# French-Swiss-Hungarian Workshop

## Research in Hybrid Control of Neuro-Prosthetics

- **April 29, 2019**

The development of assistive technologies for fragility and disability is one of the European priorities as announced in the guidelines of the H2020 Framework Programme and its successor.

Military accidents and conflicts around the world make it urgent to design intelligent prostheses for amputees. Neuro-prostheses have progressed considerably over the past decade, but controlling their many degrees of freedom remains a challenge.

Advances in Artificial Intelligence research applied to robotics and computer vision are paving the way for hybrid methods for the control of neuro-prostheteses.

The artificial vision algorithms proposed for the control of prostheses require fast calculations compatible with real time. This is why their implementation on specialized architectures (FPGA) is necessary.

The Franco-Hungarian collaboration between the teams of LABRI UMR5800, INCIA UMR 5287 (University of Bordeaux) and PPCU (Budapest) within the framework of the Balaton VisPro project (2016-2018) has enabled progress to be made in the design and prototyping of such algorithms.

The objectives of the workshop will therefore be to establish a longer-term collaborative strategy for joint European projects. In addition, the presentation of the progress of research in the field to a wide audience of PPCU master's and doctoral students will stimulate their interest in carrying out research as part of master's and doctoral research internships in the European context.