



## ACADEMIC POSITION AT INSTITUT MINES-TELECOM

### LECTURER / ASSISTANT-PROFESSOR



**DISCIPLINE :** Artificial Intelligence / Control Systems

**AFFILIATION :** Ecole Nationale Supérieure Mines-Télécom Lille Douai (IMT Lille Douai)

Public establishment belonging to IMT (Institut Mines-Télécom), placed under the supervision of the Ministry of Industry, IMT Lille Douai has three main objectives: providing our students with ethically responsible engineering practices enabling them to solve 21st century issues, carrying out our R&D activities leading to outstanding innovations and supporting territorial development through innovation and entrepreneurship. It aims at training engineers and scientists of the future, with both industrial expertise and strong skills in digital technologies. Strategically located at the crossroad of Europe, one hour from Paris, one hour and a half from London and thirty minutes from Brussels, IMT Lille Douai intends to become a major player in industrial, digital and environmental transformations of the 21st century. Therefore, our school is building bridges between education, research, engineering and digital science.

Located on two main campuses dedicated to research and education in Douai and Lille, IMT Lille Douai offers research facilities of almost 20,000m<sup>2</sup> in the following areas:

- Digital Systems
- Energy Environment
- Process and Materials

IMT Lille Douai aims at strengthening its Innovation and Research Center (CERI) on Digital Sciences both in education and research but also at developing cross-cutting research activities with the other Innovation and Research Centers (CERI) of our school. The goal of our center is to study the fusion of physical and digital worlds using modelling and optimisation of complex systems, fluidity in human-environment interactions, and pervasive and secure systems design.

The selection committee will pay specific attention to cross-cutting proposals allowing the connection between the different Centers. For more information, see: [www.imt-lille-douai.fr](http://www.imt-lille-douai.fr)

The required missions of the successful lecturer / assistant professor position candidate are described below

#### **BRIEF:**

Under the guidance of the Head of Digital Systems Center, the successful candidate will actively contribute to the teaching and research efforts of the Centre.

#### **Teaching Missions and responsibilities:**

- Contribute to the training courses (courses, Tutorials, Practical Works) in the different curriculum of the school Engineers in his area of specialty: Artificial Intelligence, Control Systems, Industrial vision or robotics. The lecturer also has to participate in common core courses (automation, automatic control, informatics, programming ...). Some lectures can be given in English,
- Implement innovative educational methods to replace or complement classroom lectures,
- Involvement in pedagogical support activities (projects, internships, competitive exam).

#### **Research and technology-transfer Missions:**

The digital Center is structured in 3 research groups.

ARTS (Autonomous, Resilient Systems) aims at making distributed and constrained systems resilient and autonomous. A global vision is adopted, integrating data collection (and its communication problems), software development (and its adaptation to systems), prediction, control and security.

HIDE (Human, Interaction, DEcision) studies human-centred learning models and the interaction between humans and their environment. It is concerned with augmented environments (Smart Factory, intelligent transport system, ...), or assistance and management of elder's autonomy (technology enabled care, abnormal human behavior).

MCLEOD (Modelling and control of Complex systems in Large Environments requiring Optimized Decisions) aims at understanding and better controlling complex systems through modelling, decision-making and control based on Control theory and Artificial Intelligence approaches.

**The assistant-professor will have to :**

- develop innovative research activities in the MCLEOD group combining artificial intelligence and control systems approaches to model and control complex systems,
- develop research and technology transfer actions with economic partners,
- initiate and develop research projects and actions by ensuring the creation of research bridges within the CERI and with other CERIs in relation to the fields of excellence of the school and the Mines Télécom Institute,
- co-supervise PhD students and prepare the French diploma "Habilitation à Diriger des Recherches (HDR)",
- contribute to the scientific intelligence efforts,
- promote the center's research themes,
- participate to the activities of regional and/or international scientific groups, and organize scientific events,
- participate in the organization of scientific events, and valorize the scientific results obtained (publications, communications).

**REQUIRED PROFILE :**

The applicant should :

- have solid scientific and technological background and significant experience in the modelling, control and monitoring of complex systems using approaches such as :
  - System Theory (Hybrid and LPV modelling, data-driven approaches, MPC, Hierarchical Model for control and monitoring),
  - and / or
  - Artificial Intelligence (multi-agent system, distributed optimisation, Markovian Decision Processes and planning),
- show interest for one or more of the application fields targeted to the distributed and complex systems: environmental systems (water networks), transportation systems (smart mobility), smart building, Industry 4.0,
- have skills for team working and interpersonal communication,
- be successfully experienced in teaching activities,
- master English language in written and oral forms (whatever the context: expression, negotiation, articles redaction),
- express cultural and linguistic skills and mobilise them to the development of international academic and scientific collaborations,
- actively contribute to the teaching activities and design MOOCS/SPOC in English,

- participate to work teams, international events and exchanges (conferences, congresses, etc.),

The candidate must hold a PhD degree in the field of Control Systems or Artificial Intelligence.

This position would fit to an applicant interested in teaching and research activities focused on industrial and societal challenges. A successful experience in a postdoctoral position and knowledge in project management would be greatly appreciated. The candidate should be open-minded to easily and efficiently integrate into multi-disciplinary projects.

The applicant should provide concrete elements justifying the successful practice of teaching activities (qualification, courses, etc.).

This position is in Douai. The applicant should keep in mind the possible short travels required to reach the different sites of activities, especially for teaching activities.

**FOR MORE INFORMATION ABOUT THE MISSIONS, CONTACT :**

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**APPLICATION FORM :**

The application package must contain :

- Curriculum Vitae specifying your activities in the area of education, research (list of publications, conference presentations), administration and community tasks. Your CV must also mention the name and contact details of two referees.
- Copy of diploma and job titles
- A cover letter
- A synthesis document which gives an overview of your positions, works and experience
- The reference list of your publications
- Passeport or identity card
- Please, feel free to send any other document you consider relevant for the application.

Deadline date for submissions: 23/04/2021

Eligibility Conditions: European Nationality Holders (European Union) at the candidature submission date and holder of a PhD degree.

The required document and for applying for this position can be obtained by contacting Human Resources Department:

- [serviceconcoursdrh@imt-lille-douai.fr](mailto:serviceconcoursdrh@imt-lille-douai.fr)
- Tél: 03.27.71.25.36 ou 03.27.71.25.20

Please click on this link to get all details regarding the application to this position :

<https://institutminestelecom.recruitee.com/o/concours-maitre-assistante-intelligence-artificielle-automatique-a-imt-lille-douai>