

THRUST
Erasmus Mundus Masters Course in
Turbomachinery and Aeromechanics University Training

Duration: 2 years

Course description:

Energy and propulsion are much needed systems in the world for most modern human activities and social development for a sustainable society. Turbomachines (1) produce more than 90% of all electricity in the world, (2) drive all commercial aircraft, (3) are used extensively as compressors, pumps, ... in many modern applications (refrigerators, ventilators, ...).

Aeromechanics is one of THE main limitations for more efficient, lighter, cheaper and reliable turbomachines, be it jet engines, steam turbines, gas turbines, wind turbines or hydro turbines, as well as various kind of compressors. No university worldwide has so far a Master program directly related to aeromechanics in turbomachines. The THRUST proposal will thus offer selected students a worldwide unique education, at a high academic level, from researchers/teachers at four European, and one US, top universities in the area and prepare the students for a direct industrial engagement.

The THRUST proposal offers the students a two semester advanced introduction to aeromechanics in turbomachines at one university (KTH) and four specially selected options (aerodynamics, mechanics, material, damping) at three other universities (Duke, Thessaloniki, Liège) in the third semester. In the fourth (final) semester the students can perform the MSc thesis in an industrial setting in common supervision with researchers from any of the participating universities.

The programme is highly integrated, first of all regarding student and teacher mobility for certain common lectures, but also related to the extended use of remote teaching by the specialist teachers at all four universities, in conjunction with "face-to-face" and "virtual" interactive workshops and project courses. The educational program THRUST offers a unique, modern and highly interactive learning material which enhances the student learning process. This, together with the "remote learning" aspects, will allow also for a substantial potential for already active industrial persons to participate in the full, or certain aspects of, the program as part of the life-long learning inside their respective companies.

Website: www.kth.se/thrust

Partners:

ROYAL INSTITUTE OF TECHNOLOGY, Sweden (Co-ordinating institution)
DUKE UNIVERSITY, United States
UNIVERSITY OF LIEGE, Belgium
ARISTOTLE UNIVERSITY OF THESSALONIKI, Greece

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Maximum grant:

910 000 € (30 000 € consortium + 880 000 € scholarships), 2010
740 600 € (30 000 € consortium + 710 600 € scholarships), 2011
639 400 € (30 000 € consortium + 609 400 € scholarships), 2012
530 000 € (30 000 € consortium + 500 000 € scholarships), 2013