

Joint Workshop “Mathematics in Waterland” EMMC “Computer Simulation for Science and Engineering”

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Welcome



Erasmus Mundus Master's Programme COSSE:

“Computer Simulation for Science and Engineering”

- Royal Institute of Technology Stockholm
- Friedrich-Alexander University Erlangen-Nürnberg
- Technical University Berlin
- Delft University of Technology

The Consortium



- Co-operation and mobility programme within **higher education** to promote EU as academic “**Centre of Excellence**”
- Promote dialogue between and **understanding of different societies and cultures** through co-operation among higher education institutions and people-to-people contacts.
- **Promote EU external policy objectives** and contribute to the sustainable development of third countries in the field of higher education.
- *Excellence programme*
- Intense **tutoring** and **mentoring** process
- **Quality assurance** by internal and external evaluation
- **Generous scholarship programme**
- greater focus on **student services**
- Researching and teaching **scholars**

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- The KTH Master's Programme Scientific Computing was established in 1997
- KTH CSC has been awarded the title “Center of Excellence in Higher Education 2009”
- Graduated more than 250 students to date
- In 1995-2005, the institution was the host for PSCI, the Parallel and Scientific Computing Institute
 - VINNOVA Centre of Excellence
 - Jointly financed by Vinnova, an industrial consortium, KTH
- Master's thesis in academia and at companies like ABB, Volvo PV, SAAB, Comsol, Biovitrum, Ericsson



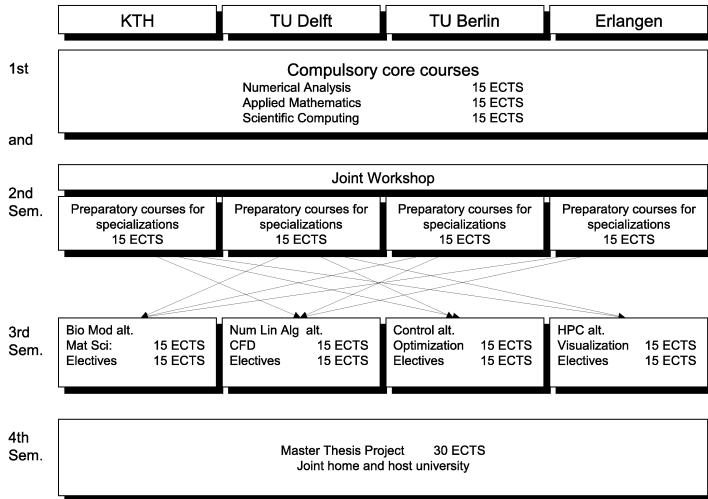
- Master programme **established in 1997**, hosted by the Department of Computer Science
- **Interdisciplinary collaboration** of several departments in the Faculty of Engineering and the Department of Applied Mathematics
- Graduated more than 250 students
- External funding by **DAAD** (Master-Plus and PhD programmes) and **Elite Network of Bavaria**
- Close collaboration in teaching and research with Siemens Power, Siemens Healthcare, Siemens Corporate Technology, Opel, BASF, and many small companies in the metropolitan area



- Bachelor/Master programmes in Mathematical Engineering (Techno-Mathematik) and Scientific Computing **established in 2006**
- Main partner of the Research Centre **MATHEON** (“Mathematics for Key Technologies”)
 - German Research Foundation Centre of Excellence (since 2002)
 - Main partners: TUB, FUB, HUB, ZIB, WIAS
 - application-driven research in close collaboration with partners from industry, economy and science (including ABB Utilities GmbH)
- Most master’s thesis projects within this centre, in Interdisciplinary Priority Programmes, or in direct cooperation with industry partners



- Master programme in Applied Mathematics hosted by the Delft Centre for Computational Science and Engineering (interdisciplinary conglomerate of Delft research groups)
- Part of the recently established 3TU Applied Mathematics Institute
- Many of the master's thesis projects are carried out in research departments of large companies like Shell, Philips, Deltares, Marin, etc.

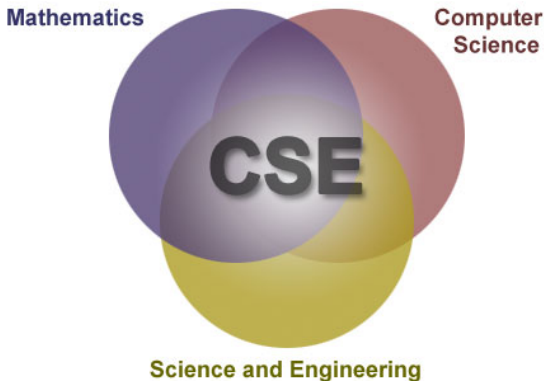


- Meeting of all involved in COSSE
- Courses, lectures by world-known researches
- Industry visits
- Final decision about specialization
- Have fun!

- aProf Michael Hanke, KTH
- Prof Ulrich Rüde, FAU
- Prof Reinhard Nabben, TUB
- Prof Kees Vuik, TUD
- aProf Lennart Edsberg, KTH
- Prof Arnold Heemink, TUD

- Mrs Jana Fiorito-Stetkova (EACEA)
- Mrs Karin Knutsson (KTH International Office)
- Prof Jan Verwer (CWI Amsterdam, head of the External Evaluation Group)

What is Computational Science & Engineering



*Computational Science and Engineering has become the **third pillar** of the scientific enterprise, a peer alongside theory and physical experiment.*

- KTH:** KTH1 Biocomputing
KTH2 Computational Material Science
- TUB:** TUB1 Computational Control Theory
TUB2 Computational Optimization
- TUD:** TUD1 Computational Fluid Dynamics
TUD2 Numerical Linear Algebra
- FAU:** FAU1 High Performance Computing
FAU2 Scientific Visualization and Medical Image Processing

Thanks to the organizers for
their impressive work.

Have a good time!

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