

Letter from the Chair

Dear CIC Toronto Section Members,

The past year has been invigorating! It was an honour to serve alongside so many people in the chemical sciences; whether it is chemistry educators, researchers, or professionals, we all share a unique and unparalleled passion for chemistry.

In the 2013-2014 year our objectives were to continue organizing annual student outreach events, such as the Student Awards Night (Page 2) and the Crystal Growing Contest (Page 3), but to offer new events to engage local section members in greater Toronto area.

Our young team of executive members, with the wisdom and guidance of seasoned ones, organized several new events this year. In December 2013, we hosted our inaugural "Brewery Tour and Sponsor Appreciation Night" at the Mill Mill Street Brewery in the historic Distillery District of Toronto (Page 2). Our sponsors and CIC members/guests had a fun-filled evening learning about the chemistry of beer while testing freshly fermented brews. In April 2014, we organized an inaugural Chemistry Career Day, which was jointly hosted by the CIC Toronto Section and the University of Toronto Chem Club (Page 3). A diverse set of chemistry professionals were in attendance to speak with students, post-doctoral fellows, and other CIC members who gained valuable career advice about the diverse set of career paths for chemists. Furthermore, the Toronto, York, Simcoe, and Peel Region Science fairs were held this spring, and the CIC Toronto Section proudly continues to support these events with monetary awards and volunteers (Page 4).

The CIC Toronto Section will also be present at the 2014 IUPAC International Conference on Chemistry Education, which will be held in Toronto this July (Page 4). The executive committee is hosting a special Industrial Symposium and the International Student Mixer.

Thank you to all current and past executive members for their leadership, commitment, and creativity. We are thankful to the CIC National office and our local sponsors (Page 5) for their continued financial support.

Yours in Chemistry,

Demyan Prokopchuk
Chair, CIC Toronto Section



Your 2013-2014 executive committee:

Demyan Prokopchuk, Chair

John Purdy, Past Chair

Kazim Agha, Member-at-large

Eric Persson, Vice Chair

Ravi Ramachandran, Past Chair

Patrick Tuck, Member-at-large

Alexzander Samuelsson, Treasurer

Lana Mikhaylichenko,

Raj Dhiman, Secretary

Science Outreach Chair

Student Awards Night

The 2013 edition of the CIC Toronto Section Student Awards Night recognized the exceptional academic achievement of 37 high school and undergraduate students on Friday, September 27th. The award ceremony was filled with energy as the host Dr. Raj Dhiman (Secretary) pumped up the crowd and then introduced the Dr. David Fung, Chair of the Chemical Institute of Canada, to make his opening remarks.

Awards were handed out to the winners of the CIC Silver Medal and the Syngenta prize. In previous years, the CIC book prize was presented for students who demonstrated significant academic improvement. This year, the core executive decided to rename the award to the Syngenta prize as appreciation for the consistent support that Syngenta Canada, Inc., has provided over several years. Dr. Ravi Ramachandran (Past Chair) of Syngenta Crop Protection was in attendance and presented award winners with certificates and cheques.

The award presentation was followed with a lecture by Dr. Andy Dicks entitled “Why We Are Missing a Trick With(out) Green Chemistry.” The presentation highlighted the great strides that educators and students are making towards incorporating green chemistry within teaching. Dr. Dicks also demonstrated many of the forward-thinking initiatives within green chemistry education start with students. Finally, Dr. Dicks recognized the Bronze Medal winners from the 2013 International Chemistry Olympiad and 2013 Canadian Chemistry Contest.



2013 Student Awards Night winners who attended the event.

Mill Street Brewery Tour and Sponsor Appreciation Night

The CIC Toronto Section hosted a Brewery Tour and Sponsor Appreciation Night on Tuesday, December 10th, at the Mill Street Brew Hall in the historic Distillery District of Toronto. It was a great opportunity for local section members to meet our sponsors while learning about the art and science of brewing from their Head Distiller, Kaitlin Vandenbosch. This inaugural event was well received by our sponsors, local section members, and their guests.

Samantha Smith, a graduate student at the University of Toronto, learned that “the bitterness in beer is caused by the presence of certain acids that are not very soluble in the wort (unfermented beer). During the boiling step they react and isomerize which make the acids more soluble and thus increases the bitterness.”

Due to the very positive feedback from attendees, the CIC Toronto Section hopes to make this an annual event!



Listening to the brewing process while drinking the final products.



The Head Distiller, Kaitlin Vandenbosch, explaining the importance of grain selection.

Crystal Growing Contest

In this annual competition held in October and November, teams of students from high schools in the Greater Toronto Area compete by growing crystals over a period of five weeks. The growing material for the 2013 competition was sodium potassium aluminum sulfate, $\text{KNaAl}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$, that yielded beautiful colourless crystals. After the growing period, crystals from participating students were submitted for judging by a group of local CIC members. The winning crystals were judged on criteria including crystal clarity, mass and form. The sodium potassium aluminum sulfate was generously donated by VWR International. As in previous years, we had excellent participation in 2013 - more than 90 students representing 17 high schools from the Greater Toronto Area took part in the competition.



A crystal of sodium potassium aluminum sulfate.

The winners of the 2014 CIC Toronto section contest are:

Best quality: Malhar Patel, Dhruv Patel, Himani Pandya, Dhruvi Patel - North Albion Collegiate Institute

Best Overall: Sanaz Karami, Xin Xu, Jenny Xiao - Northern Secondary School (3rd place in the Canada-wide Crystal Growing contest!)

Best Teacher Crystal: Jeff Enfield - Royal St George's College

Special Mention: 2nd place in the Canada-wide Crystal Growing Contest - Dhruv Kumar Patel, Jay Patel, Neetan Bardwaj, Apporar Dhairaya - North Albion Collegiate Institute

The winners will be presented with CIC Toronto medals and award certificates. Each winning school will also be given a trophy in recognition of its successful participation.

Chemistry Career Day

The CIC Toronto Section and University of Toronto Chem Club jointly organized an inaugural Chemistry Career Day, which was a day-long event consisting of presentations and panel discussions with young professionals whose educational backgrounds are rooted in chemistry. These young professionals have taken various career trajectories, emphasizing the broad utility of having an education in chemistry. The event was open to CIC members and students/researchers from the University of Toronto Chemistry Department. The event was held on Friday, April 25th, 2014, in the Lash Miller Chemistry building at the University of Toronto.

Feedback from local section members and U of T students/staff has been overwhelmingly positive, with between 50 and 75 people attending throughout the day. Professionals from the following companies participated as speakers, panelists, or had a fair-booth: Digital Specialty Chemicals, The School of Career Advancement Inc., Ridout and Maybee LLP, Xerox Research Centre of Canada, Toronto Research Chemicals, BlueLine Bioscience/Versant Ventures, Tartan Color, and Sick Kids Hospital. Professionals from the University of Toronto, U of T Career Centre, and U of T Impact Centre also participated.



Demyan Prokopchuk (Chair) inspecting the quality and clarity of a crystal.

Regional Science Fairs – Toronto, Simcoe, York, and Peel Regions



Two winners of the CIC Junior Chemist Certificate: Stephanie Clark (left) and Michelle Pham (center) with past chair John Purdy.

The CIC Toronto Section has sponsored Toronto, York, Peel, and Simcoe regional fairs for the past several years. All of fairs seek to offer a top quality science fair experience for all regional students from Kindergarten to Grade 12. More than 400 students participated at Toronto Science fair this year alone. Our local section presented \$100 awards and Junior Chemist certificates in three categories (junior, intermediate, and senior) for the best projects related to chemistry. It is very beneficial for the society to spark an early interest in science and chemistry, particularly among school students. It is also beneficial for the students and pushes them to continue their scientific journey. One of the Toronto Science Fair award winners this year wrote in his letter of thanks: “Your award has now motivated me to pursue science and gain interest in the field of chemistry. The fair was a great experience towards gaining experience and meeting stronger scientists.”

This year, Dr. John Purdy (Past Chair) provided a very interesting talk on “Chemistry of Bees” for the Toronto Science Fair (TSF) participants. The talk was very well received; several intrigued students emailed John afterwards, wanting more information about the chemistry of bees! Dr. Purdy and Lana Mikhaylichenko (Science Outreach Chair) participated at TSF awards ceremony.

The winners of the CIC Award in the 2014 regional science fairs are:

Toronto: Alyssa Li and Frank Chen, Earl Haig Secondary School, “*Cross Linking of Starch with Sulphur of Citric Acid*”

York: Sabika Panjwani, As-Sadiq Secondary School, “*Friendly Meter: A Comparison of Home-made Eco-Friendly, Store Bought Eco-Friendly, and Store Bought Pesticides*”

Simcoe: Mahwish Ahmed, Bear Creek Secondary School, *Comparison of Acidity Effects on Teeth*”

Peel: Karishini Ramamoorthi and Smruthi Ramesh, Port Credit Secondary School, “*Go With the Flow: Benzoquinone-Fulvic Acid-NaCl Flow Battery*”

2014 IUPAC International Conference on Chemistry Education (ICCE)

You are invited to participate in the 23rd International Conference on Chemistry Education, which is to be held at the University of Toronto and the Metro Toronto Convention Centre, July 13-18, 2014. This will be the first time since 1989 that this conference has come to Canada. Under the umbrella of *Developing Learning Communities in the Chemical Sciences*, the symposia focus on communication amongst chemistry professionals, educators, students and the lay community. Green chemistry initiatives and research on teaching and learning chemistry round out the program, which is also enhanced by hands-on workshops.



The conference banquet includes a boat cruise on Lake Ontario with a plated dinner on the Empress of Canada (\$85 all inclusive). All members of the CIC Toronto Local Section, independent of whether they are participating in the conference, are welcome to attend the banquet and network with our international visitors. The preliminary program and registration details for both the conference and the banquet are available at www.icce2014.org. The CIC Toronto Local Section has organized the symposium, “*Reality versus Public Perception of Industry Regulations: Content for Science Education.*” In addition to individual presentations, this symposium will include a panel discussion involving industry and government leaders and moderated by Dr. Ravi Ramachandran (Past Chair). As well, our Local Section is sponsoring an International Student Mixer at the Distillery District (open only to conference participants).

The CIC Toronto Section thanks the following companies and organizations for their participation in, and support for, our activities:

Platinum Donors (\$400+)



Palladium Donors (\$300)



Gold Donors (\$200)



Silver Donors (\$100)

