

JOB DESCRIPTION

Lab : LIS, Laboratoire d'Informatique et des Systèmes – UMR 7020

Location : Aix-Marseille Université, Marseille

Contract duration : 24 mois + 12

Remuneration: according to profile and experience (approx 2000 euro net for a post-doc)

Starting date : October 2019

Contact:

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Intelligent integration of acoustic and optical sensors for underwater automatic navigation and surveying with small ROV

Context

The project will cover a broad range of on different aspects related to the exploitation the submarine resources, ranging from archaeology, to marine ecology and maritime safety (e.g., identification of underwater mines). To this aim, a multi-technology (acoustic and optical) sensor integration based on advanced signal processing algorithms will be developed, to allow an autonomous underwater vehicle to identify and characterise targets in previously unmapped areas. The coarse identification of the area of interest will be first accomplished with the acoustical data and, secondly, a higher resolution characterization will be provided by the optical system. The integration would minimize issues related to water turbidity and backscatter, also in the absence of ambient light. A critical requirement in the project will be the development of algorithms for the on-board real-time processing of the different data.

KeyWords

Underwater robotics, multimodal systems, acoustic camera, control.

Expected skills

We are looking for candidates who:

- are postgraduate students or have earned a PhD in computer science in one of the following fields: robotics, underwater robotics, embedded systems, vision;
- have skills and experience in underwater robotics, underwater systems, acoustic camera, drone control, BlueRov, Raspberry, OpenCV, software development;
- are used to working collaboratively with other researchers;
- have a good level of English (reading, writing and speaking).

The **LIS**, created on January 1, 2018, results from the merger of the two Marseille computer science laboratories, the LIF (Laboratory of Computer Science) and the LSIS (Laboratoire des Sciences de l'Information et des Systèmes), which was born in 2002 by grouping several research teams. It brings together more than 150 researchers and PhD students. The research activities of the laboratory cover several areas of computer science and automation, and particularly the study and implementation of the processes of Analysis, Modeling and Reconstruction. Underwater imagery is one of the research axes of the Images & Models team. This group has been developing an underwater 3D survey approach guided by knowledge for more than fifteen years.

Marseille: Second city of France located on the Mediterranean with a strong opening to the sea and maritime technologies.

DETAILS OF THE OFFER

Entitled	Post Doc Underwater Robotics, Acoustic / Optical Vision.
Employer	Aix-Marseille University
Job location	Marseille, France
Publication	juin 27, 2019
Dead line	Not Specified
Contract type	<u>Post doctoral position</u>
Areas of research:	Underwater robotics, Robotics, robotic servo, acoustic sensor, tracking, Command / control, Software engineering, Software design