Full-time academic position in the field of “Brain-Inspired Computing”

Start date: 01/09/2022

Vacancy reference: FSA-211215-01

Description of the course load

A full-time, indivisible position in the field of “Brain-Inspired Computing”, within the Electricity, Electronics and IT Department (EEI). This post includes teaching, research and services to the Community.

Teaching activities

The post-holder will dispense teaching in the field of neuromorphic computing and, more generally, will participate in teaching in the fields of signal processing and artificial intelligence organised by the EEI department. They will also participate in the supervision of placements and theses in their research areas.

The teaching load may not exceed 250 hours per year (including any practical work and seminars).

As an example, the competences of the future post-holder may naturally and usefully contribute towards the following courses, each worth 5ECTS, taught in English as part of the FSA Masters in Electronics, Computing, Biomedical and Data Sciences:

- Brain-inspired computing
- Computational cognitive modelling
- Neuromorphic signal processing

It is envisaged that some of these courses may be organised jointly with teaching staff in the Faculty of Medicine and/or the Faculty of Psychology, Speech Therapy and Educational Sciences, and will also be accessible to students in certain programmes organised by these faculties.

The successful applicant may also propose to develop specific course(s) exploiting synergies with their own research.

Research Activities

The post-holder will develop research in the field of neuromorphic computing, whether this be in terms of hardware or software. In particular, research into neuromorphic signal sensing, and/or cognitive information processing) will be prioritised.

Given the interdisciplinary nature of the research being targeted, the post-holder must play a role in interfaculty research, with specialists in signal processing, machine learning, electronics and neuroscience in the working environment.

They will submit funding applications to finance their activities and will supervise doctoral students.

Services to the Community

The successful applicant will participate in services to ensure the promotion and visibility of the activities developed within the EEI Department and the Faculty of Applied Sciences.
Work environment
The successful applicant will work within the Department of Electricity, Electronics and IT (EEI) in the Faculty of Applied Sciences.

The aim of the Institut Montefiore, which houses the EEI Department, is to provide high quality education at Bachelor’s, Master’s and Doctoral levels, to conduct leading international research in the fields of electrical engineering and computer science, and to support industrial development through the applications of its research.

Teaching and research activities of the Institut Montefiore are essentially based around two complementary themes of:

- capturing, transmitting and processing information,
- designing and controlling electrical, electronic and computer systems interacting with the worlds of physics and biology.

The numerous ingredients required for successful research into neuromorphic computing are available at the University of Liège. The Institut Montefiore contains a critical mass of researchers in machine learning, electronics, circuit design and mathematical modelling. Two professors specialised in modelling and the analysis of biological neuro-systems at the cellular and systemic level have recently been appointed.

The Institut Montefiore also works closely with the GIGA research centre, which is host to globally recognised groups in the field of molecular, cellular and systemic neurosciences (GIGA-Neurosciences, GIGA-CRC Imagerie in vivo). More recently, several scientific collaborations have been established in the field of mathematical modelling of neural cognitive processes with the PsyNCog research unit at the University of Liège.

A detailed description of the Institut Montefiore and its activities can be found at https://www.montefiore.uliege.be.

Qualifications required / profile
The candidate will hold a PhD with a thesis in a field directly related to the anticipated research activities. They will be able to demonstrate international experience and publications in well-established international journals. They will be able to teach in English.

Selection procedure
Applications will be subject to a pre-selection on the basis of a dossier by a selection commission created by the Faculty of Applied Sciences. Successful candidates will then be invited to an interview which will include a sample lesson, the presentation of their research project and a general discussion with the selection committee.

Our institutional policy is based on diversity and equal opportunities. We select candidates on the basis of their qualities regardless of age, sexual orientation, origin, beliefs, disability or nationality.

Applications
Applicants are requested to submit their applications electronically, to the following address: Postesacademiques@uliege.be with a copy to Ms. Aurélie Lecca - Aurelie.Lecca@uliege.be by 15 February 2022 at the latest.

Documents required (electronic format)
- A letter of application;
A complete curriculum vitae;
A list of the five main publications and a description of their contribution to the developments in the sector;
A report on past and current research activities and a research plan, including the envisaged integration within the University of Liège;
A teaching file including a report on any prior teaching activities and a teaching plan;
A copy of publications.

Recruitment conditions
The post-holder will be appointed either for a fixed term of four years, or definitively.

If this post is granted for a fixed term, an evaluation will take place during the third year.

- If this evaluation is negative, the appointment will end after the four-year period.
- If the assessment is positive, the person concerned shall be appointed on a permanent basis.

Information
Further information concerning research and teaching activities can be obtained from Professor Guy Leduc – tel: +32 4 366 26 98 – Guy.Leduc@uliege.be

Further information about the post can be obtained from the Faculty of Applied Sciences, Ms Aurélie Lecca – tel.: +32 4 366 94 68 – Aurelie.Lecca@uliege.be

Remuneration:
Salary scales and how they are applied are available from the human resources department of the University: Ms Ludivine Depas – tel.: +32 4 366 52 04 – Ludivine.Depas@uliege.be