EMDC
European Master in Distributed Computing

Duration: 2 years

Course description:
Information technology is becoming ubiquitous and increasingly important for all kinds of organizations, including enterprises, factories, public utilities, state bodies, health care, banking, transportation, airport and harbor control, etc. Information technology, and distributed computing in particular, is required to successfully undertake and manage large-scale projects on such organizations. Furthermore, distributed computing provides the foundations to manage the communications and data processing required by other science fields such as health sciences, biology, physics, chemistry, mechanical and civil engineering.

The European Master in Distributed Computing is a two-year degree comprising three lecture semesters and one semester for thesis work. The first year of studies is carried out at two optional entry locations (IST and UPC), each receiving about half of the enrolled students. The third semester of studies will be carried out at KTH by the totality of enrolled students. Students will then prepare their master thesis, approximately one third of them performing research at each participant institution. This programme structure ensures that students will attend courses at least in two different institutions, possibly a third if thesis work is performed in other than the institution of entry.

The first year of studies achieves integration of courses between IST and UPC in solid distributed computing fundamentals background, while allowing a significant degree of specialization in more advanced courses, tailored for different student profiles and principal faculty expertise of each institution. This is accomplished by a set of core courses addressing fundamental subjects on middleware, security, parallel and distributed computing, and peer-to-peer systems.

The specific profiles offered at IST and UPC address two different sets of concerns in design, development, evaluation, and evolution of distributed computing systems: overall system reliability at IST (fault-tolerance, interoperability, autonomic systems) and performance at UPC (performance measurement, tuning, numerical simulation). Issues of system availability and scalability are relevant for both approaches, while problem tackling philosophy and advanced theoretical concepts employed are diverse. This enables offers students at each site with different sets of advanced skills and interacting with different families of the systems research community.

The third semester of studies at KTH receives all students, providing them with common advanced courses that assume and leverage course integration of previous semesters. This motivates students to develop large-scale projects integrating both common and complementary skills acquired earlier, and developing research methodology and scientific writing, essential to pursue further studies and research.

Website: www.kth.se/emdc

Partners:
ROYAL INSTITUTE OF TECHNOLOGY - KTH, Sweden (Co-ordinating institution)
HIGHER TECHNICAL INSTITUTE – IST , Portugal
TECHNICAL UNIVERSITY OF CATALUNYA - UPC, Spain

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Maximum grant:

694 400 € (30 000 € consortium + 664 400 € scholarships), 2010
707 600 € (30 000 € consortium + 677 600 € scholarships), 2011
600 800 € (30 000 € consortium + 570 800 € scholarships), 2012
554 800 € (30 000 € consortium + 524 800 € scholarships), 2013