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FR - Philippe Saugier International Educational Projects  
FR - Commissariat à L’Énergie  
FR - Institut National de la Recherche Agronomique  
IT - Consiglio Nazionale delle Ricerche - Istituto di Biometeorologia  
NL - Rijksuniversiteit Groningen - Centrum voor Isotopenonderzoek  
NO - Universitetet I Bergen - Geophysical Institute & Bjerknes Centre  
UK - Teacher Scientist Network |
| Duration | 36 months (Jan 2008 – Dec 2010) |
| EC contribution | 981 553 € |

CarboSchools+ proposes to link carbon science laboratories with secondary schools to develop partnerships where young Europeans learn and conduct experiments about climate research and reduction of greenhouse gas emissions. In partnership projects, scientists and teachers co-operate over several months to give young people a practical experience of research through real-time experiments, site visits, debates etc. A final output (article, exhibition) shares the findings with parents, friends, community etc.

Nine research institutes in 7 countries will explore how they can best motivate and support such partnerships at the regional level in a wide variety of contexts, approaches, topics and age-groups. European co-operation will allow a comparison of results, learn from each other and develop replicable good practice. Pupils will gain European experience by doing comparative measurements through a common “school CO2-web”. An in-depth study of impacts on attitudes, beliefs and skills will allow a better understanding of the projects’ level of effectiveness.

Over 2 school years, partnerships will involve about 90 scientists, 140 teachers and more than 3000 students. Their direct interaction will support teachers in the highly complex, interdisciplinary and socially relevant field of global change, and improve the communication skills of scientists. Methods and materials will be jointly developed and shared with a broad range of players in science education via the internet, a European conference and regional dissemination activities.

CarboSchools+ is proposed by institutes firmly rooted in two FP6 research projects on climate change on the basis of outstanding results from educational projects piloted since 2005. A field-tested concept, a first set of resources and an enthusiastic human network provides us with confidence and institutional support to make science learning more engaging and challenging for young people as future workers, consumers and citizens.
Citizens are increasingly being asked to deal with socio-scientific issues and make informed decisions on the basis of scientific data. At the same time, there is disconcert with the current status of science education, a disconcert that relates to issues such as student motivation, educational curricula, existing tools, as well as how to best support teachers in adopting new learning and teaching practices. There is a growing interest in university-school-educational authority partnerships developing web-based science inquiry environments as one way of addressing these challenges. Such environments can couple data rich scientific rigor with the flexibility and modifiability that is needed for widespread adoption and use.

CoReflect proposes to develop a European-wide network of Local Working Groups (LWG), involving university researchers, practising teachers and educational authority administrators. These LWGs will develop web-based, inquiry learning environments and accompanying materials on data-rich, socio-scientific debates (e.g. global warming). The LWGs will pair up, and together they will develop two web-based learning environments first in English and then in their national language. During Knowledge Sharing Workshops, they will decide on a common research and design framework. Following a series of peer-review activities, each LWG will adopt and implement their two learning environments. Each LWG will conduct research to systematically investigate specific aspects (e.g. student motivation) of the classroom implementation of the web-based inquiry learning environments, by collecting comparable qualitative and quantitative data.

An existing web-based learning and teaching platform, STOCHASMOS, will be used to develop and host the inquiry learning environments. The platform was developed with national support and a Marie Curie action, is publicly accessible and offers specific tools for designing student scaffolds for reflection and collaboration.
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<th>Coordinator</th>
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<td>University Of Oslo</td>
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<tr>
<td>Department Of Teacher Education And School Development (Ils), Faculty Of Education</td>
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<td>Ms. Doris Jorde</td>
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<tr>
<td>DE - IPN - Leibniz Institute for Science Education at the University of Kiel</td>
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<tr>
<td>DK - Department of Science Education, University of Copenhagen</td>
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<tr>
<td>ES - Universidade de Santiago de Compostela - Dpt. Didactica das Ciencias Experimentais</td>
</tr>
<tr>
<td>FR - Université Rennes 2 - Haute Bretagne</td>
</tr>
<tr>
<td>FR - Centre National de la Recherche Scientifique</td>
</tr>
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<td>HU - Hungarian Research Teachers' Association</td>
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<td>UK - University of Bristol - Graduate School of Education</td>
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<th>Duration</th>
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<td>24 months (Apr 2008 – Mar 2010)</td>
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<th>EC contribution</th>
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The key concept of this project is inquiry-based teaching of secondary school science. Research and development done in Europe in the area of inquiry-based science teaching (IBST) is abundant, however, the knowledge is spread and indistinct, and thereby not utilised to its full potential by teachers and educators throughout Europe. The project aims to gather, exchange, develop and disseminate ideas of good practices in IBST.

The overall aim of Mind the Gap is to stimulate a more engaging and interesting science teaching based on principles of IBST so that more young people in general, and girls in particular, wish to pursue educations and careers in science and technology. We argue that if the science teaching shall succeed in meeting young people in their interests and concerns, we will need to examine and connect:

- The gap between theory and practice in inquiry based science
- The gap between teaching and learning
- The gap between research, policy and practice
- The gap between educational policies and in-service training
- The gap between instructional designs and preferable tools
- The gap between cognitive demands and available tools
- The gap between the culture of science and marginalized groups (including girls)

The Mind the Gap project and network will focus on such gaps and aim to bridge them across different European contexts (Norway, Denmark, Germany, Hungary, United Kingdom, Spain, and France). The project design involves six work packages (WPs), including one management WP, each lead from different European countries with relevant expertise. One of the WPs provides an overall background for IBST, three WPs go more in-depth into three specific themes (scientific literacy, ICT, and communication and argumentation). And the last WP will try out models for disseminating knowledge and ideas for best practice of IBST through teacher professional development (including SINUS) in different countries and contexts.
**HIPST (ref 217805)**  
History and Philosophy in Science Teaching  

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EL - Aristotle University of Thessaloniki - School of Primary Education  
HU - Budapest University of Technology and Economics  
IT - Fondazione Scienza e Technica  
PL - Uniwersytet Mikołaja Kopernika - Department of Physics Education,  
PT - Fundação da Faculdade de Ciências da Universidade de Lisboa  
UK - The University of Reading - Institute of Education  
IL - The Hebrew University of Jerusalem - Science Teaching Center |
| Duration | 30 months (Feb 2008 – Jul 2010) |
| EC contribution | 998 211 € |

In order to develop a better integration of science in society and society in science the promotion of young people’s interest in science, to encourage their critical and creative ways of thinking and to improve science education, and the uptake of scientific careers in general is of vital importance. Sustained learning of science implies many different dimensions. One often ignored, but important dimension is the way how scientific knowledge is generated. Moreover the objectives and motivations to do science, scientific methods, the empirical fundament, social and cultural aspects are as important as philosophical foundations of science, scientific concepts and their use. The acquisition of knowledge about the nature of science is essential for democratic societies which partly rest their decision-making on rational and scientific criteria.  
The HIPST project works with 10 partners from 8 countries covering R&D, policy and implementation aspects of the acknowledgement. HIPST aims at the raising of understanding the relationship between science, technology, and society, and to foster science education and public understanding of science on a European level. The project approach has three specific objectives:  
To increase the inclusion of history and philosophy of science in science teaching for the benefit of scientific literacy.  
To improve strategies for development and implementation of domain-relevant materials and teaching techniques into educational practice.  
To strengthen the cooperation and establish a permanent infrastructure of sustainable network-ing of all involved stakeholders in the field of scientific literacy and public understanding of science (school science teachers, museum experts, researchers).  
HIPST establishes a sustainable network between the project partners for the development and exchange of know-how and experiences in the inclusion of historical and philosophical components in science teaching programmes.
**EUCUNET** (ref 217810)
European Children’s Universities Network
[http://eucu.net/](http://eucu.net/)

| Coordinator          | Universität Wien  
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| Partner              | DE - Universität - Department of Public Relations  
DE - Unsere Neue Couch  
FR - Université Louis Pasteur - Mission Culture Scientifique et Technique  
SK - Divadlo Aréna Theatre  
CH - Universität Basel - Kinderuni Basel |
| Duration             | 24 months (Mar 2008 – Feb 2010) |
| EC contribution      | 594 568 € |

Children’s university is the most radical opening towards the general public that universities can undertake. If scientists provide lectures for children and children conquer auditoriums and laboratories, stereotyped images of science and scientists are knocked on the head immediately. New attractive and fascinating images of science and scientists appear.

The first Children's university in Germany's Tubingen (2002), constituted a new format of science awareness activities, awarded with Descartes Prize for Science Communication. The successful idea of Children’s universities spread out. Up to now 100 Children’s Universities filled 1,000,000 places with children aged from 7 to 12 years.

But a European wide network does not exist and most of the Children’s Universities are situated in German speaking countries. Each of the 100 Children’s universities works solitary, as a single player and with a strong regional focus. Guidelines and quality criteria of established Children’s Universities does not exist. Some selective efficiency analyses let us assume, that children change their mind on science sustainably, but an overview of research result is missing.

EUCUNET (European Children’s University Network) will coordinate a network of Children’s Universities preparing a knowledge base for present and future Children’s Universities Providers in order to professionalize the Children’s Universities movement. In conferences, through managed Development and Consultant Partnerships and on the community web portal a sustainable network should be established with the aim of knowledge sharing and capacity building.

EUCUNET enables the European wide dissemination of the idea of Children’s university, invites stakeholders from different fields to develop the idea (especially policy maker) and helps establishing new Children’s universities.

Hence more Children have the chance to participate in Children’s universities and set fire to the fascination of science.
**YOSCIWEB** (ref 217728)  
Young people and the images of science on websites  
http://www.yosciweb.eu/

| Coordinator | Conseil Général de L’Essonne  
Direction du Dvlpt Économique et de la Recherche, Service Accès au Savoir  
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| Partners    | BG - Forum Democrit Scicomms Group  
EE - Youth in Science and Business Foundation  
ES - Fundació Centre d’Iniciatives - Centre Barcelona  
NL - Vrije Univ. - Independent Entity of ‘Vereniging voor Christelijk Hoger Onderwijs, Wetenschappelijk Onderzoek en Patiëntenzorg’  
UK - Glasgow Caledonian University  
IS - Icelandic Web of Science |
| Duration    | 24 months (Jan 2008 – Dec 2009) |
| EC contribution | 489 122 € |

To face the issue of the declining interest of young people for studying and working in science and more generally to reduce the doubt in the population regarding the link progress/science, the public authorities as well as large companies and professional associations have developed initiatives and tools. Scientific websites play an important role as it is a new media, well adopted by the young people, easy to use and environmentally friendly. Nevertheless there is a lack of tools and methodology to analyse the quality and the orientation of the websites and to adapt them to the different publics (students, pupils, disabled, others) and to the different images of science.

Seven organisations of national reputation from France, Spain, United Kingdom, Estonia, Iceland, Netherlands and Bulgaria have decided to combine their efforts in solving the above two issues. As the consortium consists in a mix of operators of scientific websites and/or researchers analysing websites, it will provide larger geographical coverage and set of competences.

Yosciweb will be divided in 3 work packages in addition to those of management (WP1) and dissemination (WP5). WP2 will focus on assessing the current situation in terms of:  
• What are the different approaches already used in those matters?  
• What kind of public is addressed by the existing websites and on what images of sciences are they built?  
• How to classify the different scientific websites?  

WP3 will consist in a deeper analysis of a selected sample of websites, taking into account common parameters. WP4 will consist in defining best practices, in making recommendations for developers and managers of scientific websites and in preparing future actions to render the network sustainable and to increase the impact of the project.

Yosciweb will provide the European population with tools and methods able to increase the impact and the efficiency of the scientific communication towards the youth.
**MOTIVATION** (ref 217843)
Promoting positive images of SET in young people
http://www.motivation-project.com/

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|          | ES - Centre d'Estudis Dona  
|          | FR - Ecole Normale Superieure de Cachan  
|          | NL - Stichting Katholieke Universiteit  
|          | SE - Asbacka Ordtjanst Ab  
|          | SK - Technical University of Kosice - Faculty of Economics  

| Duration | 24 months (Jan 2008 – Dec 2009)  

| EC contribution | 499 888 €  

Aim of the project MOTIVATION is an exchange between partner countries in Europe about factors, which influence the image of science and technology under gender perspectives to attract young people. Adolescent often have obsolete and unattractive SET job images in their minds and combine these with outdated clichés. Socialisation agents peer groups, teachers, study and job advisors as well as media influence this image of SET and the attitudes of young people towards SET differently. MOTIVATION tries to improve the situation through interchange of facts about influence of socialisation agents, and to develop measures for changing attitudes towards SET in young people and socialisation agents with media. A website for presenting information for all relevant stakeholder groups will be developed. The project will culminate in a final international conference where the exchange process will be widened to a broader group of international experts in the field.

MOTIVATION comprises four content work packages (WP) focussing on media (WP 2), teachers and advisors (WP 3), young people’s self images connected to job decisions (wp4) and good practices. Exchange about existing research is the first objective, evaluation of content, methods and didactics of information about SET under gender aspects the second objective and understanding interdependencies with gendered job decisions is the third objective.

Collecting measures of good practice, evaluating them and creating new effective methods for changing images of SET under gender aspects is the fourth objective.

MOTIVATION will evaluate the information process of different socialisation media. For that content analyse, interviews and group discussions should illustrate, how SET and gender in SET are represented in TV and in magazines, with teenagers as target consumers. Good practice and dissemination measures will demonstrate media presentations which can contribute towards a gender equal image of SET.
S-TEAM (ref 234870)
Science-Teacher Education Advanced Methods
https://www.ntnu.no/wiki/display/steam/SCIENCE-TEACHER+EDUCATION+ADVANCED+METHODS

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DE - Friederich Schiller University of Jena  
DE - Leibniz Institute for Science Education at the University of Kiel  
DK - University of Copenhagen  
DK - Aarhus Universitet  
EE - University of Tallinn  
ES - Universidade de Santiago de Compostela  
FI - Helsinki University  
FI - University of Jyväskylä  
FI - Abo Akademi University  
FR - Université Pierre Mendes-France  
FR - Centre National de la Recherche Scientifique CNRS  
FR - Université Rennes 2-Haute Bretagne  
LT - Kaunas University of Technology  
LT - Vilnius Pedagogical University  
SE - Mälardalen University  
UK - University of Leeds  
UK - University of Strathclyde  
UK - University of Bristol  
IL - Technion – Israel Institute of Technology  
NO - University of Oslo  
TR - Hacettepe University  
TR - Gazi University |
| Duration   | 36 months (May 2009 – Apr 2012) |
| EC contribution | 4 699 928 € |

Helping teachers raise the quality of science teaching and its educational environment has the potential to increase student engagement, attainment, scientific literacy and science career choices. S-TEAM will achieve this by connecting existing science education research and teacher knowledge to teacher education. This task requires the power of coordinated action across a wide range of institutions and national contexts.

The 26 partners and 15 nations engaged in S-TEAM have a unique opportunity to systematically integrate their knowledge of teaching, research and teacher education, and to adapt science education to the diverse needs of citizens and the economy in Europe, focusing on inquiry-based methods. These involve problem-solving, hands-on experimentation, authentic, student-led content and critical dialogue, but they require wider development of teacher skills and knowledge. Many teachers are already competent in these methods, and are thus the best source of learning for others.

S-TEAM will achieve its aims by disseminating research on, and teachers' experiences of inquiry-based methods to existing and future science teachers. Its actions will involve listening to teachers, working with teacher educators and researchers, and providing support for better science education. This support will include workshops, training packages, video case-studies, teaching materials and publications. S-TEAM will involve not only teachers, but also teacher educators, researchers, students, parents and policymakers in dialogue, to ensure that this dissemination is effective.

S-TEAM is sustainable since learning through teacher collaboration and education can be continually regenerated, but also necessary because science teacher education needs to be shared across Europe. By enabling teachers to deliver more efficient and efficacious learning, S-TEAM will improve the attitudes, motivation and learning of young people, including girls, in science education.
**ESTABLISH** (ref 244749)
European Science and Technology in Action Building Links with Industry, Schools and Home
http://establish-fp7.eu/

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Dr. Eilish MacLoughlin,  
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CZ - Charles University, Prague (CUNI)  
DE - Carl von Ossietzky University of Oldenburg (COUO)  
DE - Leibniz-Institut fur die Pedagogik der Naturwissenschaften an der Universtat Kiel (IPN)  
EE - Tartu Ulikool (UTARTU)  
IRL - Educational Services (AGES)  
IT - Universita di Palermo (UNIPA)  
MT - Across Limits (AL)  
NL - University of Amsterdam (UvA)  
PL - Jagiellonian University (JU)  
SE - University of Umea (UmU)  
SE - Malmo University (MaH)  
SK - Safarik University in Kosice (UPJS) |
| Duration | 48 months (Jan 2010 – Dec 2013) |
| EC contribution | 3 389 648 € |

The aim of the project ESTABLISH is to facilitate and implement an IBSE approach in teaching and learning of science and technology in secondary schools across Europe focussed on appropriate teacher education and support using trialled and tested resource materials.

IBSE methodologies are encouraged to engage students in science and mathematics by increasing their interest in science and by stimulating teacher motivation.

The project will bridge the gap between the science education research community, science teachers, students, parents, local industry and policy makers.

The first outcome of the project will be a large team of teachers across Europe in the delivery of inquiry based teaching. Further outcomes will be the identification of suitable models in teacher education (at pre- and inservice levels) and the identification of best practice in guiding change through all the stakeholders involved in science and science education.

The link between science education in secondary schools and business community will be explored (materials for science lessons include links with local industry).

The project will host a large-scale Science Teacher conference in conjunction with Dublin European City of Science in 2012.
**FIBONACCI (ref 244684)**
Large scale dissemination of inquiry based science and mathematics education
http://www.fibonacci-project.eu/

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| BE - Free University of Brussels  
| BG - Bulgarian Academy of Sciences  
| DE - University of Bayreuth  
| DE - University of Augsburg  
| DE - Free University of Berlin  
| DK - University College South Denmark  
| EE - University of Tartu  
| EL - University of Patras  
| ES - University of Cantabria  
| FI - University of Helsinki  
| FR - Graduate School of Engineering of Saint Etienne  
| FR - Graduate School of Engineering of Nantes  
| IRL - Discover Science and Engineering  
| LU - University of Luxembourg  
| NL - University of Amsterdam  
| PT - Ciencia Viva  
| RO - National Institute for Lasers, Plasma and Radiation Physics  
| HS - Vinca Institute of Nuclear Sciences (Serbia)  
| SK - University of Trnava  
| SL - University of Ljubljana  
| SE - The Royal Swedish Academy Of Sciences - NTA  
| CH - University of Zurich  
| UK - University of Leicester |
| Duration | 38 months (Jan 2010 – Feb 2013) |
| EC contribution | 4 784 597 € |

European authorities and the international scientific community acknowledge the importance of Inquiry-Based Science and Mathematics Education (IBSME) to develop an integrated strategy for scientific literacy and awareness from primary to secondary school, reinforcing scientific careers. "SCIENCEUC" and "POLLEN" FP6 projects as well as SINUS-Transfer have successfully implemented IBSME in a large number of European cities. Europe is now facing the urgent need to disseminate such approaches and enable all member States to have access, understand and implement them in a way that fits their own specificities. To go beyond best practices sharing and to provide effective know-how transfer at European level requires a dissemination model based on a systematic approach of IBSME at grassroots level, ensured by intermediary structures with successful experience in local IBSME implementation. The FIBONACCI project defines a dissemination process from 12 Reference Centres to 24 Twin Centres, based on quality and global approach. This will be done through the pairing of the former, selected for their large school-coverage and capacities for transfer of IBSME, with 12 Twin Centres 1 and 12 Twin Centres 2. These will receive training and tutoring for 2 years in order to become in turn Reference Centres and start disseminating. Transversal work between partners is organised through 5 major topics which will be explored through European training sessions and will lead to European guidelines in order to structure a common approach at European level.
**PRIMAS** (ref 244380)
Promoting Inquiry in Mathematics and Science Education
[http://www.primas-project.eu/](http://www.primas-project.eu/)

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DK - Roskilde University, Department of Science, Systems and Modells  
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HU - University of Szeged  
MT - The University of Malta  
NL - Freudenthal Institute, University of Utrecht  
RO - Babeș-Bolyai University, Cluj Napoca  
SK - Constantine the Philosopher University in Nitra  
UK - MARS - Shell Centre, University of Nottingham  
UK - The University of Manchester  
CH - Université Genève  
NO - Sør-Trøndelag University College |
| Duration | 48 months (Jan 2010 – Dec 2013) |
| EC contribution | 2 996 236 € |

This project aims to effect a change across Europe in the teaching and learning of mathematics and science by supporting teachers to develop inquiry-based learning (IBL) pedagogies so that, in turn, students gain first hand experience of scientific inquiry. Ultimately, our objective is that a greater number of students will have a more positive disposition towards the further study of these subjects and the desire to be employed in related fields. The proposal has been designed to provide a multi-level dissemination plan addressed to teachers and important stakeholders to ensure maximum impact. The plan includes the provision of high quality support for, and training of, teachers and teacher trainers; selection of high quality materials and methods with which to work with teachers; supporting actions addressed to teachers to advertise IBL; methods of working with out-of-school parties such as local authorities and parents; and summaries of analyses that will inform a wide range of policy makers about how they can support the required changes. Throughout the project’s timeline national consultancy panels and two international panels will provide on-going advice and orientation at key stages. To maximise the project’s “reach” to teachers either established networks for the professional development of teachers will be used, or new networks will be built using models which have proven efficacy. Training of about 20 in-service trainers per countries in 12 countries and supervise the training of about 100-150 teachers in each of these countries.
The overall objective of the project is to develop adaptive strategies to enable participating countries to learn from each other and develop feasible innovation plans that fit the specific conditions of each of the countries. Strategies for innovating curricula and strategies for teaching and learning in science and technology will be analysed and compared among 8 different countries in Europe and 2 in Latin America The role of gender and cultural diversity will explicitly be taken into account in all phases of the project.

The project will deliver a long list of innovations from all participating countries, carry out effective pilots to contribute to a solid evidence base and formulate a set of criteria for innovation of teaching and learning of science. This will make national innovation strategies more feasible and therefore more successful and more cost effective. Successfulness and effectiveness of innovation plans will help to convince key change agents to participate in the innovation process of science education.

KidsINNscience will also make use of non-European educational settings in Brazil and Mexico in order to find new methods and strategies for science education to be adapted and used in all participating countries. Cultural differences – e.g. cultural minorities within countries or migrant communities – will be taken into account within the pilot studies. The aim is to improve performance and interest in S&T among young people with migration background.
**SED** (ref. 217751)
Science Education for Diversity
[www.science-education-for-diversity.eu](http://www.science-education-for-diversity.eu)

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| Partners | IN - Tata Institute of Fundamental Research  
TR - Pamukkale University  
LB - American University of Beirut - Department of Education  
NL - Eindhoven University of Technology  
MY - Tunku Abdul Rahman College |
| EC contribution | 999,982 € |

Recruitment to careers in science is falling in Europe which is a challenge to Europe’s future in the knowledge economy. The project proposes to learn how to respond to this situation in collaboration with international partner countries where science remains a popular career choice. Understanding the dynamics of the relationships between culture, gender and science education in the diverse contexts offered by the partners to this bid, the UK, the Netherlands, Turkey, Lebanon, India and Malaysia, will give us a good basis for designing new flexible and diverse approaches to science education that will appeal to all students within Europe and the world. We will develop a theoretical understanding of the relationship between cultural diversity, gender and science education and also provide guidelines and programmes for effective intervention to improve the take up of science education. One focus will be the impact of Islamic culture and religious belief in a range of contexts. We will use case study and design study approaches to understand the process whereby career determining attitudes towards science are formed between the ages of 10 and 14.

The evidence available so far suggests that social networking technologies have contributed to creating a multiplicity of identities amongst young people in a way that can make the apparent unity and authority often presented by school science appear irrelevant to many.

Our response to this will be to explore using the same technology to engage children and young people in the real enterprise of science as shared enquiry across boundaries in a spirit of risk and dialogue where real issues that matter to the future of the planet are at stake. The outcomes will be literature reviews, insights into how attitudes to science are formed, guidelines for curriculum and pedagogical development to encourage more people into science careers and examples of good practice.
A number of findings from research in science education are well known and broadly accepted. They refer e.g. to inquiry based, learning by doing, social dimension of learning, active learning, diversity of learning styles, based on individual, cultural, ethnic, gender-related factors.

For researchers working side by side with school teachers, it is everyday experience to see how difficult it is to receive indications coming from research and transform them into teaching practice: there are cultural barriers, preparation barriers, and time and resource constraints.

TRACES will promote transformative research activities and investigate the factors that contribute to the research-practice gap and identify innovative policies in science education that can contribute to fill that gap. It will do so through both desk and field research, in a cyclic process of analysis, action, and reflection. In particular, we are interested in looking at the effectiveness of research based science teaching in taking account of learners’ diversities in terms on individual, cultural, ethnic, linguistic, gender-related factors.
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<tr>
<th><strong>PROFILES</strong> (ref. 266589)</th>
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<td>Professional Reflection-Oriented Focus on Inquiry-based Learning and Education through Science</td>
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### Coordinator

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AT - Universität Klagenfurt  
CY - Cyprus University of Technology  
CZ - Masaryk University Brno  
FI - University of Eastern Finland  
IE - University College Cork  
IT - University of Universita' Politecnica delle Marche  
LV -University of Latvia  
NL - Utrecht University  
PL - University of Maria Curie-Sklodowska  
PT - University of Porto  
RO - Valahia University Targoviste  
SI - University of Ljubljana  
ES - University of Valladolid  
SE - Linköping University  
CH - University of Applied Sciences Northwestern  
TK - Dokuz Eylül University  
UK - University of Dundee  
DE - University of Bremen  
UK - ICASE

### Duration

48 months (December 2010 – November 2014)

### EC contribution

3 447 945 €

The PROFILES project promotes IBSE through raising the self-efficacy of science teachers and in so doing aiding a better understanding of the changing purpose of teaching science in schools and the value of stakeholder networking. The proposal innovation is in utilizing existing science teaching materials to support teachers, through an inspired, longitudinal training programme reflecting stakeholder views and needs, while simultaneously promoting a reflective IBSE school-based, training related, intervention to promote learning through creative, scientific problem solving and socio-scientific decision making procedures. The measures of success are through a) determining the self efficacy of science teachers in teaching innovative science education approaches allowing student acquisition of life skill competencies and b) in the attitudes of students toward this more context-led, student centred, IBSE-emphasised learning. Dissemination of approaches, reactions, and reflections form a further key project target.

Initially PROFILES involves the development of lead teachers on four fronts (teacher as learner, as teacher, as reflective practitioner and as leader) consolidating their ownership of the context-led approach and incorporating use-inspired research, evaluative methods and stakeholder networking. The project enhances its dissemination approaches with lead teachers spearheading training of further teachers at pre- and in-service levels and initiating workshops for key stakeholders nationwide. The project focuses on the secondary level so that ‘open inquiry approaches’ are a major teaching target. PROFILE pays much attention to student motivation for the learning of science both in terms of intrinsic motivation (relevance, meaningful, as considered by the students) and extrinsic motivation (teacher encouragement and reinforcement) and attempts to make school science teaching more meaningful by paying attention to cultural differences, esp. at the gender level.
PATHWAY (ref. 266624)
The Pathway to Inquiry Based Science Teaching

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NL - University of Amsterdam
CH - European Organisation for Nuclear Research
GR - Center for Research and Technology Hellas
BE - European School Network
GR - Fraunhofer Institute for Applied Information Technology
IE - Dublin City University
FI - Helsinki University
GR - Pedagogical Institute – Greek Ministry of Education
GR - School of Pedagogical and Technological Education
BG - University of Shumen
DE - Humboldt-Universität zu Berlin
DE - University of Bamberg
RO - Casa Corpului Didactic Cluj
FR - European Physical Society
RU - Centre of Information Technologies and Leaning Environments

Duration
36 months (January 2011 – December 2013)

EC contribution
3 378 771€

Following the recommendations of the “Science Education Now: A renewed Pedagogy for the Future of Europe” report, the Pathway Supporting Action is bringing together experts in the field of science education research and teachers’ communities, scientists and researchers involved in pioneering scientific research, policy makers and curriculum developers to promote the effective widespread use of inquiry and problem based science teaching techniques in primary and secondary schools in Europe and beyond. The proposed approach is based on three main axes that could facilitate the uptake of IBSE (Inquiry-Based Science Education): It a) proposes a standard-based approach to teaching science by inquiry that outlines instructional models that will help teachers to organise effectively their instruction, b) deploys a series of methods to motivate teachers to adopt inquiry based techniques and activities in their classrooms and c) offers access to a unique collection of open educational resources and teaching practices (linked with the science curricula) that have proven their efficiency and efficacy in promoting inquiry based education and that are expanding the limitations of classroom instruction.

Such an approach enables all stakeholders (teachers, teachers’ trainers, curriculum developers, policy-makers) to examine their own practices in the light of the best performing approaches that set the standards on what can be achieved and provides them with a unique tool to bring about improvements in their everyday practice.
**INQUIRE** (ref. 266616)
Inquiry-based teacher training for a sustainable future

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UK - King’s College London University  
IT - Museo Tridentino di Science Naturali, Trento  
UK - Royal Botanic Gardens Kew  
ES - Consejo Superior de Investigaciones Científicas  
DE - University of Bremen (Uni Bremen)  
BG - University of Sofia  
BE - National Botanic Garden of Belgium  
DE - Schulbiologisches Zentrum Hannover  
FR - Jardin Botanique de la Ville de Bordeaux  
PT - Coimbra Botanic Garden  
RU - Moscow State University Botanical Garden  
NO - Natural History Museum, Botanical Garden  
DE - Botanischer Garten, Rhododendron-Park, botanika Bremen  
ES - Universidad de Alcala  
PT - University of Lisbon |
| Duration | 36 months (December 2010 – November 2013) |
| EC contribution | 2 234 025 € |

The science education community agrees that pedagogical practices based on IBSE methods are more effective. But the reality on the ground is different. For various reasons, this type of teaching is not practiced in most European classrooms. INQUIRE counteract this by developing and offering a one-year practically based IBSE teacher training course that will reach out to hundreds of teachers, and in turn thousands of children, in 11 European countries. The course is run through 14 Botanic Gardens and Natural History Museums - some of Europe’s most inspirational cultural and learning institutions. These places act as catalysts, training and supporting teachers and educators to develop their proficiency in IBSE and become reflective practitioners. Most of the partner institutions have experience in delivering IBSE. To ensure excellence, theoretical rigour and project progression, two highly regarded science education research institutions participate: King’s College UK (informal learning; practitioner’s research) and University of Bremen BRD (research into teacher education). The training locations, the practical nature of the course, the support offered and the subject content encourages teachers and educators to enrol in INQUIRE courses and try out IBSE in their everyday teaching. Biodiversity loss and climate change are the major global issues of the 21st century and many teachers are looking for innovative ways to tackle these subjects. INQUIRE training supports teachers to do just that and introduce them to institutions where children can carry out ‘real’ investigations and see science in action. INQUIRE training courses are promoted through national systems that support professional development for teachers as well as informal education training networks. The website encourages the uptake of IBSE. It promotes dialogue between partners and teachers, showcase best practice published on other EU websites and highlight the results of practitioner research in IBSE.
**Pri-Sci-Net** (ref. 266647) – Under negotiation

Networking Primary Science Educators as a means to provide training and professional development in Inquiry Based Teaching

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|---|---|
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PT – Hands on Science Association  
BE – University College – KATHolieke Hogeschool Zuid West-Vlaanderen  
FI – University of Jyväskylä  
CZ – Univerzita Jana Evangelisty Purkyne v Usti nad Labem  
DE – Frankfurt University  
CY – Ministry of Education  
AT – Pädagogische Hochschule Wien  
GR – University of Crete  
SK – Trnava University, Faculty of Education  
PT – University of Minho  
UK – Commonwealth Association for Science, Technology and Mathematics Education (Europe Branch) – CASTME Malta  
UK – University of Southampton  
TR – Mugla University  
FR – UMR STEF (ENS Cachan) laboratory  
MT – EXOR Group |
| Duration | 36 months |
| EC contribution | 2 837 695 € |

This project is about setting up a Europe-wide network for professionals and academics in the area of Primary Science Education. The aim is to provide training and professional support to teachers to help them use Inquiry based learning in Science in schools. The platform at European level will network professionals as well as support the organisation of training courses. It also recognises teachers’ and researchers’ achievements in implementing Inquiry-based learning in science, as well as provide an opportunity for teachers and academics to share their experiences and successes. The project will concurrently also take small projects in primary science education, and promote them on a larger scale in order to provide examples of Inquiry Based teaching approaches to have an impact at European level. The project includes several previous projects, mainly: using an already developed theoretical pedagogical model for the teaching of science at primary level for developing teaching resources (developed as part of Comenius 1 and 2 projects); utilising the European network for primary school teachers to provide training and professional development to primary science teacher trainers; as well as providing in-service training opportunities based on experience of partners in implementing ERASMUS intensive courses for primary school teachers on a national and international level. Pri_Sci_Net aims to establish a European community of primary science educators working within the Inquiry Based approach.
| **SECURE** (ref 266640)  
Science Education CUrriculum REsearch |
|---|---|
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| **Partners** | - Universität Graz UGZ Austria  
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- University of Cyprus UCY Cyprus  
- Technische Universität Dresden TUD Germany  
- Università degli Studi di Udine UUD Italy  
- Stichting Leerplanontwikkeling SLO The Netherlands  
- Uniwersytet Jagiellonski UJK Poland  
- Univerza v Ljubljani ULJ Slovenia  
- University of Gävle UGV Sweden  
- Nottingham Trent University NTU United Kingdom |
| **Duration** | 36 months 01/11/2010 - 31/10/2013 |
| **EC contribution** | Total costs: 1.817.994 €  
EC contribution: 1.498.506 € |

The EU lags behind its global competitors when it comes to the number of MST graduates. A special effort is required to close this gap. The overall aim of the SECURE project is to make a significant contribution to a European knowledge-based society by providing relevant research data that can help policy makers to improve MST curricula and their implementation throughout the EU in order to prepare children from an early age on for future careers in MST, whilst at the same time making MST more accessible and enjoyable for all children so that they will keep a vivid interest in science and technology, and understand the importance of their societal role. SECURE will focus on the 5 – 13 age group, because the foundation for a revived interest in MST can best be laid at an early age, when children are most susceptible for the wonders of the world that surrounds them. A rigorous research programme conducted by the SECURE consortium will scrutinise and compare current MST curricula for pupils aged 5, 8, 11 and 13 in the member states as they are intended by the authorities, implemented by the teachers and perceived by the learners. The instruments used to this end will consist of a transnational comparative screening instrument for MST curricula, of teacher and learner questionnaires and of a lesson observation instrument. The cornerstone of the valorisation strategy of the research outcomes will be the direct and active involvement of a transnational expert group of research and curriculum development institutions that will provide feedback as well as a direct access to policy makers.
The European Coordinating Body in Maths, Science and Technology Education (ECB) is a large-scale strategic response to the FP7 call to reinforce links between science education and science and technology careers in the private sector through reinforcing the partnership industry/education. The overall aim of the ECB is to increase young Europeans’ interest in mathematics, science and technology (MST) education and careers, addressing two challenges: lack of interest in the subjects and the future skills gap (by 2020, there will be 20 million high-skilled jobs and 30 million medium-skilled jobs using MST in Europe). The partnership proposed for the ECB is a multi-stakeholder consortium of 25 partners in 15 countries, associating Ministries of Education, Businesses (major European companies, National science platforms, Organisations representing the interests of industry) and Universities. The financial model of the ECB is based on a shared contribution provided by the major stakeholders of the project; a significant part of the budget is devoted to dissemination and impact activities. Through innovative initiatives and coordinating and building on existing school/business partnerships in the field of MST education across Europe, the ECB will develop a repository of practice, disseminate and stimulate good practices in MST and encourage new practices. Two key areas of work are a portal with an observatory of industry-education information, guidance and good practices in Europe and networks of over 1000 primary and secondary schools (with a leading pilot network of 150 schools) which will validate the best practices, design a

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<tr>
<th>Coordinator</th>
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<td>Duration</td>
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<td>EC contribution</td>
<td>Total costs: 8.113,752€ EC contribution: 3.578,912€</td>
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programme of activities and organise seminars for teachers on industry-education cooperation in MST education. A set of major dissemination and exploitation activities are designed to mainstream and sustain good practices and so increase numbers opting for MST in schools, and ultimately increase the number of Europe’s researchers and scientists.