PhD position (M/F) – Thesis offer (M/F)
(Reference: CM_DG_PhD_WindMill_Fev2019)

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<th>Collaborative Machine Learning in Wireless Communications</th>
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<td>Department</td>
<td>Communication Systems</td>
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Description

EURECOM invites applications for an Early Stage Researchers/PhD student position as part of WindMill project (Integrating Wireless Communication Engineering and Machine Learning). WindMill is an international, multidisciplinary and multisectorial training network funded by the European Union's Horizon2020 research and innovation program. More information [https://windmill-itn.eu/](https://windmill-itn.eu/)

The project offers an excellent research and training program:

- The successful applicant will join a network of leading Universities, research institutes and companies in the field of wireless communications and machine learning.
- He/She will be primarily hosted by EURECOM with stays in partner institutions (secondments).
- He/She will attend training program including regular summer and winter schools to build technical skills as well as soft skills.
- He/She will receive a very competitive and complemented by mobility or family allowance.
- He/She will be enrolled in the PhD program at Sorbonne Universités (Paris).

The successful applicant will work to design algorithmic methods that improve the performance of state-of-the-art Machine Learning methods used in the context of multi-agents coordination problems, in particular towards improvement of wireless communications in 5G and beyond networks, Internet-of-Thing (IoT) applications, and UAV based wireless networks. Such problems are becoming more and more frequent and relevant with the strong development of wireless communications and autonomous devices (e.g., autonomous cars, drones). Machine Learning allows the nodes to learn through training how to cooperate. Yet, this decentralized training remains by large an open problem. The main objective is hence to develop new algorithms that allow to scale this approach to practical settings with a large number of nodes, and hence to reveal the true potential of these methods.

Requirements

Education Level / Degree: Master

Field / specialty: Telecommunications Engineering/Mathematics/Data Science

Other skills / specialties:

- Excellent study records, in particular an ability and a taste for analytical and theoretical subjects.
- Proficient in English.
- Motivation to collaborate in an interdisciplinary international team.
• Motivation to participate in training programs.
• Ability to travel and work within Europe.

Other important elements:

All candidates must meet the following requirements to be considered for this post:

a) Early-Stage Researchers (ESRs) shall at the time of recruitment by the host organization be in the first four years (full-time equivalent research experience) of their research careers and not yet have been awarded a doctoral degree. Full-time equivalent research experience is measured from the date when a researcher obtained the degree which would formally entitle him or her to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the researcher is recruited.

b) At the time of recruitment by the host organization, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organization for more than 12 months in the three years immediately prior to the recruitment date. Compulsory national service, short stays such as holidays and time spent as part of a procedure for obtaining refugee status (under the 1951 Geneva Convention and the 1967 Protocol) are not taken into account.

Application

The application must include:

• A cover letter describing the motivation for applying to the position (1 page).
• A Curriculum Vitae including education qualifications, research and industrial experience, awards and fellowships, any additional scientific achievements.
• A copy of the Master’s certificate (or equivalent) along with an official transcript of the completed subjects and grades achieved in the course of the Master’s program.
• Contact information of two scientific references that could be contacted if the candidate passes successfully the first selection.
• A description of the research as envisioned by the candidate (1 page).

Applications should be submitted by e-mail to secretariat@eurecom.fr with the reference: CM_DG_PhD_WindMill_fev2019

Postal address
CS 50193 - 06904 Sophia Antipolis, France

Contact
secretariat@eurecom.fr

Fax number
+33 4 93 00 82 00

EURECOM is a French graduate school and a research center in digital sciences based in the international science park of Sophia Antipolis, which brings together renowned universities such as Télécom ParisTech, Aalto University (Helsinki), Politecnico di Torino, Technische Universität München (TUM), Norwegian University of Science and Technology (NTNU), Chalmers University (Sweden) and Czech Technical University in Prague (CTU). The Principality of Monaco is a new institutional member. The Institut Mines-Télécom is EURECOM’s founding member.
EURECOM benefits from a strong interaction with the industry through its specific administrative structure: Economic Interest Group (kind of consortium), which brings together international companies such as: Orange, BMW Group Research & Technology, Symantec, Monaco Telecom, SAP, IABG.

EURECOM deploys its expertise around three major fields: Digital Security, Data Science and Communication Systems. EURECOM is particularly active in research in its areas of excellence while also training a large number of doctoral candidates. Its contractual research is recognized across Europe and contributes largely to its budget.

Thanks to its strong ties set up with the industry, EURECOM was awarded the "Institut Carnot" label jointly with the Institut Telecom right from 2006. The Carnot Label was designed to develop and professionalize cooperative research. It encourages the realization of research projects in public research centers that work together with socioeconomic actors, especially companies.