COSSE
Computer Simulation For Science and Engineering

Duration: 2 years

Course description:
Computational Science and Engineering (CSE) is a multidisciplinary field of great importance for high-tech industry and scientific/engineering research. The basis of CSE, i.e., mathematical modelling, numerical analysis, computer science and visualisation, provides the tools for computer simulation and virtual prototyping.

The objective of the COSSE programme is to establish a world-class educational Master programme in CSE which opens career paths in knowledge-based industries as well as academic research.The high-quality curriculum and stimulating study environment is enabled by the coordination of diversity and expertise of four high-ranking universities. COSSE is a two-year programme building on a high quality BSc or BEng degree with advanced level courses in mathematics, numerical methods, computer science and at least one applied course in e.g. fluid dynamics, electromagnetism, or biocomputing.

The students of COSSE will receive a double degree from two universities located in different countries. A student starts at the home university the first year taking courses corresponding to 60 ECTS credit points and then spends the second year at the host university taking specialization courses of 30 ECTS credit points and a Master Thesis project of 30 ECTS credit points supervised by both the home and the host university. At all universities of COSSE the Master Thesis project can be done at a research group or in cooperation with industry partners.
The specializations of COSSE and the degrees obtained are:

- KTH: Computational Biology, Computational Materials Science (Master of Science)
- TU Berlin: Computational Control Theory, Computational Optimization (Master of Science)
- TU Delft: Computational Fluid Dynamics, Numerical linear Algebra (Master of Science in Applied Mathematics)
- University Erlangen: Scientific Visualisation and Image Processing, High Performance Computing (Master of Science)

The programme is intended for a small number of highly qualified and motivated students. The student/staff ratio is around 4-5. The language of instruction is English. Admission Requirements: High quality Bachelor's degree in science or engineering; admission on competitive basis; good knowledge of English.

Website: http://www.kth.se/cosse

Partners:
KTH ROYAL INSTITUTE OF TECHNOLOGY, Sweden (Co-ordinating institution)
TECHNICAL UNIVERSITY BERLIN, Germany
DELFT UNIVERSITY OF TECHNOLOGY, Netherlands
FRIEDRICH ALEXANDER UNIVERSITY ERLANGEN-NURNBERG, Germany

Contact:
Michael Hanke
Royal Institute of Technology
Lindstedtsvägen 3
100 44 STOCKHOLM - Sweden
mundus-cosse@csc.kth.se

Maximum grant:
721 200 € (30 000 € consortium + 691 200 € scholarships), 2010
610 800 € (30 000 € consortium + 580 800 € scholarships), 2011
602 800 € (30 000 € consortium + 572 800 € scholarships), 2012
460 400 € (30 000 € consortium + 430 400 € scholarships), 2013