# Workshop - OpenViBE for wannabe experts

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## Abstract / Short description

OpenViBE is a world-wide known generic software that enables the design, testing and real-time use of Brain-Computer Interfaces (BCIs). It enables the acquisition, processing and visualization of neurophysiological data. Its graphical interface notably allows the creation of processing pipelines without writing code. It is one of the main experimental software used by the BCI community, compatible with a lot of acquisition systems on the market, and also relevant for other communities in need of real-time physiological data processing and feedback. This workshop is targeting more advanced features of OpenViBE. For instance, we will detail how to configure and launch OpenViBE from a Unity application and communicate between the two using the LSL (LabStreamingLayer) protocol. A few presentations from OpenViBE users sharing their work, expanding and using advanced features of OpenViBE for instance in research focusing on physiological data processing or deep learning.

## Keywords

OpenViBE software, Experiment implementation, Online data processing, BCI/NF, Open-source.

## Prerequisites

A first understanding and experience of how OpenViBE works is necessary to fully benefit from this workshop. Participating in the Tutorial - Get started with OpenViBE - is sufficient to gain this knowledge. We would also appreciate it if the participants install the latest version of OpenViBE on their computer beforehand.

- For windows users, an installer of the latest version of OpenViBE can be found here.
- For Linux and OSX users, the steps to build OpenViBE from source can be found here. Note that OSX support is very new and does not offer the best user experience yet.

Tentative Schedule for a 3-hour session - Tuesday, July 9th am.

| Workshop - All you need to know to become an OpenViBE expert - chairs: Thomas Prampart & Léa Pillette | |
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| 9 am | Welcome and introduction through an OpenViBE-Unity3D practical case |
| 10 am | Getting started with python prototyping |
| 10:45 am | Interactive session with presentations from OpenViBE users |
| 10:45 am | *Axel Bouneau* - Using OpenViBE for physiological data processing, such as heart rate data |
| 11:05 am | *David Trocellier* - How to train your deep learning model with OpenVibe |
| 11:25 am | *Arthur Desbois* - Presenting HappyFeet, an interactive and efficient BCI framework for clinical applications |
| 11:45 am | Conclusion of the workshop |