



WORKSHOP ON MARINE TECHNOLOGIES
From Marine Archeology to Internet of Underwater Things
Tuesday 11th December at 9:30
The U Facility, in downtown Haifa, Dylan Tauber Educational complex, 16 Hanamal St.

9:30 - 10:00

Welcome and Coffee

Greetings

10:00 - 10:05

Prof Ilana Berman-Frank ,
Head of the Charney School of Marine Sciences

10:05 - 10:10

Prof Stefano Ventura
Scientific Attaché' Italian Embassy in Israel

10:10 - 10:15

Archeosub Video

10:15 - 10:30

Prof Chiara Petrioli
The ArcheoSub project: An Introduction

10:30 - 10:50

Prof Benedetto Allotta and Prof. Alessandro Ridolfi
Zeno - a New Robot for Surveying and Underwater Archaeology

10:50 - 11:00

Prof Chiara Petrioli
The Internet of Underwater Things Revolution

11:10 - 11:20

Ing. Lorenzo Marini
MDM Team - low cost underwater robotics

11:20 - 11:30

dott. Ernesto Montaldo
WSENSE - the pioneer of Internet of Underwater Things

11:30 - 11:35

TF1 Video

11:35	Coffee Break
11:50 - 12:05	Prof. Morel Groper <i>Autonomous Underwater Vehicles (AUVs) – Major Technological Challenges and Opportunities for Collaboration</i>
12:05 - 12:20	Dr. Yizhaq Makovsky <i>Studying active seafloor processes with underwater vehicles</i>
12:20 - 12:35	Tzvika Goldner <i>The HydroCamel II – An advanced AUV for research applications</i>
12:35 - 12:50	Dr. Roe Diamant <i>Mono static and SONAR detection of mobile and static objects</i>
12:50 - 13:05	Dr. Yotam Asscher <i>Analytical methods for understanding pozzolanic underwater</i>
13:05 - 13:20	Dr. Tali Treibitz <i>Advanced computer vision methods for underwater exploration</i>
13:20 - 14:00	Lunch
14:00	Transfer to IOLR
14:30	Demos in IOLR
16:30	PI summary meeting

Biographies.



Dott. Ernesto Montaldo, WSENSE CEO (<https://wsense.it>), is an IT expert with with 30 years of organizational experience, possessing a wealth of business development experience and proven business management skills. During his career he has been Sales Executive at Nexin Technologies, Sales Executive at MC Engineering, Sales Executive at Infracom Spa, Director of Sales and Marketing at Gruppo Stratos, Director of Sales at AT&T Global network Services Italy and Sales Manager in IN.TE.S.A. S.p.A. – joint venture between FIAT/IBM.



Prof. Chiara Petrioli is Professor of Computer Science at University of Rome “La Sapienza”, where she directs three labs. She is also a founding partner of “La Sapienza” spinoff WSENSE S.r.l. where she serves as R&D Director and Director of WSENSE Ltd.

Professor Petrioli has a proven record of R&D in the field of future wireless, embedded, IoT and cyber physical systems. She has published over a hundred and fifty papers in prominent international journals and conferences (over 5700 citations; h-index 41). She is chair of IEEE SECON Steering Committee, has been member of ACM SenSys and IEEE Transactions on Mobile Computing Steering Committee, General or TPC Chair of flagship conferences in the field such as ACM SenSys, IEEE INFOCOM, ACM MobiHoc, ACM MobiCom, member of ACM SIGMOBILE Executive Committee and of ACM Europe Council.

She has been the PI of over twenty national and international research projects, serving as coordinator of three EC projects (FP7 projects GENESI and SUNRISE, EASME ArcheoSub) highlighted as success stories on Digital Agenda of Europe, and featured by international mass media including RAI SuperQuark and Presa Diretta, Wired USA, the Guardian, Bild magazine, and National Geographic.

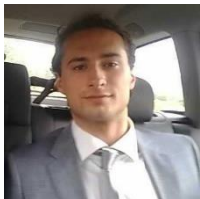
Her research has resulted in international patents and in award-winning innovative technologies. She is a pioneer of the Internet of Underwater Things, an area on which she has led the development of breakthrough technologies listed in the NT100 Top “Social Global Techs changing our lives 2016.” Prof. Petrioli was a Fulbright scholar.



Marco Merola was born in Naples in 1974 and became a professional journalist in 1998. Since then, he has been extensively working on science and science communication, with a particular focus on repercussions of new technologies in the global economy. He has been author of reportages for several international magazines (GEO, National Geographic, Focus, BBC Science, Sciences et Avenir, Muy Interesante, Illustreret Videnskab and Italian weekly magazines SETTE of Il Corriere della sera and Venerdì of La Repubblica). He has been communication manager for several flagship EC and Italian scientific projects, including FP7 SUNRISE, EASME ARCHEOSub and Safe Art. Marco Merola is also serving as head of communication and public relationship at WSENSE Srl.



Prof. Benedetto Allotta was born in Agrigento in 1963. In 1987 he received the laurea degree in Mechanical Engineering from the University of Pisa. In 1992 he received the Ph.D. degree in Robotics from the Scuola Superiore Sant'Anna, Pisa (<http://www.sssup.it>), where he has been an assistant professor of Applied Mechanics from 1993 till 2001 first within the ARTS Lab and then within the PERCRO Lab (<http://www-percro.sssup.it>). Since 2001 he is an associate professor within the Section of Applied Mechanics of the Department of Energetics of the University of Florence, Italy. Since 2005 he is full professor. From 2010 he is the dean's delegate for student counseling, orientation and job placement of the School of Engineering. From 1996/97 till 1999-2000 he has given courses at the School of Engineering of the University of Pisa and, since 1998/99, also at the University of Florence. He currently gives courses in the area of Automation and Robotics within the 3 years study programs of Mechanical Engineering and Electronic Engineering as well as the specialist study programs of Mechanical Engineering and Automation Engineering. His current research interests are: automation in transport systems, Hardware In the Loop (HIL) simulation, control of robots, mechatronics, sensor fusion in navigation systems. He is author of about 80 publications, including more than 30 papers on international journals, 2 international patents and 3 Italian patents (for a complete list of publications, see www.dief.unifi.it). He is responsible of several research grants and contracts coming from public agencies as well as private companies for a total amount of several hundred thousand Euro.



Prof. Alessandro Ridolfi is a PhD Researcher (Assistant Professor) of Machine Theory and Robotics with the School of Engineering, Department of Industrial Engineering (DIEF) at the University of Florence (UNIFI), Italy. In 2014 he received his PhD degree in Industrial Engineering from UNIFI. In 2010 he graduated in Mechanical Engineering at UNIFI. At the beginning of his PhD he worked on railway vehicle localization and wheel-rail adhesion modelling. His current research interests are underwater and industrial robotics, sensor-based navigation of vehicles, mechanical systems modelling, vehicle dynamics and bio-robotics. Alessandro Ridolfi worked as a Researcher and Assistant of the Coordinator within the FP7 European project ARROWS (Archaeological Robot systems for the World's Seas, 2012-2015), www.arrowsproject.eu. He is Principal Investigator for UNIFI in the framework of two European projects on Marine Robotics. He is co-author of more than 100 scientific papers for International journals and conferences on robotic and mechatronic topics, with particular focus on underwater robotics. He currently teaches a course in "Dynamics" at Syracuse University Florence (spring semester only), where he serves as Adjunct Professor.



Ing. Lorenzo Marini is currently CEO of MDM Team Srl (www.mdmtreeam.eu). From 2012 he performs a consultant role for MDM Team Srl. In 2014 he received the Ph.D. degree Industrial Engineering from University of Florence (UNIFI). In 2010 he graduated in Mechanical Engineering at the University of Florence. He has skills in Vehicle Dynamics, especially in railway field, from running dynamics and braking components simulation viewpoint and also relative to online tests campaign and their sensors equipment. His current research interests are contact and wear mechanism in railway field. In particular, he cooperates with Hitachi Rail in running dynamics simulations of railway vehicles. Further, he performed collaboration with Italcertifer S.p.A. for support activities in preliminary acceptance test for the approval of test rigs for railway brake systems components. He has collaborated in the development of Running safety on-track Test Plan for Railcar OÜ a private limited company in Republic of Estonia related to a Railway locomotive and subsequently he managed the online test for homologation and verified the accelerometer data obtained from the on-track tests. He had had a consultant for MDM Team Srl in a study to optimization the wheel-rail wear evolution in an Italian critical metro scenario.



Prof. Morel Groper served between 1987 to 2011 in the Israel Navy as a design engineer, Navy Shipyard Chief Marine Engineer and finally as the Navy Head of Naval Architecture and Marine Engineering. Through his career in the Israel Navy, he was directly involved in many of the naval architecture and marine engineering research and development efforts, including the development of advanced naval platforms and unique marine systems. Prof. Groper received his Ph.D. degree in 1999 from the Faculty of Mechanical Engineering at the Technion, Israel Institute of Technology in Haifa, Israel. His research focused on the cavitation phenomena in hydrodynamic bearings. In 2010 Prof. Groper retired from the Navy and launched his own R&D company to provide comprehensive mechanical engineering and naval architecture services to naval, marine, offshore and industrial sectors. In 2014 he joined the University of Haifa to promote his own research, as well as assist with establishing and developing the new Hatter Department of Marine Technologies. Currently, Prof. Groper serves as the Head of this department at the Charney School of Marine Sciences at the University of Haifa. His research focuses on maneuvering, propulsion and autonomy of Unmanned Surface and Underwater Marine Vehicles and on the engineering design of components for underwater applications.



Dr. Yizhaq Makovsky is a faculty with a shared position at the Strauss Department of Marine Geosciences and at the Department of Marine Technologies, University of Haifa. He is a geophysicist specializing on the full scope of offshore exploration and development including: 3D imaging, reservoir characterization as well as seafloor active processes and geohazards. Dr. Makovsky graduated his BSC (1990) at the Department of Geophysics and Planetary Sciences, Tel Aviv University, and his PHD (1997) at the Department of Geophysics, Stanford University, CA, USA. From 1998 to 2007 Dr. Makovsky worked as a senior consulting geophysicist with Paradigm (one of the leading software companies in the global oil and gas industry), serving worldwide as an on-site global technology transfer, service and support expert in geophysical imaging and reservoir analysis. In 2007 Dr. Makovsky joined Prof. Zvi Ben Avraham in establishing the Charney School of Marine Sciences at the University of Haifa, and became the establishing head of the Department of Marine Geosciences (through 2010). Subsequently he established and heads the Applied Marine Exploration Laboratory (AMEL), and has a major role in establishing the Helmsely Center of DeepSea Research, both at the School. Dr. Makovsky is at the core management group of the national University of Haifa led Israel Mediterranean Sea Research Center consortium.



Tzvika Goldner is the CEO of BG Robotics, a company owned by BGN, the Technology Transfer company of BGU. BG Robotics co-operates with the laboratory of autonomous robotics (LAR) at BGU having 20 years of experience in autonomous robotics. Tzvika has more than 25 years of experience in Telecommunication, Defense and HLS.



Dr. Roee Diamant is heading the underwater acoustic and navigation laboratory in the university of Haifa. He received B.Sc. and M.Sc. from the Technion, PhD from the university of British Columbia in Canada, and a postdoc in the university of Padova in Italy, all in electrical engineering. Between 2001 to 2015 he was working in Rafael as a project manager and system engineer, where among other things he led the development of underwater devices and embedded systems. He is the recipient of the Israel Excellent Worker Award from the Israeli Presidential Institute, and the NSERC Vanier Scholarship from Canada. His research interests are in underwater acoustic communication, underwater navigation, object identification, and classification.



Dr. Yotam Asscher is the Head Scientist of the Analytical Laboratories in the Artifacts Treatment, Conservation & Laboratories Department, Israel Antiquities Authority, Jerusalem, Israel. His main interests are in developing new strategies of material characterization to be applied in field archaeology excavations as well as conservation efforts in the museum environment. Dr. Asscher received his PhD from The Weizmann Institute of Science, with Qualification Areas: Archaeological Sciences, Chemistry, Archaeology. He then did Postdoctoral Studies as a Research Associate at the University of Padova, in the Geosciences Department, specializing in Conservation Sciences. Some of his more recent works explore non-invasive characterization techniques of pigments in frescoes, bone-like material structures and applications to assess their preservation state in archaeology, and the absolute chronology of the Late Bronze to Iron Age transition in ancient Canaan. He has been awarded the 2012 ADAR Foundation Scholarship and the 2012 Salim and Rachel Benin Foundation Scholarship.



Dr. Tali Treibitz is heading the marine imaging lab in the School of Marine Sciences in the University of Haifa since 2014. She received the BA degree in computer science and the PhD degree in electrical engineering from the Technion-Israel Institute of Technology in 2001 and 2010, respectively. Between 2010-2013 she has been a post-doctoral researcher in the department of computer science and engineering, in the University of California, San Diego and in the Marine Physical Lab in Scripps Institution of Oceanography. She was the recipient of the Google Anita Borg Scholarship in 2009 and the Weizmann Institute of Science National Postdoctoral Award for Advancing Women in Science in 2010.