

ATOSIM

Atomic Scale Modelling of Physical, Chemical and Bio-molecular Systems

Duration: 1 year

Course description:

This one-year degree provides a high-level qualification in the rapidly expanding field of computer modelling in physical, chemical and bio-molecular sciences. This highly integrated Course covers a full range of techniques: from quantum mechanical atomistic descriptions to coarse-grained mesoscopic models. Particular fields of application include condensed matter and statistical physics, chemistry, physical chemistry, materials science and theoretical bio-molecular science.

The study programme is divided into three parts and operated jointly by the Ecole normale supérieure de Lyon (ENS) (France), the University of Amsterdam (the Netherlands) and the University of Rome "La Sapienza" (Italy). During the first semester, the students are enrolled in a specialised curriculum in two of the three partner institutions. Next, they participate in a compulsory "winter school" for a fortnight, organised by the University of Amsterdam. Finally, they will carry out a research project between two partner institutions. The research project and the first semester courses involve mobility between two different institutions. Research projects are supervised jointly by tutors from two partner institutions. In addition, the programme involves a substantial proportion of "hands-on" practical courses in small groups.

The Course includes selected modules in physics, chemistry and sciences. It also includes a specialised programme in atomic and molecular modelling offered at ENS-Lyon in the Blaise Pascal Centre. In addition, there are a set of six tutorials taught by experts from a number of different European universities. Modules will be taught in English in Lyon and Amsterdam. In Rome, the modules will be given in Italian, however tutoring and examinations can be taken in English, and students will have access to language courses. Twenty to thirty students will be involved in the programme, with a professor/student ratio of almost one.

Students will obtain a double degree from the two institutions in which they are enrolled for their first trimester and for their research project. Admission into the master degree will be decided on the basis of academic excellence by a selection committee composed of representatives from each partner institution. Applicants should have at least four years of prior studies majoring in physics, chemistry, engineering, applied mathematics or bio-informatics. Proof of English proficiency will also be required.

Website: <http://www.erasmusmundus-atosim.cecam.fr>

Partners:

Ecole Normale Supérieure de Lyon, France (Co-ordinating Institution)
Amsterdam University, Netherlands
University of Rome "La Sapienza", Italy

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Grant:

403 000 € (15 000 € consortium + 388 000 € scholarships), 2006
390 000 € (15 000 € consortium + 375 000 € scholarships), 2007
466 000 € (15 000 € consortium + 451 000 € scholarships), 2008
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