



## Chapter Activities – Summary

- January 18, 2014 – PEO Scarborough Chapter Annual General Meeting, Board Elections, and Technical Talk
- February 19, 2014 – Seminar 1 – “Enhance Your Connection to Personal and Professional Success”
- March 1, 2014 – Youth Career Fair
- March 29, 2014 – Bridge Building Competition
- April 24, 2014 – Seminar 2 – “Hazardous Area Classification”
- May 4, 2014 – Licensure Assistance Program – Wrap-up ceremony
- May 30, 2014 – Certificate Presentation Ceremony
- June 25, 2014 – Seminar 3 – “Bike Facilities”

Details on events on chapter website –  
[www.scarborough.peo.on.ca](http://www.scarborough.peo.on.ca)

## Board of Executives 2014

Post	Name
Chair	Madu Suthanan, P.Eng., FEC
Vice Chair	Jega Jeganathan, PhD, P.Eng.
Past Chair	N. Asogan, P.Eng.
Secretary	David Dias, P.Eng.
Treasurer	Ranee Mahalingam, MEng, P.Eng., FEC
Executive	Murad Hussain, MEng, P.Eng.
Executive	Victor Lin, P.Eng.
Executive	Harsh Singh, EIT
Executive	Miles Mailvaganam, P.Eng.

### How to contact the board:

Email – [scarborough@peo.on.ca](mailto:scarborough@peo.on.ca).



## Upcoming Events 2014

- Technical Tour – August 9, 2014
- BBQ Event – August 16, 2014
- Mathletics Competition – November 8, 2014
- Aspiring Engineer Scholarship Presentation – TBD
- Fall Certificate Presentation Ceremony – TBD
- Establish Mechatronics Clubs in High Schools – TBD
- STEMZ – Commence Article Publication – TBD
- Mechatronics Car Contest (MCC) – TBD
- Volunteer Appreciation – December, 2014

*As an educational device, TV rates above anything else. No nation in history has ever known as much as we do about detergents and deodorants.*

## Chair’s Message

**Madu Suthanan, P.Eng., FEC**  
Chair, Scarborough Chapter – PEO

Let me first thank you, our chapter members, for electing the new Board of Executives (BOE) and allowing me to continue as chair for a second term. Your board hopes to continue the good work done so far and improve on our services to you, and to the local community.



We earnestly request your participation as active volunteers where you can spare your time as well as share your skills. Our chapter success is measured by your volunteer participation.

On March 29, we celebrated our 11th anniversary of the Bridge Building Competition (BBC), for grades 3 to 8 students to mark the National Engineering Month (NEM).

We already had a number of monthly technical seminars, and they were well attended. Also we are planning a number of family events, such as a BBQ and a trip to Peterborough Lift Locks. Our Mathletics contest is planned for November.

This year, we have added two new programs for high school students:

- 1) *Establish Mechatronics Clubs in five of our 34 high schools.* This is approved for Special Projects Funding by the Regional Councillors Committee (RCC). This will add an educational and hands-on training component to enhance our Mechatronics Contest. Our volunteers and their high school children will be trained in designing and fabricating electronic and mechatronic equipment, including the related theories. There will be a training program for high school teachers so that they can assist their students with learning and preparation for contests.
- 2) *Introduce a “STEMZ” program for high school students.* STEM stands for science, technology, engineering and math. This program will have two components:
  - a) *An educational component* – Our volunteers will place on our website technical articles on popular subjects students come across in real life that use the high school math curriculum to understand science, technology and engineering problems. A set of questions, answers and solutions will also be supplied.
  - b) *A contest component* – In 2015, we will have a STEMZ contest to test the students on the subjects covered in the articles. The STEMZ program will give our volunteers an opportunity to publish on-line technical articles for high school students and also revise and keep up to date with current school work, to help their own children/grandchildren in their school work.

We welcome suggestions and ideas from you.

## PEO Scarborough Chapter 2014 Annual General Meeting

**David Dias, P.Eng.**  
Secretary, PEOSC

The 2014 Annual General Meeting (AGM) of PEO Scarborough Chapter was held at Victoria Village Public Library at 184 Sloane Ave, Toronto, on January 18, 2014. Approximately 50 members attended. The AGM started at 4:30 p.m. with registration, followed by fellowship and networking; this was a great time to catch up with friends and other members.

Chapter Chair Madu Suthanan, P.Eng., addressed the meeting and welcomed all the members and guests. He showed appreciation for the support and enthusiasm demonstrated by the members and volunteers for the successful events undertaken during his tenure.

Syed Raza, P.Eng., Secretary, presented the Secretary's Report highlighting the major events held in 2013. He appreciated the volunteers' involvement in the chapter activities. Rane Mahalingam, MEng, P.Eng., FEC, Treasurer, presented the 2013 Financial Report.

At this AGM, four of our member volunteers received awards in recognition of their contribution to PEO. The awards were announced by our chapter Awards Committee Chair, Rane Mahalingam, MEng, P.Eng., FEC, and they were presented by Thomas Chong., MSc, P.Eng., FEC, PMP, Vice President, PEO (now President-elect, PEO).



Murad Hussain, MEng, P.Eng., and Uthayan Thurairajah, MSc, MIES, P.Eng., were awarded their five-year volunteer pins and certificates. Raju Chander, MSc, P.Eng., and



Madu Suthanan, P.Eng., were awarded their FEC certificate and 10-year volunteer pins and certificates.

N. Asogan, P.Eng., Chair of the Search Committee, then introduced the committee members, and described the search and election process. He then dissolved the board and announced their recommendations for the new board. All board members for 2014 were acclaimed and no elections were necessary. He then announced the new board members.

Campaign speeches for PEO Elections 2014 were made by several candidates.



After dinner, an informative technical talk on "Extreme Opportunities: How Engineers Can Rise to the Challenge of Extreme Weather Events" was presented by Dr. Jennifer Drake, MSc, PhD, EIT, Assistant Professor of University of Toronto's Department of Civil Engineering.



## Bridge Building Competition

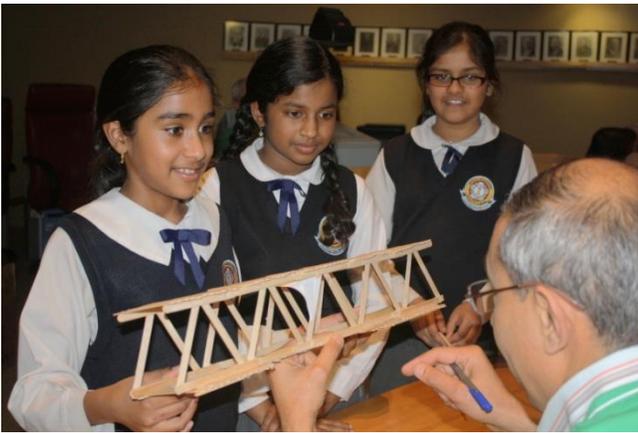
**Harsh Singh, EIT**  
BBC 2014 Project Manager

The 11th Popsicle Stick Bridge Building Competition (BBC) organized by the PEO Scarborough Chapter was held on Saturday, March 29, 2014 in the Council Chamber of the Scarborough Civic Centre. This event was organized to promote awareness of an engineering education as a career choice among junior students, as well as creativity and team building while having fun.



This year's event hosted 75 teams, approximately 200 students from public, private, and catholic schools in two groups (Juniors: grades 3-6 and Seniors: grades 7-8). The bridges were required to be made of ordinary Popsicle sticks along with white glue.

The bridges were judged against the following criteria: student presentation, creativity, construction quality, bridge technique and aesthetics. After judging, the bridges were tested to destruction by the load testing machine designed, built and donated in 2006 by an engineer (volunteer) of our chapter.



Dignitaries in attendance included Soo Wong, MPP for Scarborough-Agincourt, and Paul Acchione, P.Eng., President, Ontario Society of Professional Engineers.

Special thanks to the chapter members and volunteers for their remarkable support during the event.

## Proud Moments for Scarborough Chapter

We are proud to announce that two of our chapter members received Ontario 10-year Volunteer Service Awards. These were awarded by the Ontario government on the recommendations of PEO.



Raju Chander with Michael Chan, MPP, on March 27, 2014



Madu Suthanan with Soo Wong, MPP, Brad Duguid, MPP, and Bas Balkissoon, MPP, on April 15, 2014

Raju Chander, M.Sc. P. Eng., FEC., received his 10-year Service pin on March 27, 2014 at a ceremony held in Richmond Hill.

Madu Suthanan, P.Eng., FEC., received his 10-year Service pin on April 15, 2014 at a ceremony held in Scarborough.



## Certificate Presentation Ceremony 2014

David Dias, P.Eng.  
Secretary

On May 30, 2014, PEO Scarborough Chapter conducted its Spring Certificate Presentation Ceremony at the Scarborough Convention Centre. Forty-five members of the Scarborough Chapter received their P.Eng. certificate. The event was well attended by family and friends of the newly licensed engineers.



The event began at 5:30 p.m. with registration, networking, and appetizers. At 7:00 p.m., guests were invited to take their seats by Emcee Rane Mahalingam, MEng, P.Eng., FEC. Chapter Chair Madu Suthanan, P.Eng., FEC., delivered the welcome address. This was followed with addresses by our guests of honour, Thomas Chong, M.Sc., P.Eng., FEC, PMP, President-elect, PEO, and Paul Acchione, B.A.Sc, MEng, P.Eng., Past Chair, Acting CEO, OSPE.

PEO Certificates of Appreciation were then announced by Awards Committee Chair Rane Mahalingam, MEng, P.Eng., FEC, and awarded by Thomas Chong, M.Sc, P.Eng., FEC, PMP, President-elect, PEO, to N. Asogan, P.Eng., Past Chair, Syed Raza, P.Eng., Past Secretary, and Paul Morton, P.Eng., former Financial Reviewer, who was



absent.

Dinner came next along with a keynote speech by Aziz Ahmed, P.Eng., of Ministry of Environment, on the topic of

“Risk Management to Drinking Water—Ontario Ministry of the Environment’s View”.

PEO Licence Certificates were handed out to the newly licensed engineers while family and friends applauded their accomplishment. The event concluded with group photos of the newly licensed engineers.



## Discipline Coordination

*Peng Zhang, P.Eng., LEED AP*

**C**oordinating disciplines is very important to successful engineering projects. As a lead electrical design engineer, I have worked through several major municipal multidisciplinary engineering projects. From an electrical design point of view, we need to coordinate with several other disciplines through the design stage. Here are some of my notes about coordinating disciplines:

**Electrical and Mechanical Coordination:** There are many areas of coordination between electrical and mechanical. One of the key areas is the equipment and motor list, which indicates the equipment voltages, kW ratings, equipment operating methods, etc. The equipment and motor list is an important design document, which is usually generated by the mechanical/HVAC designers and passed on to the electrical designers after completion. Any changes to the equipment, especially changes on voltage or kW rating, result in prompt notice to the electrical designers. Some designers may focus only on their own design area and ignore this coordination. This could lead to extra changes during the construction stage.

**Electrical and Civil Coordination:** Some projects may have underground concrete encased duct banks, direct buried conduits, maintenance holes, outside pad-mounted transformers, outdoor generators, switchgear, site lights, etc. This information is normally required to be shown on the electrical site plan. Electrical designers need to work with civil designers to avoid any other interferences, such as underground water piping, gas piping, etc., in the way of the mentioned electrical components. A little effort during the design stage will make a difference.

**Electrical and Architectural Coordination:** There are some areas of design coordination between electrical and architectural. One of these is electrical room size. Electrical designers need to get all the required electrical equipment dimensional layouts and code requirements for working in front of the electrical equipment and pass the information to the architectural designers. This will help them to design the required electrical room. Another area of coordination is the ceiling types. Electrical designers need to know the type of ceilings for the lighting design. Any changes on the ceiling

result in the architectural designers informing the electrical designer accordingly.

Some projects may need to pursue LEED (Leadership in Energy and Environmental Design) certificates. Electrical designers should work closely with architectural designers in order to design the proper lighting control system.

**Electrical and Structural Coordination:** In some projects, we run the conduits through walls and floors. We need to coordinate with structural designers to avoid punching or drilling holes on the structural beams, or any other building key structural support elements.

**Electrical and Instrument/Control Coordination:** Some programmable logic controllers (PLC) or supervisory control and data acquisition (SCADA) control panels are located in the control room or electrical room. Coordination between electrical and instrument/control are required for the room space, as well as the power supplies to the panels.

Overall, there are many items to be coordinated in a multidisciplinary engineering project and some could be complicated. The more we pay attention to these areas of coordination, the more successful a project will be.



## PEO Education Conference 2014

*Lan (Victor) Lin, MEng, P.Eng., LEED AP  
Chapter Education Committee Chair*

**P**EO Education Conference 2014 was held on May 23 and May 24, 2014. This year’s theme was entitled “Math is All Around Us, Practical Tools for Innovation”.

Delegates across Ontario took part in this conference. Educators experienced in child education made wonderful presentations. Some students were also invited to demonstrate their excellent work. The most exciting part of the conference is the showcase of chapter events. Selected chapters shared their awesome activities with other chapters.

Scarborough Chapter was one of selected chapters. Our events impressed the delegates. In the conference, Waterloo Chapter especially thanked Scarborough Chapter for helping them to set up the Mathletics Contest a few years ago. The Mathletics Contest has become one of their important events. Waterloo Chapter invited Scarborough Chapter to assist them to launch the Bridge Building Contest.

*Imagination is the highest kite one can fly.*

*Bacall*

**Editor: David Dias, P.Eng.**

We welcome our readers’ contributions:

- ✓ Articles of engineering interest, and subjects of interest to the engineering community (within guidelines of PEO)
- ✓ Suggestions for future events – seminars/technical visits/workshops, etc.
- ✓ Suggestions for improvement of newsletter/website.

Contact: [editor@peoscarborough.ca](mailto:editor@peoscarborough.ca)

Website: [www.scarborough.peo.on.ca](http://www.scarborough.peo.on.ca)