

ASLA's First Conference for Science Teachers

The Atlantic Science Links association (ASLA) held its first free conference for science teachers on Friday August 25th, 2017 at the Life Sciences Centre, Dalhousie University. ASLA is a charitable science promotion organization which coordinates outreach programs for students in grades primary to twelve. This year's conference was specially focused on the junior high science curriculum and helping to bring science back into the classroom, through a day full of hands-on activities, and gave every participant multiple teaching aids from each lab.

Thirty-one teachers from across Nova Scotia came to the university, forgoing a bright summer day to take part in this special event. The day began with opening words from ASLA's president Arunika Gunawardena stating ASLA's commitment towards science, and was followed by a special speech from the dean of science, Chris Moore, who thanked ASLA's continuous effort to enhance science in schools and put Nova Scotia in the national spotlight. He praised the teachers and noted their dedication to their work.

After the opening, the teachers were split into two groups and continuously interchanged labs throughout the day. The workshops opened with teachers attending either a cell biology lab or an ecology lab. The cell biology lab was led by Arunika Gunawardena with the support of her lab members Adrian Dauphinee and Nathan Rowarth, Department of Biology, Dalhousie, in which teachers got to study animal and plant cells under a microscope. Each teacher took home a poster summarizing the learning objectives of the lab and a USB stick with supplementary videos. Everyone also had a chance to take home samples of the Lace plant and sea monkeys to keep and grow in their own labs in the schools. The ecosystems lab was led by the ASLA's executive director Rajesh Rajaselvam, Department of Biology, Dalhousie, who took teachers out into the "field" to compare micro ecosystems by collecting environmental and soil data for the workshop. It was a lovely chance to also enjoy the beautiful day! After a morning tea, teachers then switched to complete the lab that they had not attended first thing in the morning.

After lunch the teachers again separated into two groups to begin with either Earth sciences or chemistry labs. One group was treated to an earth science lab led by Richard Cox with the support of his chair James Brenan and colleagues Lexie Arnott and Yana Fedortchouk, Department of Earth Science, Dalhousie. They took home a box of samples to their schools, including many rocks, minerals and a hardness kit, to share with their students. The other group began with a chemistry lab held by Jason Masuda, Department of Chemistry, Saint Mary's University, where teachers used eggs and fruit punch to explain important chemistry concepts. After a tea break, the teachers switched to enjoy the other lab they had not yet attended for the remainder of the afternoon.

During the afternoon tea-break, Paul Bentzen, Chair, Department of Biology, Dalhousie delivered the vote of thanks. He expressed his happiness over the success of the conference and praised ASLA's services as great contributions to the community. He proudly mentioned that the conference was a great reflection on the Department and the Faculty of Science. He concluded his speech by thanking enthusiastic science teachers who dedicated the day for the conference.

Finally, the labs for the day closed with all of the teachers performing a fish dissection lab led by Neil Ross. Although some teachers had to leave before this time, those who stayed enjoyed the dissection, and took part in a picture to commemorate ASLA's first conference. The day finished with some closing words from Rajesh Rajaselvam who again thanked teachers for their passion and dedication, and all of the volunteers who helped to make the day such a success.

Many teachers personally thanked the volunteers and the board of ASLA before leaving or sent emails in the days that followed to express their gratitude for the conference. The comments received on the feedback forms were also extremely positive, some noting the conference was "Very organized, applicable to the classroom; awesome resources, and had friendly/knowledgeable presenters. Loved it! One of the best conference I've ever been to. Thank you!". Another said "--I cannot believe I was able to have this experience – and at no cost to me. I am truly inspired by the passion showed by everyone today! It is wonderful to see the scientists showing such interest in bringing this high-quality knowledge into public schools. This was energizing and useful. PLEASE keep this conference going – it was EXCELLENT!"

ASLA would like to thank NSERC, The Dalhousie university faculty of science, and Engineers Nova scotia for funding to make this conference the success that it was! Dalhousie's Biology and Earth sciences departments also donated much time, energy and space to help bring our conference together. Finally ASLA would like to show its appreciation to Michaela Kember who is a second year student at Dalhousie and the part time administrative assistant of ASLA for her support and enthusiasm. All the people and organizations we mentioned here contributed to make this conference a successful event.

- *ASLA, 2017*

Teachers' Comments

--I greatly enjoyed this experience and exposure to more branches of science. Your time, resources and presentations are greatly appreciated. Thanks for the great day.

--I really enjoyed today's conference. I appreciated the resources that the different presentations handed out. Everything was very much related to Jr. high science courses I will be teaching next year, which is great!

--Excellent! Well-organized and presented. Thank you for organizing this event to homeschool families as well.

--I cannot believe I was able to have this experience – and at no cost to me. I am truly inspired by the passion showed by everyone today! It is wonderful to see the scientists at Dal showing such interest in bringing this high-quality knowledge into public schools. This was energizing and useful. PLEASE keep this conference going – it was EXCELLENT!

--Great presentations and generous resources. I would like to know what skills Dalhousie and other universities would like us to concentrate on. What are we doing well? What needs improvement? All activities today were interesting and age-appropriate. I will recommend this event to my colleagues.

--All the sessions were helpful and I can use all topics covered in my grade 7 class to a certain level. It is also good to know that some of the presenters can come to schools and demonstrate to the students.

--Excellent day! Very well organized and applicable to public school programs. Very enthusiastic and engaging presenters! Length of sessions was optimal. Not only helpful but very interesting for teachers as well.

--Professors, Instructors, and students were all very pleasant and friendly. **Should be a yearly event.**

--Thank you for the wonderful opportunity to refresh in the various scientific disciplines. I really enjoyed the activities particularly those that are low cost/free and put the safety of our students foremost in the planning.

--The conference was wonderful. Sessions were very useful and grade appropriate. It was wonderful to see a focus on middle level science and get useful hands-on activities.

-- I appreciated that the presenters each chose on specific aspect of the curriculum to show. Each presentation included practical ideas and lesson to bring back to the classroom. On my own, I had figured that some activities would be too complex to or expensive to bring to the classroom, but seeing them done first hand, I know that they are doable.

--Thank you so much for the amazing day. So knowledgeable and I love that I can take tidbits of everything in my classroom.

--Very useful "hands-on" activities – useful in terms of engaging students.

--The sessions were great but a lot was aimed towards kids older than junior high and would require a lot of adapting for it to work.

--Very organized, applicable to the classroom; awesome resources, friendly/knowledgeable presenters. Loved it! One of the best conference I've ever been to. Thank you!

-- Great, well-thought out experiments that are easily used.

-- A fantastic opportunity to be a part of today's conference. I found all the workshops very applicable to the junior high curriculum. All the instructors were enthusiastic about their topic and I felt I learned a lot about enhancing my own program with hands-on opportunities that were achievable. Thank you so much for allowing me to attend.

--It would be worthwhile going through the curriculum documents and aligning your presentations with specific curriculum outcomes. Then beginning your presentations by showing with outcome you are targeting with your presentation.

-- Great day of activities.

-- Overall – a great learning and networking experience! Lots of info into each session- felt a little bit rushed. The hands on as great. Thanks for the resources! Great team of people who organized and shared their expertise. Thanks!

-- All sessions were engaging and fun! I can definitely imagine using these activities with my students. Some language may need to be simplified depending on grade level, but that's an easy thing for a teachers to do before teaching the activity.



Opening ceremony



Cell biology lab activities



Cell biology lab activities (Contd.)



Ecosystem presentation and outdoor activities



Chemistry lab activities



Lecture with activities in earth sciences



Fish dissection Lab



Closing session and a photograph to commemorate the day