in career paths according to family status, length of academic career and sub-fields of women nanoscientists that might result in variations in career opportunities.



■ less/not at all satisfied ■ satisfied ■ very satisfied

Figure: Satisfaction with current position

## ■ Media-related activities, public events and attracting youth to 'NANO'

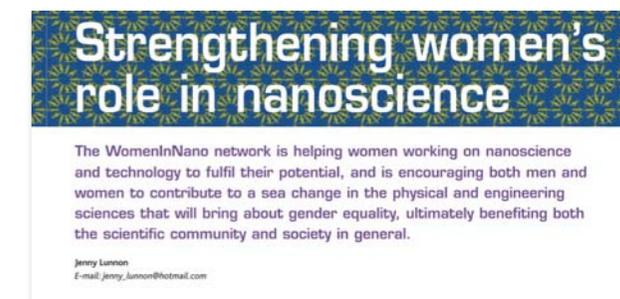
Media-related activities and public events were aimed at attracting young to nanoscience and informing Europeans with a direct dialog about the performance and potential of women scientists.

Various actions were taken in order to advertise and spread the ideas, objectives, activities and achievements of the WomenInNano project to a large public:

- The WomenInNano webpage (<http://www.womeninnano.de>) was updated periodically thus providing students and young researchers useful information about job offers and possibilities for participation in projects events.
- More than 30 articles and interviews were published by project partners in the printed and electronic media (newspapers, journals, and web-sites of participating institutions). More than 200 articles were published by other sources on the internet.
- 4 videos and documentaries were produced. 2 videos show examples of the development of nanomaterials and are intended for public viewing on TV or as educational material for schools. Video portraits and interviews of WomenInNano partners dealt with partners' awareness of gender issues in science and their responsibilities as role models to children, school students and young scientists. Another video series presents talks and discussions on gender and societal issues in science given at the WomenInNano Winterschool. Those videos are available at [www.videlectures.net](http://www.videlectures.net) and <http://vega.org.uk>.

The WomenInNano project was presented at meetings of large European nanoscientific and gender-related networks, e.g. NANOKER, NANOFUN-POLY, NanoForum 2007, Pallas Athene, FEMtech and CEC-WYS. This was the basis for the initiation and intensification of co-operation on the European level and for the enhancement of networking activities of women scientists.

WomenInNano partners contributed to more than 24 regional public events, e.g. 'Open Doors Day', 'Girls Day', lab visits and lectures for school students and award sessions. The partners successfully demonstrated their qualities and potentials as women scientists working with nanomaterials as well as introducing young people to the excitement of research in a modern lab.



### ■ Regional workshops and European schools for young researcher

The highlights of the WomenInNano project were regional workshops for women experts along with European schools for female students and researchers aimed at facilitating networking among women scientists, discussing gender issues in engineering and natural sciences and supporting and encouraging young women to follow a career in nanoscience. The *WomenInNano Summer School* on "Career Development and Research Trends" was linked to the Workshop "Ambassadors for women in nanoscience". Both were organised in June 2007 by Prof. Maria Dolores Baro and her team from the University Autònoma Barcelona, Spain. The Summer School took place in Coma-ruga, Spain with a large number of participants (102 from 18 countries). The *WomenInNano Winter School* was held in Kranjska Gora, Slovenia in February 2008. It was organized by the team of Prof. Spomenka Kobe from the Jozef Stefan Institute in Ljubljana, Slovenia (with 89 participants from 15 countries) the great majority of the participants were young female scientists from East European countries. Both schools offered high-quality courses on nanoscience topics ranging from fundamental issues to recent advances and applications. Soft skills training and courses on societal and gender issues in science were also given. The objectives and activities of the

Science and Society Section of the EC Research Program along with its offerings for young researchers in FP7 were presented as well. Younger participants reported on their research work during poster sessions. Excellent works were awarded with a WomenInNano Poster Award. During round table events there were very emotional discussions of problems like how to manage a successful family life with a successful scientific career. A *Workshop on "Nanomaterials and Gender Aspects in Research and Technology"* was held on October 2007 at Chalmers University Göteborg, Sweden (40 participants) - organized by Prof. Uta Klement. Gender aspects in science was the dominating topic of the workshop. Combined with it were discussions on male/female perspectives in approaches to research and technology and information on where nanomaterials have found application in industry. For example, Ingegerd Palmér, president of Mälardalen University, presented the IDAS project, a Swedish initiative to counteract the leaky pipeline problem in the Nordic countries by encouraging women to pursue academic careers and seek leadership positions in academia. Tatiana Butovitch Temm described a Volvo concept car where all decisions were made by women.



### ■ Satellite seminars joined to international conferences

*WomenInNano* satellite meetings were attached to important international conferences and workshops on nanomaterials and nanotechnologies with the intention of supporting networking of women scientists and to increase their visibility in the international scientific community. Six satellite meetings have been organized by WomenInNano partners - all with great success. A first initiative came from the Bulgarian partner, Prof. Rumiana Kotsilkova, who organized satellite meetings in Sofia, e.g. during the "Nanoscience & Nanotechnology" Workshop in November 2005 and during the International Conference "Mechanics and Technology of Composite Materials" in October 2006. A satellite meeting "Attracting Youth to Nano" followed the Workshop "Materials Development at the Nano-Scale", which was organized at the University Politehnica Bucharest, Romania by Prof. Mariana Calin. A main topic of these events was the problematic situation of Eastern research institutions and working conditions of female scientists in East European countries.

WomenInNano satellite meetings were also held during the ISMANAM conference series (International Symposium on Metastable and Nano Materials) - in August 2006 in Warsaw, Poland and in August 2007 in Corfu, Greece. These were organized by Dr. Annett Gebert, Prof. Mariana Calin and Prof. Maria Dolores Baro. Young female researchers used the occasion to make contact with senior female scientists and scientific committee members of the conference in order to discuss continuing their scientific careers at attractive European research institutions. Another satellite meeting was organized by Dr. Nicole Grobert from University of Oxford, UK during the NanoteC07 conference at the University of Sussex, Brighton, UK in August 2007. The meeting received much attention from conference participants - the scientific community of carbon nanoscience and technology. A poster session was part of the meeting and two awards were given to outstanding young female scientists. Satellite events have been very successful and many conference organizers have decided to continue their activities at future conferences.



## ■ Meetings with authorities from politics, academic institutions and industry

Within the framework of the *WomenInNano* project, the partners organized and participated in 22 events with authorities from politics, industry and academia. Discussions focused on gender equality policies in research at national and European levels and on the question of how to attract more young women graduates to R&D activities.

For example, the Prof. Spomenka Kobe and her team from the Jozef Stefan Institute in Ljubljana, Slovenia participated in March 2006 in "Strategic Days" at their institute, where they met with politicians from the Slovenian government along with representatives from industry.

Dr. Jeannette Dexpert-Ghys and her team from the Centre National de la Recherche Scientifique in Toulouse, France joined a meeting in June 2007 with discussions about the implementation of the "Convention for equality between girls and boys, women and men in the educational system", signed by the French ministers in 2006. Dr. Clara Silvestre from the Consiglio Nazionale delle Ricerche (CNR) in Naples, Italy joined a working group of female CNR experts "FRIEnd – Female Researchers in Europe Window", which has its goal the facilitating of participation by women scientists in EU projects. She also presented the *WomenInNano* initiative to academic authorities at the NANOLTEX 2006 meeting thereby initiating a discussion on gender issues in textile science and industries.



Dr. Annett Gebert from the IFW Dresden, Germany together with Dr. Eva-Maria Stange, the Saxon Minister for Science and Art, were involved in a round table even, held in September 2007, to discuss active measures to stimulate the interest of female school students in studying at Saxon universities in natural and engineering sciences. Prof. Uta Klement from Chalmers University Göteborg, Sweden was member of a panel discussion on "Women in the social development process", which took place on November, 2007 at Daimler AG in Stuttgart, Germany. Addressed were issues in the compatibility of career and family, the discrimination of women in professional development processes and the benefits of networking. The *WomenInNano* project also supported 7 exchange visits of young female scientists between partner institutions. The objectives of the visits were not only to acquire additional experimental skills and scientific knowledge but also to develop contacts, to initiate and deepen networking and collaboration activities, to get impressions of working conditions at other institutions and to make direct comparisons with the situations of other female scientists. The visits also provided opportunities to explore job opportunities for postdoctoral studies.



## ■ Final European Workshop

A Final European Workshop "Strengthening the role of women scientists in nanoscience" was held in March 2008 at the IFW Dresden, Germany. It was organized by Dr. Ulrike Wolff and Dr. Annett Gebert. The workshop, with more than 70 participants from 15 countries, was devoted to the dissemination of project results. It aimed at identifying barriers for women working in nanoscience, developing further strategies for attracting and promoting women in this field and finally to propose conclusions for research and policies.

The main activities and achievements of the *WomenInNano* project were presented in an initial talk of the project coordinator and in activity posters from each partner. The nanoscience topic and the important contributions that women scientists can make to it were motivated by female experts in the field: Prof. Cynthia Volkert from the University Göttingen, Germany and Dr. Ilse Gebeshuber from the Technical University Vienna, Austria. The core program comprised presentations addressing social and gender aspects in natural and engineering sciences and the particular situation of women in the field of nanoscience and nanotechnology. For example, Dr. Petra Lucht from the Center for Interdisciplinary Women and Gender Research at the Technical University Berlin, Germany presented perspectives on gender research in the field along with theses on origins of the problems which women scientists have to face in their career development. Prof. Birgit Pfau-Effinger from the University Hamburg, Germany summarized results of the *WomenInNano* survey about the individual situation of women-scientists working at different career levels in the nanoscience field. Anke Lipinsky from the Centre of Excellence Women and

Science, Bonn, Germany discussed the necessity and sufficiency of scientific excellence for a woman's career development. Julia Willingale-Theune from EMBL Heidelberg, Germany introduced the new SET-Routes project. A podium discussion was held with the President of the Leibniz-Association, Prof. Ernst Theodor Rietschel, the Director of the IFW Dresden, Prof. Ludwig Schultz and two young female researchers. Discussed were: What are effective measures to improve the career opportunities of young women? Are offers from institutions and politics sufficient in supporting women in their efforts to balance a successful career in science with family needs.





Annett Gebert (Co-ordinator)

Dr. rer. nat. (Chemistry), Group Leader  
Leibniz Institute for Solid State and Materials Research  
Dresden (Germany)

Annett Gebert (39) graduated in chemistry with specialization in physical chemistry & electrochemistry at the Technical University of Dresden in 1992. She obtained her doctorate in 1996, her work was on steel corrosion. In 1995 she started a postdoc at the IFW Dresden in the field of amorphous and nanostructured alloys, i.e. their preparation and characterization regarding corrosion and hydrogen reactivity. In 1998/99 she spent a postdoc year at the École Polytechnique de Montréal, Québec, Canada where she investigated nanocrystalline alloys for electrocatalysis. In October 1999 she became the leader of the 'Electrochemical Properties of Functional Materials' group at the IFW Dresden. The group works on electrochemical and hydrogenation properties of metastable alloys, corrosion of magnetic materials and electrodeposition of magnetic thin films. She is author of more than 100 scientific publications and has been awarded: 1996: Prof.-Kurt-Schwabe-Award TU Dresden, Germany and 2004: ISMANAM 2004 Junior Scientist Award, Sendai, Japan.



Ulrike Wolff

Dr. rer. nat. (Chemistry), Senior Research Fellow  
Leibniz Institute for Solid State and Materials Research  
Dresden (Germany)

Ulrike Wolff (38) studied chemistry in Düsseldorf, Germany, where she also received her Masters in 1995. She completed her PhD in 1999 at the Technical University of Dresden. During her postdoc at the IFW Dresden (Leibniz Institute for Solid State and Materials Research Dresden) she became acquainted with the field of metallic glasses and nanocrystalline alloys. In 2002/2003 she worked as a postdoc at the Risø National Laboratory in Roskilde, Denmark on the mechanical deformation behaviour of glassy alloys. On returning to the IFW Dresden she began operating a scanning probe microscope at low temperatures and in high magnetic fields. Her work focuses on the investigation of magnetic microstructures of various samples by means of Magnetic Force Microscopy. Examples are the domain pattern of hard magnetic thin films with large uniaxial anisotropy. She has organized workshops and her work has been presented in numerous publications and invited talks.



Mariana Calin

Dr. Eng. (Materials Science), Associate Professor  
University "Politehnica" Bucharest (Romania)

Mariana Calin (49) graduated in Engineering with specialization in Materials Science at the University 'Politehnica' Bucharest (UPB) in 1983. She obtained her doctorate in Physical Metallurgy in 1994 at UPB. Her work was on aluminium amorphous alloys. From 1986 to present she has been an established member of the teaching and research staff of the Materials Science and Engineering Faculty (UPB). In March 1999 she became Associate Professor, her research focus is on amorphous and nanocrystalline materials. Between 1996 and 1998 she worked as Humboldt research fellow at the Dortmund University, Germany. In 2006 she worked as a visiting scientist at the TU Darmstadt. Between 2001 and 2008 she has spent several months per year as visiting professor at the IFW Dresden, working on metallic metastable materials. She is author of more than 70 scientific publications and book chapters on the synthesis, characterization and properties of advanced metallic materials.



Uta Klement

Dr. rer. nat. (Physics), Professor  
Chalmers University of Technology Göteborg (Sweden)

Uta Klement (45) studied physics in Göttingen, Germany, where she also received her PhD in 1991. During her postdoc at the University of Toronto, Canada, she started characterizing nanomaterials. On her return to Germany, she worked at IFW Dresden and at MPI für Metallforschung in Stuttgart, investigating nanocrystalline magnetic materials and semiconductor devices. In 1998, she became head of the Electron Microscopy Laboratory at the Corporate Research Centre of Degussa AG in Hanau. In 1999, she was appointed Professor in Materials Science with an emphasis on Electron Microscopy at Chalmers University of Technology, Göteborg, Sweden. Her current research focuses on the characterization of nanomaterials and involves the development of new materials, processes and products (both conventional materials and nanomaterials). Since 2005, she also holds a visiting professor position at University West in Trollhättan; work there focuses on thermal spray materials. She has published more than 70 scientific papers and industrial reports.



Maria Dolores Baró Mariné

Dr. Phys., Professor  
University Autonomous of Barcelona (Spain)

Maria Dolores Baró (59) is the head of Physics of Materials II Group, and Professor of Applied Physics of the Department of Physics, UAB, Spain. Her current research activity is based on the study of the basic properties of nanostructured functional materials, mainly magnetic and structural. She has wide experience acting as co-ordinator or partner group leader in European, national and regional projects. She participates in advanced level training courses, supervises several undergraduate, Ph. D. and postdoctoral students and welcomes foreign visitors for training. She has published more than 200 scientific papers in peer-reviewed journals and edited four books. She is a member of several national and international scientific associations, steering committees and editorial boards and reviewer of many international journals. She was awarded the Narcís Monturiol Medal for the scientific and technological merit by the Generalitat of Catalonia in 2004.



Spomenka Kobe

Dr. Eng. , Associate Professor  
Jozef Stefan Institute of Ljubljana (Slovenia)

Spomenka Kobe (60) received her PhD at the University of Ljubljana. She is employed at "Jozef Stefan" Institute. In 2002, she was appointed as the Head of Department for Nanostructured materials. She is an expert in magnetism and magnetic materials. She has obtained two State Awards for Scientific Research and two Innovation Awards from industry for the successful transfer of technology. Her scientific and applied research is documented in more than 100 refereed publications, 4 patents (2 EP), and 5 successful transfers of technology to industrial production (300 bibliographical units). Since 1997 she has qualified as professor at the Faculty for Natural and Technical Sciences, University of Ljubljana. She was involved in many bilateral and multilateral projects, projects of NATO Sfp, FP5 and FP6. Since 2002 she acts also as the EC Expert. She is a Member of Slovenian Academy of Engineering (Member of Executive Committee).



Nicole Grobert

D.Phil. (Chemistry) , Senior Research Fellow  
University of Oxford (UK)

Nicole Grobert (35) is a Senior Research Fellow and Faculty member at the Department of Materials at Oxford University and Corpus Christi College. She is also a Visiting Professor at Toyo University, Japan. For her D.Phil. (Sussex), she received the International Pergamon Prize and she held two prestigious Royal Society Research Fellowships. Her research focuses on the problem-driven development of synthesis, growth and modification techniques of novel nanostructured materials. Dr Grobert is a board member of the GDR-I Nano, has published 93 articles (3000 citations) in peer reviewed journals, and has presented 42 invited, over 25 contributed talks and is the UK expert (ISO/TC 229) for the approved work item on the characterization of CNTs. She is member of the UK nanotechnology working group and is the Vice-Chairman of the British Carbon Group, Royal Society Hooke Committee Member, Nesta Crucible Awardee, SetNET Ambassador and Co-organizer of the international conference NanoteC.



Rumiana Kotsilkova

Dr. Eng. (Chemical Engineering), Associate Professor  
Bulgarian Academy of Sciences Sofia (Bulgaria)

Rumiana Kotsilkova (57) graduated in industrial engineering chemistry at the University of Chemical Technology and Metallurgy, Sofia. Afterwards she was employed as a researcher at the Bulgarian Academy of Sciences (BAS). She obtained her doctorate in 1983 on rheology of complex fluids and then a doctor of sciences in 2006 with a work on polymer nanocomposites. In 1998/99 she spent two postdoc years at the Institut für Mechanische Verfahrenstechnik und Mechanik, University Karlsruhe, Germany, as Humboldt Fellow. In 1997 she was visiting Professor at the Toyota Technological Institute, Nagoya and in 2001 at the Yamagata University, Yonesawa in Japan. Since 1999 she is the leader of the Topics "Clusters, nanoparticles, nanocomposites" at the National Centre on Nanotechnology - BAS. Her research is on rheology of dispersions and design, synthesis and characterization of polymer nanocomposites. She is author of more than 120 research publications, three patents and coordinates many national and international projects.



Clara Silvestre

Dr. Chem., Senior Researcher  
Consiglio Nazionale delle Ricerche Naples (Italy)

Clara Silvestre (54) achieved her PhD diploma in industrial chemistry at University of Naples. Since 1982 she is permanent senior researcher at Consiglio Nazionale delle Ricerche, Istituto di Chimica e Tecnologia dei Polimeri (Naples). Her main research activity field consists of structure-performance relationships of polymers and polymer composites and nanocomposites. She is supervisor of numerous PhD theses. She is also involved in European research projects and as EU expert evaluator for 5-th, 6-th and 7-th FP. She is referee of prestigious journals on polymer science and coordinator of several national and international projects and member of the CNR group 'Female Researchers in Europe Windows' and of Management Committee of Cost Action MP0701 Composites with Novel Functional and Structural Properties by Nanoscale Materials. She has published over 110 papers in international journals and books on science and technology of polymers and polymer composites and nanocomposites. She is owner of several patents.



Patricia Crespo del Arco

Dr. Phys., Associate Professor  
Universidad Complutense de Madrid (Spain)

Patricia Crespo del Arco (42) achieved her PhD Degree in Physics at the Complutense University of Madrid (1993). She is Associate Professor at the Complutense University since 1996 and member of the research group of the "Instituto de Magnetismo Aplicado". She worked as invited researcher during 15 months at the Institut für Festkörper- und Werkstofforschung Dresden, Germany. She was awarded the II Talgo prize for Technology Innovation (2001). She participates in various projects dealing with metallic magnetic nanoparticles for applications in biomedicine as well as electromagnetic emission of navigation systems. In April 2008, she will join the Advisory Scientific Committee on Radiofrequency and Health. Research activities: Mössbauer spectroscopy, synthesis of materials by high energy ball milling, rapid quenching and chemical routes, nanostructured and amorphous magnetic materials, magnetic nanoparticles and biomedical applications. She is author of more than 60 contributions to the most relevant journals in the area of Material Science.



Jeannette Dexpert-Ghys

Dr. Phys., Senior Researcher  
Centre National de la Recherche Scientifique Toulouse (France)

Jeannette Dexpert-Ghys (57) is a CNRS researcher at Centre d'Elaboration de Matériaux et d'Etudes Structurales in Toulouse, France. She is also a lecturer in chemistry, materials and nanomaterials science at Paul Sabatier University in Toulouse. She has supervised about 20 PhD theses and postdoc fellowships. She has over 100 publications and 120 communications in international conferences. She coordinates three R&D national or regional (Midi-Pyrénées) on the elaboration and processing of sub-micronic and nanometric powders up to pre-industrial levels. She works on the chemistry and the structural characterizations of inorganic oxide and of organic-inorganic hybrids: functionalization of oxide nanoparticles, insertion of metallic complexes in nanostructured oxides and insertion of oxide nanoparticles in polymeric matrices. She studies and engineers the luminescent properties of materials for applications as lasers, or as phosphors for lighting, displays, remote sensing or bio-labelling. She is responsible for bi-lateral research programs with Brazil (UNESP-Sao Paulo) and Hong-Kong (City-University).



Birgit Pfau-Effinger

PhD Sociology, Professor  
University of Hamburg (Germany)

Birgit Pfau-Effinger (53) obtained her PhD in sociology and has been a full professor of Sociology at the University of Hamburg since 2003. She is also Director of the Research Institute "Centre for Globalisation and Governance." Prior to this she was professor at Universities in Berlin and Jena, and she was also a visiting professor at Universities in Tampere, Barcelona and Aalborg. Her research fields include comparative sociology, social inequality, sociology of labour markets, sociology of welfare states, family sociology and care, gender studies and sociology of transformation. Her publications include 11 books (6 peer reviewed) and more than 100 scientific papers in peer reviewed journals and books. She has successfully applied for grants of the German Research Foundation (DFG), the EU and the European Science Foundation and held leading positions in various international research programmes.