# 2018 30.09.-07.10. BIOGRAD NA MORU, CROATIA

# BREAKING THE SURFACE

## 10th INTERNATIONAL INTERDISCIPLINARY FIELD WORKSHOP OF MARINE ROBOTICS AND APPLICATIONS

| | SUNDAY 30.09. | MONDAY 01.10. | TUESDAY 02.10. | WEDNESDAY 03.10. | THURSDAY 04.10. | FRIDAY 05.10. | SATURDAY 06.10. |
|---|---|---|---|---|---|---|---|
| 09:00 | | **Opening session**<br>Zoran Vukić, Ivana Mikolić | **The ORCA Hub: Offshore robotics for certification of assets**<br>*Yvan Petillot*<br>**The evolution of smart software within maritime robotics**<br>*Scott Reed* | **Motion assessment of an unmanned planing craft in seaway**<br>*Morel Groper*<br>**New survey visualization: merging photogrammetric 3D model with a multibeam bathymetry**<br>*Hironobu Kan* | **Underwater acoustic communications: Fundamentals and new results**<br>*Milica Stojanović*<br>**How to protect an outstanding shipwreck site?**<br>*Irena Radić Rossi* | **Key technologies towards the vision of complex autonomous underwater operations: From project SMIS to MUM**<br>*Torsten Jeinsch and Martin Kurowski*<br>**Chasing ocean carbon – from sky to sea and below**<br>*Ivona Cetinić* | |
| 09:45 | | **Cyber security for marine technologies**<br>*Niv David* | | | | | |
| 10:30 | | COFFEE BREAK | COFFEE BREAK | COFFEE BREAK | COFFEE BREAK | COFFEE BREAK | |
| 10:45 | | **"We're (not) going to need a bigger boat": the tech that will replace traditional coastal research vessels**<br>*Bridget Buxton*<br>**Shearwater: The future of hybrid autonomous marine vehicles**<br>*William Kirkwood*<br>**The role of technical devices in the frame of underwater archaeological researches**<br>*Sebastiano Tusa* | **Robots in politics and business**<br>*Daniel M. Lofaro*<br>**Consumer robotics in the age of acceleration**<br>*Paul Oh*<br>**Protoatlantic – A European accelerator program of the marine sector**<br>*Miriam Rueda* | **Cyber-security solutions for unmanned systems, and their use in conjunction with new technologies to advance port security and maritime domain awareness**<br>*Philip McGillivary*<br>**Submarine technology for the study and conservation of deep coral gardens and cold-water coral reefs**<br>*Andrea Gori*<br>**Oceanids: Development of next generation marine autonomous systems for ocean science**<br>*Alexander Phillips* | **Micro-scale wave energy generation for autonomous sensors and robotics**<br>*Tim Mundon*<br>**Exploring the ocean and the seabed: oceanographic case studies where marine robotics can be applied**<br>*Manuel Bensi*<br>**Cloud-based management and control of autonomous marine vehicles: Concept and demonstration**<br>*Xianbo Xiang* | **Autonomy and remote control technology in sea aquaculture activities**<br>*Walter Caharija*<br>**A fast fish-like human-powered racing submarine**<br>*Iain A. Anderson*<br>**ROV inspection**<br>*Marko Bakašun, Matej Ćurić and Ivor Meštrović* | FIELD TRIP |
| 11:30 | | | | | | | |
| 12:15 | | | | | | | |
| 13:00 | | LUNCH | LUNCH | LUNCH | LUNCH | LUNCH | |
| 14:30 | | *COMPANY PRESENTATION*<br>**Blueye Robotics**<br>**T1 intro: Underwater optical image enhancement techniques**<br>*University of Girona* | *WORKSHOP:*<br>**Defining a ROS package to standardize underwater messages**<br>*IQUA Robotics, University of Girona* | **IQUA robotics**<br>*Marc Carreras*<br>**14:30 - 15:00**<br>**ecoSUB**<br>*Iain Vincent*<br>**15:00 - 15:30**<br>**Nido Robotics**<br>*Enrique González Sancho*<br>**15:30 - 16:00**<br>COFFEE BREAK<br>**H2O Robotics**<br>*Marin Bek*<br>**16:15 - 16:55**<br>**XOCEAN**<br>*James Ives*<br>**16:45 - 17:15**<br>**EUMR presentation**<br>*António Sérgio Ferreira*<br>**17:15 - 17:45** | *COMPANY PRESENTATION*<br>**Blueprint Subsea**<br>**T2 intro: Sparus II**<br>*IQUA Robotics, University of Girona* | *COMPANY PRESENTATION*<br>**Sonardyne**<br>**T3 intro: Hands-on with software defined modems & underwater networks**<br>*Subnero, National University of Singapore* | *COMPANY PRESENTATION*<br>**Evologics**<br>**T4 intro: subCULTron**<br>*UNIZG FER* | |
| 15:00 | | | | | | | |
| 15:30 | | *DEMO 1* **Nido Robotics** *Group 1*<br>*T1* **hands-on** *Group 2*<br>*DEMO 2* **Blueye** *Group 3* | | *DEMO 3* **BluePrint** *Group 1*<br>*T2* **hands-on** *Group 2*<br>*DEMO 4* **ecoSUB** *Group 3* | *T3* **hands-on** *Group 1*<br>*DEMO 5* **Torpex** *Group 2*<br>*DEMO 6* **Sonardyne** *Group 3* | *DEMO 7* **Evologics** *Group 1*<br>*T4* **hands-on** *Group 2*<br>*DEMO 8* **GeoMar** *Group 3* | |
| 16:30 | | | | | | | |
| 17:30 | REGISTRATION | *DEMO 1* **Nido Robotics** *Group 2*<br>*T1* **hands-on** *Group 3*<br>*DEMO 2* **Blueye** *Group 1* | | *DEMO 3* **BluePrint** *Group 2*<br>*T2* **hands-on** *Group 3*<br>*DEMO 4* **ecoSUB** *Group 1* | *T3* **hands-on** *Group 2*<br>*DEMO 5* **Torpex** *Group 3*<br>*DEMO 6* **Sonardyne** *Group 1* | *DEMO 7* **Evologics** *Group 2*<br>*T4* **hands-on** *Group 3*<br>*DEMO 8* **GeoMar** *Group 1* | |
| 18:00 | | *DEMO 1* **Nido Robotics** *Group 3*<br>*T1* **hands-on** *Group 1*<br>*DEMO 2* **Blueye** *Group 2* | | *DEMO 3* **BluePrint** *Group 3*<br>*T2* **hands-on** *Group 1*<br>*DEMO 4* **ecoSUB** *Group 2* | *T3* **hands-on** *Group 3*<br>*DEMO 5* **Torpex** *Group 1*<br>*DEMO 6* **Sonerdyne** *Group 2* | *DEMO 7* **Evologics** *Group 3*<br>*T4* **hands-on** *Group 1*<br>*DEMO 8* **GeoMar** *Group 2* | |
| 18:30 | WELCOME DRINK | | | | | | |
| 19:30 | DINNER | DINNER | DINNER | DINNER | DINNER | CLOSING CEREMONY | |
| 20:30 | | | | | | GALA DINNER | |
| From 21:00 | | NORWEGIAN PARTY | EXCELLABUST PARTY | | BTS KARAOKE PARTY | GREAT GATSBY PARTY | |

**SESSION COLORS**

Lectures
Innovation tuesday
Social events
Company programme
Tutorial
Demonstration

**LECTURE CATEGORIES:**

MAROB, MARSEC, COMPANY PRESENTATION
MARBIO, MARGEO
MARCH, INNOVA

**LOCATIONS:**

**LECTURES HALL @ HOTEL ADRIATIC**
*Programme:* **ALL** *lectures and presentations*

**TUTORIAL ROOM @ HOTEL ADRIATIC**
*Programme: tutorial, mission plannings, data analyses*

**BELVEDER BAR**
*Social events: BTS Karaoke, EXCELLABUST Party*

**DEMO POOL & OPEN WATERS NEARBY**
*Programme: equipment demonstrations*

**LAVENDER BAR @ HOTEL ADRIATIC**
*Programme: Welcome drink, Norwegian party*

***Organized by***

*University of Zagreb*
*Faculty of Electrical Engineering and Computing*
*Laboratory for Underwater Systems and Technologies*
*Centre for Underwater Systems and Technologies*

***In partnership with*** *EXCELLABUST and EUMarineRobots project partners*

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