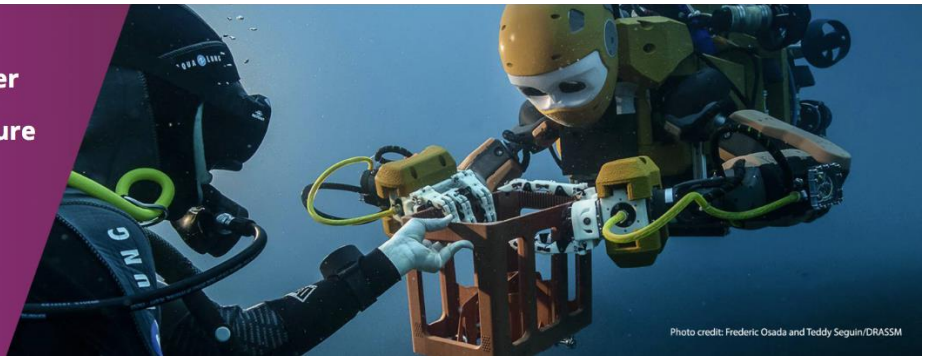


New Horizons for Underwater Intervention Missions: from Current Technologies to Future Applications

Madrid / Friday 5th October 2018
9:00 AM - 14:00 AM



CALL FOR POSTER PRESENTATIONS

Submissions in the form of extended abstracts (2-3 pages, maximum: 2MB, pdf) will be required.

1st Open Call: 15th of June
2nd Open Call: 2nd of July
Deadline: 16th of July
Communicate Final Decision: 30th of July

Those selected, after review process, will be able to present a poster concerning their ongoing research during the specific poster session.

At the end of the Workshop, after a required Committee review, the best works will be acknowledged with a certificate awarded by organizers.

Three awards will be acknowledge as the Best Paper on: *Research, Innovation and Application-Oriented*.

TOPICS in the context of Underwater Intervention Missions: Autonomous underwater vehicles for Intervention (I-AUV's); Autonomous Underwater Vehicles (AUV's); Remotely Operated Vehicles (ROV's); Field Robotics; Multisensory based manipulation algorithms; Localization; Guidance, navigation and control; Cooperative control architectures; Acoustic/optical image processing algorithms; Multimodal map building algorithms; SLAM techniques; Underwater mechatronics; Human-Robot Interaction (HRI); Underwater Simulators; Underwater Wireless Communication; Networked Robots and Deep Learning.

About the workshop

In brief, this Workshop aims to become a source of inspiration for all those people interested in marine robotics from any research perspective. It is a half-day Workshop consisting of a combination of invited keynote talks, poster presentations, and a panel discussion.

While commercially available Autonomous Underwater Vehicles (AUVs) are routinely used in survey missions, a new set of applications exist which clearly demand intervention capabilities. The maintenance of permanent underwater observatories, submerged oil wells, cabled sensor networks, pipes and the deployment and recovery of benthic stations are but a few of them. Nowadays, these tasks are addressed using manned submersibles or work-class ROVs (Remotely Operated Vehicles), equipped with teleoperated arms.

Current Intervention-AUVs (I-AUVs) prototypes are usually big and complex systems exhibiting only a limited set of functionalities including docking and fixed based manipulation on a subsea panel, as well as search and recovery of simple objects. On the other hand, as in the case of human manipulation, more sophisticated applications, like transporting and manipulating bulky objects, or assembling complex structures underwater, would require several I-AUVs working cooperatively.

Underlying the main drawbacks found in these aforementioned systems are the current technology limitations in several domains like wireless communications, human-robot interaction, multisensory based manipulation, power supply, mechatronics, networking, cooperative robots, to mention but a few. Moreover, if we are looking for new autonomy levels is clear that cognition developments will be also a cornerstone, trying to replace dexterities associated with the human expert on the intervention domain by means of Artificial Intelligence (AI) procedures.

Further details at <http://irosworkshop.marinerobotics.eu/>