# Postdoctoral research position in experimental fluid mechanics and machine learning

Position Type : Postdoctoral Position at the University Côte d'Azur (UCA)

Scientific keywords : physics, fluid mechanics, fluid structure interaction, robotics, machine learning

Postdoctoral Research Description :

- The subject is experimental, at the junction between fluid-structure interaction and control theory. The applicant will work on a biomimetic platform at the Physics Institute of Nice to study the dynamics of fish locomotion. This platform includes a water tunnel, a Particle Image Velocimetry (PIV) system and a homemade robotic fish. The goal is to implement new swimming strategies based on proprioception with our robotic fish : its locomotion will be driven by its surroundings characterized by measurements from sensors. The data will be used as feedbacks for the robot to adapt its locomotion strategy. Advanced control strategies and deep learning methods will be implemented to render autonomous the robotic fish.
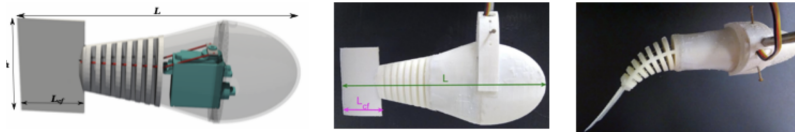
- This work is part of a joint project between physicists (M. Argentina and C. Raufaste) from the Physics Institute of Nice and a specialist of control theory and robotics (G. Allibert) from the Institute of Information Science and Communication.
- The applicant has a PhD in physics or mechanics with a background in fluid mechanics or machine learning. Experience with either Particle Image Velocimetry, 3D design and printing, microcontroller programming or machine learning will be appreciated.
- Duration : 18 months
- Start date : as soon as possible, before December 2020

Position Location : Sophia Antipolis, France
— Institut de Physique de Nice (INPHYNI)
— Laboratoire d'Informatique, Signaux et Systèmes (I3S) de Sophia Antipolis

Gross salary : 2900 euros/month

Application Deadline Date : October, 1st. Please submit your application as soon as possible.

Application and contact : mederic.argentina@univ-cotedazur.fr with appropriate material (CV, recommendations, ...). Please take a first contact for any question you may have.