

Keynote and special lecture speakers

Keynote speakers

Mr. Pieter Struijs has been Executive Director of the Rotterdam Municipal Port Management since May 1, 1990, as well as Vice-Chairman of the Executive Board. He graduated in 1968 as a Naval Architect at the Technical University of Delft. He did his military service as an Officer in the Royal Dutch Navy. In 1970, Mr Struijs was employed as Assistant Manager at a shipbuilding company Van der Giessen de Noord in Krimpen aan den IJssel, where he became General Director in 1985.

Last May, Mr Struijs was elected as President of the International Association for Ports and Harbors.

Vice Admiral(Retired) James C. Card is Senior Vice President for Technology at the American Bureau of Shipping (ABS). He is responsible for overall management of ABS global technology, research and rule development for ships and offshore facilities. He leads a team of engineers in developing world-class technical solutions for traditional and emerging marine and offshore systems. He has more than 35 years of marine safety experience in which he has held positions as Senior Vice President with ABS, Vice Commandant, Commander of the Pacific Area and Assistant Commandant for Marine Safety, Security and Environmental Protection with the U S Coast Guard. During his term as Vice Commandant U.S. Coast Guard management received an “A” for recognition as best in government. He has published and presented many papers on marine safety, environment protection concepts for tankers and human factors in marine operations. During his Coast Guard career, he led many United States Delegations to the International Maritime Organisation. Mr. Card is Chairman of the Board for the Houston Marine Association and on the Board of Governors for the World Maritime University in Sweden. He is a recipient of the RADM Halert C Shephard Award from the Chamber of Shipping for achievement in merchant marine safety, the Jerry Land Medal from SNAME for “Outstanding Accomplishment in the Marine Field” the Roy Wilkins service award from the NAACP and many military awards including the Dept of Transportation Distinguished Service Medal and the Coast Guard Distinguished Service Medal. Mr. Card is a graduate of the U.S. Coast Guard Academy, the Massachusetts Institute of Technology (M.S. in Naval Architecture and Marine Engineering and M.S. in Mechanical Engineering) and the Industrial College of the Armed Forces.

Professor Thomas D. Waite received his PhD Degree in Environmental Engineering from Harvard University, USA. He has a S.M. in Environmental Engineering from the same university and a M.S. in Sanitary Engineering from the Northeastern University. Prof. Waite is currently a Program Director at the US National Science Foundation (NSF) and an Associate Dean & Professor of Engineering at the University of Miami. Dr. Waite was a member of National Research Council (Marine Board) Committee on Ships Ballast Operations and the National Research Council (Naval Studies Board) Committee on Shipboard Pollution Control. Dr. Waite is also a licensed Professional Engineer in Florida, USA.

Keynote speakers

Dr. Eric Wolanski has a B.Sc. degree in civil engineering from Louvain University, Belgium, a M.Sc. degree in Civil Engineering from Princeton University, USA, and a Ph.D. in environmental engineering from The Johns Hopkins University, USA. He is a leading scientist at the Australian Institute of Marine Science, Townsville, Australia, where he leads the research team ‘Sustainable Coastal Development in Northern Australia’. He is a fellow of the Australian Academy of Technological Sciences and Engineering and of the Academie Royale Belge des Sciences d’Outre-Mer. He receives an Australian centenary medal for service to society in estuarine and coastal oceanography. He is a chief editor of *Estuarine, Coastal and Shelf Science* and of *Wetlands Ecology and Management*. He has more than 250 publications, including three books, dealing with mangroves, muddy waters, and mangroves.

Professor Osman Kamil Sag has been appointed as the Founding Dean of the Maritime Faculty of Istanbul Technical University in 1992. As the Founding Dean, he contributed to the faculty in several international and national projects. Prof. Sag has made many contributions to International/National Merchant Maritime Education. They include Chairman of IMO/STW Subcommittee, Vice President, Executive Committee, International Scientific Committee and Honorary Member of IMAM (International Maritime Association of Mediterranean) and Founding Chair of IAMU (International Association of Maritime Universities). Prof. Sag was granted the “2001 Annual IAMU Award Of Recognition” in Kobe, Japan during the Second General Assembly of IAMU and the first Honorary PhD (Honoris Causa Title) of the Constantza Maritime University of Romania for his outstanding scientific merits and for his contribution to higher education

Professor Han Ligteringen is the Professor of Ports and Waterways at the Faculty of Civil Engineering and Geosciences of Delft University of Technology in the Netherlands and part-time lecturer at the International Course in Delft (IHE). He is a Director in the Maritime Division of Royal Haskoning in The Netherlands. He has more than 30 years of experience in the planning and design of ports and maritime structures, including major port developments in Asia. He is the author of more than 50 papers on ports and hydraulic engineering. He is a member of the International Navigation Association (PIANC) in which he serves on the Cooperation Committee.

Special lecturer

Ms Grace Fu joined PSA on 9 Oct 1995 as Assistant Director (Finance). In Apr 1997, she took on additional duties as Vice-President (Finance) and Vice-President (Marketing) in Container Terminals Division (CTD). She became the Deputy Director (Finance) in Aug 1997. In Oct 1998, she assumed new responsibility as Financial Controller of PSA Corporation. She was promoted to the position of Executive Vice-President (Finance) in Jan 1999. In May 2002, she was promoted to Deputy Group President (Corporate Services) and held the position of Chief Financial Officer of the Group. In April 2003, she was appointed Chief Executive Officer, Singapore Terminals. Ms Fu graduated with a Bachelor of Accountancy (Honours) in 1985 and obtained a Master of Business Administration from the National University of Singapore in 1991. She is a Member of the Chartered Association of Certified Accountants, UK and a Non-Practising Member of the Institute of Certified Public Accountants, Singapore since 1992. Prior to joining PSA, Ms Fu has worked in financial control and business development positions in several entities of the Haw Par Group.

Programme Summary

DAY 1 - Wednesday 10 September 2003		
From 0730	Registration	
0900-0930	Conference Opening	
0930-1020	PLENARY SESSION 1: Port Development, Management and Operations (Venue: Pacific Ballroom)	
1020-1040	Tea Break	
1040-1230	Presentation of papers	
1230-1400	Lunch	
1400-1515	PARALLEL SESSION 1	
Parallel Session 1A Innovative Ship Designs and Operations (Ocean 3)	Parallel Session 1B Port Planning and Design (Ocean 4)	Parallel Session 1C Marine Environment (Ocean 5)
1515-1530	Tea Break	
1530-1700	PARALLEL SESSION 2	
Parallel Session 2A Hydraulics and Coastal Engineering (Ocean 3)	Parallel Session 2B Ports Management and Operations (Ocean 4)	
1930-2200	Speakers' Dinner – to be confirmed	
DAY 2 Thursday 11 September 2003		
0900-0950	PLENARY SESSION 2: Marine Environment and Port Management (Pacific 3)	
0950-1030	Tea Break	
1030-1220	PARALLEL SESSION 3	
Parallel Session 3A Port Planning and Design (Ocean 3)	Parallel Session 3B Navigation and Maritime Training (Ocean 4)	Parallel Session 3C Marine Environment (Ocean 5)
1220-1400	Lunch	
1400-1530	PARALLEL SESSION 4	
Parallel Session 4A Mega Vessels and Ports (Ocean 3)	Parallel Session 4B Navigation and Maritime Training (Ocean 4)	
1530-1545	Tea Break	
1545-1700	PARALLEL SESSION 5	
Parallel Session 5A Coastal Engineering (Ocean 3)	Parallel Session 5B Marine Environment (Ocean 4)	
1930-2200	Conference Dinner –Pan Pacific Poolside	
DAY 3 Friday 12 September 2003		
0900-1020	PARALLEL SESSION 6	
Parallel Session 6A Innovative Ship Designs and Operations (Ocean 3)	Parallel Session 6B Marine Operations and Lift Planning (Ocean 4)	Parallel Session 6C Coastal Engineering (Ocean 5)
1020-1040	Tea Break	
1040-1230	PLENARY SESSION 3: Maritime Training, Port Management and Operations (Pacific 3)	
1230-1235	Closing address by Organizing Chairman	
1235-1240	Close of Conference	
1240-1400	Lunch	

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 1 - Wednesday 10 September 2003			
From 0800	Registration		
0900	Arrival of Guest of Honour <i>Pacific Ballroom</i>		
0900-0920	Speech by Guest of Honour		
0920-0925	Signing of Memorandum of Understanding		
0925-0955	Keynote Paper - Risk Management as the Basis for the Reliable Port Concept <i>By Mr Pieter Struijs</i>		
0955-1020	Keynote Paper – Present and Future Research and Developments in Shipping <i>By Vice Admiral(Retired) James C. Card, Dr. Jack Spencer</i>		
1020-1040	Special Paper - PSA's Bridge Crane Operations: A Commercial Assessment <i>By Ms Grace Fu</i>		
1040-1055	Tea Break		
PLENARY SESSION 1: Port ,Management and Operations			
Session Chairman: <i>Capt Fong Hin Tat</i> <i>Singapore Nautical Institute</i>			
Venue : Pacific 3			
1055-1110	Vessel Traffic Management Developments in The Port of Rotterdam <i>By Peter Mollema</i>		
1110-1125	Simulation and Optimization of Container Yard Operations : A Survey <i>By Chen ChuanYu, et al</i>		
1125-1140	Forecasting Port Traffic Growth in a Dynamic, Competitive Environment <i>By David Wignall</i>		
1140-1155	Two Equivalent Integer Programming Models for Dispatching Vehicles at a Container Terminal <i>By Zhang Liwei, Rong Ye, Hsu Wen Jing, Huang Shell-Ying, et al</i>		
1155-1210	Applied Technology in Jurong Port <i>By Wendy Lam et al</i>		
1210-1230	Plenary Session Discussion		
1230-1400	Lunch		
Parallel Session 1			
	Parallel Session 1A Innovative Ship Designs and Operation: Chairman: <i>Mr. Robert Loseth</i> <i>Det Norske Veritas</i> Venue : Ocean 3	Parallel Session 1B Port Planning and Design Chairman: <i>Mr. Hein J. Oomen</i> <i>Single Buoy Moorings Inc</i> Venue : Ocean 4	Parallel Session 1C Marine Environment Chairman: <i>Prof William Ritchie</i> <i>World Maritime University</i> Venue : Ocean 5
1400-1415	Evacuation Simulation of Emergency Preparedness for FPSO Construction and Repair <i>By Tan Kim Pong, Y L Zhou, D Vassalos, G Vassalos, M Bole, H S Kim, C Kuo</i>	Preliminary Calculations for Wind and Current Loads on Tanker-shaped Vessels <i>By Hein J. Oomen , Han Ligteringen , Carl A. Thoresen</i>	Chronic, Small And Major Oil Spills And Discharges – Occurrence And Environmental Costs: The Case Study Of Sullom Voe, Shetland Is. <i>By William Ritchie</i>
1415-1430	Engineering Green Warship <i>By Lee Kok Leong, Ong Li Koon, Leow Kwee Seng</i>	Development of Container Terminals <i>By Ho Kwong Meng</i>	Marine Environmental Baselines: Design Considerations for Monitoring and Impact Assessment <i>By Michelle Lee, Sin Tsai Min</i>
1430-1445	Propeller Noise Prediction and Control <i>By Zhou Li, Q. Yao, K. C. Hung, J. Matusiak</i>	Towards Integrated Capacity Planning of Large-Scale Infrastructure - A Framework for Decision-Making on Port Capacity Improvement from a Social Welfare Perspective <i>By A.A.J Pols, S Dekker, R.J. Verhaeghe</i>	How To Measure Equivalent Environmental Protection For Ships of Differing Design Concepts and Arrangements <i>By Rami Hawa</i>
1445-1500	Fixity Study of Spud-Can for Jack-up Legs Using 3D Finite Element Analysis <i>By Tan XiaoMing J. Y. Guo , C. Lu</i>	Yard Planner for an Automated Storage/Retrieval System-based Storage Yard <i>By Hu Yahong , et al</i>	Development of an ESI-based Oil Spill Combating Decision Support System (OSCDSS) <i>By Le Giang, Tan Soon Keat, Law Wing-Keung , Adrian, Wang Jing-Yuan</i>
1500-1515	Session Discussion	Session Discussion	Session Discussion
1515-1530	Tea Break		

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 1 - Wednesday 10 September 2003 1530-1700 HOURS		
Parallel Session 2		
	Parallel Session 2A Hydraulics and Coastal Engineering Chairman : Prof Edmund Lo <i>Nanyang Technological University</i> Venue : Ocean 3	Parallel Session 2B Ports Management and Operations Chairman: Prof Wong Yiik Diew <i>Nanyang Technological University</i> Venue : Ocean 4
1530-1545	Reynolds Shear Stress Distribution in Open Channel Flows with Cellular Secondary Motions <i>By Cheng Nian-Sheng, Wang Zhi-Qian</i>	The Function of Port in The Logistics Chains <i>By Sun Jun</i>
1545-1600	Maximal Temporal Amplitude of Genrated Wave Groups with Two or Three Frequencies <i>By Andonowati, E van Groesen, Marwan</i>	Some Considerations For Applying ebXML Framework to Port and Logistics Industry in Korea <i>By Choi Hyung-Rim, Nam-Kyu Park, Ho-Seob Lim, Chang-Sup Lee, Hyun-Chul Lee, Heon-Wook Jeong</i>
1600-1615	Characteristics Of Hydrodynamics & Sediment Transport in Singapore Waters <i>By Tan Soon Keat</i>	Port Development and Management in Anguilla <i>By Martin Mannion, Wolfe-Barry J N, Rowland C R , Green R A</i>
1615-1630	Modified Log-Wake Law For Zero-Pressure-Gradient Turbulent Boundary Layers <i>By JunKe Guo, P Y. Julien , R N Meroney</i>	Application of Stochastic Programming in Design & Management of a Special Purpose Wharf <i>By Fang XiangLin, Tan Xin Xin, Feng Enmin</i>
1630-1645	Total Load Transport In Coastal Waters <i>By Shu-Qing Yang, Siow-Yong Lim</i>	Applications Of GM (1,1) Model on The Port Input-Output Prediction <i>By Yang Zan ,Yang Yan-bing</i>
1645-1700	Session Discussion	Session Discussion

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 2 Thursday 11 September 2003 0900-1400 HOURS

PLENARY SESSION 2: Marine Environment and Hydraulics Engineering

Session Chairman: *Prof Han Ligteringen*
Delft University of Technology, The Netherlands

Co- Chairman: *Mr Leslie Loke*
Nanyang Technological University, Singapore

Venue : Pacific 3

0900-0925 Keynote Paper - **Trends in Ship Board Environmental Control and Ballast Water Treatment Technologies**
by Professor Thomas D. Waite

0925-0950 Keynote Paper - **Nepheloid Layers Dynamics In Tropical Coastal Waters**
By Dr Eric Wolanski

0950-1030 Tea Break

Parallel Session 3

	Parallel Session 3A Port Planning and design Chairman: <i>Dr. Kog Yue Choong</i> <i>East West Engineering Consultants</i> Venue : Ocean 3	Parallel Session 3B Navigation and Maritime Training Chairman: <i>Capt Fong Hin Tat</i> <i>Singapore Nautical Institute</i> Venue : Ocean 4	Parallel Session 3C Marine Environment Chairman: <i>Prof Wang Jing Yuan</i> <i>Nanyang Technological University</i> Venue : Ocean 5
1030-1045	Durability Performance of Fifties Years Old Concrete Jetties in Tropical Marine Environment <i>By Kog Yue Choong</i>	Simulator Training - Improving Learning Outcomes <i>By Berg,Tor Einar, Sundan,Jon Bjorn, Sundklakk,Odd</i>	Eutrophication Modelling for Singapore Waters <i>By P. Sundarambal , P. Tklich</i>
1045-1100	Long-period Wave Forces on a Moored Ship in a Harbour Using a Strip Theory Approach <i>By Wim Van Der Molen, O.M. Weiler, H. Ligteringen</i>	Selected Aspects Of The Recognition Regime of the STCW Convention <i>By. Proshanto K. Mukherjee</i>	Evaluation of Ballast Water Secondary Treatment Efficacy Using Dinoflagellates Cysts as Biological Surrogate <i>By J. T. Matheickal ,Tay Joo Hwa, Sam T. Mylvaganam , Leslie Loke</i>
1100-1115	The Strategy of Port Operation in the Supply Chain <i>By Zan Yang , Xu Zhao</i>	Electronic Navigation Chart (ENC) Depth Data Subtraction <i>By Wang Bin, Tan Soon Keat</i>	Integrated Bioremedial System for Crude Oil Contaminated Beach <i>By Wang Jing-Yuan, K.C. Wong O. Stabnikova</i>
1115-1130	Application of Combined Growth Model on Port Throughput Gap Forecasting <i>Xie Yurong, Yang Zan</i>	Training Mariners to Reduce Human Error <i>By Leslie G. O'Reilly, Anthony Patterson</i>	Real-Time Marine Engineering Response Tools <i>By Eoin Howlett, Eric Anderson, Chris Galagan</i>
1130-1145	The Theory of Multi-hubbing Container Seaport Network Systems: Models and Implications <i>By Chun Pang</i>	Functional Requirements For Asset Management On The High Seas <i>By Peter Clifford</i>	
1145-1210	Session Discussion	Session Discussion	Session Discussion
1210-1400	Lunch		

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 2 Thursday 11 September 2003 1400-1545 HOURS		
Parallel Session 4		
	Parallel Session 4A Mega Vessels and Ports Chairman: Prof. Huang Shell Ying Nanyang Technological University Venue: Ocean 3	Parallel Session 4B Navigation and Maritime Training Chairman : Mr. Rajan Bhandari Singapore Maritime Academy Venue: Ocean 4
1400-1415	Layout Design for an AS/RS-based Container Terminal <i>By Qiu Ling, et al</i>	Using Multimedia to Provide Performance Support in Cargo-hold Humidity Control <i>By Rajan Bhandari</i>
1415-1430	AS/RS Buffers at Quay-Side for Container Terminal <i>By Vee Voon Yee, et al</i>	Multimedia Computer Aided Education Applied in MET - Practice in Marine Auxiliary Machine Course <i>By Chen Ai ling, He Chang Wei, Li Cheng Hu, He Fa Ming</i>
1430-1445	Impact of Mega-Vessels on Berth Allocation <i>By Ye Rong, et al</i>	From VTS to VTMS <i>By Wolfgang Ernst</i>
1445-1500	Impact of Mega Vessels on Quay Side Policies and Operations <i>By Stuti Nautiyal, Arun Kishore, et al</i>	The Challenges and Benefit of Computer Aided Maritime Education and Training to Nigeria <i>By Jatau, Solomon Usman</i>
1500-1545	A High Performance Transport System for a Container Terminal <i>By Hu Kai, Huang Shell Ying, et al</i>	
1545-1530	Session Discussion	Session Discussion
1530-1545	Tea Break	

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 2 Thursday 11 September 2003 1545-1700 HOURS		
Parallel Session 5		
	Parallel Session 5A Coastal Engineering Chairman: <i>Mr. Bas Reedijk</i> <i>Delta Marine Consultants</i> Venue: Ocean 3	Parallel Session 5B Marine Environment Chairman: <i>Dr. Ivanov Volodymyr</i> <i>Nanyang Technological University</i> Venue : Ocean 4
1545-1600	Development Of The Xbloc Breakwater Armour Unit <i>By Bas Reedijk, Martijn Klabbers, Arnoud van den Berge, Ronald Hakenberg</i>	Reutilisation of Dredged Marine Clay into Synthetic Aggregate <i>By Choon Teck Hay, Hsing Loong Tan, Tsen Meng Tang, Darren Sun, Toh Ah Cheong, Loh Chee Kit, Song Tiancheng</i>
1600-1615	Numerical Analysis of Wave Damping Over a Muddy Bed <i>By Wu Yong Sheng, Guo Junke, Lin Pengzhi</i>	Kinetics of SEA-NINE Degradation in Ballast Water <i>By Geng AnLi, Jose Matheickal, Lee Chee Chow ,Leslie Loke</i>
1615-1630	Velocity Distribution In Coastal Waters <i>By Yang Shu-Qing, Lim Siow-Yong</i>	Bacteriological Quality of Ship's Ballast Water <i>By Ivanov Volodymyr, Tay J.-H., Tay S. T.-L., Joachimsthal E.L.</i>
1630-1645		Port Cities and Maritime Environment in Nigeria: Case of Lagos <i>By Samuel Iyiola Oni</i>
1645-1700	Session Discussion	Session Discussion

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 3 Friday 12 September 2003 0900-1040 HOURS			
Parallel Session 6			
	Parallel Session 6A Innovative Ship Designs and Operations Chairman: <i>Dr. Sverre Valsgård</i> <i>Det Norske Veritas</i> Venue : Ocean 3	Parallel Session 6B Marine Operations and Lift Planning Chairman: <i>Prof Choo Yoo Sang</i> <i>National University of Singapore</i> Venue : Ocean 4	Parallel Session 6C Coastal Engineering Chairman: <i>Prof Lim Siow Yong</i> <i>Nanyang Technological University</i> Venue : Ocean 5
0900-0915	CNG – A Competitive Ship Transport Solution for Natural Gas <i>By Sverre Valsgård, Per Lothe, Nils Kristian Strøm, Kim Mørk, Edwardus Ng and Nick Roper</i>	Methods And Tools For Analysis Of Marine Operations <i>By Peter Christian Sandvik, Finn Gunnar Nielsen</i>	Forecasting Of Damage Of Maritime Structures Caused By Typhoons Based On Magnitude Method <i>By Hashimura Ryusuke</i>
0915-0930	Calculation of Ship Trajectories in Coastal Waters <i>By Edmund Lo, Ong Muk Chen, Lee Chien Cheah</i>	Real Time Simulator For Complex Offshore Marine Operations <i>By Finn Gunnar Nielsen, Peter Christian Sandvik</i>	Sri Lanka CRMP Fishery Harbours Project Planning <i>By Martin Mannion, Prentice A G , Chamberlain N , Fleming C A , Hettiarachchi S</i>
0930-0945	Design Optimization of Gear Case System Being Used For Jack-Up Units Using Finite Element Method <i>By Guo JunYan, Tan Xiao Ming, H. K. Chang, W. M. Kwan, Y. Y. Wang</i>	A Knowledge-based Engineering System for Lift Planning <i>By Choo Yoo Sang, Ju Feng</i>	Scouring Around Bridge Abutments In Floodplains <i>By Siow-Yong Lim, Joko Nugroho</i>
0945-1000	Effective Propulsion System for Offshore Support Vessels <i>By Heng Kian Hong</i>	Finite Element Modelling of Frictional Slip of Doubled Slings in Lift Systems <i>By Ju Feng, Lee Kwok Hong, Choo Yoo Sang</i>	
1000-1020		Session Discussion	Session Discussion
1020-1040	Tea Break		

Note: The above program schedule is subjected to changes

Technical Sessions

DAY 3 Friday 12 September 2003 1040-1400 HOURS

PLENARY SESSION 3: Maritime Training, Port Management and Operations

Session Chairman: *Prof Tor Einar Berg*
Norwegian University of Science and Technology

Session Co-Chairman: *Mr. Peter Mollema*
Rotterdam Municipal Port Management

Venue : Pacific 3

1040-1100	Keynote Paper - Quality Standards and Globalisation of the Maritime Training in the Next Decade <i>By Professor Osman Kamil Sag</i>
1100-1120	Keynote Paper - Key Topics in Port R&D <i>By Professor Han Ligteringen</i>
1120-1135	Container Logistics in The Extended Port of Rotterdam <i>By Maurits Van Schuylenburg</i>
1135-1150	Master of Science in Marine Technology at Norwegian University of Science and Technology <i>By Berg, Tor Einar</i>
1150-1205	Maritime Technology Research and Development Activities at the Tertiary Institutions of Singapore <i>By Tan Soon Keat</i>
1205-1220	Simulator-Based Training – Singapore’s Experience <i>By Foong Yee Kuan</i>
1220-1230	Session Discussion
1230-1235	Closing address by Organizing Chairman
1235-1240	Close of Conference
1240-1400	Lunch

Note: The above program schedule is subjected to changes

Technical Visit 1:

NEWATER VISITOR CENTRE

NEWater is high grade water produced after treated used water has been further purified using advanced membrane technologies and final disinfection of the product water using ultraviolet light. At the NEWater Visitor Centre, besides being entertained by multimedia presentations and computer interactives, delegates would get to see the NEWater factory and to witness, first hand, the operation of advanced membrane and ultraviolet technologies in the production of NEWater.

Technical Visit 2:

**PORT OPERATIONS CONTROL CENTRE & PASIR PANJANG
CONTAINER TERMINAL**

Delegates will be able to tour the MPA's ultra modern "Port Operations Control Centre" and PSA Corporation's latest container terminal - the Pasir Panjang Container Terminal.

Technical Visit 3:

INTEGRATED SIMULATION CENTRE

The Integrated Simulation Centre (ISC), situated in Singapore Polytechnic, is the first of its kind in Asia. The state-of-the-art centre offers high quality maritime simulation training in a risk free environment. Delegates will be able to tour the Crisis Management Simulator, Full Mission Shiphandling Simulator and the Engine Room Simulator.

Technical Visit 4:

SEMBAWANG SHIPYARD

Sembawang Shipyard is among Singapore's leading ship repair facility with an extensive track record of ship repairs and conversion works that span more than three decades. Delegates would see the comprehensive and modern facilities which are fully equipped to handle ship conversions and repair works for all types of vessels ranging from very large crude carriers to specialised vessels namely Floating Production Storage and Offloadings, naval vessels, cruise ships, gas carriers, offshore vessels and dredgers.