



## Science Education for Diversity

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### Rationale

Knowledge of science and scientific ways of thinking is essential to participation in democratic decision-making when issues that involve science are at stake. The decreasing engagement of many young people with science subjects at school is evident in the falling recruitment to the study of science and technology subjects at degree level in Europe. This is a problem both for the health of the knowledge economy and for the health of democratic participation.

One way to improve science education in Europe, in order to respond more effectively to the new cultural diversity of students, is to learn in collaboration with international partners in countries where science remains a popular career choice.

In Lebanon, India and Malaysia there are issues of cultural diversity yet science remains attractive to large numbers of young people.

By understanding the dynamics of the relationships between culture, gender and science education in the diverse contexts offered by the project partnership, we will be able to design new approaches to science education that will appeal to virtually all students within Europe and the world.

Although our aim is to improve the quality of science education for all, our expertise puts us in a particularly good position to explore in more detail the impact of Islamic culture and personal religious belief on the take-up of science, a topic of great concern to all policy makers within Europe and in the world as a whole.

### General aims of the project

In this research project, we aim to understand how countries in both Europe and partner countries are addressing the issue of cultural and gender diversity in science education with regard to engaging young people in science education, and we also aim to offer ways to help address this issue more effectively. We wish, therefore, both to understand the relationship between science education and culture, and also to provide guidelines and programmes for effective intervention to improve the take-up of science education where there is a problem.

We will start by exploring in detail the complex relationship between different ethnically and culturally defined groups, gender, and different areas of science and approaches to teaching and learning science. More specifically, the main research questions addressed by this project are:

1. To what extent is there differential take-up of science education according to ethnicity, religion and gender, in each of the partner countries?
2. To what extent do different branches of science present different demographic profiles?
3. What factors affect differential take-up? These include exploring, amongst students but also among teachers,
4. How do teachers perceive the issue(s)?
5. What educational policies are in place in each of the partner countries to address diversity issues in science education?
6. What would constitute a 'successful' policy or practice and how would this be evaluated? What policies currently in place can be deemed successful according to such criteria, and which ones can be seen to have failed?

### Partners

University of Exeter (UNEXE), UK  
(Co-ordinator)



Tata Institute of Fundamental  
Research (TIFR), India



Pamukkale University (PAU), Turkey



American University in Beirut (AUB),  
Lebanon



Eindhoven University of Technology  
(TU/e), the Netherlands

Tunku Abdul Rahman College  
(TARC), Malaysia

