Erasmus Mundus

Erasmus Mundus Master Courses

PERCCOM

PERvasive Computing & COMmunications for sustainable development

University of Lorraine
Lappeenranta University of Technology
Luleå University of Technology
Saint Petersburg National Research University of ITMO

Consortium

Full Partners :

University of Lorraine (France)
Lappeenranta University of Technology (Finland)
Luleå University of Technology (Sweden)
Saint Petersburg National Research University of Information Technologies, Mechanics and Optics (Russia)

Associated Partners:

Commonwealth Science and Industrial Research Organisation (Australia)
Hochschule Harz, University of Applied Sciences (Germany)
Leeds Metropolitan University (UK)
University of Bradford (UK)
University of Bremen (Germany)
University of Cyprus (Cyprus)
University of Monastir (Tunisia)
CISCO
ERICSSON-AB
FRUCT
ORANGE
PROPENTUS
RUSSOFT
Ellen MacArthur Foundation
Fondaterra

Scholarship Information

Non-European applicants can receive a Category A Scholarship. You are considered a Non-European applicant if you come from a country other than a Member State of the European Union, or an EEA-EFTA State (Island, Norway, Liechtenstein). You must not be a resident of any of these countries and you must not have carried out your main activity (study, work, etc.) for more than a total of twelve months over the last five years in one of these countries. Otherwise you are considered a European applicant and you can receive a Category B scholarship.

Applicants from Turkey, Switzerland and the Western Balkan countries: these countries to this date have not yet signed the Erasmus Mundus agreements with the EU. Applicants from these countries are considered as Non-European and can apply for Category A scholarships. This may be subject to change.

Scholarships

Non-EU student (Category A Scholarship):
- Contribution to travel, installation and any other type of costs: 4000 € per year
- Full coverage of the EM PERCCOM participation costs: 4000 € per semester
- Monthly allowance: 1000 € per month

EU student (Category B Scholarship):
- Full coverage of the EM PERCCOM participation costs: 2000 € per semester
- Monthly allowance: 500 € per month

Expected scholarships

- Category A: 9   - Category B: 6

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Open your mind. LUT.
Lappeenranta University of Technology

Objective

The Erasmus Mundus Master program in Pervasive Computing and Communications for Sustainable Development (PERRCOM) aims at combining advanced Information and Communication Technologies (ICT) with environmental awareness to enable world-class education and unique competences for ICT professionals who can build cleaner, greener, more resource and energy efficient cyber-physical systems.

Admission requirements

Bachelor's degree of at least 180 ECTS in ICT or a closely related area.

Proof of English proficiency is required.

Letter of motivation.

Two letters of recommendation.

Candidates may be asked to attend an interview either in person, or by video conference

E-application: www.perccom.eu

Application Deadline: January 10th 2013

Erasmus Mundus Master Courses : PERCCOM

Educating ICT professionals with high expertise in networking, computing and programming, capable to design, develop, deploy and maintain both communication architectures and pervasive computing systems for sustainable development

Program >>>

The Master Program covers four semesters. The students move as a single cohort. They start their first semester at University of Lorraine (France). The second semester, the cohort is at Lappeenranta University of Technology (Finland), and the third one at Luleå University of Technology (Sweden). The fourth semester is dedicated to a thesis component and can be undertaken during the training period either in a private company or in one of the laboratories/departments of the different Universities involved in the Master Program. The associated partners give lectures in seminars.

Semester 1 >>>

Sustainable Computer Network Engineering. (30 ECTS)

The objective is to provide students with fundamental competences in computer networks and systems engineering in a sustainable way.

List of courses:
Communication protocols
Quality of sustainable service
Automatic control for sustainable development
Systems engineering
Sustainable development & circular economy
French culture and language
Project, Seminar.

Semester 2 >>>

Sustainable software and services (30 ECTS)

The objective is to educate students in software engineering, service engineering and cloud computing aspects that may result in the sustainable solutions.

List of courses:
Service oriented architecture
Code camp on communications engineering
Architecture in Systems and Software Development
Finnish Society and Culture
Towards Semester 3
Project, Seminar.

Semester 3 >>>

Resource efficient pervasive computing systems and communication. (30 ECTS)

The objective is to teach students fundamentals and advanced issues of mobile networks, mobile and distributed systems, energy efficient sensor networks, pervasive computing and mobile software and services.
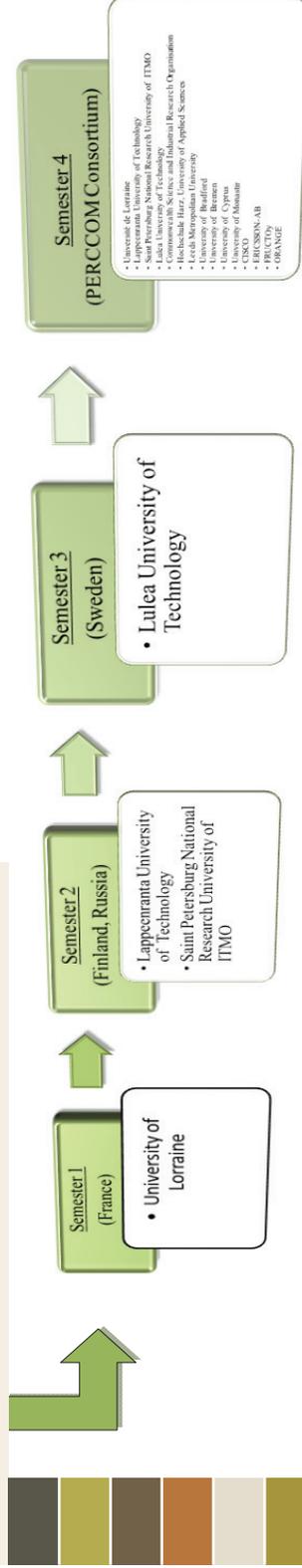
List of Courses:
Network programming and distributed applications
Wireless sensor networks/ Wireless Mobile Networks
Multimedia Systems Special Studies in Pervasive and Mobile Computing (Project)
Swedish for Beginners AI Seminar

Semester 4 >>>

The objective is to pursue Master Thesis project at partner universities and/or affiliated industrial companies for the whole semester.

In PERCCOM program, a Master thesis topic area is allocated to each student in semester 1.

Semester 1 (France)
- University of Lorraine

Semester 2 (Finland, Russia)
- Lappeenranta University of Technology
- Saint Petersburg National Research University of ITMO

Semester 3 (Sweden)
- Lulea University of Technology

Semester 4 (PERCCOM Consortium)
- Université de Lorraine
- Lappeenranta University of Technology
- Saint Petersburg National Research University of ITMO
- Luleå University of Technology
- Commonwealth Science and Industrial Research Organisation
- Hochschule Harz, University of Applied Sciences
- Leeds Metropolitan University
- University of Bradford
- University of Bremen
- University of Cyprus
- University of Monastir
- CISCO
- ERICSSON-AB
- FRUCT/oy
- ORANGE

Employment >>>

Executive position in companies: The targeted jobs are ICT professionals and engineers in ICT companies or in companies having their own ICT staff. The main economic sectors concerned are transportation, logistics, energy delivery networks, construction and manufacturing industry.

Other positions : The broad view on ICT, the capability in making judgments, integrating environment, cultural, social, ethical insights make them very well suited for the following functions:

- **Consultancy** in a wide spectrum of functions in the domain of green ICT architect.
- **Government/public** for industry, for environment, for urban/territorial planning/management.

In research domain: By completing the specialization and Master's project a student is trained to perform a research project and critically reflect on his/her work. So a student is well prepared to function as:

- **PhD-student at a university**, performing research like studying Network protocols, distributed systems Software development, computer design in respect to the environment constraints.
- **PhD-student at a large industry R&D-department**, performing applied research, like design of smart systems for supervising, controlling energy,….

Participation costs *(for 2-years period)>>>*

Non-European students (Category A): 16000 €
European students (Category B): 8000 €

The EM PERCCOM participation costs only cover administrative fees and the academic costs for the program. It does not include costs for living, housing and travel. All prospective EM PERCCOM students can apply for scholarships.