



SCHOOL OF NAVAL
ARCHITECTURE &
MARINE ENGINEERING

LABORATORY FOR MARITIME TRANSPORT
NEWSLETTER No 4
January– March 2008



<http://www.martrans.org>



N.T.U.A.
NATIONAL TECHNICAL
UNIVERSITY OF ATHENS

Dear Reader,

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

The LMT staff

EU-MOP final meeting in Madrid

2008 started with a flurry of activities for LMT. After three productive years, project EU-MOP (Elimination Units for Marine Oil Pollution) held its final meeting in Madrid in January, together with an industry workshop. LMT has been the coordinator of this European Commission (DG-RTD) research project, whose purpose was to design a robotized system to respond to oil spills. The EU-MOP consortium included 13 partners from 6 European countries, and the work conducted included design of 5 different variants, analyses of propulsion, oil processing, robotics, logistics, cost-benefit and validation. More results will be reported in a future newsletter. The project's web site is at www.eumop.org.



The EU-MOP project team at its final meeting at the Madrid Polytechnic campus, in front of a blackboard with everybody's signatures.

Professor Psaraftis with the EU-MOP Advisory Committee members Emmanuel de Nanteuil of CEDRE (left) and IMO Marine Environment Division Director Miguel Palomares (right) at the end of the industry workshop.



Kick-off of DNV-NTUA strategic collaboration in Høvik

An LMT team spent two days at Det Norske Veritas (DNV) headquarters in Høvik, just outside Oslo, to kick off its three-year strategic collaboration programme, which also involves the Ship Design Laboratory in a separate project. The topic of collaboration between LMT and DNV is entitled "Effective Bulk Transport" and deals with the identification of win-win solutions for safe, secure and environmentally friendly maritime transport, and the evaluation of the impact of measures to enhance safety, security and environmental protection on system performance.



From the excellent dinner hosted by DNV in downtown Oslo

DNV and the National Technical University of Athens (NTUA) signed the strategic research & development collaboration agreement in Athens, Greece, on October 5, 2007.

LMT involved in emissions study

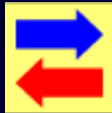
The Hellenic Chamber of Shipping has awarded to LMT a study to develop a web-based tool to calculate CO₂, SO₂ and NO_x emissions for a variety of ships and transport scenarios. The study will also analyze the emissions performance of the world's fleet, grouped by ship type and size bracket, in terms of grams of CO₂ per tonne-km and other statistics. Air pollution from ships is high on the IMO's regulatory agenda and measures and policies to reduce it without having a negative effect on international trade are contemplated. The results of the study will be available soon.





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IMO business: MEPC 57 extends work of correspondence group

At the 57th session of the IMO's Marine Environment Protection Committee (MEPC) that took place in London on March 31 - April 4, 2008, Harilaos Psaraftis presented the report of the correspondence group he coordinated on the subject of environmental risk evaluation criteria in Formal Safety Assessment. Prof. Psaraftis had been assigned this task at MEPC's 56th session last summer. The report was well received and MEPC decided to renew the group's terms of reference until MEPC's 58th session which will be held in October. Since the time the group was formed, progress was accomplished on a certainly non-trivial subject, but certain issues remain open and merit further analysis. The full text of the correspondence group's report is available at the NTUA LMT web site:

<http://www.martrans.org/resources/render1.asp?doc=/documents/browse/sft.xml>



MEPC 57 in session at the Royal Horticultural Halls in London

Psaraftis' signature becomes law

This may sound intriguing, but it is true nonetheless. The Greek government, in the context of its plans to concede the container terminals of Greece's two largest ports to private operators, has recently passed legislation that upgrades to law status the so-called "concession contracts" between the Greek state, on the one hand, and the ports of Piraeus and Thessaloniki, on the other.

These concession contracts stipulate the terms under which a public port authority uses and exploits its infrastructure which belongs to the state. One of the signatories of the concession contract for the port of Piraeus, which was signed in February 2002, was Harilaos Psaraftis, in his capacity as CEO of the port of Piraeus at the time. A heated debate in the Parliament took place in the context of the recent port legislation, with all opposition parties voicing their strong disagreement with the government's plans. Interestingly, parties with opposing views made several references to a recent talk of Prof. Psaraftis on this subject.

Psaraftis served as CEO of the port of Piraeus from August 1996 to March 2002. Both ports have registered major labor disruptions since January because of this issue.

HELMEPA - LMT cooperation

LMT is participating 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 lectures 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 lectures cover in brief the basic theory of risk, risk analysis and risk engineering (e.g. definitions, types of risk, techniques etc). Moreover, they 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 are Harilaos Psaraftis and Nikos Ventikos. The first lecture to Helmepe was given on Feb. 1, 2008.



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LMT present at the Mediterranean Technical Working Group (MTWG)

Following a proposal from the Hellenic Ministry of Merchant Marine, Aegean & Island Policy, LMT Lecturer Dr Nikos Ventikos was appointed to the new Mediterranean Technical Working Group (MTWG) which is coordinated by the Regional Marine pollution Emergency Response Centre for the Mediterranean Sea (REMPEC).



The purpose of establishing MTWG is to facilitate the consideration of an issue or specific item in the context of the Meetings of REMPEC's Focal Points. In particular, Dr Ventikos will represent Greece in the following three technical issues:

- shoreline cleanup assessment;
- waste management;
- sunken oil assessment and removal techniques.

BDI Forecast

In November 2007 Professor Dimitris Lyridis had given an interesting presentation in the context of MARE FORUM SHIPFINANCE 2007 in Amsterdam. The presentation, entitled "Predicting the unpredictable", gave a detailed market analysis and a forecast for the Baltic Dry Index (BDI) from November 2007 to October 2008.

The diagram below shows the forecasted time series as well as



the real average monthly index value until April 2008. The forecast, produced using models based on Artificial Neural Networks developed in the frame of Panayotis Zacharioudakis' doctoral thesis, has proved to be very successful so far but the research team's main concern remains with the US economy recession and how this will affect shipping demand.

LMT presentation at SNAME

The fifth technical meeting of the SNAME Greek Section was held on March 20th, 2008, at the premises of Kristen Navigation, with about 30 people attending the lecture. Dr. Panayotis Zacharioudakis, Post-Doctoral Associate of LMT, made a presentation entitled "Development of Decision Support Tools in Shipping".



The author, in the middle, with (from left to right) Nikos Dionyssopoulos, George Anagnostou, Harilaos Psarrafis and Petros Lalangas.

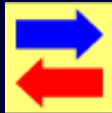
Dr. Zacharioudakis first presented the background on the subject of modeling the shipping system. The parameters affecting the shipping markets and the freight levels were analysed and a generic overview of the process of simulating the VLCC Tankers Freight markets and forecasting the Baltic Dry Index was given. Forecasting the demand for sea transport is very difficult since it is related to quantitative and qualitative variables with unforeseen trends. For this reason, the forecasting model FORESIM is "fed" with different scenarios and it generates a stochastic "description" of the future. Its main applications are:

- Decision support for trading Future Freight Agreements (FFAs) and various shipping



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market derivatives;

- Chartering strategy – spot or time charter, duration, etc.;
- Risk management for shipping investments, in combination with cash flow and monte carlo simulations providing distribution for financial variables;
- Estimation of financing risk such as probability of default etc.

The subject brought a lot of questions even at the buffet reception which followed this successful presentation.

PhD thesis defense

The PhD title was awarded on February 28, 2008 to LMT student Apostolos Psarros, who successfully defended his thesis entitled “Greek System of Internal Maritime Services-Quality, Regulations, Ports, Services, Fleet - Proposals”. The thesis supervisor was Professor H.N. Psaraftis.

The thesis presented the basic characteristics of the Greek maritime market. It described in detail the procedures for permissions of operation and for issuing fare levels and also the transition of the regulated Greek internal maritime services to a free market system was covered. The «Wing in ground effect» (W.I.G.) concept is speculated to enter the market soon, and hydroplanes are already serving some islands and lakes. According to the analysis via questionnaires, the public is already informed about the existence and operation of the new alternatives, and under appropriate circumstances, these will earn a greater share of the traffic.

LMT “vassilopitta” cutting event

As pre-announced in the last issue of the newsletter, LMT organized a special New Year evening for its alumni and other friends on 13 February 2008. The event took place at the Piraeus Marine Club, in the heart of Piraeus, and more than 50 friends of LMT from the shipping industry were present. It was also a great pleasure to see there some of LMT’s international friends who happened to be in Greece at the time.

The traditional New Year’s Cake (“vassilopita”) was cut by Prof. Psaraftis and the lucky one was Theodosis Stamatellos of Hellenic Lloyd’s, who won the coin.



The LMT New Year event was hosted at the Piraeus Marine Club

LMT would like to thank once more all of its friends for their presence in the event and their productive cooperation in 2007, and to wish a fruitful collaboration in 2008, as well as prosperity and health in their personal lives.

Meetings and Events attended by LMT staff

- MOSES project meeting, Dortmund, Germany, 7-9 Jan. 2008
- EU-MOP project 11th (FINAL) PMC meeting, Madrid, Spain, 23-24 Jan. 2008
- DNV-NTUA collaboration kick-off meeting, Oslo, Norway, 28-29 Jan. 2008
- Helmepea training courses, Athens, Greece, Feb.-March 2008
- MOSES project WP2.1, 2.2, 2.4 meeting, Brussels, Belgium, 5-6 Feb. 2008
- FP7 information day “Surface Transport”, Brussels, Belgium, 6-7 Feb. 2008
- Hellenic Association of Maritime Economists open discussion on “Greek Ports”, Piraeus, Greece, 6 March 2008
- IMO/MEPC 57 meeting, London, UK, 31 March-4 April 2008.