



The Beacon



The Aperiodic Newsletter of the IEEE Maine Section

July 8, 2016

Note from the Chair

The **Beacon** is back for its second issue! And my thanks to the many who contributed items, both long and short.

Our purpose is to let our Maine members know of items of interest as a quick to read -- a summary of the goings on of our membership and other things of interest. No long articles, but references/links to more detail if as a reader one wants to pursue them.

To be successful, we need your new input. Nothing long and elaborate. A quick 25-50 word note to our Editor <who is going to volunteer?> of something you did, a new job, your retirement or someone else's, an up coming IEEE or other activity of potential interest to our members, an interesting article you read, etc. Do you have something for our next issue? Please send it to Ron Brown, Acting Editor, ron@ronaldobrownconsulting.com, 781-665-6269(m).

And to, what would you like for Section activities? Social? Professional Development? Comments? Suggestions? Please let your Section officers know how we can make the Maine Section better meet your needs. Our emails are at: http://www.ewh.ieee.org/r1/maine/me_officers.html.

Regards,

Ron Brown
Maine Section Chair

Key Section Positions Open

The Maine Section has two important positions to fill:

- **Secretary.** This largely consists of taking ExCom meeting minutes, emailing them to ExCom members, and completing the IEEE L31 form so we get credit for the meeting.
- **Beacon Editor.** This consists of collecting the Beacon notes (like this one), performing minor editing and formatting, and distributing them to section members.

If you are interest in supporting your section in either of these positions, please contact Ron Brown, 781-665-6269(c), ron@ronaldobrownconsulting.com.

Great Reason to Renew Your IEEE Membership!

Recently the Maine Section nominated a distinguished Maine EE for an IEEE award. Then, we discovered that s/he had let his/er IEEE membership lapse and therefore was not eligible. *Don't miss out on the benefits of membership. Renew today!*

3rd Annual Stormwater Institute

The 3rd Annual Stormwater Institute was held at UMaine in Orono, June 21 - 29, 2016. The Institute is a hands-on workshop for High School students who are participating in the Stormwater



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Management Research Team (SMART) program. SMART, an NSF funded, education research project, aims to engage a diverse group of students and teachers in the implementation of science, technology, engineering, and mathematics (STEM) in schools while addressing important environmental issues. The Institute kicks off a yearlong program for 10th and 11th graders by introducing them to the science and engineering of stormwater management, including environmental and economic impacts. The students engaged in a hands-on engineering project, designed and led by IEEE student member Shaun Veilleux, an MSEE graduate student at UMaine. The project involved assembly of an Arduino microprocessor board, a digital temperature sensor, and a 1602 LCD display to make digital temperature sensors. To keep the project simple, I2C communication was used to communicate with the LCD screen, reducing the number of solder joints so that two units could be assembled in just 1.5 hours. “The project was designed to be simple to assemble, but complex enough to teach students what is possible in engineering”, says Shaun. The students worked in pairs, learning soldering skills and safety, how to follow a circuit schematic, and teamwork. Students collected Stillwater River water samples, measured temperature and other parameters, then analyzed and presented their data. FMI: <https://umaine.edu/news/blog/2016/06/17/high-school-students-study-stormwater-management-annual-umaine-institute/>

Stormwater Institute Grad Wins International Award

Paige Brown, a 2014–2015 SMART Institute participant and recent Bangor High School graduate, received one of three first-place awards -- worth \$150,000 -- from Intel Science Talent Search, a national competition recognizing the brightest young minds in science. Brown, who invented a device for improving water quality, won the First Place Medal of Distinction for Global Good, which recognizes a finalist who demonstrates great scientific potential through their passion to make a difference.

UMaine SMART Nationally Recognized

The SMART program was recognized by the Institute of Electrical and Electronic Engineers’ (IEEE) *InSight* magazine as a “Model for Boosting STEM Literacy” and will appear in the upcoming issue of *ChemMatters* magazine produced by the American Chemical Society. IEEE also recognized Mohamad Musavi, SMART director and associate dean of the College of Engineering at UMaine; and Cary James, head of the Bangor High School science department, with its national K–12 STEM Literacy Educator-Engineer Partnership Award in 2014. Musavi has been invited to present at the NSF Distinguished Speaker Series.

Space Bound!

UMaine’s wireless leak detection devices are expected to be ISS-bound in August. WiSe-Net Lab researchers also are exploring wireless technology with practical applications on Earth, including projects addressing issues related to veterans, aging and rural broadband.

In April, electrical engineering graduate students Casey Clark and Lonnie Labonte tested the payload, performed an electromagnetic interference (EMI) test, and completed the Phase 2 safety review of the prototype at NASA Johnson Space Center in Houston, Texas. The project was one of five in the nation to receive funding from NASA–EPSCoR for research and technology development onboard ISS.





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Ali Abedi, a UMaine professor of electrical and computer engineering, was awarded the three-year, \$100,000 NASA grant through the Maine Space Grant Consortium in 2014. Collaborators on the project include Vincent Caccese, a UMaine mechanical engineering professor, and George Nelson, director of the ISS Technology Demonstration Office at the NASA Johnson Space Center. FMI: <https://umainetoday.umaine.edu/archives/spring-summer-2016/space-bound/>

Upcoming Events

38th Annual, International Conference of the IEEE Engineering in Medicine and Biology Society

Professor Rosemary L. Smith of UMaine's ECE Department will present *Directing the Spatial Patterning of Motor Neuron Differentiation in Engineered Microenvironments*, coauthored with C. J. Demers, and S. D. Collins at the 38th Annual, International Conference of the IEEE Engineering in Medicine and Biology Society on August 17, 2016 in Orlando. FMI: <http://embc.embs.org/2016/>

Maine Engineering Workforce Summit

Maine faces a looming shortage of engineers. Given how important engineers are to Maine's economy, this Summit will present a call to action to increase the number of engineering graduates by expanding and upgrading our engineering teaching facilities in Maine. Together, we must gain the support of our policymakers, legislative, and corporate leaders to invest in our university system to meet growing needs for a sustainable Maine economy. September 29, 2016; Ramada Inn, Lewiston; 7:00AM to 12:15PM. FMI: www.engineeringme.com/mews or Victoria Bermudez Wingo, Executive Director, Maine Engineering Promotional Council, 207.581.2204, victoria.wingo@maine.edu.

Global Tech Summary Article

Bloomberg Businessweek for June 13-24 is a special issue on Global Tech. It's a quick way to see what is being developed around the world.

Future Meeting Formats

We live in a world full of technology and online interaction tools, yet no one knows the golden solution to replicate human interactions. Traditional in person lecture based IEEE meetings does not seem to attract as many members as it used to a decade ago. Online meetings and streamed events are also not that well attended either. One might think a hybrid combination of physical and online with a perfect blend is the solution, but the picture of attendees at the Mobile World Congress using Virtual Realty (VR) headsets is probably not that solution. We encourage our members to write their idea of a perfect meeting to the Beacon editor to help us plan future events that meets your needs.



Curt Beveridge Retires from CMP

Curtis Beveridge retired after 31 years of service at Central Maine Power Company and 45 years of service in the Maine electric utility industry as an engineer in many roles. His time was spent between CMP, the former Maine Public Service (MPS) and supporting IEEE activities. Join us in congratulating Curt (curtbeveridge@roadrunner.com) on this very exciting time of his life; one we all look forward to!