

MARINE AUTONOMY & TECHNOLOGY SHOWCASE



Thursday 15 November 2018



Prof Russell Wynn

**Associate Director for Government, International and Public Engagement,
NOC** rbw1@noc.ac.uk

Is responsible for advising UK Government and a wide range of industry partners on NOC's science and technology capabilities. He oversees the NOC Communications team and the International and Strategic Partnerships Office.

Russell has also been NOC's Chief Scientist for Marine Autonomous and Robotic Systems (MARS) since 2013. He leads external engagement for the ongoing £30M of UK Government investment in the MARS fleet (including 'Boaty McBoatface'), and is co-ordinator of the annual 'MASSMO' series of demonstrator missions for UK Marine Autonomous Systems.

Russell was previously Head of NOC Marine Geoscience at NOC, and has published over 100 peer-reviewed science papers on topical marine matters, including submarine geohazards, marine conservation, and novel use of MAS technologies. Russell is also an Honorary Professor at University of Southampton, where he completed his PhD in marine geoscience in 2000.



Dr Pedro Patron

Engineering Manager SeeByte Ltd
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Dr. Pedro Patron currently leads the Autonomy Program at SeeByte, an engineering group that expands from fundamental research studies to the delivery of high-quality products and services. After obtaining a PhD in Electrical Engineering from Heriot-Watt University (UK) for his research in adaptive mission planning for unmanned systems, he joined SeeByte full time in January 2011 to lead the development of SeeByte's SeeTrack Neptune, a product that delivers adaptive planning for collaborative multi-vehicle operations. His PhD was commercialized by SeeByte and is now a software product sold worldwide. He has been the Project Manager of multiple international and multidisciplinary programs and a specialist and operations delegate at multiple offshore field trials. He led the first commercial deployment of SeeByte's AutoTracker, where the team achieved 1st autonomous pipeline inspection on low logistics AUV systems. Pedro was the SeeByte lead for the TTCP Hell Bay series of trials, which culminated in 10 vehicle collaborative autonomy demonstration at Unmanned Warrior 2016. This was funded by ONR (US), DRDC (Canada) and Dstl (UK) and involved unmanned systems from all three nations. For this work he received The Technical Cooperation Program Award from the MoD.



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Richard Mills
Director, Marine Robotics Sales, Kongsberg Maritime
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Richard is the Director of Marine Robotics Sales with Kongsberg Maritime. He is responsible for the HUGIN and MUNIN Autonomous Underwater Vehicles and K-MATE, the latest generation Unmanned Surface Vessel controller.

Leading a team of sales personnel located in Norway, the UK and USA, Richard is based out of the Kongsberg Maritime office in Westhill, Aberdeen. His team covers all market segments including commercial, defence, academic and governmental.

Richard is also on the board of directors for Eelume AS, and frequently visits their facilities in Trondheim, Norway. Eelume is developing small, articulated snake-like robots for subsea inspection and intervention. Towards the end of 2018, Eelume will be completing 30 days of residency as they work towards qualification for an Equinor pilot project in 2019.

Before Richard joined Kongsberg in 2012, he worked for International Submarine Engineering Ltd. in British Columbia, Canada promoting and selling their range of AUVs. Prior to joining the subsea industry, Richard was a helicopter pilot in the Royal Air Force.



James Cowles,
Commercial Technical Sales Manager L3 ASV
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Responsible for bringing ASV's science, survey and offshore energy product offering to market, providing a robust range of autonomous vessel solutions to industry and research institutes. James has over 6 years' experience in business development and project management, drawing on core engineering skills and experience from a range of other industries.



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Lorenzo Brignone
Ifremer

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Dr Lorenzo Brignone is a mechanical engineer with 15 years' experience in the design and development of underwater vehicles and autonomous systems. After receiving his PhD in AI and autonomous manipulator control, his main focus has turned to the development of autonomous underwater vehicle prototypes targeting several applicative domains. These range from scientific exploration, oil and gas survey and exploitation, mine detection and disposal.

Since joining Ifremer he led the development of the embedded controller of Ifremer's latest HROV Ariane and he is now in charge of the new deep diving AUV program for the Institute. As head of the Robotics and Applications Laboratory within the Underwater Systems Unit at Ifremer he is also actively involved in a number of R&D activities within the institute and in international consortia.



Andrea Munafò
Senior Robotics Systems and Software Engineer NOC

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received the B.Sc. degree in computer science engineering, the M.Sc. degree in automation engineering, and the Ph.D. degree in automation, robotics and bioengineering, all from the University of Pisa, Italy, in 2002, 2005, and 2009, respectively. From 2009 to 2013, he was a postdoctoral research assistant with the Interuniversity Centre of Integrated Systems for the Marine Environment, Italy. He was with the NATO STO Centre for Maritime Research and Experimentation, La Spezia, Italy, from 2013 to 2016 as a Research Scientist, working in the field of cooperative underwater robotics and underwater communication networks. Since 2017, he has been a Senior Scientist and Engineer with the Marine Autonomous and Robotics System Department, National Oceanography Centre, Southampton, U.K., where he is leading the development of novel onboard autonomy solutions for marine vehicles. He has led work-packages and worked in several EU funded research projects in the field of marine technology and automation of oceanographic systems and he was the co-ordinator of the ONR-Global funded project Network Long Base-Line. He is the author of over 50 peer-reviewed scientific publications, in international journals, chapters in books and conferences. His research interests include robotics, adaptive planning and sampling, underwater acoustics and sonar systems



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Ben Pritchard
Research, Technology & Innovation Thales UK
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Ben Pritchard graduated from Imperial College with a 1st in Electrical and Electronic Engineering in 2004. His Masters thesis focused on biologically inspired robotic manipulators. He joined Thales straight after and has been a researcher, systems engineer, project manager and R&D investment manager. From 2011 to 2017 he was the Technology and Innovation Manager for Thales' UK rail business and he is now the Research Group Leader for Autonomous Systems. Ben's team of researchers address various aspects of autonomy that apply right across the full range of Thales capabilities and ambitions across its space, aerospace, defence, security and transport business activities.

Ben's in-house team is the 'hub' that connects to a broad academic and industry partner network to conduct collaborative R&D. In 2017, Ben began a part-time MSc in Computer Vision, Robotics and Machine Learning, to further deepen his own technical understanding of the area. He's a visiting researcher at the University of Bristol, sits on the Industry Advisory Board of the Bristol Robotics Lab and leads a project with them in the National Centre for Nuclear Research. Ben has industry-supervised MBA, MSc and PhD students and is currently working to grow Thales' collaboration with the University of Southampton.



Dr Tim Wilkes
Product Manager, Strategy, Innovation and Transformation Office, Maritime and Coastguard Agency. Tim.Wilkes@mcga.gov.uk

Tim recently joined the MCA to grow the agency's commercial capacity, investigating ways of leveraging value from marine and maritime data assets. Before joining the agency he gained a PhD in evolutionary genetics and ran a pie company. Tim is joint-lead of the Maritime Autonomy Regulation Lab (MARLab), an MCA / DfT / NOC collaboration with funding from BEIS to support the UK MASS industry through new approaches to regulation and data sharing.



Dr Katrina Kemp ,
Smart Ships & Automation Policy Officer, Maritime and Coastguard Agency
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With a doctorate in maritime history, Katrina has worked at the Maritime and Coastguard Agency for over 15 years with a majority of her time involved in audits, including overseeing the monitoring of Small Commercial Vessel Certifying Authorities. She moved into the role of Smart Shipping and Automation Policy Officer in January 2018 with a focus on facilitating the MCA's regulatory response to autonomous shipping. Katrina is joint-lead of the Maritime Autonomy Regulation Lab (MARLab), an MCA / DfT / NOC collaboration with funding from BEIS to support the UK MASS industry through new approaches to regulation and data sharing.



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Robin Campbell
Principal Maritime Future Systems Leader
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Robin joined QinetiQ in the March 2016 as Principal Maritime Future Systems Leader. His work has a focus on the use unmanned maritime systems for military tasks in the underwater domain and has included both theoretical studies developing concepts of operation and the conduct of proof of concept trials to explore the value of using unmanned systems for military tasks. Prior to joining QinetiQ, he enjoyed a varied first career in the Royal Navy as a submarine Weapons Engineer, which included, appointments to NATO, roles in acquisition and sea appointments in HMS REVENGE, HMS OSIRIS and HMS TIRELESS.



Prof Hamid Asgari
Thales UK Research, Technology and innovation
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HAMID ASGARI received the Ph.D. in electrical and electronics engineering from the University of Wales, Swansea, U.K., in 1997. He has been with Thales Research, Technology and Innovation, U.K., since 1996, where he is a Chief Engineer. He is also a Visiting Professor with King's College London. He is highly experienced and skilled professional in leading large Research and Development teams, a technical expert in communication networks, security, and performance evaluation subjects. He has been leading the Research and Development teams and participating in collaborative projects since the year 2000. His past experience includes the work in Networks/Systems Performance Evaluations, Future Networking and Security Concepts, Wired/Wireless Networks Architectures and Technologies, Network, Service and Quality of Service Management. Currently, he is V&V Technical Lead in the Autonomous System's Research Group at RTI. He has a proven track record and published 60 book chapters and papers in the most respected scientific journals and peer-reviewed conferences. He is an IET Fellow and Senior member of the ACM.



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**Roland J. Rogers. BSc, MSc, CSci, CMarS, FIMarEST, FSUT
Emeritus Fellow National Oceanography Centre,**

Roland Rogers retired from the Royal Navy in June of 2002 after a long career as a specialist Naval Oceanographic and Meteorological Officer in the Royal Navy. His RN career of 20 years spanned appointments in teaching, forecasting and undertaking research in naval oceanography and underwater acoustics, procurement of naval oceanographic equipment and military marine environmental impact assessment. On retiring from the RN, he joined QinetiQ for ten years as a Principal Advisor on military marine science specialising in the legal regime governing the environmental impact of naval weapons and sensors. He left QinetiQ in 2007 and joined the National Oceanography Centre Southampton. In 2017, he retired from the NOC after 10 years as the Advisor on Marine Law and Policy in the National Marine Facilities Department. Roland was also the NOC Operational Manager for the Marine Autonomous Systems in Support of Marine Observations [MASSMO] programmes [01 through to 05]. He was the NOC Defence Champion and the Project Leader for two SBRI projects. These projects were the Long Endurance Maritime Unmanned Surface Vehicle [LEMUSV] programme and the Adaptive Autonomous Ocean Sampling Network [AAOSN] capability. He has undertaken MoD funded research in a number of areas including the legal regime governing naval Marine Autonomous Systems. He has 18 years' experience of working in the Marine Autonomous Systems domain. He remains a member of the UK Marine Autonomous Systems Regulatory Working Group [UKMASRWG]. He also served as part of the UK Delegation to the UNESCO/IOC for 15 years with last 5 years undertaking the role of the Alternate Head of the delegation.



**Cameron McNatt
Managing Director at Mocean Energy
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Cameron McNatt grew up on the shores of the Chesapeake Bay in the US where he fell in love with the water and sailing. A few years after completing his undergraduate degree in Electrical Engineering at Yale University in 2004, he found a job at a naval architecture firm developing software for ship simulations. In 2010, Cameron went back to school to get a Masters in Ocean Engineering at Oregon State University and then on to a PhD at the University of Edinburgh researching the wave field around wave energy converters (WECs). Cameron founded Mocean Energy with Chris Retzler in 2015, and through the course of two funded projects, has helped in the technical development of an innovative WEC. Cameron also has some first-hand experience with the ocean: in 2012, he helped to deliver a 43' sailboat from Solomons, Maryland to Alicante, Spain, and he has participated in two offshore races.

