

SMATECH 2026

7th International Conference on Smart & Green Technology for Shipping and Offshore Industries



23-24 APRIL 2026

London Croydon Aerodrome Hotel

Call for Papers

Sponsors



Abstracts to be sent to info@mam.engineer by 31st December 2025

About the Conference

SMATECH 2026, will come to London for its 7th year, and will offer delegates an unparalleled opportunity to network with researchers, technology developers, industrial players, and supply chain partners. It will address the latest developments and strategies in green ship designs & systems (both seagoing and inland waterway vessels), offshore renewable energy, decarbonising shipping & offshore industries, and potential investors from public funds and government support funding, wave and tidal energy resources. This year, for the first time, SMATECH will team up with the annual Conference on Renewable Energy (CORE) as delegates, presentations and knowledge transfer potential are expected to be very similar.

With higher fuel costs and raising environmental concerns globally, there has been an increased incentive to move towards marine technology that is more eco-friendly in nature. The term “Green Technology” is applied to procedures, designs and systems that helps contribute in an eco-friendly fashion. Green Technology is nothing new and has existed for years but often disregarded for various reasons. One such example being the Flettner Rotor which had been developed as early in the 1920s but was shelved on an economic basis as the high capital costs outweighed the low bunker costs. With higher fuel costs and an increased focus on becoming “greener”, such technology is being developed again. Part of this growth in green technology is because of new legislation. With tougher legislation being implemented regarding carbon emissions, it is expected billions of dollars is to be invested by organizations to meet these emission caps, or risk large penalties. As a result of the investment geared towards making ships greener, development of stronger renewable energy industries, and continually looking to develop and improve on existing ships design and systems. These improvements are centred on driving down fuel consumption, carbon emissions, development of renewable energy system and carbon capture, which are contribute to a greener environment. With this increased importance on being green, being placed by an increasing amount of stakeholders within a business, it is becoming vital that we increase engagement between industry and academia. This is to ensure that the technology and practices match the ambition and objectives that have been set, and drive R&D across the industry.

One of the aims of this conference is to create a framework for knowledge sharing and to develop a roadmap for research activities in the context of smart and green technologies that are a relatively new and challenging field of interest. In particular, the conference will enable research activities leading towards innovative, cost efficient and environmentally benign offshore renewable energy conversion platforms for wind and wave energy resources.

Conference Themes

- Commercial strategies for green ship technology
- Innovative designs and alternative technologies for green shipping
- Strategies and options for sustainable shipping
- Marine Equipment and future Green Technology developments
- Alternative power source on modern ships (wind and solar power for low emission shipping and sustainable shipping)
- Evaluation of ships fuel efficiency (EEDI/EEOI)
- Energy efficiency (technical and operational measures for efficient fuel consumption)
- Reduction of Gas Emissions (NO_x, CO₂, SO_x, Soot, Smoke and Particulate Matter)
- Oil Spill Management
- Ships waste management (Black & Grey Waste Water Treatment)
- Ballast & Bilge Water Management
- Underwater noise reduction
- Reporting and verification of legal policies for sustainable ships
- Hull bio fouling & antifouling
- Environmental impact assessment process
- Offshore drones
- Autonomous shipping
- Digital & intelligent systems
- Smart ships & ports
- Software validation & reliability
- Design of unmanned vessels
- Sensors & monitors
- Ship design
- Ship vibration
- Ship hydrodynamics
- Wave and tidal energy resource
- Offshore wind power
- Technological developments
- Mitigating risk on the road to commercialisation
- Monitoring, operation and maintenance of wind farms
- Technology management assessment of marine renewable energy
- Developing a commercial scale tidal energy array
- Latest development of large-scale offshore wind turbine
- Device development and testing – tidal
- Developing a viable ocean energy supply chain
- Rules, regulations and recent policy developments
- Innovation and recent projects in the offshore renewable energy sector

Key Dates

Abstract Deadline: 31 December 2025
Final Payment: 23 February 2026
Final Paper: 23 May 2026

Organising Committee

Mr George Alex Vanaraja, MA Marine Consultants Ltd., UK
Dr Yahui Zhang, MA Marine Consultants Ltd., UK
Prof (retd) Purnendu Das, MA Marine Consultants Ltd., UK

Registration Fees

Full Registration: £450

Student Registration: £350

Technical Advisory Panel

- Mr Sen Abhayasinghe, ABL Group, UK
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- Dr Yulin Si, Zhejiang University, China
- Prof Silvio Simani, Ferrara University, Italy
- Dr Tahsin Tezdogan, University of Southampton, UK
- Dr Deyu Wang, Shanghai Jiao Tong University, China
- Prof Hari V Warrior, Indian Institute of Technology Kharagpur, India
- Dr Yang Yang, Ningbo University, China
- Prof Zaili Yang, Liverpool John Moores University, UK
- Dr Lei Yu, Lloyd's Register, UK
- Prof Chengqing Yuan, Wuhan University of Technology, China
- Dr Onur Yuksel, Liverpool John Moores University, UK
- Prof Yingfei Zan, Harbin Engineering University, China
- Prof Xinyu Zhang, Dalian Maritime University, China
- Dr Yahui Zhang, MA Marine Consultants, UK
- Prof Ling Zhu, Wuhan University of Technology, China

Keynote Speakers



PROF JEOM-KEE PAIK

*University College London,
United Kingdom*

Professor Jeom-kee Paik FREng is Professor of Marine Technology at University College London and serves as Director of the UCL-Korea Global Industrial Technology Cooperation Centre. He is also a Chair Professor at Ningbo University in China. Professor Paik has introduced the concept of Digital Healthcare Engineering to enhance the safety and sustainability of ageing engineering structures (e.g., ships and offshore structures) and the wellbeing of seafarers, through life-cycle, real-time, intelligent (AI- and digital twin-driven) integrated management solutions. Professor Paik is the Founder and Editor-in-Chief of Ships and Offshore Structures, and the Founder and Co-Chair of the International Conference on Ships and Offshore Structures.



PROF TETSUO OKADA

*Yokohama National University,
Japan*

Tetsuo Okada is Professor of Department of Systems Design for Ocean-Space and Dean of Interfaculty Graduate School of Innovative and Practical Studies at Yokohama National University, Japan. He also serves as a vice president for the Japan Society of Naval Architects and Ocean Engineers. He started his professional career at IHI as a naval architect in 1986 and worked in the shipbuilding industry for approximately 30 years until 2014. During this period, he engaged in many ship and offshore projects, including large post-Panamax container ships, LNG carriers, FSO/FPSO's and FLNG's.

His current research focuses on rational structural design methodologies, hull condition monitoring and digital twin technology for hull structures. He served as a member of several committees for the International Ship and Offshore Structures Congress and held the chairmanship of the Committee "Materials and Fabrication Technology" for the term of 2009. He also chaired the 14th International Symposium on Practical Design of Ships and Other Floating Structures (PRADS) in 2019.

Keynote Speakers



PROF NIGEL BARLTROP

*Barltrop Engineering LLP,
United Kingdom*

Professor Barltrop is an emeritus professor at the university of Strathclyde, UK and the director of Barltrop Engineering LLP which was established in 2015 and provides consultancy and expert witness services in the areas of fatigue and strength of offshore structures, ships, lattice towers and renewable energy devices. His career activities in different stages are as follows:

2015 - 2017: Expert witness on litigation related to jack up production platforms and an offshore met mast. Dynamic fatigue analysis of a flare tower and front-end design of a fish farm. Part time professor at University of Strathclyde.

1995 - 2015: Professor at Glasgow and then Strathclyde Universities. (Head of Department 1995 - 2001). Research work includes Deepwater breaking wave forces and structural reliability of degrading offshore structures. Published Floating structures: a guide for design and analysis, MTD/OPL. Expert witness for loss of MV Prestige.

1977 - 1995: Atkins, Head of Marine & Structural Technology department 1984, Technical Director 1988. Projects include design of Leman G platform, Hutton TLP Column-Pontoon connections, Structural assessment and strengthening of the semi-submersibles Buchan Alpha and Iolair, the Seacat 'Great Britain' catamaran and several tankers, investigation of damage to WEG MS3 wind turbines. Developed software for analysis of stiffened plating, concrete offshore structures, coupled tether-hull TLP dynamics and response of lattice towers and turbines to wind turbulence. Expert witness in relation to losses of Alexander Kielland, Silimna and Kirki. Published Dynamics of fixed offshore structures (MTD/Butterworth Heinemann) and Fluid loading on fixed offshore structures (HMSO). Wrote fluid loading section of DEn/HSE "Guidance notes" and contributed to the development of offshore ISO standards.

1973 - 1977: Freeman Fox and partners, contributed to preliminary design of Hong Kong mass transit railway, detailed design of Hull "Myton" swing bridge, construction supervision of Humber suspension bridge.

Keynote Speakers



PROF YONG BAI

*Zhejiang University,
China*

Prof. Yong Bai, Chair Professor at Zhejiang University, China, is a recognized leader in marine and offshore engineering. A fellow of both the US Society of Naval Architects and Marine Engineers and the UK Royal Institution of Naval Architects, as well as an academican of the Norwegian Academy of Technical Sciences, Prof. Bai has contributed extensively to structural mechanics and pipeline engineering. His academic career spans appointments at prominent institutions, including Zhejiang University (15 years), the University of Stavanger (5 years), and Harbin Engineering University (10 years). Throughout his career, he has supervised numerous MSc and PhD students, fostering expertise in offshore engineering.

Prof. Bai focuses on the design and analysis of steel and composite subsea pipelines, with influential publications such as Marine Structural Design and Subsea Pipeline Design, Analysis, and Installation, which have advanced industry practices.

With over 200 papers and 22 books, his work has had a substantial impact on pipeline design, reducing material and installation costs globally.

His career includes notable industry roles, such as project engineer at Century Research Center, senior engineer at Det Norske Veritas, and technical manager at JP Kenny A/S. As CEO of OPR Offshore Engineering Co., Prof. Bai spearheaded advancements in marine flexible composite pipes and high-pressure hydrogen storage technology, achieving global recognition. He holds 43 patents and has provided significant training for international oil companies.

Keynote Speakers



PROF QIANG BAI
*Zhejiang University,
China*

Prof. Qiang Bai is a Professor at the Institute of Marine Structures & Naval Architectures, Zhejiang University, China. With over thirty years of experience in subsea and offshore engineering, he has contributed to both research and engineering execution.

Not only is he an expert in subsea pipelines, risers, subsea structures, and transportation systems, but he is also proficient in risk management, pipeline corrosion, and integrity. His specializations include oil/gas subsea production systems, composite pipes, LNG, and hydrogen energy.

Having worked with leading institutions and companies, including UCLA, JP Kenny, and TechnipFMC. Prof. Bai served as a senior technology expert at TechnipFMC for nearly 20 years. His extensive experience covers pipeline flow assurance and the design and installation of subsea structures, pipelines, and riser systems.

In addition, Professor Bai is a coauthor of several key books, such as "Subsea Engineering Handbook", "Subsea Pipelines and Risers", "Subsea Pipeline, Design, Analysis and Installation", "Subsea Pipeline Integrity and Risk Management", and "Flexible Pipes". The book "Subsea Engineering Handbook" has been translated into four languages (Portuguese, Japanese, Chinese, and Korean). The English edition of the book has sold over 10000 copies on Amazon and was selected as an "Amazon 100 Best Seller" several times.

Keynote Speakers



DR MORITZ BRAUN

*German Aerospace Center
of Maritime Energy Systems,
Germany*

Moritz Braun, Dr.-Ing. habil., is the head of the department for ship reliability at the German Aerospace Center of Maritime Energy Systems in Geesthacht, Germany. He holds a B.Sc. in mechanical engineering (2012) from University of Rostock, an M.Sc. in Marine Technology (2014) from NTNU Trondheim, and a Doctor of Engineering (2021) and Doctor habilitatus (2025) from Hamburg University of Technology. For his doctoral thesis, he received the Curt Bartsch Award of the German Society for Maritime Technology. His research focuses on the structural integrity and reliability assessment of large engineering structures. He has more than 100 publications in the corresponding fields. He is the delegate of the German Welding Association (DVS) at the International Institute of Welding (IIW) in 'Commission XV: Design, Analysis, and Fabrication of Welded Structures', the German representative in the International Ship and Offshore Structures Congress (ISSC) technical committee 'V.7 Structural Assessment During Operations', and the deputy chairman of the working group 'Damages of Ship Structures' of DVS.



PROF TAHSIN TEZDOGAN

*University of Southampton,
United Kingdom*

Professor Tahsin Tezdogan is Professor of Marine Hydrodynamics at the University of Southampton, where he also serves as Director of MSc Admissions & Strategy in the School of Engineering. His research focuses on ship hydrodynamics, energy efficiency and decarbonisation, with particular expertise in computational fluid dynamics (CFD), added resistance in waves, restricted-waterway performance, and wind-assisted propulsion.

He has led and contributed to numerous UK and international projects on clean maritime innovation, including Department for Transport-funded Clean Maritime Demonstration Competition (CMDC) projects. He has supervised over ten PhD completions and manages a large group of doctoral and postdoctoral researchers working on the future of sustainable shipping.

Prof. Tezdogan is Co-Editor-in-Chief of Ocean Engineering (Elsevier) and serves on technical committees of the International Towing Tank Conference (ITTC). He is a Chartered Engineer and Fellow of the Institute of Marine Engineering, Science and Technology (IMarEST). Widely published with more than 100 peer-reviewed papers, he has been recognised internationally for his contributions to maritime engineering research, education and leadership.

Keynote Speakers



DR EDDIE BLANCO-DAVIS

*Liverpool John Moores University,
United Kingdom*

Dr Eddie Blanco-Davis is a Reader in Marine Engineering at Liverpool John Moores University (LJMU), specialising in sustainable ship systems, alternative fuels, and life-cycle assessment (LCA) for maritime decarbonisation. With over two decades of combined seagoing, shipyard, and academic experience, his work bridges marine engineering practice with research on low-carbon and hybrid propulsion technologies.

He has served as Principal Investigator on major international projects, including the Horizon Europe's RETROFIT55 and Panama's Green Shipping Corridors through the Panama Canal initiatives, as well as the EPSRC-funded project H₂O COLORADO, and Reducing Maritime Emissions, funded by the Innovate UK Smart Grants. He has also worked as an energy transition expert, advising on regulatory frameworks and policy development to accelerate the adoption of low-carbon alternative fuels.

Dr Blanco-Davis has supervised fifteen doctoral completions and manages a multidisciplinary research team advancing clean maritime technologies. A Fellow and Chartered Engineer of the Institute of Marine Engineering, Science and Technology (IMarEST), he also serves on the editorial board of the Journal of Marine Engineering & Technology. His research is widely recognised for advancing sustainable and low-carbon solutions for the global maritime sector.

Keynote Speakers



MR TSOULAKOS NIKOLAOS

*Innovation & Technology
Manager, Laskaridis
Shipping Co. LTD.,
Greece*

Mr. Tsoulakos embarked on his career in the shipping industry nearly 14 years ago. He began by graduating from the School of Engineering at the Merchant Marine Academy of Aspropyrgos, attaining the rank of Engineer C' Class. He then continued his bachelor's studies, obtaining a diploma from the School of Naval Architecture and Marine Engineering at the National Technical University of Athens. Additionally, he completed his Master of Science degree in Marine Science and Technology at the National Technical University of Athens. Subsequently, he achieved his third bachelor's degree in Maritime Studies from the University of Piraeus.

Throughout his career in the maritime sector, culminating in his current position, Mr. Tsoulakos has held various roles, affording him a comprehensive understanding of safe, efficient, and successful vessel management. Before joining Laskaridis Shipping Co. LTD., he gained valuable experience working as a superintendent engineer at reputable Greek shipping companies.

Currently, he serves as the Innovation & Technology Manager at Laskaridis Shipping Co. LTD., where he is responsible for overseeing the company's innovation strategy. In this capacity, he introduces new ideas, nurtures an innovative organizational culture, and facilitates communication of innovations within the company. He evaluates the existing processes within the company and aims to implement new technological processes, as well as introduces innovative technological solutions and services to drive growth and establish a competitive advantage.

Mr. Tsoulakos strongly believes in the imperative of ongoing, dynamic, and innovative progression in all facets of the shipping industry. He sees this as the only way to consistently strive for improvement.

Keynote Speakers



PROF ZHANG YUQUAN

*Hohai University,
China*

Professor Zhang Yuquan, born in 1989 in Jiangsu Province, China, is a full professor, doctoral supervisor, and Vice Dean of the School of Electrical and Power Engineering at Hohai University. A joint PhD graduate of Hohai University and the University of Manchester (UK), he has been recognized as a National Young Talent Program awardee, an Outstanding Young Energy Scientist by the China Energy Research Society, and a recipient of the Jiangsu Provincial Excellent Young Scientist Fund. His research spans two critical domains: marine renewable energy (tidal, offshore wind, and wave energy) and intelligent safety-stability operations of hydraulic machinery in hydropower stations, pumped storage plants, and pumping systems. Leading over 20 major projects, including grants from the National Natural Science Foundation, Jiangsu Provincial Fund, and industry-commissioned initiatives for national hydropower and marine engineering, he has authored 100+ peer-reviewed papers in journals such as *Renewable and Sustainable Energy Reviews* and *Applied Energy*, with 40 first/corresponding-author SCI publications, 4 ESI Highly Cited Papers, and 1 F5000 Top Academic Paper in China. His innovations include 36 authorized patents (7 commercialized), 3 software copyrights, and contributions to a national technical standard.



DR YAO ZHANG

*University College London,
United Kingdom*

Dr. Yao Zhang is an Assistant Professor in Marine/Maritime Digitalisation and Automation at University College London (UCL), specialising in AI-powered marine control systems, offshore renewable energy systems, and non-causal control and optimisation.

She has served as Principal Investigator and Co Investigator on major projects including UK Open Multimodal AI Network (UCL PI, £1.8m) funded by EPSRC, GREENPORTSIDE project (UCL PI, £339k) funded by Innovate UK/DfT, Tugbeam project (Co-I £697k) funded by Innovate UK/DfT, Robustness of wave energy converter funded by Royal Society (PI, £12k), Direct Generation of Wave Energy project (PI, £50k) funded by Wave Energy Scotland, etc. She has secured over £280k in industrial sponsorship for PhD research.

Dr. Zhang serves as Deputy Editor of *Ocean Engineering*, Associate Editor of *IEEE Transactions on Industrial Informatics*, *IET Generation, Transmission, and Distribution*. She is a Senior Member of IEEE, the Secretary of IEEE UK and Ireland Women In Engineering, and committee member of IEEE UK and Ireland Control Systems Chapter.

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