Roaming around Europe for COSSE

Ineke Temming

Photo Annelies te Selle

First EEMCS Erasmus Mundus programme starts this year

EEMCS is teaming up with three other leading Departments of Applied Mathematics from across Europe to offer a new joint programme: 'COSSE' – the Erasmus Mundus Master's degree programme in Computer Simulations for Science and Engineering. Professor of Numerical Analysis Kees Vuik reports.

The image of Kees Vuik roaming around Europe on his beloved motorbike is quite a romanticised picture of the effort it takes to organise a degree programme with international partners, but there is certainly a lot of travelling involved. "We have regular meetings to discuss the curriculum and make sure that our timetables and activities are joined up as much as they can be", he says. "This is the first time that EEMCS is participating in an Erasmus Mundus programme, so I feel a little bit like a pioneer." The new programme will start in the 2010-2011 academic year.

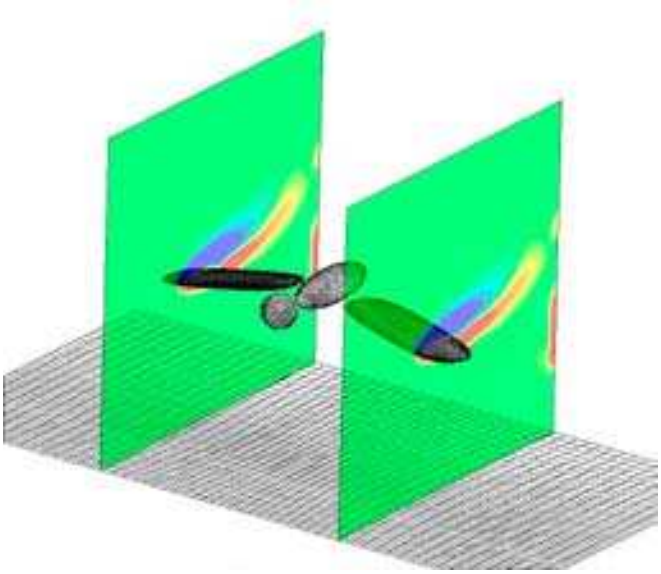
"COSSE graduates are much sought-after by high-tech companies."

A mark of quality

Creating the best multidisciplinary graduate programmes in Europe by encouraging the best European universities to cooperate, so we can attract the best students in the world – this is basically what the EU-subsidised Erasmus Mundus initiative is aiming for. Accordingly, the Erasmus Mundus label is a mark of quality that demonstrates the excellence of EEMCS's Applied Mathematics programme. The results have been remarkable. "We have received almost 500 applications for scholarships in a period of barely two months", says Kees, still sounding surprised. The overwhelming interest in COSSE is not hard to explain – students in this programme will take classes at leading universities in at least two different countries, and graduates will be awarded a double degree.

Self-supporting

Computational Science and Engineering (CSE) is a rapidly growing field of study that has become the third paradigm of science, complementing theory and experiment. "CSE focuses on predicting and optimising the properties of physical or technical systems, such as the weather, traffic, or industrial production, by using computational and mathematical models", Kees explains. "COSSE graduates are likely to pursue a PhD, but are also much sought-after by large research institutes and high-tech companies. Multinationals like Philips and Siemens have sent senior representatives to participate in our External Evaluation Group. These are valuable contacts, considering the temporary character of the EU subsidy. There is a good chance that in time we will become self-supporting." ■



A Computational Fluid Dynamics model of a flying insect, used for the development of the Delfly ('the smallest camera-bearing flying ornithopter in the world'). Beside Numerical Analysis, CFD is one of the specialisations TU Delft is offering COSSE students.

The Erasmus Mundus Master's Programme COSSE is a joint initiative by:
- TU Delft
- KTH Royal Institute of Technology (Stockholm)
- Technical University of Berlin
- Friedrich-Alexander University of Erlangen-Nürnberg

The 7 Erasmus Mundus programmes at TU Delft:
- Computer Simulations for Science and Engineering
- Optics in Science and Technology
- Coastal and Marine Engineering & Management
- Economics and Management of Network Industries
- Nanoscience and Nanotechnology
- Minerals and Environmental Programme
- Sustainable Energy Technologies and Strategies

De masteropleiding Computer Simulations for Science and Engineering (COSSE), waarin EWI samenwerkt met drie andere Europese universiteiten (zie kader), heeft de Erasmus Mundus-status verkregen. Hoogleraar Numerieke Analyse Kees Vuik, een van de organisatoren, meldt dat de belangstelling voor de opleiding groot is. In COSSE leren studenten m.b.v. computermodellen en wiskundige modellen de eigenschappen van fysische of technische systemen te voorspellen en te beheersen. Het onderwijs wordt aan tenminste twee universiteiten gevolgd en leidt tot een double degree. COSSE-ingenieurs zijn gewild in de high-tech industrie. Vuik verwacht dan ook dat het bedrijfsleven de financiering te zijner tijd overneemt. ■