

THE OBSERVER

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A WORD FROM THE PRESIDENT

By: *Carl Thunberg, PE*
NHSPE President

As I write this, the forsythias and daffodils are in bloom and the sound of spring peepers is in the air, after a long and snowy winter. I'm sure we're all glad spring is finally here! With spring comes our Board of Directors Ballot. Watch your email for a link to our Survey Monkey ballot. The ballot will take no more than two minutes to complete. At the end of the ballot, we ask if you would be willing to serve on the Board. Please consider this request. We are an all-volunteer Board composed of members that stepped forward to volunteer their time. It is people that make programs like MATH-COUNTS, legislative tracking, teacher awards, student scholarships, and continuing education events happen.
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Engineer's Week Banquet

Engineers throughout the State of New Hampshire celebrated the 66th Annual Engineers Week, coincident with the week of George Washington's birthday, our nation's first engineer. The day began with an afternoon of continuing education sessions, followed by the reception, presentation of the engineering award winners, a delicious buffet dinner and final words by our keynote speaker, **Buck Beaudoin**. The event was attended by over 230 engineers, students and faculty from UNH, NHTI, and guests. New Hampshire Chapter engineering societies (ACEC, ASME, ASCE, IEEE, NHPWA, SENH, SAME, NHITE, and NSPE) and 27 engineering firms and exhibitors sponsored the festivities to make it a successful event. Without all of the support within our engineering community, this banquet would be extremely difficult to execute.

The continuing education sessions were extremely well attended. The first presentation was by **Jodie Bray Strickland, P.E.**, of CMA Engineers who talked about siting water supply wells in villages in Uganda. A four-member travel team from EWB-NH visited Uganda in October of 2016 to complete a site assessment. Jodie gave an overview of the trip objectives and how they were accomplished, as well as presentation of the challenges met along the way for a project in a third world country.

Professors Hsi Wu Wong and Hunter Mack, of UMASS Lowell Engineering Department discussed their combined research in finding alternative fuels to replace diesel and gasoline while lowering costs and increasing yield. Due to the high cost and production time to synthesize materials for testing, they developed a model allowing chemists to screen fuel properties for desirable candidates by predicting the cetane number of a fuel molecule, a measure of its ignition quality. The approach enables researchers to focus on molecules by eliminating less favorable ones in relation to their ignition quality.

The final presentation was by **Professor Jean Benoit** of UNH – Durham College of Engineering and Physical Sciences. He discussed a massive landslide in Oso, Washington on 22 March 2014, after a 3-week period of intense precipitation. Debris flows from the Oso Landslide rushed downward rapidly, destroying homes, burying a section of a major highway and

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Engineer's Week Banquet (Continued from Page 1)

claiming 43 lives. Jean was part of team from the Geotechnical Extreme Events Reconnaissance (GEER) Association. The field observations and other available data suggest the event occurred in two main stages. Through this work as well as looking at the historical landslide data in the immediate Oso region, including hydrology, geology, geomorphology and rainfall data, the GEER team identified a number of factors potentially contributing to the Oso Landslide and provide some broader lessons for those involved in assessing landslide safety.

Well done, Jodie, Hsi Wu, Hunter, and Jean.

After the educational sessions, it was time to salute the exhibitors, eat, drink and be merry. The exhibitor and social portion of the banquet was noisy as usual, in a good way. Unfortunately, it ends too soon, yet the dinner tables awaited and the SERESC staff make sure we get motivated to sit down. Welcoming words and emcee duties were provided by Mr. Lawrence Dwyer, P.E., of NHSPE.

Consistent with tradition, we recognized not only the past engineering award winners in the audience but two more New Hampshire engineers among our profession. This year the **Young Engineer of the Year for 2017** was awarded to **Rebekah Gaudreau, P.E.** The **Engineer of Year for 2017** was awarded to moi, **Lawrence Dwyer, P.E.** The winners were selected by a panel of their peers nominated by their professional society affiliation. The past award winners were front and center to congratulate and present the awards to Becky and Larry. Both recipients were recognized for their contributions to their profession and community achievements. Well done, Becky and cheers to me.

Also recognized this year was the 2016 New Hampshire MathCounts champion, **Austin Wu** of Windham, NH, an 8th Grader at the Academy for Science and Design. Congratulations, Austin. On a side note, Austin won the state meet last month, so Austin will be get dinner again at the next Engineers Week 2018.

The evening concluded with a presentation by **Buck Beaudoin**, Principal at Mad Pow. He discussed his passion for ways to keep our young NH students interested in STEM subjects and seek ways to reach out to our youth and keep them in our great state. Those interested in doing what they can for the STEM initiative should reach out to Buck or the New Hampshire STEM Task Force at <http://www.education.nh.gov/instruction/stem/>.

Once again, the planning process begins for next year's event. We welcome your ideas about who the next keynote speaker could be, as well as potential educational session presenters. We also need you to call the NHSPE board members and offer your organizational skills and help continue to make this annual event a memorable one. Thanks again to all those who attended, our technical session presenters, exhibitors, sponsors of E-Week 2017, and of course Mr. Beaudoin.

Submitted by Lawrence Dwyer, PE

THE OBSERVER

The Observer is published quarterly by the New Hampshire Society of Professional Engineers for its members. Its purpose is to inform members of NHSPE activities and related topics.

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Rebekah Gaudreau, P.E. being awarded the 2017 Young Engineer of the Year by 2016 recipient, Chris Fournier, P.E.

Larry Dwyer, P.E. being awarded the 2017 Engineer of the Year by 2016 recipient, Joe Ducharme, P.E.



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Word from the President (Continued from Page 1)

NSPE-NH tracks pending legislation in the New Hampshire General Court (House and Senate). In our January Observer, we reported on two House Bills that could affect licensure of professional engineers. **House Bill 538** would have required the *default* temporary licensure of comity applicants from other states and countries while their comity application was pending. **House Bill 522** would have established a committee of House and Senate members to identify which licenses could be made optional, including professional engineers. NSPE-NH wrote letters of opposition to both bills. I am happy to report that both bills were deemed inexpedient to legislate in Senate committees and neither bill made it a vote in the Senate.

NSPE National is considering a new business model that will result in a level dues structure across the country. Currently, NSPE manages a unique membership dues structure for every state, resulting in hundreds of variations of dues structure, depending on which state and chapter society you belong. This is not a sustainable model, and the NSPE Board of Directors has developed a proposed business model whereby each state would receive funding proportional to their

capacity and level of service from NSPE. With a uniform dues structure across the country, member dues would increase in some states and decrease in others, based on their current dues. New Hampshire will likely experience an increase in dues. At this time, we do not know the extent of increase, but we will be advocating for the lowest impact possible. The business model will appear before the NSPE House of Delegates at the Professional Engineers Conference in Atlanta, GA in July.

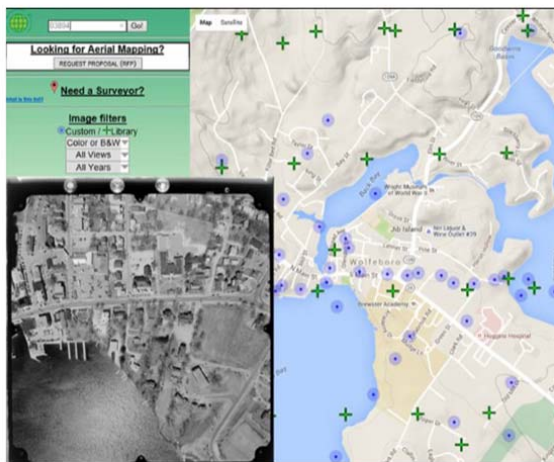
NSPE-NH has two remaining continuing education events scheduled for our members before the summer recess. Look for announcements of the following events. We would love to see you there!

- May 22 – Fratello’s Restaurant.- New Professional Engineer Dinner – 1 PDH
- June 15 – Quechee Inn, Quechee, VT - Joint Annual NH/VT Meeting and Swearing in of Officers

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January Meeting—Redhook Brewery

The New Hampshire Society of Professional Engineers hosted a dinner meeting and brewery tour at the Redhook Brewery on January 25, 2017. The meeting topic was *Response to an Active Building Collapse Under Snow Loads – Careful Decisions Made Through Teamwork on a Very Fast Track*, and was presented by Jason L. Gallant, P.E. of CMA Engineers, Inc.

The presentation covered the initial response to progressive collapse of a 72,000 SF warehouse under snow loads; design and construction management for an interim 18,000 SF building to allow operations to resume; and design and construction management of a permanent replacement structure; all completed in under six months.

CMA Engineers responded to a client request to evaluate the snow load on a structure in February 2015. The winter of 2015 had large snowfall amounts, with the coastal regions of New Hampshire near 140% of the average annual snowfall by February, and 37 days of at least 18" of snow on the ground (7th highest on record since 1893 and most since 1987). The day fol-



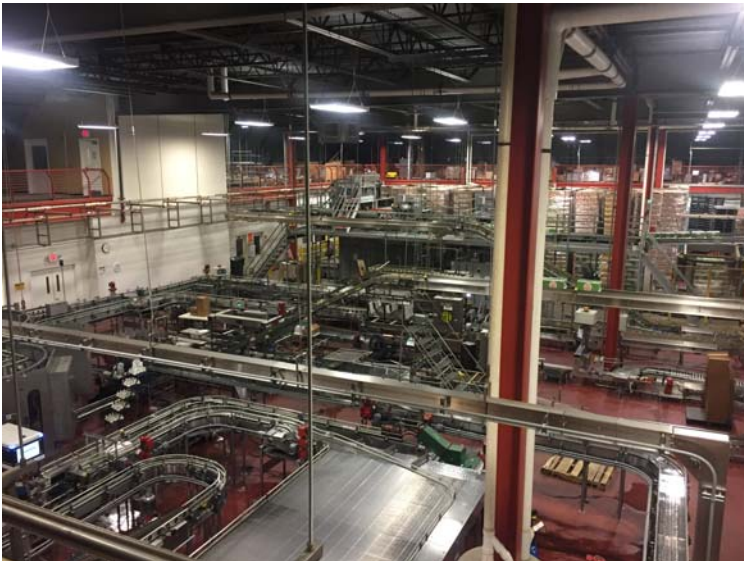
lowing the initial inspection, the building partially collapsed and brought manufacturing to a standstill.

CMA Engineers, along with other members of the design team, now faced

the task of determining the best procedure to on how secure the existing building, develop an interim facility, and ultimately construct a new building so manufacturing operations could resume, as the client was losing substantial money while the plant was down. Mr. Gallant presented a step-by-step outline of how this happened over the 6 months following the collapse with photos of all the steps along the way.

NHSPE would once again like to thank CMA Engineers and Jason Gallant for making this presentation.

Submitted by Jason J. Beaudet, PE





Governor's Office Feb 22, 2017 for Engineers Week Proclamation with Presidents and Award Winners

From Left to Right: Jeff Santacrucce (NHITE), Alicia Dunstan and Alex Koutroubas (ACEC-NH), Thalia Valkanos (ASCE-NH), Ed Nelson (IEEE-NH), Gov. Sununu, Rebekah Gaudreau (YEOY), Larry Dwyer (EOY), Geoffrey

MATHCOUNTS State Competition Results

Winning Teams:

Crossroads Academy
 Academy for Science and Design
 World Academy
 Windham Middle School
 Richmond Middle School
 Hampstead Academy
 Plymouth Elementary School

Individuals:

Austin Wu – Windham Middle School
 Aushul Rastogi – Rastogi Home School
 Maxine Park – Crossroads Academy
 Miriam Viazmenski – Crossroads Academy

Countdown Round:

Andrew Huang – Crossroads Academy
 Anshul Rastogi – Rastogi Home School

Coach:

Alison Gorman
 Karen Legault
 Srilakshmi Sankar
 Miguel Pires
 John Kitzmiller
 Cecelia Carroll
 Kevin Greenler

Coach:

Miguel Pires
 Anusha Murali
 Alison Gorman
 Alison Gorman

Runner Ups:

Jonathan Li—Crossroads Academy
 Rose Luttmer—Richmond Middle School

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MATHCOUNTS State Competition Results (Continued from Page 6)

The New Hampshire team will be made up of the four top individuals at the State Competition and they will compete in the National MATHCOUNTS Competition in Orlando, FL on May 14-15. Alison Gorman, coach of the Crossroads Academy team, will coach the NH team and will accompany the team to Orlando.

This year, the six winners of the Robert Evans Awards (Individual top scorers at the Regional Contests) are as follows:

North Country Region:

Sachin Umashankar—Profile School

Keene Region:

Nathan Chasse—The Beech Hill School

Lebanon Region:

Andrew Huang—Crossroads Academy

Plymouth Region:

Hunter McLeod—Plymouth Elementary School

Southern NH Region:

Akshay Shinde—Academy for Science and Design

Seacoast Region:

Austin Wu—Windham Middle School

Submitted by Ben Pratt, PE

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