



*ATLANTIC GEOSCIENCE SOCIETY*  
**NEWSLETTER**

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*Carolyn Renton, of the Lighthouse photographic group, captures images of the lovely patterns in the Upper Flow Unit of the 200-million-year-old basalts at Margaretsville, on Nova Scotia's Fundy Shore. The patterns reflect the columnar structure of the flow. Photograph: Rob Fensome.*

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The deadline for submissions to the next issue is October 9, 2009. Please send articles or feedback to:

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Production of this newsletter is by Nelly Koziel.

The Atlantic Geoscience Society does an outstanding job of community outreach on many levels. One only has to look to our involvement with EdGEO, the ongoing Beyond the Last Billion Years lecture series, and the success of the Last Billion Years in bookstores across the region to recognize the impact of AGS. Such efforts are important and rightly form part of the core activities of the society. However, there are further opportunities for involvement with the public on a range of issues that we may wish to explore.

A sufficient number of AGS members are involved with issues of public interest that it might be possible for us to become involved as advocates. Topics include issues such as tidal power, uranium mining, and water resources. Most recently, the AGS received an invitation to participate in a meeting held by the Nuclear Waste Management Organization in New Brunswick this fall. Our role at such a meeting is not clear because we are not really stakeholders and would likely attend as observers. While it is obvious that we possess expertise that could be beneficial to public education on the science behind these issues, there are a number of other factors that should be considered before we become more deeply involved. Many of these issues are highly charged with emotion and it is often a fine line between scientist and activist, of which we must be cognizant. This is further complicated in many cases by our other obligations, most notably to our employers for many of us. An editorial from *EOS*, the weekly newspaper of the American Geophysical Union, offered some guidance on advocacy, specifically stating:

“AGU has not and will not articulate or support any public position on issues that extend beyond the range of available geophysical data or recognized norms of legitimate scientific debate. Positions of the AGU must be based on sound science.”

It is likely that we should take a similar position on advocacy. We may have strong feelings on certain issues as individuals but it is important as a scientific society that we seek to develop positions based on science rather than those based on economic, emotional or other factors.

I would like to propose that the society should begin a serious dialog on the issue of advocacy. This may take the form of a series of working groups tasked with developing position statements and reports on the science behind various geoscience issues in Atlantic Canada. Such an approach has been used by many societies including the Geological Society of America, European Geosciences Union, and the American Geophysical Union. The various commissions of the International Association of Hydrogeologists may provide a model for tackling some of these issues. This would provide a new mechanism for outreach for the AGS, in this case attempting to provide applied geoscience knowledge to the public, press and policy makers rather than our current efforts, which have been primarily focused on grassroots geoscience education. It may also provide the additional benefit of engaging more members of the society in outreach. I would appreciate any comments and proposals that members may have on this matter.

*Grant Ferguson*  
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## AGS ACTIVITIES



### SPONSORSHIP OPPORTUNITY

Does your group require a little extra money to get a project or event on the go?

Does your project fall within the mandate of **Atlantic Geoscience Society (AGS)**?

If so, we may be able to provide you with that extra bit of funding you need!

The Products Committee of the AGS is currently accepting loan or grant applications for projects that communicate ideas about the Earth and earth sciences.

For more information or to download the application, please visit the AGS website:

<http://ags.earthsciences.dal.ca/ags.php>

Or

You may contact a member of the **Products Committee**

Rob Raeside ([rob.raeside@acadiu.ca](mailto:rob.raeside@acadiu.ca))  
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## REGIONAL NEWS AND UPDATES

### Acadia University

The 24<sup>th</sup> International Applied Geochemistry Symposium, sponsored by the Association of Applied Geochemists, took place from June 1 through 4, 2009 in Fredericton, New Brunswick, and Acadia representatives were there *en masse* enlightening the geoscience world about their geochemical activities. Professor Cliff Stanley led a contingent of Acadia students (graduate students Tamara Moss, Pizye Nankamba and Feseha Tesfai, and Jean-Luc Pilote, and undergraduate Honours student Harun Mohamad Idris). This group was augmented by former Acadia graduate students Jose Texidor-Carlsson (2007), Tansy O'Connor-Parsons (2006), Anastassios Grammatikopoulos (1992), Matt Leybourne (1988), Steve McCutcheon (1981), Anne-Marie O'Beirne (1979), Gerry Stanley (1979), Bob Ryan (1978), and Paul Smith (1976), as well as former Acadia undergraduate students Rafael Cavalcanti de Albuquerque (2007), Ryan Toole (2006), Sean

Timpa (2000), and Terry Goodwin (1982). Oral presentations by Cliff Stanley, Tamara Moss, Jose Texidor-Carlsson, Ryan Toole, Anastassios Grammatikopoulos, Matt Leybourne, Steve McCutcheon, and Gerry Stanley, and poster presentations by Cliff Stanley and Rafael Cavalcanti de Albuquerque made a strong contribution to the very successful technical program.

Sandra Barr and Peir Pufahl attended the Joint Assembly of the American Geophysical Union and the Geological and Mineralogical Associations of Canada, and several other organizations in Toronto in late May. Sandra co-chaired both oral and poster sessions on "Appalachian Connections Through the Americas" and co-authored a talk on detrital zircons from the Avalon terrane (w/Samson, Hamilton, White, and Satkoski), and presented posters on the geology of the Liscomb complex (w/White, Scallion, and Jamieson), metasomatism in the Mira terrane (w/Potter and Longstaffe), results of acritarch study in lower Paleozoic rocks of Nova Scotia and New Brunswick (w/Palacios, Jansen, White and Miller), and paleomagnetism in Cape Breton (w/Grunow, Thompson, and White). Peir co-authored a talk with Cliff Stanley, adjunct professor Eric Hiatt, and others on changing Paleoproterozoic oceanography after the Sudbury impact event at 1850 Ga.

Ian Spooner, Peir Pufahl, and Cliff Stanley continue to explore the Bloody Creek impact structure near Bridgetown, Nova Scotia. Ian and Pier are working with Trevor Brisco (B.Sc. Geology Honours) on a NSERC funded project investigating the possibility that multiple impacts took place. Elliptical scarps located about .5 km to the north of the main impact crater will be the focus of geomorphological, geophysical and petrological investigation. In a complementary effort, Cliff Stanley is working with Dr. Mike Roberts (Acadia Physics) and \_Con-3A8AE4FB23D\c\s\Emma Murowinski (B.Sc. Honours Physics) investigating the ground-based electromagnetic signature of the main impact structure. A paper documenting the Bloody Creek Impact structure as the 172<sup>nd</sup> such structure on earth, authored by every member of the former Geology Department, plus several other contributors, has been accepted by the Journal Meteoritics and Planetary Science.

Finally, in the last AGS newsletter, it was announced that graduate student Edwin Escarraga attended the annual conference of the Northeastern Section of the Geological Society of America in Portland, Maine. What was learned after the last newsletter is that Edwin's poster was awarded Third Place in the Graduate Student Poster Award Competition. Thirty-four graduate student posters were presented at the meeting and Dr. Jean Crespi, Chair of the NEGSA section, noted that "the judges were very impressed by the overall quality of work presented, and the awards were very competitive". Congratulations Edwin!

*Cliff Stanley*  
[Cliff.Stanley@acadiu.ca](mailto:Cliff.Stanley@acadiu.ca)

## Dalhousie University

### *Honours Field Trip, 2009*

This year, the honours field trip will visit the Central Alps in Switzerland, led by Djordje Grujic and Isabelle Coutand. Twelve students will take part in this scientific and cultural learning experience. We'll have a report in the Fall.

### *Undergraduate News*

The Dawson Geology Club Annual Banquet was held in early April. The Best Honours Thesis award was presented to Luke Hilchie. The Effective Writing Award (Thin Thesis Award) was presented to Hayley Pothier. The Professor of the Year Award, chosen by the students and presented annually, was given to Nick Culshaw.

### *Graduate News*

This year the Earth Sciences graduate students worked hard at fundraising for their annual summer graduate field trip. After numerous bake sales and a successful Art Gala fundraiser night featuring both art and musical performances by members and friends of the department, they were happy to choose the Canadian Rockies as the location for their 2009 field trip—past trips have included the Southwest USA (2008), Quebec and the Gaspé Peninsula (2007) and Newfoundland (2006). Five graduate students and two post-docs will spend June 13-21 crossing and re-crossing the Rockies, trying to find the best outcrops along the way. They are looking forward to a guided trip of the Burgess Shale, seeing the foothills through the eyes of Dr. Phil Simony, emeritus at the University of Calgary, and visiting some of Canada's most stunning national parks.

### *Faculty News*

We are delighted to announce that Dr. Isabelle Coutand joined the Department in January. Isabelle had been at the University of Lille, France; she is a specialist in fission-track thermochronology, and is now Head of Dalhousie Fission Track Laboratory.

David B. Scott

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## University of New Brunswick

### *IAGS*

Through the monumental efforts of Dr. Dave Lentz and his local organizing committee, the 24<sup>th</sup> International Applied Geochemistry Symposium (IAGS) was recently held on UNB's Fredericton campus June 1<sup>st</sup> to 4<sup>th</sup>, 2009. IAGS is the Association of Applied Geochemists (AAG) biannual meeting held in conjunction with the International Association of Geochemistry & Cosmochemistry (IAGC) and the International Association of Geoanalysts (IAG). After a soggy and buggy series of pre-meeting field trips to intrusion-related

ore deposits and coal mining districts in New Brunswick, the sun shone on Fredericton for the rest of the week, providing a welcoming backdrop to the 320 delegates from around the world who attended the conference.

Following 3 well-attended workshops held on Sunday, the remainder of the week was filled with 15 special sessions focusing on a wide array of geochemical problems ranging from ore deposits studies, litho-geochemical exploration, environmental and aqueous geochemistry, soil and landscape evolution, CO<sub>2</sub> sequestration, and isotope applications in exploration. Associated poster sessions were also well-attended and provided thirsty delegates with a venue to enjoy a sherbet or two while casually discussing the nuances of geochemistry.



*Poster session held in the Student Union Building ballroom.*

The Monday Plenary Session “Deep Search Geochemical Exploration” in honour of contributions inspired by former UNB Geology Faculty Gerry Govett, featured a keynote address by Ross Large (Univ. of Tasmania) that set the stage for the rest of the meeting. Gerry Govett's contributions to exploration geochemistry were honoured at the closing lobster banquet with the award, bestowed by AAG President David Cohen, of the Association of Applied Geochemists Gold Medal. Other notable UNB Geology honours included the APEGNB-sponsored AAG best poster (and mini talk) award to PhD candidate Sabine Schwarz (supervised by D. Lentz) and an honourable mention to MSc candidate Yask Shelat (supervised by D. Lentz & B. Leblon).

The great success of this 24<sup>th</sup> IAGS would not have been possible without the help of our DNR colleagues: Steve McCutcheon (Finance Chair and field trip leader), Key Thorne (co-editor of the symposium abstract volume), and Jim Walker (field trip coordinator and field trip leader). Thanks are also extended to a small but dedicated army of student volunteers and to Thomas Mumford for photographing the meeting activities. A special thanks to Kim Klausen for her invaluable effort pre-, syn-, and post-conference.



Gerry Govett (right) receiving the AAG Gold Medal from AAG President David Cohen.

*Dave Lentz receives 2009 CIM Boldy Award*

UNB Geology Faculty member Dr. Dave Lentz was recently awarded the 2009 CIM Boldy award "For his contribution to revitalizing the CIM Geological Society as 2003-2004 president and his tireless work in the society's journal, Exploration and Mining Geology". Dave was on hand to receive the award from CIM President James K. (Jim) Gowans (DeBeers).

*AGU Joint Assembly wrap-up*

Several UNB Geology faculty and students made the trek to Toronto to attend the 2009 AGU-GAC-MAC Joint Assembly. Dr. Chris McFarlane presented a talk on in-situ Nd and Sr isotope analyses of accessory minerals in Au-bearing veins in a special session "Recent Advances in Trace-Element and Isotopic Microanalysis of Accessory Minerals" which he co-organized with Dr. John Hanchar (Memorial Univ. of Nfld). The Mineralogical Association of Canada, the Geological Association of Canada, and the Canadian Geophysical Union are acknowledged for co-sponsoring this special session.

UNB Geology faculty members Dr. Tom Al and Dr. Joe White also delivered invited talks focusing on their research on solute transport in fractured porous media and the rheology and strain rates of natural systems respectively. Dr. Karl Butler and his students M. West and A. DesRoches were also on hand to present the results of recent near-surface geophysical investigations.

The UNB Planetary and Space Science Center (PASSC) was also on hand to deliver five papers ranging from the geology of the central Manicouagan uplift (M. Biren) and associated breccia (Dr. L. Thompson), complementing APXS data with textural and mineralogical features of Martian materials (T. Trabucchi), the origin and age of lunar granulitic breccias (J. Hudgins), and a talk by group-leader Dr. John Spray on reassessing impact melt - crater affiliations.



Conference delegates tucking into their lobster during the closing banquet ceremony.

UNB Geology emeritus professor Dr. Paul Williams was also on hand to receive the inaugural Canadian Federation of Earth Sciences Mentorship Award. This award was recently created in Paul's honour because of his excellence, candour and integrity in scientific mentoring, as recognized by former students and colleagues. The award will be given annually to candidates nominated from all sectors within the earth science community (industry, academia and government).

Presentation of this medal by CFES President Bill Mercer took place in conjunction with a special session in Paul's honour entitled "From microstructures to tectonics: multiple scales of deformation in the lithosphere." The well-attended presentation ceremony featured a thoughtful citation by Shoufa Lin (Univ. of Waterloo) followed by Paul's acceptance remarks. The text of the citation and acceptance remarks are scheduled to appear on the CFES website:

<http://www.geoscience.ca/awards.html>

*From Crystals to Gems Mineral exhibit at UNB's Harriet Irving Library*

This travelling exhibition on loan from the Canadian Museum of Nature introduces visitors to gemstones: their special attributes of beauty, rarity and durability, and how they are cut and polished. Visitors also get a glimpse of some amazing Canadian gemstones and discover where the minerals are found in Canada. This unique exhibit was arranged by UNB's Department of Geology, in order to highlight the upcoming Quartermain Science Centre, which will be constructed in UNB's geology building later this year. The Quartermain Centre will consist of a museum proudly displaying UNB's world-class mineral, fossil, and rock collection, as well as a new first year laboratory for aspiring geology students. The Quartermain Centre was facilitated by a generous donation from UNB Geology alumnist Dr. Bob Quartermain, President and Chief Executive Officer of Silver Standard Resources Inc. The From Crystals to Gems exhibit was made possible through generous donations from UNB Geology & Faculty of Science, Science East, Association of Professional Engineers and

Geoscientists of New Brunswick, NB DNR-Minerals, Freewest Resources Canada, Canadian Geological Foundation, Atlantic Geoscience Society, & NSERC.

*CFI grant successes*

Dr. Chris McFarlane and his co-PIs David Lentz and Cliff Shaw was awarded a Canadian Foundation for Innovation Leaders Opportunity Fund grant of \$327000 to support the establishment of a laser ablation inductively coupled plasmas mass spectrometry facility at UNB Geology. This funding will be used to help acquire a next-generation 193nm Excimer laser-ablation system and a quadrupole ICP-MS instrument. This first of its kind facility in New Brunswick will allow UNB Geology's Crustal Petrology, Economic Geology, and Structure & Tectonics groups to obtain a wide range of U-Pb accessory mineral geochronology and in-situ trace element measurements in support fundamental research aimed at understanding the evolution of the Earth crust and its endowed ore deposits.

*Recent Thesis defenses*

Thomas Mumford recently defended his MSc thesis: "Dykes of the Moose Creek Valley, Ice River Alkline Complex, southeastern BC" under the supervision of Cliff Shaw and David Lentz. Thomas will be continuing his studies of alkaline igneous rocks at the PhD level at Carleton University, Ottawa.

Ranjit Subudhi recently defined his M.Sc. thesis: "A Radiation Transmission Technique for the measurement of diffusive solute transport in porous media" under the supervision of Tom Al.

*Chris McFarlane*  
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## UPCOMING EVENTS

### **FGM Dino Daze**

July 12, 2009  
Fundy Geological Museum  
Parrsboro, NS  
<http://museum.gov.ns.ca/fgm>  
1-866-856-DINO

Come join the staff at the Fundy Geological Museum for our annual Dino Daze. Activities include guided beach tour, dino dig, games, chalk drawing, and much more. Bring your own lunch or enjoy T-Rex toes, swamp water, ice cream and cake. Cost is general admission to museum (10 am to 4 pm).

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## **Beyond the Last Billion Years Talk Series**

Nova Scotia Museum of Natural History  
1747 Summer Street  
Halifax, NS  
<http://museum.gov.ns.ca>

Talks will start again this fall. Check the Museum website for dates.

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## **Nova Scotia's Gem and Mineral Show**

August 14-16, 2009  
Lion's Arena, King Street  
Parrsboro, NS  
<http://museum.gov.ns.ca/fgm>  
1-866-856-DINO

This is the only show in the Maritimes celebrating our rich mineral and fossil heritage. Dealers from across Canada and the US bring gems, jewellery, minerals, fossils, lapidary supplies, beads and ores for sale and display.

Walk the shores with a geologist, listen to a lecture, watch the demos, join a workshop, browse the booths and go home with a treasure!

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## **16<sup>th</sup> Annual EdGEO Teachers Workshop**

August 17-18, 2009

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## **GeoHalifax 2009**

September 20-24, 2009  
Halifax Marriott Harbourfront Hotel  
Halifax, NS  
[www.geohalifax09.ca](http://www.geohalifax09.ca)

The Canadian Geotechnical Society (CGS), the Nova Scotia Section of the Canadian Geotechnical Society and the Canadian National Chapter of the International Association of Hydrogeologists (IAH-CNC) invite you to the 62<sup>nd</sup> Canadian Geotechnical Conference and the 10<sup>th</sup> Joint CGS/IAH-CNC Groundwater Specialty Conference.

The conference theme - Discover Geotechnique - reflects Halifax's history as a point of discovery for many early Canadians. It also refers to this conference's tradition of providing a continuing forum for discovering new research developments and advancements in geotechnical engineering and hydrogeology.