

TIME SLOT	START TIME	SESSION	DESCRIPTION
08:30 - 08:40	8:30	Introduction	Workshop introduction and its goals
08:40 - 10:15	8:40	Keynote: Prof. Fabio Bonsignorio	Underwater Multiagent Environmental Low Frequency Sensing
	9:20	Spotlight talk	Autonomous underwater vehicle perception of infrastructure and growth for aquaculture
	9:35	Keynote: Dr. Yogesh A. Girdhar	Co-robotic Exploration in Underwater Environments
10:15 - 10:30	10:15	Coffee Break	
10:30 - 12:35	10:30	Lightning Talks	Automated Underwater Pipeline Damage Detection using Neural Nets
	10:35		Deep Learning for Detection and Tracking of Underwater Pipelines using Multibeam Imaging Sonar
	10:40		Real-time Vision-only Perception for Robotic Coral Reef Monitoring and Management
	10:45	Keynote: Prof. Michael Kaess	Localization and Mapping with Imaging Sonar
	11:25	Spotlight talk	Deep Learning from Shallow Dives: Sonar Image Generation and Training for Underwater Object Detection
	11:40	Keynote: Prof. Pere Ridao Dr. Narcis Palomeras	Real-time Laser Scanner for Autonomous IMR Applications
	12:20	Lightning Talks	Towards an Underwater 3D Laser Scanning System for Mobile Mapping
	12:25		Reduced Backscatter for 3D Scene Reconstruction for Turbid Underwater Environments
	12:30		Visual-Acoustic SLAM for Underwater Caves
12:35 - 13:30	12:35	Lunch	
13:30 - 15:20	13:30	Lightning Talks	CNN-based Approach for Opti-Acoustic Reciprocal Feature Matching
	13:35		Depth Estimation on Underwater Omni-directional Images Using Deep Neural Network
	13:40		Seeing through Water: From Underwater Image Synthesis to Generative Adversarial Networks based Underwater Single Image Enhancement
	13:45	Keynote: Dr. Ayoung Kim	Optical Image Visibility Enhancement for Turbid Underwater SLAM
	14:15	Spotlight Talk	On the Mutual Relation between SLAM and Image Enhancement in Underwater Environments
	14:30	Keynote: Katherine A. Skinner	Unsupervised Learning for Underwater Image Restoration
15:20 - 15:30	15:20	Coffee break	
15:30 - 16:00	15:30	Poster session	
16:00 - 17:20	16:00	Keynote: Dr. Jakob Schwendner	3D Laser Imaging and Synthetic Aperture Sonar (SAS)
	16:40	Keynote: Prof. Andreas Birk	Deep-sea Perception using Continuous System Integration
17:20 - 18:00	17:20	Panel Discussion and Award ceremony	Future of Underwater Perception and NVIDIA Jetson Nanno giveaways