

# ICRA2019 Workshop (Half-Day)

## Approaching Residency of Marine Robots for Deep-Sea Research (ARMR-DSR)

Date: May 23

Time: 8:30:00 AM - 12:30:00 PM

Location: Room 520e

Organizing Committee: Zhuoyuan Song (UH Manoa), Aaron Marburg (UW-APL), Michael Krieg (UF), Kamran Mohseni (UF), Brian Bingham (NPS)

TC Endorsement: IEEE Technical Committee on Marine Robotics

Industrial Sponsor: Saab North America, Inc.

Workshop Website: <https://www2.hawaii.edu/~zsong/rauv-icra2019/>

Time	Event	Speaker(s)
8:30:00 AM - 8:35:00 AM	Opening Remarks	Zhuoyuan Song (UH-Manoa, USA)
8:35:00 AM - 8:45:00 AM	[Invited] Report on "Resident AUV Workshop (UW-APL)"	Aaron Marburg (UW-APL, USA)
8:45:00 AM - 8:55:00 AM	[Invited] Report on "Frontiers in Undersea Seafloor Science and Engineering Workshop (Northeastern U.)"	Hanumant Singh (Northeastern U. / WHOI, USA)
8:55:00 AM - 9:05:00 AM	[Invited] Report on "Seafloor Instrumentation Workshop (Gleneden Beach, OR)"	Geoff Hollinger (Oregon State U., USA)
9:05:00 AM - 9:20:00 AM	Panel Discussion	Aaron Marburg (UW-APL, USA) Hanumant Singh (Northeastern U. / WHOI, USA) Geoff Hollinger (Oregon State U., USA) Christopher Roper (Saab Seaeye)
9:20:00 AM - 9:35:00 AM	[Workshop Paper - 3] Adaptation of lateral-line inspired force compensation algorithms for underactuated marine vehicles	Michael Krieg and Kamran Mohseni (U. Florida)
9:35:00 AM - 9:50:00 AM	[Workshop Paper - 4] Modeling and design of buoyancy driven equipment for deep ocean sensing	Sam Fladung et al. (Teledyne Webb Research)
9:50:00 AM - 10:05:00 AM	[Invited] Update on the Sabertooth	Christopher Roper (Saab Seaeye)
10:05:00 AM - 10:30:00 AM	ICRA Coffee Break	
10:30:00 AM - 10:45:00 AM	[Invited] Fault detection and recovery considerations for robust long term RAUVs	Mae Seto (Dalhousie U., Canada)
10:45:00 AM - 11:00:00 AM	[Invited] Communication & navigation systems for resident deep-sea marine robots	Mandar Chitre (NUS, Singapore)
11:00:00 AM - 11:15:00 AM	[Invited] Towards robust autonomous navigation and mapping in complex marine environments	John J. Leonard (MIT, USA)
11:15:00 AM - 11:30:00 AM	[Invited] Increasing persistent navigation capabilities for underwater vehicles via augmented terrain-based navigation methods	Ryan N. Smith (Fort Lewis College, USA)
11:30:00 AM - 11:45:00 AM	[Invited] Motion tomography and collective mobile sensing in the ocean	Fumin Zhang (GaTech, USA)
11:45:00 AM - 12:00:00 PM	[Invited] The Pacific Northeast Subtropical front with multiple robots cruise: Explorations in autonomy software	João T Sousa or José Pinto (Porto U., Portugal)
12:00:00 PM - 12:15:00 PM	[Invited] Planning, decision making, and human-robot learning for resident AUVs	Geoff Hollinger (Oregon State U., USA)
12:15:00 PM - 12:30:00 PM	[Invited] LOON-DOCK: AUV homing and docking for high-bandwidth data transmission	Pere Ridao or Eduard Vidal Garcia (U. Girona, Spain)
12:30:00 PM - 12:35:00 PM	Concluding Remarks	Zhuoyuan Song (UH-Manoa, USA)

### NOTES

- Please note that all participants, including workshops and tutorials organizers and presenters, need to register for the workshops/tutorials as appropriate.

- We recommend you register for the workshop online ahead of time since the on-site rates will be higher.

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