ENVIRONMENTAL SCIENCE

ALUMNI NEWSLETTER

Issue 3: January, 2015

Student Happenings

31 Graduates in Earth and Environmental Science

It may have felt as cold as field school on graduation day, 2014, when 31 BSc degrees were recognised at the May convocation at Acadia. Pictured below are some of the happy faces at the graduation breakfast on 12 May. Particular honour went to Ben Misiuk, winner of the University Medal in Environmental Science, and Mike Reid, winner of the University Medal in Geology and recipient of the Mining Society of Nova Scotia Centennial Medal.

[Back row, L-R: Ben Misiuk, Mike Reid, Melanie Plante, Kyle Jennex, Corey Hamilton; front row: Raelee Rath, Courtney Wilson, Lewis Mahon, Jillian Bennett, Celine Porter, Adam Godfrey, Andrew Fage.

New Faces at K.C. Irving Center

Dr. David Kristie

Dave Kristie is a new face around the KC Irving Centre. Dave retired after 28 years as professor in the Biology department and took up the new position of Director of Research at the KC Irving Environmental Science Centre and Harriet Irving Botanical Gardens. Aside from encouraging research activities in the Irving Centre, one of Dave's primary assignments has been to oversee the implementation of newly created Arthur Irving Scholarships in environmental science. These scholarships are administered through the Arthur Irving Academy based in St John NB. In the first round of applications five ENVS students were successful. First year ENVS students Sarah Fancy, Rachel Clarke, and Baillie Holmes were awarded entry scholarships worth $15,000 for four years. Sarah Jean Adams from ENVS, and biology students Brandon Landry and Sadie Moland were awarded 3rd year scholarships worth $15,000 for 2 years. These students will eventually become familiar faces around the Irving Centre as all the undergraduate award holders are expected to participate in research activities that make use of the KC Irving Environmental Science Centre and/or Harriet Irving Botanical Gardens. Adam Godfrey was awarded the lone Arthur Irving Graduate Scholarship valued at $20,000 for two years. Adam's research will focus on assessing the impact of past logging practices and river damming on water quality and chemistry in an upland river system in southwest Nova Scotia. Adam's supervisors include Mark Mallory, Ian Spooner, and Nelson O'Driscoll as well as Dave Risk from St FX.

Back row, left to right: Sarah Jean Adams, Brandon Landry, Sadie Moland. Front row : Sarah Fancy, Rachel Clarke, Baillie Holmes

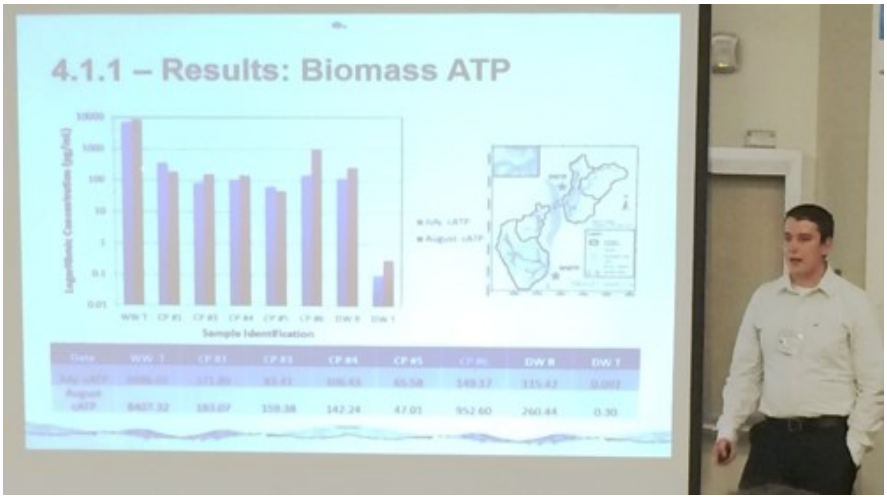
Student Happenings

ENVS Co-Op Student Presents Research at International Conference

Michael Brophy, a co-op student in Environmental Science, presented his work at the New England Graduate Student Water Symposium, held this year at UMass Amherst. This predominantly graduate student conference had participants from schools from around Canada and the US. His 15 minute presentation was on the work for his honours thesis, entitled "Characterization of Natural Organic Matter to Distinguish the Impact of Municipal Wastewater Effluent in a Source Water".

Michael writes about the experience, "The conference was a great opportunity! I learned a lot about the different water research going on at schools from Canada and the United States, and I had a lot of fun along the way. One of the best parts for me was all the feedback I got about my presentation. I had 4 different people come up to me telling me that they couldn't believe I was an undergraduate student and how my research was very interesting. I even had one person tell me that I had a very bright future ahead of me! I was so excited about all the positive comments. It really gave me confidence in what I was doing and made me feel like people really do care about the research I am doing! So, I definitely took a lot away from this conference."

Michael's work is being done as part of his co-op program, currently at the Dalhousie Faculty of Engineering, and is supervised by Dr. Graham Gagnon at Dalhousie and Dr. Jennie Rand at Acadia's School of Engineering.



ENVS Student in Juneau Icefield Program

Between June and August, 2013 Patrick Englehardt took part in the Juneau Icefield Research Program (JIRP). JIRP is an annual program which was started in 1948 by Maynard Miller. Every year since students have been attending this research program studying the Juneau Icefield which is located in Alaska, British Columbia and the Yukon Territory. The program's main focus was the continued mass balance research which is the second longest record of its kind in the world. "Overall it was an amazing experience, whether it was the Alaskan beauty, digging 18 foot snow pits or conducting original research my summer couldn't have been better." Any questions or further information on the program can be found on the JIRP website http://juneauicefield.com/ or feel free to email me at any time at poenglehardt@gmail.com.

Alumni Stories

Scott Lister ('97)- After graduation I attended Trent University and completed a Master of Science degree in Hydrology. I then worked as an intern at Ontario Ministry of Natural Resources on their drought program. A few months later, I accepted a position with a Conservation Authority where I was working as a Watershed Manager involved in flood protection, water quality protection and groundwater monitoring. I then worked at Nova Scotia Environment for 5 years, first as a Drinking Water Source Protection Watershed Planner, then a Hydrogeologist, and, finally, as a District Manager. I also received my Professional Geoscientist designation at that time.

After moving to Ontario I became involved again with the Conservation Authorities, this time focusing on assisting all of the Conservation Authorities, and the Province with Source Protection. After two years I began my own consulting company focusing on source protection and groundwater protection. For the past four years I have worked as a hydrogeologist with the Regional Municipality of York, working to protect our drinking water sources. During this time I became accredited as a Risk Management Official and Inspector under the Clean Water Act.

Scott Lister

Peter Morse ('99), is in the middle of an exciting postdoctoral position as an NSERC Visiting Fellow with Natural Resources Canada at the Geological Survey of Canada (GSC), and Molly (Miranda) Morse ('00) now works for Environment Canada, but a lot has happened since they graduated from the ENVS at Acadia. While waiting for Molly to finish up in the program, Peter went down the road to the Centre of Geographic Sciences (COGS) in Lawrencetown where he completed an advanced diploma in geomatics specializing in remote sensing. Following a stint with the Canadian Hydrographic Service as a hydrographic technician aboard the Anne S. Pierce, Peter and Molly moved to Alberta where Peter worked for Colt Geomatics Solutions Ltd. (now WorleyParsons Geomatics) and then Intermap Technologies Ltd. Meanwhile, Molly completed a diploma in industrial compost management at Olds College, and then got a job with the City of Calgary's Sanitation Services Division. After two years out west they got married, but they eventually felt a strong pull to move back east closer to their families. Peter entered graduate school at Carleton University to study permafrost with Chris Burn, while Molly started her work with the federal government. Since moving to Ottawa they have had three children, Chloë, Seth, and Alice. Last November, Peter was invited back to Acadia speak to the Earth and Environmental Science Department about his work at the GSC, and he also had the opportunity to give a guest lecture to the second year geomorphology class. He thoroughly enjoyed the experience and would do it again in a heartbeat.—Peter Morse (Class of '99).

Megan Masters ('07)- It seems only a short time ago that I was packing up my apartment on Wickwire Ave. to make the big move to Halifax. The two years I spent in Halifax completing my Master of Environmental Studies were fantastic. The friendly faces and salt air were like a piece of home, yet like most Newfoundlanders, I started moving west.

Upon completion of my Masters in 2009, I settled in Ottawa for a job with the "feds". My first position with the federal public service was through the Policy Analyst Development and Recruitment Program in the Canadian Forest Service at Natural Resources Canada. Now, after recently celebrating my 5th anniversary in the public service, the work continues to surprise and challenge me. While I miss the east, I have made Ottawa my home. In 2013, my partner James and I purchased a house and in 2014 we travelled home to Newfoundland to get married. Now we are pleased to announce that we are expecting our first child in June 2015! I suppose I'll have to start the hunt for a baby Acadia hoodie to match my own. Best wishes from our growing family to you and yours.

James and Megan

Co-op Stories

As a fourth year student reflecting back on my various courses and co-op positions, I am extremely happy I joined the co-op program at Acadia. I remember after my first year, taking all of the introductory courses, I wondered what a real job in Environmental Science would really be like. When I saw the advertisement for the co-op program in the fall I applied immediately and never regretted it. Co-op provided me with the perfect opportunity to explore various Environmental Science jobs, apply many skills I had learned in class to real situations, develop many other skills outside the classroom, and create contacts in the professional world.

"Co-op provided me with the perfect opportunity to explore various Environmental Science jobs..."
- Robert Mayhew

This past summer, I worked as a Coastal Recovery Technician at Kejimkujik National Park and Historic Site – Seaside adjunct. Kejimkujik is, of course, a well-known National Park, but also Canada's joint, National Park and Historic Site. The Kejimkujik Seaside Adjunct is a more recent acquisition for the park, but is none-the-less, a beautiful location with attractions for kinds of visitors.

Robert monitoring plovers at the Seaside adjunct.

Kejimkujik hires a variety of summer students each year, generally each is assigned to a specific section with a designated supervisor with assigned tasks daily. I had the unique opportunity to float between a few projects at the Seaside and have control over which days I would perform what tasks. I was mainly involved in two projects: The Piping Plover Recovery Project and the Green Crab removal project. On Piping Plover days, I would scour the beaches at the Seaside looking for Piping Plovers and their nests. When nests were found, their locations were documented, and their progress was monitored to see the number of chicks that emerge. As for the Green Crab removal; the green crab is an invasive, ecosystem engineer that destroys habitat for many species that live in coastal lagoons. The crabs need to be removed, by hand, in order to attempt to recover the habitat for these other species. Days spent of green crab removals would be spent in a row-boat, hauling traps and capturing the crabs and storing them for disposal. This particular position was very field-oriented and busy. At the end of each day I was very tired, but I am proud of the impact of my work on the health of the Kejimkujik Seaside Adjunct.

Current Co-op Student Positions

Intersession 2014:

Sonya Ardley at Agriculture and Agri-Food Canada

Micheal Brophy at Dalhousie Center for Water Resources Studies

Thora Christensen at Lobster Fishing Area 27 Management Board

Ashleigh Dunphy at Sackville Rivers Association

Amanda Loder at Agriculture and Agri-Food Canada

Robert Mayhew at Parks Canada, Kejimkjuk National Park

Fall 2014:

Micheal Brophy at Dalhousie Center for Water Resources Studies

E.S.S.A. (Environmental Science Student's Association)

Hello Acadia environmental science alumni! Here is an update from your current environmental science students: As you may have noticed on the department webpage, we have changed the name of our club to the "Environmental Science Students' Association", known as ESSA in short. It seemed that people were associating the organization with Esso the gas station (some even assuming we were sponsored by Esso ….), therefore we felt it was appropriate to make a minor adjustment to the club name by replacing "organization" with "association". We hope you agree with us!

ESSA kicked off 2014 by taking an afternoon trip to the Bedford Institute of Oceanography for a tour of the facility and to talk to various scientists. We learned about a vast array of subjects including ocean acidification, invasive species, tides, dispersion modeling, the effects of climate change on the Atlantic Ocean, and Arctic and Atlantic sediment cores. Later in the term students attended lectures and workshops, gave talks and presented posters at the AGS conference in Wolfville, and the Science Atlantic Conference at St. FX University. ESSA also organized a team to take part in Relay for Life, an annual tradition at the university.

In the fall term, we began with a visit to the Ontree Climbing Park in Windsor to practice our skills in rope work, tree climbing, and zip lining at great heights. Dr. Raeside led a trip to The Ovens, the Feltzen South Peninsula and Lunenburg, to examine the structural geology, hike the cave trails and pan for gold. Later in the term, the Earth and Environmental Science department was challenged to a soccer game by the Environmental and Sustainability Studies department on Raymond Field. With a great show of students (in quite snowy conditions), our department came out on top and showed excellent skills beyond the classroom. We hope to make this an annual event. Finally at the end of term, 16 students joined in for an evening to learn the intricacies of Scottish country-dance, under the tutelage of our very own Rob Raeside!

We also hosted year-end and Christmas potlucks (with the Fletcher Club) at the Wolfville Curling Club. These consisted of games, good conversation, prizes, live music provided by talented musicians within our department, and (of course) fabulous food. ESSA is looking forward to another great year and wishes everyone all the best in 2015!

Professor Updates

Nelson O'Driscoll: Nelson renewed his discovery grant last year and also received an NSERC equipment grant for automated mercury analysis equipment. Graduate student Gordon McArthur (MSc) graduated with a thesis examining mercury movement in coastal wetlands. Nelson travelled to the high Arctic with PhD student Erin Mann and Dr. Mark Mallory to take some of the first mercury flux measurements on Arctic snow near Resolute Bay where temperatures reached -40 degrees Celsius. Nelson also began his year-long sabbatical in Lisbon, Portugal this year with a short stop in Edinburgh, Scotland for the Global Mercury Conference. He enjoyed research at his host institution (IST, Lisbon) and supervising two Portuguese graduate students (Sara Justino and Rute Cesario). Sara Justino recently successfully defended her MSc on mercury flux from Tagus Estuary wetlands. The Tagus is a highly contaminated with mercury in some areas due to industrial activity where mercury is used as a catalyst. Over the year Nelson and his team examined mercury movements with tide and evaporation to the atmosphere from mud and plants. The environment in the Tagus is very similar to the Bay of Fundy however the mercury levels are hundreds of thousands times higher in some places. Collaborations were also started with researchers from the University of Aveiro to examine mercury accumulation in migratory birds. His sabbatical also included invited lectures at the University of Trieste, Italy and at the Universite Joseph Fourier, in Grenoble, France. Nelson also attended and chaired sessions SETAC Europe in Basel, Switzerland where Erin Mann presented her recent papers and had a quick stop in Bern to meet with former graduate student Stephanie Rogers who has just completed her PhD. Nelson and his family had many adventures over the year, seeing large portions of Italy, Germany, Belgium, France, Switzerland, Spain, as well as most of Portugal and the island Madeira. They enjoyed the new climate, new food, and new experiences. Back in Canada PhD student Sara Klapstein continued her work in Kejimkujik National park on mercury and carbon dynamics. On his return to Canada Nelson co-chaired several mercury sessions at SETAC Vancouver this November where graduate students Sara and Erin presented

Sara and Rute measuring mercury flux from vegetation on Tagus Estuary.

Sampling blood and feathers from migratory birds.

Dr. Nelson O'Driscoll

Mark Mallory: Dr. Mark Mallory, Adjunct to E&ES, had a busy year working in the High Arctic and around coastal Nova Scotia on diverse projects, collaborating with both Biology and Earth & Environmental Science students and professors. Highlights included novel findings on trace elements and plastic pollution bioaccumulation in dovekies wintering off Newfoundland, biotransport by colonial waterbirds of toxic trace elements to coastal islands along eastern Nova Scotia, and discovering the core wintering area of a High Arctic endangered species, the ivory gull. A personal highlight was being on a ship a few kilometres from the discovery of Sir John Franklin's lost ship Erebus, just days after the official announcement, when Mark was headed through the Northwest Passage to Greenland. In November 2014, Mark was inducted into the Royal Society of Canada's College of New Artists, Scholars and Scientists.

Dr. Mark Mallory

Professor Updates

Rob Raeside: Rob is now comfortably installed as professor, and no longer department head, but continues to do the bulk of student advising. With 170 majors in our programs, this means on average a couple of student visits every day, and lots of negotiation with the Registrar and even more with the registration system!

As secretary to the Council of Chairs of Earth Science Departments he participated in the Council's annual meeting in Ottawa in October. He has just completed a five-year term as chair of Science Atlantic, the regional group that oversees many of the student conferences in the Atlantic provinces (including the Environment Conference), and other networking and collaborative initiatives among the universities, typically with the deans at the other universities in the region. In his role as coordinator and editor of the Mineralogical Association of Canada's short course series, he produced a text "Cathodoluminescence in Geoscience" for the May meeting in Fredericton, and is now working on a text on the "Uranium and Thorium Deposits" for the next meeting in Montreal, in May.

In August he and his wife Wendy enjoyed the company of many friends and family from across the country as their elder son, Gordon married Laura McIsaac. Gordon and Laura brought their family (Stella the beagle and Zeus the rez-mutt) from his RCMP posting in Saskatchewan, to ensure the week was properly chaotic.

Aside from running committees, teaching and writing, Rob keeps busy with singing in two choirs, teaching Scottish country dancing (even had a class with Earth and Environmental Science students this term – that was fun!), and maintaining his flag website.

Dr. Rob Raeside

John Murimboh: John continued this year as the head of Chemistry. Last year was the 100th year anniversary of the chemistry department.

John also continued collaborations with Dr. Stanley on modified geochemical digestions relevant to the mining industry. John is cosupervising a student with Dr. Stanley (MSc Justin Rogers) and collaborating with Dr. Antony Tong. examining applications of biosolids to farmland and potential impacts of metals and organic contaminants. Research project student Michelle Sawler just began a new project examining variations in acidity of peat and implication for agriculture.

Dr. John Murimboh

Peter Romkey: The K.C. Irving Environmental Science Centre and Harriet Irving Botanical Gardens provided another year of support for both students and professors of Acadia's Environmental Science Program. The K.C. Irving Environmental Science Centre Award will be presented this year at the Environmental Studies conference for Science Atlantic. The award is given to the best undergraduate or graduate student research presentation relating to the flora or fauna of the Acadian Forest Region. Irving Centre staff Melanie Priesnitz and John Walker assisted many Environmental Science students involved with the Acadia University Farm. This year's ENVS Field School was well attended and the forestry component co-taught with Peter Neily a forest ecologist from NS Dept. of Natural Resources. Everyone's sandwich was toasted successfully at lunch. We have seen more ENVS students using the KCIC facilities each year and 2014 certainly was no exception. An example being Adam Godfrey's project on historical logging impacts on sediment quality in Nova Scotia.

Peter Romkey— Director of Irving Centre

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PLEASE KEEP IN TOUCH

If you have an item of interest, or any news of your activities (or those of your classmates), please let us know. We will try to incorporate as much as possible into future newsletters. Did you write an annual newsletter at Christmas or have a great picture? Send a copy to Dr. Spooner or Dr. O'Driscoll at the Department of Earth and Environmental Science
ian.spooner@acadiau.ca or nelson.odriscoll@acadiau.ca

Random Alumni Updates

Adrian Beck-Oliver (Grad '04): Moved to Cincinnati and worked at the Imago Earth Center (environmental education). In 2005 he started working with The Fund for the Public Interest (national non-profit for the state Environment groups). With them he ran a campaign office in Columbus then joined the regional administrative team, working in Washington, DC & Chicago. In 2008 he joined the national administrative team and moved to Boston. In February 2011 he switched careers & moved into the brewing industry. He earned an Associate degree in Brewing Technology from the Siebel Institute & since September of 2011 has worked at Cambridge Brewing Company an Assistant Brewer.
Ty Smith (Grad '07): Worked at a canoe tripping camp in Ontario as a director for a few summers. Completed an MSc in Environmental Science at the University of Northern BC (land use impacts and contaminants). Completed the WILD (whitewater intensive leadership development) course through Esprit rafting worldwide (Fall 2011). Worked for Esprit as a guide (mostly rafting and video kayaking) in Costa Rica (Nov. 2011) and on the Ottawa river (summer 2012). **Jeannie Berube (Grad '06):** After Acadia went to COGs for Marine Geomatics (advance diploma in 2006-2007). Has since been working in Houston TX at Fugro Chance Inc (marine construction survey) as a project manager.
Rebecca Jayne McQuaid (Grad '06): Has been working on and off with various environmental NGOs in the Maritimes doing environmental education since graduating. Completed the Queen's Outdoor & Experiential Ed program (B.Ed) and currently lives in Kingston. Contracts with the Polaris Institute helping to envision and create a water-related education resource for high school students in Eastern Ontario. **Jillian Hanmore (Grad '10):** MSc in Audiology at Dalhousie. Worked in a few different chemistry labs before deciding to go back to school and follow a healthcare route. **Amy Buckland-Nicks (Grad '11):** Travelled western Canada and through Europe. Recently published her BSc thesis research on mercury in dragonflies in journal Ecotoxicology. Completed the Masters in Environmental Studies program in the School for Resources and Environmental Studies at Dalhousie University (watershed management strategies in Nova Scotia and the role of community-based monitoring). **Emily Beveridge (Grad '11):** Studied Common Law at the University of Ottawa. Was in Kenya for 5 months from September 2011 to February 2012 doing sustainable development work with the Foundation for Sustainable Development. **Cole Hobson (Grad '06):** Completed post-graduate bachelor of journalism program at University of Kings College. Working at Times & Transcript in Moncton Since 2007.
Emma Vost (Grad '08): MSc in Biology at Acadia (mercury research). Full-time position with NS DNR Wildlife Division.