

**Master Degree Internship available at the Institute of Movement Sciences
Aix-Marseille University**

In the context of a new project on aging — the **Chair Active Aging 2.0** — starting in September at the Institute of Human Movement Sciences of Aix-Marseille University, an 6 month internship is available at the interface between cognitive sciences, movement sciences and physiology. The Institute of Movement Sciences is one of the Europe's leading pluri-disciplinary lab specializing in health, science and technology. It is renowned for its cutting-edge fundamental research. The Master Degree program takes part of the *Chair Active Aging 2.0*, which is dedicated to the prevention of the effects of aging on brain and cognitive health through exercise and innovative technologies.

Topic of the internship. It has been hypothesized that practicing complex motor skills enhances cognitive functioning. This should be even more marked when complex movements requires a high level of executive control (attention, inhibition) and fast processing speed to succeed. The goal of experiment is to test these hypotheses. Specifically, we will explore the transfer of training of information processing speed and cognitive functions from a cognitive-motor task (i.e. Fitts task) to cognitive tasks (i.e. Hick-Hyman reaction time tasks and Presco battery of cognitive tasks performed on a tablet) in older adults. Basically, the experiment will be carried out in sedentary older adults, which will be trained in Fitts task 3 times per week during 8 weeks. Before and after the training period, performance in Fitts tasks and cognitive tasks will be assessed. The hypothesis is that training information processing speed in a cognitive-motor task will transfer, at least partially, in the different cognitive tasks. A group of trained older adults in very good physical condition will also be tested. Here, the hypotheses are i) that high fit older adults should have better performance than the control group before the training session and ii) high fit older adults should learn faster and larger than their sedentary counterpart.

The program will be achieved under the supervision of Prof. Jean-Jacques Temprado and a Post-doc in the research of the Chair Active Aging 2.0, which includes several researchers, PhD and Master degree students. The student will be gratified over 6 months (around 3500 euros) and it benefits from the sophisticated equipment of the Institute of Movement Sciences.

Candidates are expected to be interested in aging, exercise, and cognition. A strong motivation is expected as well as the willingness to work in a multi-disciplinary environment.

The starting date is December 1, 2019. **Applications are accepted until September 30, 2019.** Short-listed candidates will be asked to prepare an interview face to face or by skype with Prof. Jean-Jacques Temprado before the deadline (September 30). Applicants should: (1) contact the JJ Temprado to prepare their application and (2) send, in one merged PDF, a cover letter with a statement of research interests. Fluency in French is not mandatory but a beginner's mastery of the French language would be an additional asset.