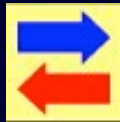




SCHOOL OF NAVAL
ARCHITECTURE &
MARINE ENGINEERING

LABORATORY FOR MARITIME TRANSPORT
NEWSLETTER No 22
July – September 2012



<http://www.martrans.org>



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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

Data galore

Editorial by Harilaos N. Psaraftis

There seems to be a renewed urge within the international maritime community to obtain more reliable data as regards maritime emissions. At IMO's latest session of the Marine Environment Protection Committee (MEPC 64) one could identify at least two initiatives whose implementation critically depends upon such data. The first is the planned update of the 2009 IMO greenhouse gas study, to be undertaken by 2013. The 2009 study was based on a so-called 'bottom up' approach, that is, the development of a complex model based on a great number of assumptions on the activity of the worldwide fleet, including speeds, fuel consumptions, days at sea and in port, and many others. The bottom up approach was used because the alternative, a 'top down' model based on fuel sales data, was judged unreliable.

But just how reliable were the multitude of data and assumptions needed to feed the bottom up model? One can have an endless discussion to address this question, but here is just one point: Ship speed, a key variable in a bottom up model, is an input drawn from ship databases that are commercially available. But these databases record only *design speeds* and this information is provided by shipowners without serious verification. Hence the reliability of this input is questionable. More important, modeling this way ignores variations of operational speeds that are due to fluctuations of market freight rates and bunker prices, a behavior that explains slow steaming in periods of depressed rates or high fuel prices and speeding up if the opposite is the case. Estimating operational speeds this way was outside the scope of the 2009 study.

Will the new study be more realistic than the previous one and capture such effects? It depends on what data is available, what is collected and how the new model is structured. If the new model is just a time-wise update of the 2009 study, its value will be limited.

The second initiative is not directly connected with IMO/MEPC but came as an official EU announcement on the

first day of MEPC 64, a timing which was probably not a coincidence. In a joint statement, Vice-President of the European Commission Simeon Kallas and EU Commissioner for Climate Action Connie Hedegaard announced that the EU wants an internationally agreed global solution to decrease greenhouse gas emissions from ships, effectively setting aside ongoing speculation that the EU would adopt a regional approach. To move toward that end, the EU considers "a simple, robust and globally-feasible approach towards setting a system for monitoring, reporting and verification of emissions based on fuel consumption" as the necessary starting point.

One could also perhaps consider the new proposal by the United States at MEPC 64 to fall in the same category. The proposal provided further details and revisions of the previous US proposal for a market-based measure (MBM). But some people feel that the US proposal is not an MBM, and some feel it is complicated and unworkable (I concur with both opinions). Whatever it is, the US proposal calls for a phased approach to the establishment of attained efficiency standards and a program to rate the attained efficiency of ships. Phase I of that proposal would entail the collection of data needed to determine how best to establish attained efficiency standards. Two more phases will follow, in what seems like a process that would take some time.

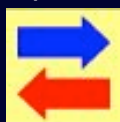
Thus, and whereas further discussion and progress on MBMs has been postponed for 2013, all of a sudden everybody is talking about data. Lots of data. Good data. Reliable data. Data that will provide perfect monitoring of maritime emissions and move us in the right direction and will ultimately help formulate a sensible policy.

All this is fine. However, a warning is in order: data can make or break a model, as well as the policy that is formulated as a result. Data availability or lack thereof can also determine the structure of the model itself. In all cases, the GIGO principle (garbage in, garbage out) is always waiting behind the corner and one should be very careful not to invoke it.



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LMT AT LAUNCHING EVENTS OF THE LAST FP7 CALL

On July 9, the European Commission announced the final and biggest ever call for proposals under its Seventh Framework Programme for Research (FP7). In total, €8.1 billion is available to support projects and ideas that are expected to boost Europe's competitiveness and tackle issues such as improving human health, protecting the environment and finding new solutions to arising challenges.

On this occasion, the Representation of the European Commission in Greece organized a press conference. Representatives of the Greek media had the opportunity to watch on line from Brussels the European Commissioner for Research, Innovation and Science Mrs. Máire Geoghegan-Quinn presenting the 2013 Work Programme for Research and Innovation (see photo below).



"The high level of competition for EU funding makes sure that taxpayers' money goes to the best projects that tackle issues that concern all of us" said **Máire Geoghegan-Quinn**, the European Commissioner for Research, Innovation and Science.

In this framework, representatives from the Greek research community were invited to present five successful research projects. LMT was involved in two of them, FLAGSHIP and SUPERGREEN (MyOCEAN, BIOCORE and EUROBIOREF were the other three).

Presentation of FLAGSHIP project

Dr. Nikolaos P. Ventikos presented the project "European Framework for Safe, Efficient and Environmentally-Friendly Ship Operations" (FLAGSHIP) which started on January 2007 and ended on May 2011; FLAGSHIP was partially funded by the European Commission (DG-RTD). The core target of FLAGSHIP was the identification and mitigation of hazards with regards to marine safety, human factors and the protection of the environment, strengthening at the same time, the competitiveness of European maritime transport. Mr. Herman de Meester of the European Community Shipowners' Associations (ECSA) was the coordinator of FLAGSHIP.

Presentation of SUPERGREEN project

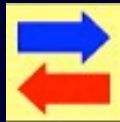
On behalf of LMT, the project coordinator, George Panagakos gave a brief overview of SUPERGREEN and presented some of its preliminary results. Emphasis was given to the value of the corridor approach as a means to increase the competitiveness of environmentally-friendly modes like railways and waterborne transport due to the consolidation of large volumes of freight for haulage over long distances. Additional environmental and financial (through lower operating costs) gains can also result from optimisation opportunities in terms of energy use and emissions, further enabled by the scale and length of such freight corridors. The encountered problem of missing data was also mentioned. A press release, especially prepared for the occasion, was distributed to the participants.

LMT was also present at the FP7 call information day in Brussels on 18 July, 2012.



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SUPERGREEN PROJECT NEWS



A first announcement has been uploaded to the project's web-site (www.supergreenproject.eu), but you can mark already your calendars and book your place by registering for the event. The day before, project partners will meet for the 10th and final PMC meeting in Gothenburg.

PMC meeting and joint WP5&6 meeting

On September 11, the 9th PMC meeting took place at the premises of partner via donau in Vienna, Austria. Participating partners reviewed the status of ongoing project work and planned activities for the remaining life of the project.

Several SuperGreen partners involved in Work Packages 5 (*Recommendations for R&D calls*) and 6 (*Policy implications*) met on the following day at the same place to discuss in detail early project results in these two areas, as well as a number of interactions between them. Participants also discussed how to take on board input from Work Packages 2 (*Benchmarking green corridors*), 3 (*Sustainable green technologies & innovations*) and 4 (*Smart exploitation of ICT-flows*).

SuperGreen project final event planned for early 2013 in Gothenburg

Time flies and the SuperGreen project is coming to an end in January 2013. After two plenary workshops (Helsinki 2010 and Genoa 2011), four regional workshops (Naples 2010, Antwerp, Malmoe and Sines 2011), a special session on green corridors at the TRA 2012 conference (Athens 2012), and three years full of exciting work, the project is ready to present all its major results in its 3rd and final plenary workshop. This will take place in Gothenburg, Sweden on January 11, 2013 and will be kindly hosted by SuperGreen partner DB Schenker.

Details of progress and all major results achieved in the project, including benchmarking methodology, Key Performance Indicators, Green Technologies and ICT systems will be presented at the workshop. Directions of further research as well as policy recommendations will also be discussed. The workshop will also include talks by invited external speakers, all experts in this area. Mark your calendars.

OTHER NEWS

From Vilnius to Berlin

In addition to the Odysseus 2012 conference in Mykonos last May, LMT was involved in the organization of maritime transport-related sessions in two Operations Research conferences over the summer, with H. Psaraftis chairing both: (a) the EURO 2012 conference in Vilnius, Lithuania in early July and (b) the 21st International Symposium on Mathematical Programming in Berlin, Germany in the second half of August. Both conferences attracted large audiences.

Cyprus double-header

Harilaos Psaraftis travelled to Cyprus in early September for two back-to-back conferences: (a) the East Meets West 2012 conference, organized by the Cyprus EU presidency and held in the University of Cyprus Nicosia Campus, and (b) the Transbaltic project final conference, held in Paphos. In (a) he made a presentation on the possible role of short sea shipping and TEN-Ts in East Med development and in (b) he gave an overview of the SuperGreen project.

Centre of Excellence first seminar planned for October 17

The first Seminar organized by the Centre of Excellence in Ship Total Energy-Emissions-Economy will take place at the premises of Hellenic Lloyd's S.A., 87 Akti Miaouli, Piraeus, on Oct. 17, 2012, 15.00-19.15.

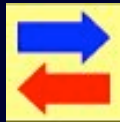
The Centre of Excellence was established at the School of Naval Architecture and Marine Engineering of the National Technical University of Athens in January 2010 and it is funded by The Lloyd's Register Educational Trust. LMT, together with the Laboratory of Marine Engineering at NTUA, are the two key pillars of the Centre.

Attendance to the seminar is free, but as space is limited registration is required.



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Home stretch for the S.O.M.E. 2012 symposium



The 4th International Symposium on Ship Operations, Management and Economics (S.O.M.E.) organized by the Greek Section of SNAME for November 8 and 9, 2012 is coming to its home stretch. With some 25 papers to be presented, the Symposium will bring together academics, ship operators, and other stakeholder in what promises to be an exciting two-day event. Mr. Andreas Chrysostomou of Cyprus, Chairman of IMO's MEPC, will be this year's keynote speaker. Sponsors of this Symposium include the Niarchos Foundation, Bureau Veritas, Danaos Shipping, Atlantic Bulk Carriers Management, Lloyds Register, Det Norske Veritas and the American Bureau of Shipping. LMT plays a central role in the organization of the 2012 Symposium, as Assistant Professor Ventikos is Papers Committee Chairman and Professor Psarftis is Symposium Chairman. The event will take place at the premises of the Eugenides Foundation in Athens. To register for the Symposium, please go to this link: <http://www.sname.org/GreekSection/SOME2011/Some2012/>

California bound



Harilaos Psarftis is one of the co-organizers of the 2013 INFORMS Transportation Science and Logistics (TSL) Society Annual Workshop on Maritime Transportation and Port Logistics. The chair of the organizing committee is Kevin Furman of ExxonMobil. The workshop will take place on June 16-19, 2013, at the Asilomar Conference Grounds in Pacific Grove, California (USA). The deadline for abstract submission is November 30, 2012, with notice of acceptance for participation given no later than December 31, 2012. Interested individuals should send a tentative title and a short abstract or description of the topic for presentation. All submissions should be sent to TSL2013@martrans.org

Link to workshop site:

<http://www.informs.org/Community/TSL/TSL-Workshop>

The goal of this workshop is to bring together a combination of academic and industrial participants to discuss the challenges, solutions and ideas for operations research in the maritime transportation and port logistics field. Maritime fleet sizing and composition, terminal management problems and green logistics solutions are some areas of interest, but any topic that falls into the broad area of maritime transportation and port logistics can be considered. Ideally, the presentations and discussions will include different kinds of shipping markets (petroleum, LNG, bulk products, containers, etc.) and bring together a variety of approaches or technology such mathematical optimization, simulation, specialized software, and others.

Authors of accepted abstract submissions will be asked to submit an extended abstract to be made available in online proceedings for the workshop. The organizing committee will invite authors of promising submissions to submit full papers for publication in a special issue of *Transportation Science*. Authors accepting to submit their paper to the special issue will be expected to do so prior to the workshop. Detailed instructions for extended abstracts and final submission of full length papers will be issued in due course.

LMT presents paper at the 1st International MARINELIVE Conference on “All Electric Ship”

Dimitrios I. Stavrou and Dr. Nikolaos P. Ventikos, Assistant Professor of NTUA and member of LMT presented their paper (with co-authors Mr. George M. Kiritsis and Mr. Christos P. Theodosopoulos) “Cable Laying Ships – Electric Driven Vessels in the Context of Operation” at the 1st International MARINELIVE Conference on “All Electric Ship” which took place from June 3 to June 5, 2012 at Eugenides Foundation in Athens, Greece. The focus of the paper was to present possible aspects of the laying procedure of submarine cables in Greece; particularly, reference was made to the fleet, the lying procedure itself, and the equipment which may be used towards this end. In this context, the electrical propulsion systems and their overall utilization onboard Cable Laying Vessels (CLV) were outlined. The paper covers a part of the work done by Dimitrios I. Stavrou in his NTUA Diploma Thesis which was supervised by Dr. Nikolaos P. Ventikos.



MEETINGS AND EVENTS

attended by LMT staff

- EURO 2012 conference, July 8-11, Vilnius, Lithuania.
- Official launch of FP7 Work Programme 2013, July 9, Athens, Greece
- FP7 info day, July 18, Brussels, Belgium.
- ISMP 2012, August 19-24, Berlin, Germany.
- East-Meets –West conference, Sep. 3, Nicosia, Cyprus.
- TransBaltic conference, Sep. 4, Paphos, Cyprus.
- SuperGreen PMC, Sep. 11, Vienna, Austria.
- SuperGreen WP5&PW6 meeting, Sep. 12, Vienna, Austria

PAPERS, PRESENTATIONS & SPEECHES

published / presented by LMT staff

- Psaraftis, H.N., "Market Based Measures for Green House Gas Emissions from Ships: A Review," WMU Journal of Maritime Affairs 11, 211-232, 2012.
- Psaraftis, H.N., "Formal Safety Assessment: an Updated Review," Journal of Marine Science and Technology, 17, 390-402, 2012.
- Psaraftis, H.N and G. Panagakos, "Green Corridors in European Surface Freight Logistics and the SuperGreen Project", Procedia - Social and Behavioral Sciences, Special Issue: Proceedings of Transport Research Arena 2012, Volume 48, 1723-1732, 2012.
- Psaraftis, H.N., "A taxonomy and survey of speed models in maritime transport," EURO 2012 conference, Vilnius, Lithuania, July 8-11, 2012.
- Psaraftis, H.N., C.A .Kontovas, "Speed optimization in a ship pickup and delivery problem: balancing economic and environmental performance," 21st International Symposium on Mathematical Programming (ISMP 2012), Berlin, Germany, July 19-24, 2012.
- Psaraftis, H.N., "Trip Down Memory Lane," Naftika Chronika, Aug. 2012 (in Greek).
- Stavrou D.I., Ventikos N.P., Kiritsis G.M., Theodosopoulos C.P. , "Cable Laying Ships – Electric Driven Vessels in the Context of Operation", Proceedings of the 1st International MARINELIVE Conference on "All Electric Ship", Athens, Greece, 2012.
- Ventikos N.P., Louzis K., Koimtzooglou A., "The Shipwrecks in Greece are Going Fuzzy: A Study for the Potential of Oil Pollution from Shipwrecks in Greek Waters", Human And Ecological Risk Assessment: An International Journal, Taylor & Francis, 2012
DOI:10.1080/10807039.2012.713820.

PICTURE GALLERY



SuperGreen meeting, Vienna



Checkpoint Charlie, Berlin



FP7 info day, Brussels