Laboratoire d'Informatique,de Modélisation et d'Optimisation des Systèmes (CNRS UMR 6158)
Institut Henri FAYOL
Open position of Associate Professor (*Maître de conférences*) in Distributed Artificial Intelligence

Mines Saint-Etienne (MSE), one of the graduate schools of *Institut Mines Télécom*, the #1 group of graduate schools of engineering and management in France under the supervision of the Ministry of the Economy, Industry and Digital Technology, is assigned missions of education, research and innovation, transfer to industry and scientific, technological and industrial culture.

MSE consists of 2,200 graduate and postgraduate students, 400 staff, a consolidated budget of €46M, three sites on the Saint-Etienne campus (Auvergne Rhone-Alpes region, Lyon Saint-Etienne metropolitan area), a campus in Gardanne (SUD region, Aix Marseille metropolitan area), six research units, five teaching and research centres and one of the leading French science technology and industrial culture community centres (La Rotonde > 40,000 visitors). It has development projects in Lyon, including the digital campus of Auvergne Rhone-Alpes region. For 2021, MSE was ranked 300-400 worldwide in Engineering and Technology by the Time Higher Education World University Ranking (#6 graduate school of engineering in France and #1 institution in both of its regions) and was also ranked in Computer Science (501-600) and Physical sciences (601-800). Its work environment is characterised by high Faculty-to-Student, Staff-to-Faculty and PhD-to-Faculty ratios, as well as comprehensive state-of-the-art experimental and computational facilities for research, teaching and transfer to industry.

The Laboratory of Informatics, Modelling and Optimization of the Systems (LIMOS), which will be the host laboratory, is a Mixed Unit of Research (UMR 6158) in computing, and more generally in Sciences and Technologies of information and the Communication (STIC). The LIMOS is mainly connected with the Institute of the Sciences of the Information and their Interactions (INS2I) of the CNRS, and in a secondary way to the Institute of the Sciences of the Engineering and the Systems (INSIS). He has for academic supervision the Clermont Auvergne university and the graduate school of Mines of Saint-Etienne (EMSE), and as partner establishment the Engineer Institute SIGMA. The LIMOS is a member labex IMOBS3 and ClercVolc and federation of search in Environment FR 3467 (which groups 17 laboratories UCA and INRA of the site of Clermont-Ferrand). The scientific positioning of the LIMOS is centered around the Computing, the Modelling and the Optimization of the Organizational and alive Systems. The position is available in the Information and Communication Systems (ICS) or Decision Support Tools for Production and Services (DSPS) area.

The Henri Fayol Institute is a training and research center that brings together Mines Saint-Étienne's teacher-researchers in industrial engineering, applied mathematics, computer science, environment and management. The Henri Fayol Institute contributes to decision support for companies and territories through a quantitative, IT and managerial vision for sustainable development purposes. Two technological platforms have been developed to validate, promote and teach the work carried out within

the institute in near-real conditions. The first is dedicated to the territory of the future (Plateforme Territoire[1]) and the second to the industry of the future (IT'M Factory platform[2]).

1) *Candidate profile and assessment criteria*

The candidate should hold a PhD degree in the field of Computer Science
A French CNU habilitation in section 27 will be considered but is not mandatory.
Specific skills and/or experience in the following fields will also be considered for this position: i) Internet of things, web architecture; ii) Integration and engineering of intelligent systems; iii) Knowledge representation and reasoning.
The position will strengthen and develop our research and teaching outreach in the field(s) of: Ddistributed Artificial Intelligence, Autonomous Agent and Multi-Agent Systems. He or she should have made a strong contribution in the field of multi-agent coordination or multi-agent simulation of complex systems.

A significant experience in teaching in the aforementioned fields at under-graduate or post-graduate cycle levels will be appreciated.

Command of the English language is essential. Given the School's international development projects, a significant international experience is strongly favoured. Otherwise, an international mobility with a foreign partner institution should be carried-out during the three years following recruitment.

Given the guidelines mentioned above, several characteristics will be important assets:
- Interest for teamwork and willingness to elaborate one's research project in this context,
- Interest in industrial relations, transfer and innovation
- appeal for interdisciplinarity and multi-discipline collaborations
- Practical common sense, openness and intellectual curiosity
- The quality of oral and written communication

2) *Missions*

The research and teaching activities will be carried out on the **Saint-Etienne/Provence** campus. Occasional involvement in the other campus' activities is possible and encouraged. Associated transport and accommodation costs will be covered if necessary.

 Teaching

The teaching mission comprises lectures, tutoring, and lab –based courses, along with the tutoring of projects and internships/work experiences, principally in the degree(s) of national master's degree in computer science, international CPS2[3] course of the master's degree in computer science, engineering training under salaried status, doctoral training and continuing education in the fields algorithmic, programming (object, web, mobile), engineering and software architecture, internet of thing, artificial intelligence.
The teaching assignments could also involve other Engineering and Masters of Science programs, doctoral studies, as well as professional and vocational training programs.

The successful candidate will be actively involved with the teaching teams in charge of the courses cited above. The design of new activities and the development of innovative teaching methods, in particular related to digital technology, will be an integral component of the teaching mission.
The candidate should be able to carry out the teaching assignments and possibly deliver MOOCs in English.

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[1] https://territoire.emse.fr/
[2] https://www.mines-stetienne.fr/entreprise/itm-factory/
[3] https://www.mines-stetienne.fr/formation/cyber-physical-social-systems-cps2/

A minimum number of hours must be completed yearly. Course design, supervision and team management activities are included in the teaching hours log.

Research

- In relation to the research theme Multi-Agent System, the following tasks will be allocated to the candidate in the research laboratory LIMOS:

- To develop research activity, directing and supervising associated scientific work (masters, doctorates, etc.).
- To build and animate a network of active partnerships with companies and reference laboratories at national and international level,
- To strengthen the team's legitimacy and influence through the academic promotion of the work carried out (publications, conferences), the organisation of events and congresses, exchanges with leading foreign professors, etc.
- To consolidate and amplify the contractual activity in connection with the transfer of knowledge and results obtained from the economic world.

3) *Candidate assessment criteria:*

The main evaluation criteria are (non-comprehensive list):

- Significant teaching experience (development of digital courses, reference works…) in the previously mentioned fields, at under-graduate or post-graduate level, along with development of new teaching methods.
- Capacity to reinforce the research outreach of Mines Saint-Etienne in Multi-Agent System
- Capacity to successfully integrate and contribute to the group, centre and research unit project
- Scientific production: number, quality and impact of peer-reviewed original research papers, book chapters or conference proceedings indexed in international electronic databases such as, e.g.: Scopus, Web of Science, PubMed, Nature Index, arXiv.org …, contribution to and animation of national and international workgroups or research communities,
- Partnership-based research: direct industrial partnerships, collaborative research, support to start-ups …,
- International partnerships,
- Good command of the English language, significant international experience
- Capacity to obtain the French accreditation to supervise research qualification (*Habilitation à Diriger des Recherches*) in the five to seven years following the candidate's recruitment

4) *Recruitment Conditions*

Permanent public law contract

Remuneration is based on the rules set out in the *Institut Mines Télécom* collective labour agreement.

Candidates should hold a doctorate diploma or a similar recognized qualification level, equivalent to the required national diplomas.

Required date for taking up the position: **October 1, 2021**

5) *Application procedures*

The application file should include:

- An application cover letter
- A curriculum vitae outlining teaching activities, research work and where appropriate, relations with economic and industrial sectors (maximum 10 pages)
- Recommendation letters, at the discretion of the candidate,

- A copy of the Doctorate diploma (or PhD),
- A copy of an identity document

These documents should be submitted on the platform RECRUITEE by April 23, 2021 at the latest
URL: https://institutminestelecom.recruitee.com/o/maitre-de-conference-en-intelligence-artificielle-distribuee
Candidates selected for an interview will be informed rapidly. Part of the interview will be held in English. Cover letters, CVs and application files written in English will be accepted, but applicants will have to demonstrate in their application file their operative ability to communicate in French with students, fellow faculty members and the school administration. For those invited to be interviewed, the same will be expected in oral form and tested by the selection committee.

6) *Further information*

For further information concerning the position, contact:
Information and Communication Systems at LIMOS (theme leader): Pr. Engelbert MEPHU NGUIFO, E-mail: engelbert.mephu_nguifo@uca.fr, Tel:+33 (0)4 73 40 76 29

Decision-support tools for Production and Services at LIMOS (theme leader) Pr Dominique Feillet, E-mail: feillet@emse.fr, Tel: +33 (0) 442616666

Institut Henri Fayol (center leader): Pr. Olivier BOISSIER, E-mail: olivier.boissier@emse.fr, Tel: +33 (0)4 77 42 66 14

Intelligent Systems and Informatics (department leader): Pr. Flavien BALBO, E-mail: flavien.balbo@emse.fr, Tel: +33 (0) 04 77 42 01 71

For further administrative information, contact:
Amandine HIRONDEAU
Tel + 33 477 42 01 03
E-mail hirondeau@emse.fr