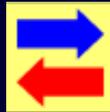




SCHOOL OF NAVAL
ARCHITECTURE &
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LABORATORY FOR MARITIME TRANSPORT
NEWSLETTER No 3
September – December 2007



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Dear Reader,

The electronic newsletter of the Laboratory for Maritime Transport (LMT) of NTUA is issued regularly to inform you on our current and forthcoming activities. You are warmly encouraged to visit our website (www.martrans.org) for further information and to contact us with your enquiries. Your feedback will be highly valued. Kind regards...

The LMT staff

SEASON'S GREETINGS

*The Laboratory for Maritime Transport staff
wishes everybody
A joyful Holiday Season
and
All the best for the New Year 2008!*

PRE-ANNOUNCEMENT

*LMT friends in Greece
please stay tuned for an announcement for
the "pitta-cutting" reunion
in the New Year.*



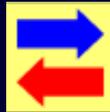
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SSE07 Symposium: a Big Success

Some 180 people attended the International Symposium on Maritime Safety, Security and Environmental Protection (SSE07), which took place on September 20-21, 2007, in Athens, Greece. The symposium was organized by LMT and was hosted at the Eugenides Foundation.



The symposium's keynote address was delivered by Mr. Efthymios Mitropoulos, Secretary General of the International Maritime Organization (IMO).

SSE07 was under the auspices of The Hellenic Chamber of Shipping (NEE), the Hellenic Marine Environment Protection Association (HELMEPA), the Society of Naval Architects and Marine Engineers (SNAME), the International Association of Maritime Economists (IAME), the Women's International Shipping and Trading Association Hellas (WISTA Hellas) and the World Maritime University's Journal of Maritime Affairs, which will serve as an outlet for papers presented at the symposium.

The symposium's sponsors were the American Bureau of Shipping, Avin International, Bureau Veritas, Det Norske Veritas, Environmental Protection Engineering Ltd, Germanischer Lloyd, Hellenic Register of Shipping, Lloyds Register of Shipping, Ocean Finance, RINA, Videotel Marine International and Naftika Chronika (Communications Sponsor).

50 papers were presented from speakers coming from many parts of the world and the topics covered included: Safety and Risk; Legal, Regulatory and Policy issues; Oil Spill Control; Ports of Refuge and Wreck Oil Removal; Environmental Management, Maintenance, ISM code; Ship, Port and Supply Chain Security; Education and Training; Ship Recycling and Flag State Performance; Inspection and Port State Control; Human Factors; Hazardous Cargoes and Arctic Waste Protection; and Special Safety Topics.



IMO Secretary General E. Mitropoulos delivering the keynote address



A gift to the Secretary General from LMT



From left to right: Prof. P. Cariou (World Maritime University), E. Mitropoulos, D. Mitsatos, H. Psaraftis, M-C. Ktistakis (WISTA Hellas), G. Gabriel and P. Lalangas

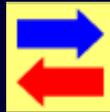
The programme, the keynote address, all papers presented, and a photo gallery can be found on this link:

<http://www.martrans.org:8093/symposium/>



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Strategic R&D collaboration with DNV

Det Norske Veritas (DNV) and the National Technical University of Athens (NTUA) signed a strategic research & development collaboration agreement in Athens, Greece, on October 5, 2007. The Laboratory for Maritime Transport (LMT) and the Ship Design Laboratory (SDL), of the School of Naval Architecture and Marine Engineering, will be the counterparts of DNV in this collaboration programme in the first 3 years starting in early 2008. The R&D collaboration will focus on effective bulk transportation (LMT) and ship design optimisation (SDL).



The teams of DNV and NTUA after signing the agreement

The intention of DNV is to establish a research and innovation hub in its strategic growth area of Athens / Piraeus by joining forces with another renowned organization in the maritime industry, namely NTUA. Through this agreement, NTUA joins a group of DNV collaborators which includes the Norwegian University of Science and Technology in Trondheim, Norway; M.I.T; Stanford University and Ohio State University in the USA.

According to the agreement, DNV will donate an annual sum of money to NTUA. A number of doctoral students, post doctoral students and professors will be involved in developing this new collaboration.

Elisabeth Harstad, managing director of DNV Research & Innovation, explained: "DNV has focused on research and innovation for more than 50 years. Together with industry partners and educational institutions, this has introduced new technology and new solutions. Through closer cooperation

between Greece's oldest and most prestigious educational institution in the field of technology and DNV, we aim to learn from each other and cooperate in the best interests of the industry."

Ioannis Kourmatzis, regional manager of DNV Maritime Southern Europe, said: "We all know that the National Technical University of Athens is among the very best maritime institutions globally. At the same time, the Greek shipping industry is at the forefront when it comes to size as well as expertise. DNV has been and continues to be a close partner for the Greek shipping industry. I am convinced that all of us together will use research and innovation as a key to further success. The new collaboration and the upcoming hub is a tool for doing so".

More on the DNV-NTUA program, as regards LMT's role, will be reported in a future newsletter.

LMT goes global: NOL fellowship grant

LMT is to participate in a 2-year research project of the NOL fellowship programme of Neptune Orient Lines of Singapore, in cooperation with the National University of Singapore (NUS), which acts as the consortium leader. The grant concerns the project "Optimal Containership Size and its Impact on Liner Shipping Operations". NOL is a global transport company with core businesses in container shipping and supply chain management. It wholly owns U.S. shipping company American President Lines (APL), which represents 80% of Neptune's revenue, and its sister logistics arm APL Logistics. NUS is Singapore's largest university with close to 2,000 faculty members and 25,000 students.



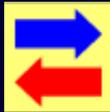
The project considers the optimal containership size problem applicable to the Transpacific and the Asia-Europe trade routes.

The ocean container carriers industry experiences explosive growth of sector as well as increased competition within the sector. Mergers, collaborations and considerable new investments have led to more elaborate fleets and to complex service networks with mega hubs and mega carriers. Among the many issues, the issue of optimal containership size has been a topic of keen industry interest because of its wide ranging impacts that affect all stack players. The problem of optimal containership size will be addressed in the following



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aspects: (a) Containership operational and cost considerations; (b) Fleet size and mix optimization; (c) Fleet deployment and routing optimisation; (d) Evaluation of impacts of containership size on hub-and-spoke operations, container-port operations and port infrastructure needs; and (e) A “holistic” approach to develop a decision support system consisting of an integrated framework of models and algorithms of distinct sub-problems.

IMO business: MSC and MEPC

The months after the summer of 2007 saw the continued involvement of LMT in IMO business, and specifically on two related fronts. At the 83rd session of the Maritime Safety Committee (Copenhagen, Oct. 2007) Prof. Psaraftis was a member of the Greek delegation and an adviser to the Union of Greek Shipowners on the topic of Formal Safety Assessment. For the forthcoming 57th session of the Marine Environment Protection Committee (London, April 2008), Psaraftis is coordinating a “correspondence group” tasked to submit a report on environmental risk evaluation criteria in FSA. The current focus of the investigation is oil pollution, and ways to quantify its impact on risk terms are the subject of discussion and debate. The appointment of Greece as coordinator of this correspondence group followed discussion at MEPC 56 (London, July 2007), after the submission of document MEPC 56/18/1 by Greece on this subject (the document can be found on LMT’s web site, section on maritime safety). Other members of LMT staff providing support in this area are lecturer Nikos Ventikos and PhD student Christos Kontovas.



LMT to cooperate with HELMEPA

LMT is to participate in the Hellenic Marine Environment Association’s (HELMEPA) series of training seminars in 2008, with a lecture entitled: “Safety Assessment and Management: from Theory to Practice”. The lecture will deal with the study and assessment of safety as currently one of the most important developments within the framework of maritime transport. The IMO has launched to date many relative activities focusing initially on the introduction of Formal Safety Assessment (FSA) and then on its effective enhancement and amelioration, by taking onboard specific operational needs, new areas of interest etc. In this outline, the lecture will cover in brief the basic theory of risk, risk analysis and risk engineering (e.g. definitions, types of risk, techniques



etc). Moreover, the lecture will present and analyze case studies (marine accidents) from the international literature in order to provide practical and hands on guidance for the implementation and exploitation of risk-oriented approaches and methods. Hence, the main target of such efforts is to identify the causes of accidents, both as starting points and escalation factors of the event under examination, to assess the accident producing conditions and to make realistic recommendations for the strengthening of the safety and environment friendliness of the maritime industry. Speakers from LMT at the HELMEPA seminar series will be Harilaos Psaraftis and Nikos Ventikos

LMT dazzles MARE FORUM !

Assistant Professor Dimitris Lyridis of LMT presented at the 7th Mare Forum Ship Finance conference in Amsterdam mathematical models for market forecasting using neural networks programming.



To this audience’s credit, the scientific justification behind such models is indeed complicated, and it is still ahead to see how they will be received by the shipping community. Nevertheless, the presentation gave a humorous moment to the conference, as reported by Lloyd’s List and reprinted below:

“AT THE Mare Shipfinance Forum conference in Amsterdam, Dimitrios Lyridis, assistant professor of the National Technical University of Athens, explored the notoriously tricky world of forecasting using incredibly complicated scientific methods.

But the professor was able to step back and laugh along with the delegates when he commented that the trends found were right — it was the market that was all wrong. With the audience roaring with laughter, he predicted that immediately after his presentation, the markets would fall, and he left them still trying to guess what Artificial Neural Networks have to do with drybulk forecasts.

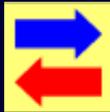
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He admitted that at the same meeting last year, when the Baltic Dry Index stood at around 6,500, his mathematical models using neural network programming had forecast the markets would fall. As we now know, they did not and have surged to record highs of over 10,000 index points.

He candidly admitted the forecast was wrong, but added, to much laughter: “The model was right — the market was wrong!”



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So what went wrong? The two key issues were port congestion, particularly in Australia, and the weakness of the dollar. Revising his forecast for the year ahead, he saw the BDI falling back to around 6,500 in mid-2008 before climbing back to new record levels at the end of the year.” Lloyd's List

Meetings and Events

attended by LMT staff

- SSE07 Symposium, Athens, Greece, 20-21 Sep. 2007
- EU-MOP project 10th PMC meeting, Bremen, Germany, 24-25 Sep. 2007
- TEN-T (Ports) Evaluation, Brussels, Belgium, 30 Sep. 2007
- PRADS 2007 Conference, Houston, USA, 1-5 Oct. 2007
- MSC 83, Copenhagen, Denmark, 3-10 Oct. 2007
- CHINOS project meeting, Linz, Austria, 10 Oct. 2007
- OSH project Final Meeting, St. Nazaire, France, 22-23 Oct. 2007
- MOSES project WP2.2 meeting, Frankfurt, Germany, 24 Oct. 2007
- 7th Mare Forum ShipFinance conference, Amsterdam, The Netherlands, 01 Nov. 2007.
- INFORMS 2007 Annual Meeting, Seattle, USA, 4-7 Nov. 2007
- MOSES project SP3 business case meeting, Athens, Greece, 13 Nov. 2007
- Academic Evaluation Committee, Chios, Greece, 15 Nov. 2007
- MOSES project WP2.1 meeting, Brussels, Belgium, 23 Nov. 2007
- Annual Conference of Maritime Technology, Piraeus, Greece, 30 Nov. 2007
- Symposium for the celebration of NTUA's 170 year anniversary, NTUA, Athens, Greece, 4 Dec. 2007
- Mini-conference organized by the School of Naval Architecture and Marine Engineering for the celebration of NTUA's 170 year anniversary, Eugenides Foundation, Athens, Greece, 5 Dec. 2007
- Lloyd's List Greek Shipping Awards, 7 Dec. 2007.

Papers

published / presented by LMT staff

- “Grab a Study” (in Greek), Psarftis, H.N., Naftika Chronika magazine, August 2007.
- “RFID-Enabled Innovative Solutions Promote Container Security,” Tsilingiris, P., H.N. Psarftis, and D. Lyridis, D., Proceedings of the International Symposium on Maritime

Safety, Security and Environmental Protection (SSE07), Athens, Greece, September 2007.

- “A decision-making model for oil spill response at the tactical level”, Gkonis K.G., N.P. Ventikos, and H.N. Psarftis, as above.
- “The Two C's of the Risk Based Approach to Goal-Based Standards: Challenges and Caveats”, Kontovas, C. A., H.N. Psarftis, and P. Zachariadis, as above.
- “Accidents in Greek Coastal Shipping: Human Factor and Old Ships... or maybe Small Ships?”, Gemelos I.C., N.P. Ventikos, as above.
- “Port State Control Inspection Procedures: the Selection of Ships Revisited”, Roussos E.P.C., N.P. Ventikos, as above.
- “Efficient Oil Spill Confrontation by Innovative EU-MOP Units”, Boulougouris E.K., Papanikolaou A.D., Le Corre Y., Ghozlan F., Turan O., Kakalis N.M.P., Ventikos Y.P., Fritsch D., Campos V., Ventikos N.P., as above.
- “Safety @ Risk?”, Giannakopoulos Y., D. Bouras, N.P. Ventikos, as above.
- “Study of Grounding Incidents: Description of Contact and Frequency of Occurrence”, Samuelides M.S., N.P. Ventikos, J.K. Paik, as above.
- “Improving FSA as a prerequisite for risk-based GBS”, Kontovas, C.A., H.N. Psarftis, and P. Zachariadis, PRADS 2007 Conference, Houston, USA, October 2007.
- “RFID in containerization”, Tsilingiris, P., Psarftis, H. and Lyridis, D., INFORMS Annual Meeting, Seattle, USA, November 2007.
- “Risk Elements Related to Ship Groundings”, Samuelides E.S., N.P. Ventikos, I.C. Gemelos, Proceedings of the Annual Conference of Maritime Technology (The Bible of Maritime Technology), Piraeus, Greece, November 2007.
- “Ports: The Proper Questions for Certain Answers” (in Greek), Psarftis, H.N., Naftika Chronika magazine, November 2007.
- “Safety in Maritime Transport”, Psarftis, H.N., D.V. Lyridis, N.P. Ventikos, Symposium for the celebration of NTUA's 170 year anniversary, NTUA, Athens, Greece, December 2007.
- “Oil Pollution: Prevention and Response”, Psarftis, H.N., Mini-conference organized by School of Naval Architecture and Marine Engineering for the celebration of NTUA's 170 year anniversary, Eugenides Foundation, Athens, Greece, December 2007.
- “The LNG shipping market and its prospects” (in Greek), Gkonis, K.G. and H.N. Psarftis, Naftika Chronika magazine, December 2007.