



HELENA

International Conference

Les Cordeliers, Conference Centre of the Paris University

Paris (France) – June 23-24th, 2011

Gender and Interdisciplinary Education for Engineers – GIEE 2011

*Does Interdisciplinary Education improve the gender balance
and attract more young people in Engineering and Technology higher education?*

Call for papers

Attracting more young people, particularly women, in Engineering and Technology (ET) is a major concern in Europe today. Their participation in engineering occupations appears to be a key-issue for European economic and technical development, as well as a central achievement towards gender equality and social justice. Increasing young people interest in the sciences and mathematics and underlining the importance of Engineering and Technology developments in shaping our collective future is an ongoing project in the education sector. In higher education in Europe, women are overrepresented in the humanities, education, arts, health, welfare, agriculture or veterinary studies, while men opt for science, mathematics and computing. If we look more closely at engineering, manufacturing and construction, 18.5% of males graduate in this area, compared to 6.9% of women.

Two factors may explain these differences of choices:

- 1- It seems that the attractiveness of ET sectors differs from males to females because of its gendered representation, which is a masculine one.
- 2- The lack of interdisciplinary content in ET curricula may act as a foil to potential SET students, both men and women. Several previous studiesⁱ suggest, first, that young people and particularly women, want more interdisciplinarity (such as subjects from the humanities and social sciences) in their engineering degree courses; and second, that many non-engineering students may have

considered studying engineering if there had been more subjects from the humanities and social sciences included. A more interdisciplinary approach of ET would stress the social utility of ET and the societal challenges attached to the profession, which is something important in students' choice.

The GIEE 2011 conference is being organised by the HELENA research project consortium (Higher Education leading to Engineering and Scientific Careers), funded by the EU commission in the frame of the 7th FPⁱⁱ. This project collected and analyzed literature and data from higher education engineering programmes across the range of levels of interdisciplinary content in order to answer the question of whether interdisciplinary education has an impact on the gender balance of students in the discipline. Results will be presented during the conference, with the opportunity for open debate with other participants on the research findings.

We invite scholars and specialists of engineering training to contribute to this conference by sending abstracts of no more than 500 words (including methodology and relevant references) online at the following website before 15th October 2010 (see calendar below):

www.fp7-helena.org/conference2011

The Conference will be organized using the following broad structure:

- **Theme 1: Teaching and learning Contents and Cultures.** The HELENA project is based on the hypothesis that interdisciplinary training (i.e. a syllabus which includes scientific and technological courses combined with non-scientific subjects like Human and Social Sciences), very often associated with a project and team-based pedagogy, is more appealing to young people and particularly women. What differences does it make in terms of attractiveness? Is the HELENA hypothesis confirmed by the studies conducted on actual trainings existing in Europe?
- **Theme 2: Students' experiences:** The second session will present and discuss the perceptions by students (including graduate students), women and men, of interdisciplinary programs in ET education and their social impact. In what way do their perceptions determine their study choices?
- **Theme 3: Other ways to attract more women:** This session will give the opportunity to present, analyze and discuss other ways to attract more young people, and particularly women, into ET.
- **Theme 4: Policies:** what are the policy recommendations and assessments of existing programs? What evaluation tools exist to measure the effectiveness of such programs? What recommendations can be made to institutions that want to improve their recruitment and, in particular, to attract more women?

Conference languages are English and French

Key dates:

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|---------------------------------------|--------------------------------------------------------|
| October 15th, 2010: | Deadline for abstract submission |
| End of December 2010: | Abstract evaluation by the Scientific Committee |
| March 15th, 2011: | Full paper submission |
| April 30th, 2011: | Final decision by the SC |

Scientific Committee

- Jean Michel - Chair
- André Béraud - INSA Lyon and ECEPIE, France
- Marina Blagojevic - Altera MB Research Centre on Gender and Ethnicity, Serbia
- Christelle Didier – University of Lille, France
- Susanne Ihlen - TU Munchen and SEFI, Germany
- Carmen Leicht-Scholten - RWTH Aachen, Germany
- Mario Letelier – University of Santiago, Chile
- Tony Marjoram – UNESCO, France
- Gièdre Purvaneckiene – Gender Studies Centre of Vilnius University, Lithuania
- Natasha Van Hattum-Janssen, University of Minho, Portugal
- Christine Waechter – IFZ and University of Klagenfurt, Austria
- Henk Zanvoort - Delft University of Technology, The Netherlands

ⁱ WOMENG project: “Creating cultures of success for women engineers”, www.womeng.net, established that 34.6% of the male and 37.9% of the female engineering students want more interdisciplinarity (like subjects from the humanities) in their engineering degree courses and second that 26.9% of the non-engineering students say that they would have changed their minds about studying engineering if there had been more subjects from the humanities and social sciences included (see Thaler & Wächter 2005, Wächter 2005; Thaler 2005).

ⁱⁱ www.fp7-helena.org

7th FP, Science and Society program