



Great Lakes Maritime Research Institute

A University of Wisconsin - Superior and University of Minnesota Duluth Consortium

Co-Directors:
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Quarterly Update (October - December 2012)

January 2013

Registration Deadline Approaching for the LNG Educational Meeting – 13-14 Feb

GLMRI is working with the Society of Naval Architects and Marine Engineers (SNAME) again this year to host an LNG-themed meeting. The SNAME Section meeting will be held on 13-14 February in conjunction with the Great Lakes Waterways Conference in Cleveland, Ohio at the Hyatt Hotel. Dr. Michael Parsons, faculty emeritus from the University of Michigan’s Naval Architecture and Marine Engineering Department will be presenting an update on the GLMRI study on LNG conversion for Great Lakes’ steamships. On Wednesday afternoon, Dr. Jerry Hutton, the Director of Gaseous Fuels Transportation Project at Clean Fuels Ohio and Mr. Ralph Greenberg will provide a talk, “From Well to Waves” tracking the flow of natural gas from the wellhead through liquefaction. An optional tour of the LNG fueling station in Seville, Ohio is being planned for the venue. The [registration information](#) is posted on the GLMRI web page:

www.glmri.org/news

Sediment Sampling Continues

Lake Carriers’ Association agreed to extend the project on analyzing the biology of ballast tank sediment. While the boats were still sailing for the season, Dr. Branstrator (PI) and Carol Wolosz worked with the carriers to schedule access for tank sampling. The research team was able to access the tanks on *the Edwin Gott*, *the Mesabi Miner* and *the American Century* in November 2012. We thank the office



staffs and the vessels’ crew for their time and support.

GLMRI Project Updates on Agenda for Fall SNAME Meeting in Ann Arbor, MI

At the Fall SNAME Section meeting held in Ann Arbor, Michigan on October 4-5, 2012, Carol Wolosz presented an overview of the GLMRI project on Liquefied Natural Gas for maritime use. Ms. Ziyang Zhang from Bay Engineering Incorporated in Sturgeon Bay, Wisconsin followed with a presentation on Bay Engineering’s designs for converting the *S.S. Badger* from a coal-fired ferry to a natural gas burning ferry, using both liquefied natural gas (LNG) and compressed natural gas (CNG). The *Badger* is the last coal-fired steamship on the Great Lakes.



Rick Harkins, Randy Helland and Carol Wolosz discussed their recent trip to Norway to look at how Norway is utilizing both LNG and CNG in their marine transportation system. The presentation covered regulatory issues, government support for various projects, and both single fuel and dual-fuel engines. Dr. Steve Ceccio, Chair of the



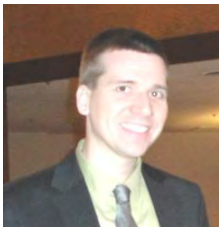
Department of Naval Architecture and Marine Engineering at the University of Michigan's College of Engineering, talked at the luncheon about current research at the department and plans for new buildings on the north campus. University of Michigan is an affiliate university to GLMRI.

After the meeting, Dr. Ceccio arranged for Section President Steve Kemp, Jim Sharrow from the Duluth Seaway Port Authority and Carol Wolosz to receive a tour of the department’s Marine Hydrodynamics Laboratories and the testing tanks by Dr. Simo Makuharju.

Key Outreach, Events, Presentation, and Meetings

- SNAME Section Meeting in Ann Arbor, Michigan. 4-5 Oct.
- Dr. Stewart was the keynote speaker at the 3rd Annual Yangtze-Mississippi River Conference. Wuhan, China. 7-13 Oct.
- Ship Operations Cooperative Program Meeting in Providence, Rhode Island. 24-25 Oct.
- Dr. Stewart presented on LNG as a Fuel at the Wisconsin Freight Rail Day. Eau Claire, WI. 26 Oct.
- Dr. Stewart participated at the American Society of Transportation and Logistics annual meeting in Jacksonville, FL. 29-30 Oct.
- Ms. Wolosz attended the HWY H2O conference and met with the Education Working Group, in Toronto, Canada. 14-15 Nov.
- Dr. Stewart was a guest presenter at a University of Minnesota Duluth's Engineering class, discussing shipping and logistics. Duluth, MN. 16 Nov.
- Ms. Wolosz attended the Quarterly Duluth/Superior Harbor Technical Advisory Committee (HTAC). Duluth, MN. 5 Dec.
- Dr. Stewart presented at the University of Minnesota's Center for Transportation Studies at the 16th Annual Freight and Logistics Symposium on LNG as a Fuel. Minneapolis, MN. 7 Dec.

Dr. Simo Makiharju's Paper Selected for Publication



Dr. Makiharju's (University of Michigan) journal article on his research and testing on Air Lubrication Drag Reduction was recently published in the International Journal of Naval Architecture and Ocean

Engineering (December 2012). He worked with Dr. Steve Ceccio on this project that received funding from GLMRI in 2010. His research report on the application for Great Lakes Ships is posted on the GLMRI web page. Congratulations to Dr. Makiharju!

The GLMRI Annual Report will be coming out in February. Please send address updates/changes to jhartwic.d.umn.edu

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SOCP Meeting Held in Providence

The fall meeting of the Ship Operations Cooperative Program (SOCP) was held in conjunction with the annual SNAME convention, in Providence, Rhode Island on 22-24 October 2012. The keynote speaker for the meeting was Dr. Mark Rosekind who is a board member to the National Transportation Safety Board (NTSB), and provided an interesting report on the impacts of sleep on the workforce. The members got the opportunity to meet with the new Deputy Administrator for MARAD, Captain Paul "Chip" Jaenichen, USN (retired). Captain Jaenichen was the guest speaker for the dinner, and was able to meet most of the attendees throughout the evening.

Carol Wolosz attended as the GLMRI representative and also presented an update from the Summer K-12 Maritime Teachers Workshop. She also was elected to the SOCP Operations Board for the coming year.



From left to right: Nuns Jain, Carol Wolosz, Phil Shullo, Todd Ripley, Deputy Administrator Jaenichen, and Michael Carter.

GLMRI Presentations at TRB



Dr. Zamira Simkins from the University of Wisconsin-Superior's Economics Department and Dr. Richard Stewart's paper on Measuring a Port's Performance Using the Economic Value of Commodities was selected for presentation at the 2013 TRB. Their

project is included in the upcoming GLMRI Annual Report and is posted on the GLMRI web page.



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