

Post-doctoral position - Risk of falling - 12 months (LAMIH UMR CNRS 8201, Université Polytechnique Hauts-de-France, Valenciennes, France)

Context: The Laboratoire d'Automatique, de Mécanique et d'Informatique industrielles et Humaines (LAMIH), UMR CNRS 8201 (<http://www.uphf.fr/LAMIH/fr/presentation>) of the Université Polytechnique Hauts-de-France (UPHF - <http://www.uphf.fr>), is recruiting a post-doctoral fellow for 12 months. The LAMIH is organized into 4 well-identified disciplinary departments: Automation, Mechanics, Computer Science and Human and Life Sciences (SHV). The recruited person will work within the SHV Department, a multidisciplinary department which is essentially based on Biomechanics, Neurophysiology and Psycho-Ergonomics, which means that humans can be apprehended there *via* a systemic model. The SHV Department has solid collaborations with clinical partners, and in particular with various functional rehabilitation centers as well as nursing homes. These links allow the SHV Department to have access to specific populations, particularly those with locomotor disabilities. The LAMIH has a transversal axis "Human Mobility and Handicap" (MH2) and one of its societal challenges is based on the fall of the vulnerable person.

Objective: The main goal of this post-doctoral position is to develop technological systems and / or treatment protocols aimed at limiting the risk of falls in vulnerable people.

Main activities

- Literature review
- Writing for the Ethics Committee (CPP)
- Development of prototypes
- Experiments on asymptomatic and/or pathological populations and collection of associated data
- Data processing
- Statistical analyses
- Regular presentations and reports to managers
- Scientific communication / dissemination

Knowledge and skills expected

- 3D capture and analysis of human movement
- Programming (Matlab)
- Neuromuscular plasticity
- Data analysis and statistics
- English, written and spoken
- French speaking would be appreciated
- Relational with patients, clinicians and researchers

Material available

- 3D motion capture tools (Vicon, Qualisys)
- Force platforms and force sensors
- Inertial Measurements Units
- EMG, EEG
- PSCHITT platform (<https://www.uphf.fr/LAMIH/fr/PSCHITT>) with a 2-band instrumented treadmill
- Ultrasound
- Ankle dynamometer (BOTTE)
- Pressure insoles
- Neurostimulator

Location : LAMIH, Campus du Mont Houy, 59 313 Valenciennes, France

Salary : 2 530 € gross charged, i.e. 1 948 € net

Deadline for submission of applications: April 12, 2021

Start of post-doctoral position: September 1, 2021

For more information: emilie.simoneau@uphf.fr

To apply, please send to emilie.simoneau@uphf.fr :

- CV
- Cover letter
- PhD manuscript
- PhD reports
- Copy of PhD diploma
- Copy of the 3 most significant scientific publications
- Letters of recommendation