**Title**

# Virtual Reality Developer for research in meditation and neuroscience

**Mission**

We are looking for an engineer in Computer Science with specialization in Virtual Reality (VR) for the development of audiovisual immersive scenarios. Planned use in this project is for human neuroscience research on consciousness and meditation.

Since the dawn of meditative practices and across many different forms of meditation, ego-centered and cognition-based definitions of the self have been criticized by contemplative traditions. Moreover, it has been argued that such a focus on an ego-centered/cognitive self may be at the root of much suffering in society. Instead, meditation practice often encourages practitioners to engage with a different self: a bodily and non-cognitive self, accessed by deemphasizing and disengaging from the cognitive self, and by engaging with the moment-to-moment fluctuations of one's bodily self (minimal phenomenal selfhood, MPS).

You will join a team working on the neuroscientific investigation of the bodily-self and MPS in meditation, developing new technology for testing groups of non-meditators, meditation novices, and meditation experts. A recently developed platform integrating virtual reality (VR), automatized movement and bodily stimulations, real-time tracking and sensing technologies will be used and further developed for the experimental study of the role of MPS in meditation.

**Main tasks and responsibilities**

The developer will be in charge of:
- Development of software solutions for immersive virtual reality; programming of VR scenarios and integration of graphical and audio content according to the laboratory development practices (Unity3D and ExVR in-house platform),
- Processing, spatialization and integration of audio stimuli (sound, voice, music) in an immersive virtual environment,
- Software integration with hardware linked to the technological platform of the project (e.g., physiological measurement, motion capture),
- Support scientists in the development of research protocols in VR and in the testing of participants,
- Management of the software development process (software life cycles, versions monitoring, unit testing, prototyping and validation),
- Documentation and reporting of the technological developments (in English) in coordination with the research team and partners.

The engineer is also expected to take an active role in the research activities of the laboratory, including:

- Collaboration with researchers from the laboratory and project partners for the integration of research protocols with the VR tools of the project, contribute to the design and development of VR software solutions,
- Collaboration with technical partners of EPFL and Campus Biotech for the development of innovative solutions in VR,
- Contribution to the writing of scientific reports and publications (in English).

**Profile**
- Engineering diploma in Computer Sciences (EPF, HES, or equivalent).
- Programming: C# (appreciated: C++, C, Python, Matlab)
- VR environment: 3D models and scenes (Unity3D), interaction design.
- Audio: sound pre-processing, spatial audio capture and render.
- Good organization and time management skills.
- Good ability to write technical reports.
- Minimum B2 level in English.

**We offer**

We offer a 100% position, 1 year renewable contracts.

An opportunity to work on cutting-edge projects in neuroscience research within a world-class community of engineers, neuroscientists and medical doctors.

A dynamic, multidisciplinary, international and collaborative working environment based at the Campus Biotech in Geneva.

EPFL is an international and world-class engineering institution that hosts state-of-the-art experimental and computational facilities, and a rich and vibrant scientific and entrepreneurial community.

EPFL is an equal-opportunity employer.

We offer competitive salary and benefits, defined by EPFL scales and regulations.

**Start of position:** July 1st 2022

The position will remain open until filled.

**Duration:** 12 months, renewable

**Application procedure:**

Online on https://recruiting.epfl.ch/Vacancies/2352/Description/2