

THE 6TH MESPE EDUCATIONAL SYMPOSIUM
A Continuing Education Opportunity Co-Sponsored by
THE MAINE SOCIETY OF PROFESSIONAL ENGINEERS
&
THE UNIVERSITY OF MAINE'S ADVANCED MANUFACTURING CENTER

EARN 6 PDH CREDITS

February 26, 2010, 8:30 AM to 4:00 PM
University of Maine, Orono, ME
McIntire Room at the Buchanan House

Seminar Schedule

8:30 Registration, coffee and muffins

9:00 Bridge in a Backpack

Presenter: Habib Joseph Dagher, PhD., P.E.

The Bridge-in-a-Backpack, developed and patented by the University of Maine consists of inflatable composite forms that can be shaped to any geometry on site and then become stronger than steel within 3 hours. These forms arrive in a "bag" to the site, are inflated over a mold, infused with a resin, allowed to cure for 3 hours, set in place over existing foundations and filled with concrete. These composite forms provide three functions: (1) Instant formwork for concrete; (2) a reinforcement for concrete so that rebar is no longer needed; and (3) a protective layer for the concrete. Heavy equipment is not required at the site: on a 70 ft span, these composite forms weight 200 lbs, compared to a 40,000-50,000 lbs prestressed concrete girder. The system is structurally efficient because the concrete is confined by the composite materials, and the system takes advantage of the arch structure. As a result, the carbon footprint for a typical bridge superstructure is cut by a factor of 2. Speed of construction and access to difficult sites is another advantage of the new technology. The technology was shown in 2009 at the White House, Secretary of Transportation Lahood flew to Maine to see the technology, and it has been recently featured in the New York Times, the Associate Press, and Popular Science. (1 . 0 PDH)

Habib Joseph Dagher, PhD., P.E. is Professor of Civil/Structural Engineering at the University of Maine, Bath Iron Works Professor of Structural Engineering, and founding Director of the University's Advanced Structures and Composites Laboratory. Dr. Dagher received his Doctorate degree in structural engineering from the University of Wisconsin-Madison. He also holds two Masters Degrees in Structural Engineering and Engineering Mechanics, and a Bachelor of Science in Civil Engineering. Dr. Dagher has received numerous awards for his work including the Carnegie Foundation Maine Professor of the Year, the New England Board of Higher Education Excellence Award, the University of Maine's Distinguished Maine Professor Award and the University of Maine Presidential Research and Creative Achievement Award. He has written over 120 technical publications, chairs national technical committees in the structural engineering and composite materials fields, served on the Science and Technology Advisory Board for Maine's Governor, and serves on the Governor-appointed Innovation Economy Advisory Board.



10:00 Technical Wiring for Engineers

Presenter: Charles J. Martin

For this morning's presentation Charlie Martin will run through some of the common mistakes in English grammar that he sees all the time in his writing and editing business. He'll then take a quick look at a list of words that often get mixed up like *affect* and *effect*; *it's* and *its*; *their*, *there* and *they're*; and many others. During the second part of his presentation he'll provide some insights on putting together engineering proposals that stand out from the competition. Finally, he'll discuss the all-important cover letter and how it can get you to the short list.. (1.0 PDH)

Charles J. Martin of Bath is a writer and editor specializing in clear, concise English. For nearly 20 years he was the marketing and business development representative for several Maine and New Hampshire engineering and construction companies. During that time he wrote and edited numerous proposals, qualification statements, technical reports, newsletters, news releases, brochures, annual reports and the like. He now provides training for engineers and others in the correct use of English grammar, and he helps clients with the writing they need for proposals, websites, engineering specifications, newsletters and many other documents.

11:00 The Smart Grid

Presenter: Mohamad Musavi, PhD

A smart grid is an advanced interconnected network for delivery of conventional and renewable electrical energy in a reliable and secure manner. It incorporates widely distributed sensors, storage devices, real-time two-way communications, and intelligent predictive and control methods to provide an efficient energy delivery network. This presentation will introduce the building blocks of a smart grid, the need for such a network for the integration of renewable energy, and the University of Maine efforts in this area. (1.0 PDH)

Mohamad Musavi, PhD is the chair and professor of Electrical and Computer Engineering Department (ECE) at the University of Maine. He has 27 years of experience in education and research in the areas of intelligent systems and power systems. He received his PhD from the University of Michigan and contributed to the development of a new methodology for stability analysis of large scale power systems using a topological energy function. While at the University of Maine, he developed and applied intelligent systems, including neural networks, fuzzy logic, computer vision, and robotics in many industrial applications. Dr. Musavi has received more than 20 grants from industrial and government organizations in support of his research. He was the Principal Investigator (PI) for a major DOE/EPSCoR project entitled "Development of Intelligent Systems Expertise in Maine." He is a Senior Member of the IEEE organization and has over 100 scientific publications and a US patent. Dr. Musavi continues his vision of using intelligent systems for improving efficiency and reliability of electric power networks through application of smart grid technologies. He is currently collaborating with power utilities and other energy related companies for developing a smart grid research and education center in Maine.

12:00 Buffet Lunch (provided)

12:30 Order of the Engineer Induction Ceremony

1:00 What is the Value of Historic Preservation in Maine?

Presenter: Robin Stancampiano -- Maine Historic Preservation Commission

The historical, cultural, educational, aesthetic, and social values of historic preservation are widely recognized. Economic development, downtown revitalization, neighborhood stabilization, affordable housing, heritage tourism, environmental conservation, sustainable communities, smart growth, job creation, etc. are also important benefits of historic preservation. The combination of these values and benefits is far reaching and profound. This session will explain why historic resources need to be considered early on in any planning process and why historic preservation is essential for Maine's future. (1.0 PDH)

Robin Stancampiano joined the Maine Historic Preservation Commission as an architectural historian in 2007. She serves as the review and compliance coordinator for regulatory project reviews, the Certified Local Government (CLG) program coordinator, and provides technical assistance for local preservation planning. Prior to the MHPC, Robin worked for the New Jersey DEP Historic Preservation Office in the technical information and regulatory

services section as a senior historic preservation specialist. She has worked as a project architect for architectural firms specializing in historic preservation and prepared historic structure reports, existing conditions assessments, construction documents and specifications. She has a Master of Architecture and Certificate in Historic Preservation from the University of Pennsylvania and is an alumna of Barnard College.

2:00 The University of Maine at Presque Isle A Competitively Bid Wind Turbine Project

Presenter: James Wilson, PE

In May of 2009, a new 600 kW RRB Energy wind turbine went on line at the University of Maine campus in Presque Isle Maine. The project is the cornerstone of that campus effort to comply with the American College & University Presidents Climate Commitment to limit their campus generation of green house gases and seek carbon neutrality.

This turbine is the first mid-sized turbine to be installed on a Maine campus and like most public projects; it required a public procurement process. This presentation will discuss the sequence of events that lead to the final construction of the turbine and the efforts by Woodard & Curran and the University to develop a Request for Proposals that allowed the public procurement of the turbine, construction of the site and foundation, erection services, grid connections and ongoing operation & maintenance services for this unique project in Northern Maine. (1.0 PDH)

James Wilson, P.E. has 23 years of experience with civil design projects and is a Vice President of Woodard & Curran. Jim received an Associate's Degree in Drafting Technology from Northern Maine Vocational Technical Institute in 1986 and a B.S. in Civil Engineering from the University of Maine in 1992. Jim is a licensed professional engineer in Maine and leads the Bangor office of Woodard & Curran where he is focused primarily on municipal clients and public infrastructure projects.

2:50 Break and refreshments

3:00 Engineering Aspects of Emergency Management

Presenter: Robert McAleer Director Maine Emergency Management Agency.

A presentation that will look at the potential role of engineering as it relates to the State of Maine's activities related to the four phase of emergency management -- Preparedness, Response, Recovery and Mitigation. (1.0 PDH)

Robert McAleer was born and raised in New Jersey and currently resides in Harpswell, ME. He is a 1970 graduate of University of Notre Dame, earning a BA, and a 1983 graduate of the Foreign Service Language Institute, graduate in , Norwegian Studies. He is married to Brenda McAleer, PhD, a Business Professor at the University of Maine at Augusta and Colby College. He is currently the Director of the Maine Emergency Management Agency, and previously was Adjunct Staff Member National Emergency Response and Rescue Training Center, Texas A&M University.

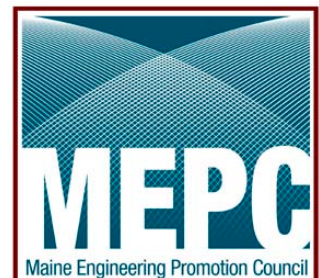
4:00 Adjournment

Please be sure to fill-out the Symposium Evaluation Form and place this on the registration desk. All comments are welcome.

Also:

Maine Engineers Week Banquet will be held at the **Wells Conference Center, University of Maine** starting at 5:30 PM, immediately following the Symposium. If you would like to attend, please contact: Be Schonenwald at be.schonenwald@maine.rr.com

Maine Engineers Week Exposition will be at the **University of Maine Orono Field House** on **Saturday, February 27, 2010 from 9 AM to 2 PM**. For more information, please contact: Chet Rock, P.E at chetrock@umin.maine.edu.





Maine Society of
Professional Engineers

A state society of the National Society of Professional Engineers



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Cancellations received before February 20th will receive a refund less a \$20 administrative fee.

First Name: _____ Last Name: _____

First Name as you would like it to appear on name tag: _____

Affiliation: _____ Title: _____

Address: _____

City: _____ State: _____ Zip code: _____

Home Phone: _____ Work Phone: _____

Fax: _____ Email: _____

Special Accommodations Needed: _____

I want to participate in the Order of the Engineer Induction Ceremony: _____

(Please complete the attached Application for Membership Form and include the \$15 Fee)

NSPE/MeSPE Members

Early Bird Registration **\$50.00** _____

After February 20th **\$75.00** _____

Non-NSPE/MeSPE Members

Early Bird Registration **\$125.00** _____

After February 20th **\$150.00** _____

Total Registration Fee (\$15 for the Order of the Engineer) _____

Payment Information (please pay before the conference)

___ **Check** enclosed (please make checks payable to **MeSPE**) Check # _____

Charge to: _____ Visa _____ Master Card _____ American Express _____ Discover

Card Number:: _____ Expiration Date: _____

Validation # _____ Signature:: _____

(on back of card by signature)

Please send completed registration form with payment to:

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