Postdoc:

Project: *Biomimetic vision for Flapping-wing drone*

The aim of the project is to equip a flapping-wing UAV with biomimetic vision for take-off and landing, in particular.
The idea is to embed optical flow sensors to carry out these critical flight phases and to improve flight performance as well as the landing accuracy.
The project will be in collaboration with the company XTIM-BionicBird (https://bionicbird.com/).

Figure 1: Bionic Bird from XTIM, Marseille.

The Biorobotic Lab is a rare example of real transdisciplinary research department. For almost 30 years, this research group, composed of five permanent researchers, one electronic engineer, one micro-mechanic technician and 6 PhD students, has acquired strong skills in the study of the visual system of invertebrates (especially fly and bee) and their behavior and sensorimotor control feedback loops (such as optic flow regulation) which are hard-wired into their brains.
The team built a variety of analog and digital electronic circuits, including aVLSI prototypes, that realized visual motion sensor array and also built no-less than 8 wheeled and flying robots.
The Biorobotics research group will provide a micro-mechanical workshop as well as a workshop in electronics and will mobilize two specialized technicians in mechatronics. The technicians will be involved in the project to realize the different embedded electronic boards and mechanical parts that will be used for the tests and validation phases of the different prototypes. It will also make available several 3D printer and laser cutting machine for rapid prototyping of the support packages of the different mobile and aerial robots. In addition, the Biorobotics team will provide a flying machine arena equipped with 17 VICON cameras that monitor in real time the trajectory of the robots in volume of 6mx8mx6m.

Duration: 21 months + extension
Funding: DGA-funded project.
Net salary: From 1982,23euros net per month depending on the professional experience

Required profile:

- PhD in Robotics, Control Theory, Electronics or Computer Science
- Taste for experimentation,
- Very good level of English (written and oral), TOEIC > 850.

Please send a CV and cover letter to :
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