



**IMT Atlantique**

Bretagne-Pays de la Loire  
École Mines-Télécom

**IMT ATLANTIQUE Bretagne-Pays de la Loire  
recruits a Lecturer (II – C) in the field of Radio Propagation  
Channel Modeling for Future Wireless Applications**

<http://www.imt-atlantique.fr>

IMT Atlantique (École nationale supérieure Mines-Télécom Atlantique Bretagne Pays de la Loire) is an Elite Graduate School in Engineering and an International Research Center under the authority of the Ministry of Industry and Digital Communication. Resulting from the merger between Mines-Nantes and Télécom-Bretagne, since the 1<sup>st</sup> of January 2017, IMT Atlantique is a member of the “Institut Mines-Télécom” (the leading group in France for studies and research in Engineering and Management. It includes 12 Engineering Institutes and 1 Business School in France).

Based on 3 different Campuses: Brest, Rennes and Nantes, IMT Atlantique aspires to combine Energy and Digital Technology with the aim of transforming Society and Industry through Education, Research and Innovation, in order to become the French Research center of reference in this area. Each year, IMT Atlantique trains 2.300 students in Engineering / Master of Science and PhDs. Led by 290 researchers, IMT Atlantique’s research activities seek to connect the world of Business and Higher Education, providing 1.000 publications and €18 millions contracts per year. IMT Atlantique programs are based on leading-edge research through the 6 joint research entities: GEPEA, IRISA, LATIM, Lab-STICC, LS2N and SUBATECH.

**SPECIFIC CONTEXT OF THE COMMITMENT:**

The radio propagation channel plays a major role in wireless communication systems. The use of different degrees of freedom (polarization, space and time) makes it possible to increase system performances. Modulation schemes such as MIMO, time reversal and more recently spatial modulation benefit from the space-time channel properties. In this framework, comprehensive and accurate channel models are required to design future systems in the field of telecommunication but also for vision or localization applications. Future advanced system design also implies a better interaction between propagation and signal processing communities.

The CNRS Lab-STICC (Laboratory of Information, Communication and Knowledge Sciences and Technologies [www.labsticc.fr](http://www.labsticc.fr)) holds an expertise in the field of communication systems where three research groups treat the whole transceiver chain, including the transmission/reception at the sensor level throughout the up/down conversion to the baseband data treatment. The successful candidate will join the MOM group (Microwave, Optoelectronics, Material) and more precisely the MOM/PIM team (Propagation and Multi-scale Interaction). He/She will also collaborate with the MOM/DIM team (Multiphysics Interface and Device).

The candidate will develop an expertise in the field of radio propagation channel modelling, from a theoretical and practical point of view. He/She will set up or contribute to project related to IoT, 4G and 5G, trans-horizon communications, radar,... He/She will take part in teaching activities in the field of electromagnetism, microwave design, propagation, antennas... He/She will also take part in related interdisciplinary teaching activities such as telecommunication, software defined radio and engineering approaches, depending on his/her skills.

IMT Atlantique Bretagne-Pays de la Loire - [www.imt-atlantique.fr](http://www.imt-atlantique.fr)

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### **RESPONSABILITIES:**

Within the frame of the teaching and research orientations defined by the new school, IMT Atlantique under the lead of the head of the microwave department and in close collaboration with other departments, the candidate will:

- Carry out, develop and coordinate a set of courses (lectures, workshops, tutorials, project supervision) and pedagogical methods (by project, face to face or distance teaching) in one or more disciplines (in particular physics, math and signal processing) for a wide range of audience (engineer students, master students, etc.).
- Participate in the setting up and implementation of research contracts for European collaborative projects (H2020), national (ANR, FUI), regional (IRT B-Com) within a recognized team in collaboration with internal partners (IMT Atlantique, other campuses, departments) and/or external (institutions and companies).
- Contribute to the promotion of the new school and the IMT through presentations, conferences, scientific publications and involvement in national and international networks within scientific or professional communities of the economic world.
- Obtain, through industrial contracts, submissions of projects to the local, national or international institutions, the financial, material and human resources necessary for the accomplishment of these tasks
- Carry out the necessary actions for promotion and scientific and economic valorization of research results through innovation actions, transfers to companies (intellectual property, know-how, expertise and entrepreneurship).
- Contribute to the dissemination of research information in society through scientific outreach, publications and interventions to the general public.
- Contribute to the collective functioning of the new school by integrating recommendations, rules and constraints and by participating in collective missions: juries, promotions and communication actions, forums, transversal working groups, decision-making or advisory bodies.

### **QUALIFICATIONS AND SKILLS:**

#### **Level of training and/or required experience:**

- PhD or an engineering degree with experience in the field of physics.
- Graduate from French "Grandes Ecoles" or equivalent with experience  $\geq 5$  years.
- Master degree in Physics or equivalent with experience  $\geq 5$  years.

#### **Skills and Abilities:**

- Strong skills and motivation for teaching, research and innovation.
- Ability to adapt to new thematic developments.
- Pragmatic and capable of applying his knowledge to operational or emerging systems (applied research).
- Excellent interpersonal skills and ability to integrate into multidisciplinary teaching and research teams in applied physics.
- Ability to work in project mode, Openness
- Interest and openness to the industry.
- Interest and openness to innovation in pedagogy.
- Scientific publications - valorization of research work.

#### **Theoretical, technical and practical skills required to hold the position:**

- Good theoretical and practical knowledge in the field of radio and microwave propagation, applied electromagnetism,...
- Knowledge of ICT.
- A very good English level.



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### **OBSERVATIONS:**

Position based on the Brest campus, travel in France and abroad is expected.

Deadline for application: **November, 30<sup>th</sup>**

Date of the recruitment committee: **January 2018**

Recruitment: **February/March 2018**

### **TO SUBMIT AN APPLICATION:**

Please send your application by email to the following address:

[recrut17-mc-propagation@imt-atlantique.fr](mailto:recrut17-mc-propagation@imt-atlantique.fr)

to the attention of "Marion TONDUT – DRH – IMT-Atlantique", **only one PDF file** including:

- A detailed CV
- A letter of motivation
- Letters of Recommendation
- Defense/Reports of PhD
- Teaching and research projects
- Any other element that may support your application

Contact: [patrice.pajusco@imt-atlantique.fr](mailto:patrice.pajusco@imt-atlantique.fr) , Tél: +33(0) 2 29 00 14 62