The University of Maine College of Engineering has welcomed just over 500 new engineering students in the 2014-15 class and we are well into the start of another school year.

In this issue, you will hear about: W² - the world's first wind and wave laboratory, the AMC Ecoshel project, the Engineering Ambassadors Network at UMaine, student experiences, and events that are coming up this fall.

I'd like to welcome aboard Diane Woodworth, Development Officer for the College of Engineering, who started a few months ago. She'll be helping to gain support for the College. See her message in this issue as well.

We welcome hearing from you anytime. Please keep in touch and take a moment to let us know how you are doing in your career these days.

Best regards,
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W² World's First Wind Wave Laboratory under construction
Earlier this summer, UMaine broke ground for an $8 million facility that will house W² - the world's first wind and wave lab to feature a rotating open-jet wind tunnel above a 100-foot-long by 30-foot-wide by 15-foot-deep wave basin. Waves and wind can be created from different directions converging at a point and creating a perfect storm. The W² facility is an expansion of the UMaine Composites Center, which will increase in size from 83,000 square feet to 100,000 square feet.

"Our current 83,000-square-foot laboratory is used to design, fabricate and test large structures under simulated static, fatigue, earthquake, wind and vehicular loads, and has been doing so for clients around the world for nearly 18 years," says Habib Dagher, professor of civil/structural engineering, Bath Iron Works Professor of Structural Engineering and founding director of the UMaine Composites Center.

"With the W² facility, we are adding more capabilities to test advanced structures under combined aero- and hydrodynamics loadings."

UMaine and its partners - including students, MMA engineer Rich Kimball and industrial colleagues - will be able to assume the role of Mother Nature in the wind-wave generating lab.

More information can be found in the news and online.

**Student Experience - Frances Foehrenbach**

state and country, highlighting the unique resources the University of Maine has to offer developing businesses.

**MEST Up Commercial**

This 30 second video was created to promote UMaine Engineering to the viewers of the TV Show MEST Up, a game show for high school students focusing on science, engineering, mathematics and technology - airing in southern Maine on WPXT.

Many thanks to Kepware Technologies for this opportunity!

**Save the Date**

**Homecoming Weekend**
October 17 - 19

The College of Engineering will be holding the annual

**Gorman Emeriti Brunch**
Saturday, October 18th
9:00am to 11:00am
Collins Center for the Arts
Bodwell Lounge

Honoring
**John Alexander**
Professor Emeritus of Civil Engineering
Every year the Society of Automotive Engineers sponsors the Clean Snowmobile Challenge - an intercollegiate design competition that encourages students to reduce emissions and noise by modifying snowmobiles to run on ethanol. Inspired by the competition, University of Maine mechanical engineering student Frances Foehrenbach of Saco, Maine, and her 11 teammates converted a snowmobile to run on compressed natural gas.

In April, the team displayed the snowmobile at the 2014 Society of Automotive Engineers (SAE) World Congress in Detroit, Michigan, where many of the automotive industry's top companies gathered. There, in competition with 11 other engineering universities, the UMaine team took third place for its innovative snowmobile design. The team's snowmobile was also shown at the New Hampshire SnoDeo, one of the Northeast's premier snowmobile events held to bring snowmobilers together near the season's end to test new sleds.

Foehrenbach and another teammate were in charge of the team's technical report writing. She also was the team's sole Web designer - a task she had never done before the project.
In May 2011, Foehrenbach began working at the Bangor-based engineering consulting firm Woodard & Curran. Since graduating in May 2014, she has begun a full-time job with the company in the food and beverage service line, where she works on process piping to integrate new systems as well as adding equipment to existing systems.

Foehrenbach is a Tau Beta Pi engineering honors society and Pi Tau Sigma mechanical engineering honors society member. She was named one of two outstanding seniors in the Mechanical Engineering Department.

More information about Foehrenbach and the SAE Clean Snowmobile team’s project is [online](#).

**Engineering Ambassadors Network**

UMaine College of Engineering has joined the Engineering Ambassadors Network.

Sheila Pendse from the College of Engineering led a group of seven engineering students to a 3 days NSF funded Engineering Ambassadors training workshop in Ranselear Polytechnic Institute in September 4-7, 2014.

UMaine Engineering Ambassadors are student representatives of UMaine's College of Engineering who have a #1 goal of sharing with a younger audience their awesome experiences as students pursuing the goal of becoming world-class engineers. Their role is to inspire others to see the amazing opportunities available and the important role engineers play in creating solutions to the health, happiness and safety of our world.

Students were teamed up with their peers to prepare engaging presentations and activities that they would share with students in area schools. Sheila Pendse and Dr. Sarah Walton, lecturer from Chemical Engineering, accompanied the seven students.

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5. Electrical Engineering
6. Surveying Engineering - Newest Track!

Background: Professional Science Masters (PSM) degree in Engineering and Business consists of 15 credits of engineering courses, nine credits of business courses, and six credits of applied field experience.

- BUA 605 Creating & Capturing Value in the Digital Economy
- BUA 651 Financial Management
- BUA 400 Introduction to Accounting
- ECO 410 Accelerated Introductory Economics

The anchor course for the 15 credits of engineering courses is GEE 486 Advanced Project Management (3 cr.hr.). This is a required core competence as engineers move into management positions. The remaining 12 credits of engineering courses would focus on the student’s engineering discipline.

For Additional Information about the Professional Science Masters Degree in Engineering and Business, contact:

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**Student Experience - Evelyn Fairman**

Evelyn Fairman of Bangor graduated from the University of Maine in May with a bachelor’s degree in chemical engineering, and minors in renewable
A Shingle Every Second

The University of Maine's Advanced Manufacturing Center (AMC) and Ecoshel, a company that produces cedar shingle panels, recently completed their UMaine-based project, Smart Shingle Production. AMC, along with private and public partners, designed, developed and built a manufacturing assembly line for the company. The line, which includes custom manufacturing equipment, blends conventional woodworking systems with state-of-the-art controls and laser-scanning technology.

"Developing this new type of shingle manufacturing system will greatly increase safety and production efficiency over current systems," says AMC director John Belding, talking about the assembly line that will be operated in Ecoshel's new production facility in Ashland, Maine.

The Ecoshel project created more than 11 jobs and provided a learning experience for UMaine engineering students. Bryan Kirkey, owner and CEO of Ecoshel, was referred to the AMC by the Maine Technology Institute. He met with AMC staff and engineering student interns to discuss how to reach his goal of having a cutting-edge manufacturing facility in Maine. With support from AMC's innovative engineering and manufacturing services, Kirkey opened the production facility in Ashland.

How to Install Cedar Shingles

AMC sought private industry partners such as Dana Hodgkin, owner of Manchester, Maine-based Progress Engineering, for additional system integration and controls support.

Working with Ecoshel and Progress Engineering over the energy engineering and mathematics. This fall, she has begun graduate work in energy science, technology and policy, with a disciplinary concentration in chemical engineering at Carnegie Mellon University. Upon graduation in May 2015, she plans to work with alternative liquid fuels in an industrial setting.

Fairman submitted a poster regarding her Honor's Thesis to the SWE Collegiate Technical Poster Competition. Fairman was selected as a finalist and has been invited to attend the SWE Conference where she will be recognized on October 25 at the Celebrate SWE banquet! This is the closing banquet of the conference, attended by about 2000 (or as many as the event hall will hold) SWE professional and student members. The event is always sold out.

Evelyn is starting her graduate studies at Carnegie Mellon.

More information on Fairman online.

Diane Woodworth
New Development Officer

I am pleased to introduce myself as the new development officer for the University of Maine's College of Engineering.

Here's a little about me:

- certified fundraising executive with more than 20 years of development and marketing experience
- received my bachelor's degree in Business Administration from the University of Maine at Augusta and am aa graduate of the Kennebec Leadership Institute (KLI)
past six months, AMC developed an automated system that can scan, optimize and cut raw lumber to produce a shingle every second with the specialized features of Ecoshel's system. Once the shingles are made, they are assembled into Ecoshel's cedar siding panels that use a unique, patented installation system that minimizes installation effort, waste, extra weight and materials, and extends shingle life. This is the first of many assembly lines Ecoshel plans to use based on the specifications and prints developed by the AMC, according to Belding. AMC plans to share information and assist Ecoshel's private partners with building the remaining systems.

More information about Ecoshel is online.

The University of Maine does not discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age, disability, genetic information or veteran's status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding nondiscrimination policies: Director, Office of Equal Opportunity, 101 North Stevens Hall, 207.581.1226.

- worked at Mount Desert Island Hospital, The Jackson Laboratory and most recently as development director for Spectrum Generations in Augusta, Maine
- an avid photographer who enjoys traveling, hiking and kayaking.

I am looking forward to working with you to support the College of Engineering. Please don't hesitate to contact me at diane.woodworth@maine.edu