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RÉPUBLIQUE FRANÇAISE

MINISTERE DE L'EDUCATION NATIONALE,
MINISTERE DE L'ENSEIGNEMENT SUPERIEUR, DE LA RECHERCHE ET DE L'INNOVATION

Postdoctoral Researcher in Neuroscience / Sports and Exercise Science (M/F)

Fixed-term contract

Role Information
Professional Activity Branch (BAP) : A – Life, Earth, and Environmental Sciences **Job Profile :** Post-doctoral research in Neuroscience / Sports and Exercise Science
Job Description
Category: A **Staff category:** Fixed-term contract **Type of recruitment:** Contract-based recruitment **Number of positions offered:** 1
Location
Administrative location: Dunkirk **Geographical location :** Eurasport Research Platform (Loos)
Responsabilites
Scientific Context Exposure to hypoxia (i.e., reduction in oxygen availability) triggers significant physiological adaptations. While the deleterious effects of severe or chronic hypoxia are well documented, numerous studies demonstrate that moderate and transient hypoxia – particularly when delivered intermittently – can also induce beneficial cardiovascular and metabolic adaptations. However, the effects of these various hypoxic exposure modalities on the central nervous system remain largely unknown in humans. Experimental work suggests that transient, and notably intermittent, hypoxic exposure could induce favourable adaptations in brain activity, cortical oxygenation, and cognitive functions. This project aims to characterise and compare the effects of moderate continuous and intermittent hypoxia on brain function in healthy humans. The novelty of the project lies in a multimodal approach combining electroencephalography (EEG), functional near-infrared spectroscopy (fNIRS), and transcranial magnetic stimulation (TMS), complemented by behavioural measurements. The project is jointly led by three research units within the A2U Alliance: URePSSS, APERE, and LNFP. The experimental protocol is already operational, with ethics committee approval (CPP) granted in February 2026 and the experimental setup successfully tested on four participants. **Core responsibilites** The postdoctoral researcher's primary objective will be to contribute to the execution, analysis, and dissemination of an experimental protocol designed to characterise brain responses to moderate continuous and intermittent hypoxia at rest and during a reaction-time cognitive task. The candidate will work in close collaboration with members of the three research units involved, as well as with the PhD candidate recruited for this programme of research.

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Key tasks will include:

- contributing to EEG, fNIRS, EMG and TMS acquisitions;
- analysing EEG data: spectral activity, event-related potentials, and functional connectivity;
- analysing fNIRS data: HbO_2/HbR variations and cortical connectivity;
- analysing TMS measurements of corticospinal excitability and intracortical mechanisms (SICI, LICI, ICF);
- participating in the integration of multimodal data;
- contributing to the scientific dissemination of results: journal publications, conference presentations, and future grant applications.

Required qualification

Applicants must hold a PhD in Neuroscience, Neurophysiology, Physiology, Movement Sciences, Experimental Psychology, Cognitive Sciences, or a related discipline.

Specific Working Conditions: None

Line Management Responsibilities: None **Number of staff managed:** Not applicable

Project management: Yes

Skills and Competencies*

Knowledge and experience:

Experience in several of the following areas will be particularly appreciated:

- EEG and/or fNIRS
- TMS and/or EMG
- signal processing and multimodal analyses
- programming and statistical analysis using Python, MATLAB or R

Practical skills:

- designing and conducting human experimental protocols
- ensuring quality control, preprocessing, and management of neurophysiological data
- implementing appropriate statistical analyses for experimental data
- developing or adapting scripts to automate data processing and analysis
- writing scientific publications

Personal attributes:

We are seeking an autonomous, rigorous, and curious candidate with an interest in interdisciplinary approaches, alongside strong analytical and scientific communication skills. A proficient command of scientific English is expected.

* In accordance with the Annex of the Order of the 18 March 2013 (NOR :MENH1305559A)

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Weekly working hours: full-time (35 hours per week)

Contract type: 13-month fixed-term contract starting 1st November 2026

Indicative gross monthly salary: about €2,900

Stage 1 selection process: shortlisting based on CV and cover letter
Stage 2 selection process: interview

Applicants must provide a valid email address to receive an invitation to interview.

Application deadline: 25 Octobre 2026

Please send your application package as a single PDF document, containing (a) a cover letter, (b) a detailed CV including a summary of research work and a full publications list, and (c) contact details for two referees, by email to:
herve.devanne@univ-littoral.fr and ardalan.aarabi@u-picardie.fr

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