# hreaking the surface

7th International Interdisciplinary Field Workshop of Marine Robotics and Applications

# 4th - 11th OCTOBER 2015 ILIRIJA RESORT, BIOGRAD NA MORU, CROATIA

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







**Supported by** the Office of Naval Research Global, London (UK)

**In partnership** with Centre for autonomous marine operations and systems - AMOS, Norwegian University of Science and Technology - NTNU (Norway)





The BtS serves since 2009 as a meeting place of experts and students of marine control engineering and signal processing and the marine robotics application areas in various types of ocean science. BtS is the world's first successful, multi-year field training program that combines academic topics in marine robotics and robotics application areas and hands-on working experience in the sea, doing remote sensing and sampling for various ocean sciences. BtS is also unique in putting a strong emphasis on the participation of principal investigators and established research group leaders from across the globe, catering not only to the EU or USA research communities.

The program is organized along four program tracks of the event: marine robotics (MAROB); marine biology and marine nature protection (MARBIO); maritime security, naval and coast guard operations (MARSEC); maritime, nautical and ship archaeology (MARCH). This year, in addition to our four program tracks, we will introduce new speakers from areas such as marine geology (MARGEO), oceanology (OCEAN), oceanography (GRAPH) and others.

This year's confirmed program so far consists of:

#### **LECTURES**

Held by world-class experts, focusing on recent interesting robotic, control, signal processing or ocean science (MAROB, MARBIO, MARCH, MARSEC) results, dove-tailing with one of the program tracks.

#### **MAROB**

- Asgeir J. Sørensen and Martin Ludvigsen, Norwegian University of Science and Technology - NTNU (NO)
- Thor I. Fossen, Norwegian University of Science and Technology - NTNU (NO)
- Kristin Y. Pettersen, Norwegian University of Science and Technology - NTNU (NO)

- Marco Bibuli, The Institute of Intelligent Systems for Automation (ISSIA), National Research Council of Italy (CNR), (IT)
- Jeff Neasham, Newcastle University (UK)
- Andreas Birk, Jacobs University Bremen (DE)
- Gianluca Antonelli, University of Cassino and Southern Lazio (IT)
- Mirko Kovač, Imperial College London (UK)
- Thomas Glotzbach, Ilmenau Technical University (DE)

#### **MARBIO**

- Geir Johnsen, Norwegian University of Science and Technology NTNU (NO)
- Ingunn Nilssen, Norwegian University of Science and Technology NTNU (NO)
- Jasmine Nahrgang, UiT The Arctic University of Norway (NO)
- Blaženka Gašparović, Ruđer Bošković Institute (HR)

#### **MARCH**

- Øyvind Ødegård, Norwegian University of Science and Technology NTNU (NO)
- Bridget Buxton, University of Rhode Island (US)
- Jacob Sharvit, Israel Antiquities Authority (IL)
- Stockton Rush, OceanGate (US)

#### **MARSEC**

- Robin R. Murphy, Texas A&M University (US)
- Vladimir Djapic, Space and Naval Warfare Systems Command SPAWAR (US)

#### **TUTORIALS**

Hand on tutorial sessions concentrating on the use of tools and applications for robotic ocean science mission preparation, post-processing and statistical analysis.

#### Confirmed tutorials:

• Hrvoje Čizmek, Marine Explorers Society - 20000 Leagues NGO (HR)

## **DEMONSTRATIONS**

Demonstrations of equipment: autonomous robotic units, vehicles, systems (ROVs, AUVs, USVs, UAVs); or remote sensing equipment, stereo-camera systems, sonars, radars, hydroacoustic modems etc. by research teams or industrial partners who exhibit and present their products.

Confirmed equipment and company demonstrations:

- Vladimir Djapic, Space and Naval Warfare Systems Command SPAWAR (US)
- EvoLogics GmbH (Germany)
- Konsberg Maritime: Hydroid (Norway)

## **REGISTERING AND PARTICIPATING**

Register through BtS official web-page **bts.fer.hr** 

Accommodation expenses are included in the registration fee.

The Registration package includes:

- accreditation which allows you participation in all technical and social programs
- accommodation with three meals per day in single rooms (for Standard registrations) or shared double rooms (for Student registrations) in a 4\* hotel for 7 nights (from 4<sup>th</sup> until 11<sup>th</sup> October)

F	۲F	G	ST	ΓR	А٦	ΓI	)I	V	Ē	F	F	١
	ᄮ	v	9	11	$\sim$		$\mathcal{L}$	N		ш	٠.	,

Type of Registration	Early-bird (by 4 July)	Regular (by 4 September)		
STUDENT	€500	€600		
STANDARD	€600	€750		
ACCOMPANYING PERSON	€250	€250		

# **CORPORATE PARTICIPATION PROGRAM FOR COMMERCIAL ENTITIES**

The Corporate Participation Program includes:

- 2 full Standard Registrations that consists of accreditations (which allows you participation in all technical and social programs) and accommodation (with three meals per day in single rooms in a 4\* hotel for 7 nights, from 4th until 11th October)
- a 30 min time-slot for the presentation of the product gamut
  logistical / infrastructural local support and organization collaboration for an expo / hands-on demonstration activity at the prescribed site

Type of Registration	Early-bird (by 4 July)	Regular (by 4 September)
CORPORATE REGISTRATION	€3000	€3500

For past commercial participants' experience, you can contact Evologics (Germany), Kongsberg-Hydroid (USA/Norway), VideoRay LLC (USA), OceanServer Technologies Inc. (USA), OcanScan Ltd. (Portugal).

# **POINT OF CONTACT**

Asst. Prof. Nikola Mišković, PhD Programme Chair

University of Zagreb Faculty of Electrical Engineering and Computing Unska 3, 10000 Zagreb, Croatia

Tel: +385 1 6129 815 Fax: + 385 1 6129 809

E-mail: nikola.miskovic@fer.hr

All additional information are available at bts.fer.hr Visit us on Facebook: www.facebook.com/BtSCroatia Contact us at bts.orgcom@fer.hr