

# Keppel Technology Advisory Panel

The Keppel Technology Advisory Panel (KTAP) was established in 2004 as a key platform to advance the Group's technology leadership. Its members include eminent business leaders and industry experts from across the world.

Over the years, KTAP members have contributed to a broad range of ideas and developments in Keppel. The areas include drilling and production technology, offshore wind, coal gasification, waste-to-energy, as well as potentially disruptive technologies. More recently, KTAP has been exploring emission control areas, the collection of deepsea polymetallic nodules, as well as future platforms to deepen innovation and research and development in the Group.

KTAP convenes up to twice a year with key members of Keppel Corporation's board and senior management. Distinguished guest speakers are often invited to these meetings to share the latest developments in their respective fields. Apart from meetings, frequent discussions are co-ordinated by the Secretariat via email on topical issues such as nuclear energy and subsea-related developments.

## **Sven Bang Ullring** **CHAIRMAN**

Master of Science, Swiss Federal Institute of Technology (ETH), Zurich.

Mr Ullring was Chairman of the Executive Board of Det Norske Veritas, Oslo from 1985-2000 and President and CEO of NORCONSULT, Oslo from 1981-1985. He worked for SKANSKA, Malmo, Sweden from 1962-1981 and was Director of the International Department from 1972. He was an Independent Director on Keppel Corporation's Board from 2000 to April 2012.

He is the Chairman of the Board of The Fridtjof Nansen Institute, Oslo, Norway. He was the Chairman of the Maritime and Port Authority of Singapore's First, Second and Third Maritime and Research and Development Advisory Panel. He is a Fellow and Honorary Fellow of the Norwegian Academy of Technological Sciences, and a Fellow of the Royal Swedish Academy of Engineering Sciences.

**Dr Brian Clark**  
Schlumberger Fellow;  
B.S. Ohio State University;  
PhD, Harvard University (1977).

Dr Clark holds 96 patents related to the exploration and development of oil and gas, primarily in wire line logging and logging while drilling. He was recognised as the Outstanding Inventor of the Year for 2002, by the Houston Intellectual Property Law Association and as the Texas Inventor of the Year for 2002, by the Texas State Bar Association. Dr Clark is also a member of the National Academy of Engineering and The Academy of Medicine, Engineering and Science of Texas.

**Professor Minoo Homi Patel**  
Fellow of the Royal Academy of Engineering, the Institution of Mechanical Engineers and the Royal Institution of Naval Architects; Chartered Engineer; BSc (Eng) and PhD, University of London and an Honorary Member of the Royal Corps of Naval Constructors.

Professor Patel is a Director of Development for the School of Engineering at Cranfield University and a Founder Director of the science park company BPP Technical Services Ltd. He also sits on the Boards of Keppel Offshore & Marine Ltd and BMT Group Ltd.

**Dr Malcolm Sharples**  
President, Offshore Risk & Technology Consulting Engineering Inc; BEng. (Engineering Science), University of Western Ontario; PhD University of Cambridge; Athlone Fellow; Fellow of the Society of Naval Architects and Marine Engineers; Registered Professional Engineer.

Dr Sharples is a Director of the Offshore Energy Centre, a non-profit educational institution and museum. Previously he was Vice President of the American Bureau of Shipping, and President of Noble Denton, an insurance warranty survey firm.

He consults worldwide on offshore structures/vessels for regulatory compliance, safety audits, process safety, and has been involved in accident investigations on offshore matters as an expert witness for legal proceedings. He is an active member of the Canadian Standards Association on arctic structures, offshore structures and offshore wind farms. He is a Director of Keppel Offshore & Marine Ltd.

**Professor Thomas (Tom) Curtis**  
BSc (Hons) Microbiology, University of Leeds; M.Eng and PhD Civil Engineering, University of Leeds.

Professor Curtis is a Professor of Environmental Engineering at the University of Newcastle upon Tyne, and a recipient of the Engineering and Physical Sciences Dream Fellowship,

the Royal Academy of Engineering Global Research Fellowship, and the Biotechnology and Biological Sciences Research Council Research Development Fellowship. He currently leads the Engineering Frontiers for the Engineering and Physical Sciences Research Council's (EPSRC) Engineering Biology Project. Before entering academia, he worked in construction and public health policy and has worked in the US, Brazil, Bangladesh and Jordan.

**Professor Jim Swithenbank**  
BSc, PhD, DSc, DEng, FEng, FInstE, FICChemE, Energy and Environmental Engineering Group.

Professor Swithenbank is a Fellow of the Royal Academy of Engineering, Chairman of The Sheffield University Waste Incineration Research Centre, and a member of numerous international combustion and energy committees. He was the President of the Institute of Energy (1986-1987) and served on many UK government/DTI/ EPSRC Committees. He is a prolific researcher with over 400 refereed papers to his credit and the holder of more than 30 patents.

**Professor Ng Wun Jern**  
BSc (Civil Engineering) QMC London University, MSc (Water Resources) and PhD University of Birmingham, PE(S), FIES, FSEng.

Professor Ng is the Executive Director at the Nanyang Environment & Water Research Institute, Professor of Environmental Engineering in the School of Civil & Environmental Engineering, and Dean of College of Engineering at Nanyang Technological University. He has some 400 publications on water and wastewater management, and serves as technical advisor to various environmental companies across ASEAN, China, and India.

**Professor Stefan Thomke**  
BS (Electrical Engineering), University of Oklahoma; MS (Electrical & Computer Engineering), Arizona State University; SM (Operations Research), SM (Mgmt.), PhD (Electrical Engineering & Mgmt.), Massachusetts Institute of Technology; AM (Honorary), Harvard University.

Professor Thomke has published widely and is an authority on innovation management. He is the William Barclay Harding Professor of Business Administration at Harvard Business School and chairs several of the university's leading executive education programmes. Prior to joining Harvard University, he was with McKinsey & Company in Germany.

**Professor Kazuo Nishimoto**

B.S.E. Naval Architect and Marine Engineer, University of São Paulo; M.S. Eng, Yokohama National University, Japan, and PhD Naval Architecture & Ocean Engineering, University of Tokyo, Japan.

Professor Nishimoto is currently a Professor of the University of São Paulo, Department of Naval Architecture & Ocean Engineering of Polytechnic School, and Director of the Numerical Offshore Tank Centre. He has been working as a coordinator of the development of the New Research Center in Santos City conceived by Petrobras. Recently, he was nominated as Distinguished Professor of Yokohama National University. He has also coordinated several development projects in the field of naval and ocean engineering, mainly related to offshore systems and military vessels, and is working on advanced methods to analyse moored floating systems.

**Professor Saif Benjaafar**

M.S. and PhD (Industrial Engineering), Purdue University and BS (Electrical Engineering), University of Texas at Austin.

Professor Benjaafar is internationally acclaimed for his research on the design and management of complex global supply chains. He holds the title of Distinguished McKnight University Professor at the University of Minnesota and is a Founding Director of its Industrial and Systems Engineering Department, Director of the Centre for Supply Chain Research, and Faculty Scholar with the Centre for Transportation Studies.

He was also a founding faculty member of the Singapore University of Technology and Design (SUTD) where he served as Head of Pillar and Professor for Engineering Systems and Design, and led the Sustainable Built Environment Thrust for the MIT-SUTD International Design Centre. He was a Distinguished Senior Visiting Scientist at Honeywell Laboratories and a Visiting Professor to several universities in Europe and Asia.

**Professor Chan Eng Soon**

B.Eng (First class honours) & M.Eng, National University of Singapore (NUS), and PhD, MIT.

Professor Chan is a Fellow of the Singapore Academy of Engineering and Member IES. He is Vice Provost of NUS, and Keppel Chair Professor. He was Dean of Engineering Faculty, NUS. Prior to his deanship, Professor Chan headed the then Civil Engineering Department and served as Executive Director of the Centre for Offshore Research and Engineering, NUS and Director of Tropical Marine Science Institute.

He serves on management boards of various institutions and research centres, and contributes as a member of the Singapore Workplace Safety and Health Council, and Board of Governors of Republic Polytechnic, Singapore. His research interests include marine hydrodynamics, wave-structure interactions, sediment transport and coastal processes.



(From left) First row: Dr Brian Clark, Loh Chin Hua (CEO of Keppel Corporation), Sven Bang Ullring, Dr Lee Boon Yang (Chairman of Keppel Corporation), Professor Minoo Homi Patel. Second row: Professor Tom Curtis, Chow Yew Yuen (CEO of Keppel Offshore & Marine), Dr Malcolm Sharples, Professor Jim Swithenbank. Last row: Professor Chan Eng Soon, Professor Stefan Thomke, Professor Ng Wun Jern, Professor Saif Benjaafar. Not in photo – Professor Kazuo Nishimoto.