



## Chapter Activities – Summary January to April 2010

- Feb 2010 - Annual General Meeting 2010
- 6 March 2010 Bridge Building Competition 2010
- 27 March 2010 Youth Career Fair, U of T Scarborough
- 31 March – 4 April 2010 NSBE International Conference

Details on events on chapter website –  
[www.scarborough.peo.on.ca/Cha\\_def.htm](http://www.scarborough.peo.on.ca/Cha_def.htm)

## Forthcoming Events

- 31 May 2010 – Spring Licence Certificate Presentation Ceremony

## 2010 Board of Directors

Chair – Raju Chander, M.S., P.Eng.  
Vice Chair – N. Asogan, P.Eng.  
Past Chair - Rane Mahalingam, M.Eng., P.Eng.  
Secretary – N. Madusuthanan, P.Eng.  
Treasurer – Murad Hussain, P.Eng.  
Director - Whitefield Ye, P.Eng.  
Director - Mahesh Mathrani, P.Eng.  
Director - Joe Ha, engineering intern  
Director - Pompilian Tofilescu, engineering intern



L-R: Whitefield Ye, Mahesh Mathrani, N. Asogan,  
N. Madusuthanan, Raju Chander, Murad Hussain,  
Rane Mahalingam, Pompilian Tofilescu.  
Absent: Joe Ha

## Chapter Chair's Message

Engineers need a vision, a vision to create a safer and sustainable Earth; not just for the human beings but for all living beings that are an intrinsic part of this land. This could be considered as an idealistic vision but we do need to realize that great things happen only with such



visions. When John F. Kennedy said that we will put a man on the moon, many thought it was idealistic! It is this idealism that has created the whole suite of new wonders like cell phones, remote handling devices and even the remote answering devices used in Mathematics!

It is the duty of engineers to convert these idealistic thoughts into reality. Historically, this has been demonstrated innumerable times. We need to move on and face new challenges – today's challenges. The biggest challenge before us is environmental destruction. The more engineers create, the more they damage nature. Hitherto our mandate was to create more and more at the cheapest price. This is no longer tenable as it is unsustainable. This unidirectional approach needs to be challenged and questioned by engineers; otherwise we will no longer be students of science in the service of community but rather we will become puppets of the market economy!



Chair addressing AGM 2010

## Chapter Chair's Message – (cont.)

We need new visions; I can assure you that at PEO Scarborough we will support any new idea that has the potential do anything good for people at large, or be good to the engineering community. I whole heartedly invite all of you to take this challenge and join us in the adventure! Let the year 2010 usher in a new era, not only for our chapter but for the engineering community itself!

I am proud to say that Scarborough Chapter is one of the PEO chapters that has gotten the unrelenting support of a team of dedicated volunteers who are prepared to support all the activities of PEO. In addition to our chapter activities, our volunteers have also supported other chapters who have sought our help in conducting Bridge Building Competition and Athletics. Our presence was also felt in the mammoth engineering convention held by the National Society of Black Engineers (NSBE) wherein thousands of engineers from the USA and Canada participated.

Our chapter will also join the new PEO initiative to mentor fresh and foreign trained engineers which will guide them in obtaining the professional engineer licence. This program will be augmented further by our initiative in finding ways and means to provide engineering experience required by the licensee.

*Raju Chander, M.S., P. Eng.*

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## Aspiring Engineering University Entrance Scholarship 2010

Professional Engineers Ontario Scarborough Chapter is pleased to announce the availability of two scholarships (for one male and one female student), each worth \$500, to promote engineering within the Scarborough community.

PEO Scarborough Chapter would like to invite applicants who are currently in grade 12 in a Scarborough region high school, and will be entering a Canadian Engineering Accreditation Board (CESB) approved Ontario university engineering program in September 2010.

Details can be found on the chapter website at [http://www.scarborough.peo.on.ca/events/2010/jun30-asp\\_eng/](http://www.scarborough.peo.on.ca/events/2010/jun30-asp_eng/)

## 2010 - Yet Another Great Popsicle Stick Bridge Building Competition

*By: Narayanapillai Asogan, P.Eng.*

March 6, 2010 – Scarborough Civic Centre Council chambers was filled with 51 teams of school children from the Scarborough area in grades 3 to 8, with their parents and teachers showing their talent in designing and constructing a strong structure to resemble a bridge to a set of specifications given to them and to show how strong the structure was. In total, there were over 250 people in the auditorium.

National Engineering Month is a nationwide festival of events from February 27 to March 7, 2010 to raise public awareness of engineering and technology and to encourage young talents to take up careers in these fields.

Professional Engineers Ontario is a partner to this festive week and the Scarborough Chapter conducted its seventh consecutive Popsicle Stick Bridge Building Competition (BBC) for school children to promote engineering and technology to young minds who could become designers of our future infrastructure

The competition basically is to design and build a bridge structure with Popsicle sticks and white glue as per the given dimensional and weight criteria. The idea is to cultivate the young brains in visualizing something and creating it in real terms. Teachers and parents also participate by guiding the children to put their creative ideas into reality.



*Bridge under test*

The creations of these young talents are put to a series of tests by experienced structural engineers, who examine the bridges for conformity to the given specification, evaluating the students' capability to understand the specifications. The children have to explain their design concepts - like why a certain part of the bridge was designed in

such a manner, how different parts of the bridge contribute to its strength etc. Each of these design concepts and the students' presentation – such as visual appearance of the bridge, verbal presentation - are evaluated and points are given. Prizes are awarded to those teams scoring the highest in these evaluations as Judges Awards. Then the bridge is placed on a testing rig where a central load is applied till the bridge fails and the load to fail is registered by an electronic load measuring device. The load at failure is translated to a performance index (Performance Index = load/mass of bridge). The bridge with the highest performance index gets the award for performance.

After that, bridge specialist engineers study the failed bridge and explain the causes for failure and how to make it stronger while meeting the weight criteria thus encouraging the students to come back with better bridge at the next event.



*Failure analysis by a team of experts*

This year's event saw 51 bridges of varied design and the strongest bridge withstood 1490 Newtons while weighing only 259 grams.

Apart from the prizes to children, special prizes were also awarded to teachers based on the number of teams they coached and the performance of their children. The star attraction of this event was asking the teams to come to the podium and give feedback and a number of teams came forward and aired their views.

The distinguished personalities at this 7th bridge building contest, apart from the PEO guests, were Hon. Jim Karygiannis, MP (Scarborough – Agincourt); Hon. Derek Lee, MP (Scarborough – Rouge River); Stephen Lawrence, P.Eng., Manager, Ontario Power Generation; John Conforzi, P.Eng, Plant Manager, StrataFLEX Inc..

## **NSBE International Conference Toronto 2010**

*By Kwame Johnson, engineering intern*

I have been a part of the National Society of Black Engineers since 2005, during my undergrad at Carleton University. Being a member of the organization as a collegiate member I had opportunities to attend many conferences.

This society wants to establish a student organization to help improve the recruitment and retention of black engineering students and they have done so over those years. The NSBE annual conference is held in each region of the organization and since 2005 I attended three conventions Boston, Pittsburgh and Columbus. This year being the first ever international convention in Toronto, I was thrilled to represent PEO at the convention.

The national convention is a five-day event with multiple parallel events for each membership type. There is a three-day career fair, technical seminars and many other proceedings.

Some of the events the PEO Scarborough Chapter hosted were the PCI (Pre College Initiative - High School) Mathletics and a PEO licensure seminar.

I was thrilled but not surprised to see nearly 7000 NSBE members attended the convention this year, because since NSBE was founded in 1971 it has grown to over 30,000 members nationally and international.

Although the Mathletics hit a rocky start, it went on to be a big hit with great reviews and feedback from parents, kids and chaperones at the convention. The feedback score as evaluated by NSBE for Mathletics was 83 per cent and over 70 children participated in the two sessions.

The licensing seminar introduced the concept of our licensing process to US and Canadian engineers.



*NSBE Conference 2010  
Pre College Initiative - hosted by  
PEO Scarborough Chapter*

## Updates, Feedbacks, Reactions, Reviews...

### • F1 Team Eclipse Sponsorship

"Dear PEO,

As team manager, I would like to keep all our sponsors informed about our team's progress. So far our team raised \$4000 from various sponsors but we are continuing to contact additional companies to reach our goal of \$30 000. However, the development of the car is coming along. We finalized some prototypes and received our computational fluid design software (virtual tunnel). After watching some F1 in Schools competition through web casts, we conclude that further development would be necessary to rank first overall in the World. Our design incorporates some innovative design such as manufacturing our wheels using rapid-prototyping technology and ceramic bearings (some of the lowest friction bearings on the market).

Also, Eclipse is helping out promote engineering throughout the school. As of now, our current project is preparing our national team to compete at the F1 in Schools Canadian National competition in April 28, 2010. This team consists of four girls and two boys mainly from the lower grades (grade 9, 10). Many of the members that we are currently training do not have much previous experience in the technology field but we are hoping to guide them through this process and hopefully develop into a strong and more experienced team in future technology endeavours. The team captain for our National team, Team Avalaunch, can be contacted through her email at: [crystal.g@live.com](mailto:crystal.g@live.com).

Team Eclipse is planning to include a "News" section as well as an exclusive "Private Access" link where our sponsors would have access to the latest information such as car development, track data and event information. I will update you when these features will become accessible. In addition, F1 in School has finalized the location of the Worlds competition. This year, Singapore will play host for the F1 in Schools World Competition from September 16-26th. We will update you on sponsorship materials when the time approaches. We like to thank you for your generous sponsorship and we will continue to keep in touch.

Sincerely,  
Benjamin Tran"



F1 Team Receiving Sponsorship Cheque  
From Chapter Chair

### • Bridge Building Competition 2010

"Dear Friends:

I am pleased to commend the Professional Engineers Ontario – Scarborough Chapter on hosting its 7<sup>th</sup> Annual Popsicle Stick Bridge Building Competition on March 6, 2010.

By engaging today's youth, your organization is enabling young children from Grades three to eight to experience the world of engineering – both in design and as a career choice.

As a Member of Parliament with a background in engineering, I recognize the contributions engineers are making. Whether rebuilding infrastructure in disaster-stricken areas of the world, educating our youth or enhancing our lives here at home, your dedication to the profession is to be applauded.

Congratulations on this unique initiative.

Best wishes for continued success.

Sincerely,

Hon. Jim Karygiannis, P.C., M.P.  
Scarborough-Angicourt"

### • 2010 Youth Career Fair

"Dear Mr. Chander,

Thank you for participating in my third annual Youth Career Fair on Saturday, March 27, 2010. You helped us reach out to almost 300 young people and provide them with the information they need to make informed decisions about their personal goals.

Your participation demonstrate the importance you place on helping our young people gain an understanding of rewarding career opportunities available to them, which they may not have considered. The opportunities that the young people were able to learn about at the Career Fair will benefit not only these individuals, but also our province, in the years to come.

Thank you, once again, for your assistance and generosity in supporting our young people in the development of their potential.

Sincerely,

Margaret Best, M.P.P.,  
Scarborough-Guildwood"



PEO Scarborough Chapter at Youth Career Fair 2010

**Editor:** Pompilian Tofilescu, engineering intern

We welcome our readers' contributions:

- Articles of engineering interest, and subjects of interest to 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)