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GEOLOG

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Geological Association of Canada

c/o Department of Earth Sciences

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GAC 2003 Medalists Announced in Vancouver

Photo by Otto Krauth

The Geological Association of Canada proudly awarded their "Big Four" medalists recently in Vancouver. From left to right they are, David Baird winner of the Neale Medal, Fred Longstaff, winner of the Logan Medal, Mary-Claire Ward winner of the J. Willis Ambrose Medal and Mike Melchin, winner of the Past Presidents' Medal. Additional winners and details inside.

The Geological Association of Canada once again teamed up with the Mineralogical Association of Canada, and new partner, the Society of Economic Geologists, to present a superb geological meeting – the GAC-MAC-SEG 2004!

The technical presentations, trade show, posters and short courses were all held at the newly built Sheraton Wall Centre in downtown Vancouver. The venue was stunning and well-suited for the meeting. The posters were given elevated status as they were largely presented in the sunlight along the central corridor. Total attendance (including volunteers, short courses, etc.) was close to 1000 participants!!

The program had something for everyone, although with the SEG's participation and as it was held in Vancouver, there was an emphasis on sessions of interest to Economic Geologists.

Almost 800 abstracts were submitted for 6 symposia, 27 special sessions and 9 general sessions that accounted for 170 posters and 540 oral presentations spread over 3 days and in 11 separate rooms. Several of the topical sessions have been or are in the process of publishing proceedings volumes, as a partial record of the science presented. Author's abstracts are available in printed, CD-ROM and web-accessible formats (check out: http://gac.esd.mun.ca/gac_2003/search_abs/program.htm).

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GSC
Losing its Stars

Several of the Geological Survey of Canada's brightest research scientists have recently announced that they have decided to leave the organization.

Gerry Ross, Richard Stern, Walter Roest and Alan Jones have all recently announced that they intend to leave the GSC to take on new challenges elsewhere.

Those contacted cited the GSC's changing mandate, continuing and unfocussed management restructuring, and ridiculous project proposal exercises as their main reasons for leaving. They cite new opportunities and better resources as their primary reasons for pursuing new paths.

The GSC's scientific ranks have been significantly diminished with two decades of on-again, off-again hiring freezes that have prevented the hiring of a renewed and youthful staff, combined with staffing reductions whereby numerous positions were axed, and many geologists at the prime of their careers were pushed into early retirement.

However, not only will this be the GSC's loss, it is also a loss for Canada as these geoscientists are all leaving the country. Our loss will be a welcome gain for Australia, Ireland, the United States and Germany.

The best spin may be that the GSC's changing focus is out of touch with the career aspirations of many of their best research scientists and that those individuals are taking whatever opportunities they can to extract themselves from the current situation. At worst, the GSC's brightest scientists are realizing that there is little future in the organization and that they are in the best position to leave. The result is the same, the organization is losing its most ambitious and brightest scientists.

INSIDE

GEOLOGICAL ASSOCIATION OF CANADA

The MISSION **of the Geological Association of Canada is to facilitate the scientific well-being and professional development of its members, the learned discussion of geoscience in Canada, and the advancement, dissemination and wise use of geoscience in public, professional and academic life.**

The VISION **of the Geological Association of Canada is a geoscience community that is knowledgeable, professionally competent and respected, whose input and advice is relevant, widely sought and utilized, and whose vital contribution to the economic prosperity and social well-being of the nation is widely acknowledged.**

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GEOLOG (ISSN 0227-3713) is the quarterly newsmagazine of the *Geological Association of Canada*, St. John's, Newfoundland and Labrador. GEOLOG is published for the benefit of GAC members and its content reflects the diversity of the organization. News items and short articles on topics of potential interest to the membership including public geoscience awareness are encouraged. Also encouraged are communications promoting interaction among academic, industry and government sectors. GEOLOG accepts and publishes contributions in both of Canada's official languages. Opinions expressed herein are those of the writers and do not necessarily represent the official positions of the GAC. GEOLOG is one of several forums provided by the GAC for scientists worldwide.

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ADVERTISING: Paid advertising is accepted. Digital copy is preferred. Contact the Editor for more information or go to the GAC website and click on Publications then Geolog and look for the Rate Card. Deadline for remaining 2003 issues are September 15th and December 5th, 2003.

GEOLOG (ISSN 0227-3713) est le bulletin trimestriel de l'*Association Géologique du Canada*, à St. Jean, Terre-Neuve-et-Labrador. GEOLOG s'adresse aux members de l'AGC et son contenu reflète le caractère polyvalent de cette organisation. Nous invitons la soumission de nouvelles et articles courts pouvant intéresser les membres, incluant les thèmes de sensibilisation du public aux sciences de la Terre. Les articles suscitant des échanges d'opinions et d'informations entre les secteurs académique, industriel et gouvernementaux sont également la bienvenue. GEOLOG accepte et publie les articles dans les deux langues officielles du Canada. Les idées sont celles des auteurs et ne représentent pas nécessairement la position officielle de l'AGC. GEOLOG n'est qu'un des nombreux forums offerts par l'AGC aux scientifiques à travers le monde.

RECEVEUR DES POSTES: Veuillez faire parvenir les changements d'adresse à l'Association Géologique du Canada, dont l'adresse est indiquée ci bas.

ABONNEMENT: L'abonnement à GEOLOG est un des privilèges dont bénéficient les membres de l'AGC. On peut se procurer un formulaire d'adhésion par courrier ou par fax en communiquant avec l'Association Géologique du Canada. Une copie de ce formulaire peut aussi être imprimée à partir de notre site Internet. Le coût de l'abonnement pour non-membres.

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FEATURES

DEPARTMENTS

Incoming GAC President addressess the masses at the GAC luncheon during the GAC/MAC/SEG Meeting in Vancouver.

This *GEOLOG* benefits from the contributions and assistance of Bob Cathro, Bob Dalrymple, Danielle Boivin, Dave Lentz, Richard Ernst, Georges Beaudoin, Richard Grieve, Cathy Hickson, Bob Anderson, John Clague, John Storer, Karen Dawe, Kevin Ansdell, Roger Paulen, Steve Piercey, Harvey Thorleifson, Mike Villeneuve, Reg Wilson, James MacEachern and the wonderful GAC/MAC/SEG photos by Otto Krauth Thanks to all, and regrets to anyone that I missed. Thanks to webmasters and webmistresses that have unknowingly allowed me to use bits and pieces, logos and text from their websites. Karen Dawe and Sandy McCracken undertook the job of proofreading, although any faults remain the accepted responsibility of the Editor. Richard Hartmier's photos of Mt. Logan adorn the Mastheads. This *GEOLOG* was produced with support from the Yukon Geological Survey in Whitehorse, Yukon. The next deadline for GEOLOG is September 15th, 2003 — your contributions are welcome!

Préambule

Presidential Preamble

Parting Comments

A year goes by extraordinarily quickly when you're in your 50s. Although it seems only yesterday I became GAC President, my term is up and I have, as they say, been "put out to pasture." Even so, Editor Hart has allowed me a parting shot in *Geolog*.

I'd like to share some good news with you. After more than a year of study and debate, GAC Council recently approved a new charitable fund to which GAC members and others will be able to contribute. The "GAC Fund" will support and promote earth sciences in Canada on a continuing basis. Monies for the fund will be raised through contributions from GAC members and the larger community of earth scientists in Canada. Contributions to the fund will be used to support earth science educational activities in Canada, including, but not limited to, student scholarships, a GAC lecture tour, Nuna conferences, EdGEO, EarthNet, and Geoscape. The really good news is that contributions to the Fund are tax deductible – a "win-win" situation for GAC supporters. The GAC Fund will be administered by the Canadian Geological Foundation (CGF). I am grateful to Frank Blackwood, President of CGF, for his help and support in establishing the fund within CGF. A pamphlet providing information on CGF is included with this issue of *Geolog*, and more information on the GAC Fund will follow later this year.

GAC is seeding the GAC Fund with $15,000 of its own money. The fund will be open for contributions this Fall, at the time membership notices are mailed. I urge all GAC members to make a tax-deductible donation to the GAC Fund at that time.

I believe so strongly in the GAC Fund and the activities it will support that I am committing a "random act of kindness" (my wife might substitute "senseless" for "random") – I will match, dollar for dollar, all contributions of $100 to $1000 made to the GAC Fund by the end of 2003. Not only will you receive a tax receipt for your contribution, your donation will go twice as far – a pretty good deal, don't you think? I am doing this because I'm passionate about my profession. I strongly believe that earth science will thrive in coming decades if we educate Canadians about the importance of what we do. I am strongly supportive of the grassroots activities of Canadian earth scientists that heighten public awareness of science. Further, I see a clear need for GAC, as Canada's national geoscience organization, to financially support these activities. Given my strong feelings about GAC and geoscience education, I felt I had to "put my money where my mouth is." I hope you will join me by making a generous contribution to the GAC Fund this fall.

John Clague
Past-President, GAC

From the Geolog Editor

Get the Pb out

It's only obvious when you think about it … but I guess that makes it unobvious … and worth stating.

The fabric that binds the Canadian geological community is woven by volunteers.

Those organizations and institutions that organize special sessions, meetings, short courses, publications, outreach programs, workshops, lectures, and the rest, depend on those willing to "give a little back" and dedicate some of their hard work or expertise towards weaving our geological community together.

Such is the case at our recent annual general meeting - this year it was the GAC/MAC/SEG. Hundreds of volunteers gave up thousands of hours to put on a pretty damn good meeting. Most will get little more than passing praise from colleagues, but the importance and net sum of these many small contributions is indeed huge.

Making a contribution to the Canadian geological fabric is something that we should all do, as we all benefit. The strength of our organizations, be it GAC, MAC, CIM, CSPG or whatever, depends on a good pool of willing volunteers. Most will say they are too busy to contribute, but I'm amazed to see that it is often those with the busiest schedules who are most willing to volunteer. Employers need to recognize the benefits of strong geological organizations and institutions and encourage their employees to contribute. There are several Divisions and Sections and Associated Societies affiliated with the GAC that are all looking for enthusiasm, ideas and fresh faces.

Start weaving …

Oscillations

In Vancouver, **Micheal Downes** was appointed President, CEO and Director, **Tom Setterfield** was appointed Vice-President Exploration and Director, and **Brian Butterworth** was appointed Director, all of the newly listed Monster Copper Corporation. • **Terry Tucker** was appointed President of the newly formed StrataGold Resources and **Jason Dunning** has taken his position as Vice-President of Expatriate Resources. • **Cynthia Hagstrom** of the Dept of Earth Science at the University of Alberta has been awarded the 2003 Julie Payette-NSERC Research Scholarship • **Murray Gingras** is leaving UNB to go take a faculty position at the University of Alberta. • Similarly, **Duane Froese** has accepted a tenure track position at the University of Alberta's Dept. of Earth and Atmospheric Sciences after completing his PhD at U of Calgary, and a post-doc at SFU. • At Carleton University, **Giorgio Ranalli** was named a Chancelor's Professor, recognizing his international, national, and departmental scholarly contribution. He is one of 4 faculty members in the Science Faculty to hold such a designation. • **Frederick Dean Ford** who is currently working at INCO, received a Carleton University Senate Medal in recognition of his superb doctoral dissertation, "Progressive Metamorphism of Flinton Group Pelitic Schists Grenville Province, Southeastern Ontario" • **George Dix** steps down as Carleton University Dept of Earth Sciences Chair to be replaced by **Claudia Schroder-Adams** who will take the position July 1st. • Carleton adds two new members to thier faculty: **Dariush Motazedian** an Enginnering Seismologist and **Claire Samson** an Engineering Physicist. • **Andrew Conly** has accepted a position of Assistant Professor at Lakehead University starting in August. • University of Toronto Dept. of Geology has hired **Gopalan (Srini) Srinivasan** as their Assistant Professor in Earth and Planetary Materials starting in September. The position arises through the endowment of the McRae-Quantec chair, established by **Bob McRae** and originally held by **Jeff Fawcett** and **Steve Scott**.

Oscillate recently? Tell geolog@gov.yk.ca

Information for Contributors/Directives aux Auteurs

Submissions are preferred as **digital files** sent as e-mail attachments to geolog@gov.yk.ca or on a **disc** via the post to the Editor. Discs will be returned if sent with self-addressed mailer. Documents should be sent as unformatted text (*.doc, *.txt or *.rtf) files. Graphics should be as CorelDraw (*.cdr), Windows metafiles (*.wmf) or Acrobat (*.pdf) file types, and images should be at 300 dpi, greyscale without internal compression (preferably *.tif). Files greater than 2MB should be compressed or zipped before sending via e-mail. Additional information on other file formats can be obtained from the Editor. **Hard copy** text, graphics and photo images are also welcome. All contributions may be edited for clarity or brevity.

The DEADLINES/ÉCHÉANCIERS for submissions and advertising for Volume 32 of GEOLOG is 15 September and 05 December 2003.

Nous préférons que les articles nous soient soumis sous forme de fichiers numériques, annexés à un courriel, ou sur disquette, par courrier conventionnel adressé au Rédacteur en Chef. Les disquettes seront retournées si elles sont accompagnées d'une enveloppe affranchie avec adresse de retour. Les documents doivent nous parvenir en version texte non formaté (*.doc, *.txt ou *.rtf). Les graphiques doivent avoir un format CorelDraw (*.cdr), Acrobat (*.pdf) ou Windows metafiles (*.wmf), et les images doivent avoir ne résolution de 300 dpi dans un format non comprimé (préférablement *.tif). Les fichiers de dimensions supérieures à 2 Mo doivent être comprimés avant envoi par courriel. Veuillez communiquer avec le Rédacteur en chef en ce qui concerne la possibilité d'utiliser d'autres formats. Nous acceptons aussi une **copie imprimée sur papier** du texte, graphiques et images. Le Rédacteur en chef se réserve le droit de modifier l'article à des fins de clarification ou de brièveté.

Frederick J. Longstaffe Awarded Logan Medal

Citation

In the quarter-century since he graduated with a McMaster doctorate, Frederick John Longstaffe has built for himself a distinguished academic career in the universities of Alberta and Western Ontario.

In research, Longstaffe has propelled himself to international preeminence as a geochemist by pioneering the use of stable isotopes to improve fundamental understanding of processes operating on and within the Earth. He has addressed such diverse issues as the evolution of ancient crustal rocks, clay-mineral genesis, fluid movement in sedimentary basins, formation and exploitation of heavy oils and oil sands, natural generation of greenhouse gases, plant biomineralization, and paleoclimatic reconstruction. A teacher of high repute, his pedagogical skills have been manifest not only in the university classroom, but also, nationally and internationally, in the lecture circuit and in short courses offered in his profession with almost biannual regularity. A university department head and dean, Longstaffe has also served his professional community loyally and well, as a former President of the Geological Association of Canada, Director of the Earth, Ocean, and Atmospheric Division of the Royal Society of Canada, Chairman of NATO's Advisory Panel on Advanced Study Institutes, and chairman or member of more than fifty other organizational bodies in the geosciences outside his university.

In their totality, Longstaffe's accomplishments amount to an academic *tour de force* richly deserving of recognition at the highest level.

Acceptance

Thank you, John, for those very kind words. However, only my mother would believe all of that. Someday, perhaps, I may get to meet this person that you have described.

I'm very grateful to the Geological Association of Canada for this recognition. I've a very fond spot in my heart for GAC and its people, and this unexpected honour just makes that feeling grow even stronger.

I am here today only because I have been blessed by good luck, good colleagues and good friends. Four Canadian universities, Windsor, McMaster, Alberta and Western have educated me, and allowed me to have thirty years of privileged existence as a student, a teacher and a researcher. I have always been carried by talented graduate students, Post-Doctoral Fellows and collaborators, who have kept me going generally in the right directions. I have been truly fortunate to have had a cadre of talented individuals who have kept my laboratory running – to the point these days that I am rarely allowed to touch anything, at least while unattended. The Canadian taxpayer has been most generous in the support of my research, in particular through NSERC, the Canada Foundation for Innovation, and the Ontario Innovation Trust; I hope that they will continue to do so, despite my dubious status as an administrator by day, most days, these days. Finally, despite these crowded and competitive times in which we live, there still are those who make the considerable effort of organizing, preparing and supporting a nomination. Let me offer my heartfelt thanks to them, so often unsung heros within our community.

And finally, a short sermonette. This award, for which I am so truly grateful, recognizes an individual. Where are the awards for teams? So much of scientific success at the international level now requires deep and sustained collaborative effort across several disciplinary boundaries. The great Canadian effort known as LITHOPROBE started us in the right direction. More lately, exciting NSERC- and/or CFI-sponsored research networks concerning climate change, oceanography and environmental science, SOLAS for one example, are also helping us to build research teams and infrastructure that are internationally competitive. Furthermore, these endeavours are creating opportunities for graduate students to participate in science at the international level. But overall, the Canadian Geosciences retain their cachet of the rugged individualist and the isolated research baron.

We must meld the best of our individual talents into some common goals, whether these are manifest in subjects such as sustainable development, global climate change or whatever. It is the right thing to do – and it will stem the decline in public interest and funding that our discipline is experiencing. We must wholeheartedly seek, define and take action on a few common visions for Canadian Geosciences, ones that not only engage each of us in partnerships and teams, but which also capture the imagination, respect and trust of the nation as a whole. "We must all hang together," said Benjamin Franklin, at the signing of the Declaration of Independence, "or assuredly we shall all hang separately."

Mike Melchin – Past Presidents' Medal

Citation

The 2003 GAC Past Presidents' Medal is awarded to Professor Michael Melchin of the Department of Earth Sciences at St. Francis Xavier University to recognize his research on graptolites that has had an enormous impact on our understanding of global Early Paleozoic evolutionary and environmental change.

Since completing undergraduate and Masters work at Waterloo, and his PhD at the University of Western Ontario, Dr. Michael Melchin has become one of the world's leading experts on Early Paleozoic life and the profound global changes that occurred during this time.

His research has addressed the classification, taphonomy, paleoecology, phylogeny, biostratigraphy, global correlation, paleobiogeography, and diversity dynamics of Late Ordovician and Early Silurian graptolites.

While much of his early research was based on beautifully preserved graptolites in concretions from Cornwallis Island in the Canadian Arctic, his broad international cooperation with the world's leading graptolite experts has since resulted in authoritative papers on faunas from many parts of the world.

His painstaking work has led to more precise global correlation of strata that has provided a means for global comparison of enormously significant diversification and extinction events. This has led to a better understanding of Late Ordovician mass extinction and glaciation, Early Silurian diversification, global Silurian correlation, and phylogeny of Early Silurian graptolites.

He also has developed ingenious methods for the study of intricate graptolite morphology, such as his use of infrared video microscopy that has led to major breakthroughs in understanding graptolite development and evolutionary relationships.

He has served as an Editor of the Treatise on Invertebrate Paleontology, Secretary of the IUGS Subcommission on Silurian Stratigraphy, Chair of the IUGS Working Group on the Ordovician - Silurian Boundary, and has been invited to work in China. He has also served on an NSERC grant selection committee, has been active with the GAC Paleontology Division, and he has served repeatedly as touring lecturer, newsletter editor, and conference organizer. Dr. Melchin is a superb mentor and role model for his graduate and undergraduate students.

And he has achieved these accomplishments at a small university, where he is able to balance a large administrative and teaching load with family life, his love of music, and a willingness to bring geoscience to the community.

For these achievements, GAC is pleased to honour Michael Melchin by awarding him the 2003 GAC Past Presidents' Medal.

Acceptance

I wish to thank the Geological Association of Canada for this honour, the Medal Selection Committee, those who nominated me, and especially Past-President Stephen Morison for the kind and generous words of citation. I should also thank the Committee for their rather liberal interpretation of the phrase "first decade or so" of one's career.

I am honoured to be recognized among the previous recipients of this award. I am particularly pleased to be among the distinguished paleontologists who have won this award, including Chris Barnes, who was one of my first undergraduate teachers and played an important role in getting me started in this business. He was the first one to pay me money to work in paleontology – picking conodonts (the things we do for money!). I am also honoured because, after recently serving for three years on the NSERC Grant Selection Committee for Solid Earth Sciences, I have seen how many outstanding Earth scientists Canada has in the first "decade or so" of their careers.

Three friends and colleagues have been particularly influential in my development as a scientist. The first is Jocelyne Legault, who introduced me to paleontology, skillfully guided me through two theses, and continued to be a mentor as my career developed. The second is Alf Lenz, who showed me the joys of graptolites and Arctic Canada, and has continued to teach me, by both word and example, what it means to be a dedicated, enthusiastic, and productive scientist in our discipline. He also worked hard to get me plugged in to the international community of graptolite workers and stratigraphers, and generously shared with me the finest Late Ordovician and Silurian graptolite faunas in the world. It is a lot easier to make an impact your field when you have the best material to work with. The third is Chuck Mitchell, who has constantly challenged me to try keep abreast of the cutting edge in concepts and methodology in paleobiology and biostratigraphy. New insights in paleontology are increasingly coming from the development and application of quantitative methods. New ways of analyzing form and fossil distribution data, and their integration with information from such fields as chemostratigraphy and molecular phylogeny, have allowed us ask new questions and rigorously test hypotheses about evolution, stratigraphic correlation, paleoecology, and the processes of biodiversity change. It is a very exciting time to be studying the history of life!

There have, of course, been numerous other collaborators/friends who have made a lot of interesting and worthwhile things possible for me: Sandy McCracken, Mario Coniglio, Henry Williams, Tatiana Koren, Chen Xu, and Chris Holmden, to name a few. My students have always injected new life and vigour into my laboratory and made me think about things in new ways. My colleagues in my department, especially Brendan Murphy, have made St. F.X. a great place to work for the past 12 years. My family, especially my wife, Rosemary, has been an endless source of support and encouragement.

Last, I would like to thank NSERC, the Polar Continental Shelf Project, the Canadian Foundation for Innovation, the unfortunately now defunct Energy Mines and Resources Research Agreements Program, and St. F.X. University, for making my work financially possible, in the past and, hopefully, for the next "decade or so".

Thank you.

Mary-Claire Ward - J. Willis Ambrose Medalist

Citation

The 2003 J. Willis Ambrose Medal of GAC is awarded to Mary-Claire Ward P.Geo. Eur. Geol., in recognition of her sustained distinguished service to the earth sciences in Canada, and in particular for her outstanding accomplishments in professional and society affairs.

The Toronto Star once described Mary-Claire as 'gutsy' for her choice of geology as a career, and this description is just as valid today.

Mary-Claire Ward is a geology graduate of University College, in Dublin, Ireland. For over 30 years, she has participated in and managed mineral exploration and mine development projects. She is now Chairman of Watts, Griffis and McOuat Limited, where she recently has focused on reserve and resource audits, due diligence reviews and valuations. She has shared her industry experience at many short courses and conferences.

Between 1983 and 1997, Mary-Claire served terms as a very active Councilor of the Geological Association of Canada, and in 1995-1996, she was President of GAC. During this time, she actively contributed to the work of the Canadian Geoscience Council.

And since 1988, Mary-Claire has been a director of the Prospectors and Developers Association of Canada. Her roles have included Chair of the PDAC Geoscience Committee, and chair of an industry-government task force on the contributions and budgetary needs of Canadian geological survey agencies. By leading dogged pursuit of this cause at several Mines Ministers conferences, Mary-Claire obtain increased commitments for the adequate funding of Canada's geological surveys.

Mary-Claire Ward is an indefatigable, irrepressible, articulate, and effective proponent of the geosciences. She sets high standards for others to follow, both professionally and through her extensive voluntary activities.

With her energy and enthusiasm, Mary-Claire is a born leader, a team builder, an initiator and a facilitator of practical solutions. If Mary-Claire is involved, you know things will get done and get done well.

For these contributions, GAC is pleased to honour Mary-Claire Ward by awarding her the 2003 J. Willis Ambrose Medal.

Acceptance

Recognition from one's peers is a great honour and one that I accept with much pleasure and great deal of humility. When I learned the names of the people who submitted and supported the nomination, I was struck by the fact that all of them had contributed so much to our community in one way or another and that each and everyone of them was at least as worthy of this award as I am.

There are many people I should thank – including my professors at university and various mentors from whom I received great encouragement early in my career – but I will confine myself to four groups of people. First, I must thank the firm of Watts, Griffis and McOuat and in particular Jack McOuat and Ross Lawrence for their unfailing support and encouragement of my volunteer efforts over the past 22 years. I must thank GAC for putting up with me all those years – they had to make me President to get rid of me! The PDAC Board and Staff have provided tremendous financial support and encouragement and in many ways I accept this award on behalf of my friends at PDAC. Last but not least my family who have put up with the time and absence that is inevitably involved in these activities. They are indeed the wind beneath my wings.

I would like to take this opportunity to address the younger geoscientists present at this lunch and encourage them to get involved in this Association or other associated and affiliated associations. It may seem that there is simply no time available in your busy schedule for volunteer activities, but I firmly believe that the skills that you learn in the process are of so much benefit that they are an integral part of your professional development. I am a Professional Geologist with the Institute of Geologists of Ireland which recognises and gives credit for volunteer activities when assessing annual professional development activities.

This recognition of the importance of these activities echoes my personal experience over the past 35 years. As a volunteer, I have learned valuable professional and life skills. I have learned: to express an opinion in a meeting; to make presentations to large groups of people (something that I found particularly difficult earlier in my career); to listen and respect other's points of view even if these differed substantially from my own and to quickly assess situations and make appropriate decisions.

An added benefit has been the opportunity to interact and count among my friends geoscientists whose sub disciplines are very different from mine for example: Godfrey Nowlan's conodonts; Fred Longstaffe's isotopes in prairie grasses; Alan Morgan's beetles; and, Grant Mossop's stratigraphic atlas. It is amazing how much we have in common despite the difference in our fields. I have also benefited immensely from networking with those geoscientists whose fields are closely related to mine – not just my industry colleagues but also my colleagues in the various provincial and federal geological surveys. Working together, we continue to make good progress in securing additional funding for government geoscience.

There is also great satisfaction in participating in successful efforts. About ten days ago Minister Nault of Indian and Northen Affairs Canada announced additional funding of $4 million over two years for geoscience in the three northern territories. This was the result of a successful effort by industry and government working together to develop the Northern Geoscience Strategy. It felt good to be part of that success.

There is much to be done if we are rise to John Clague's challenge to make geoscience first among the sciences in Canada. Achieving that vision will require the energy and enthusiasm of our young geoscientists. The torch should be passed to a new generation of volunteers.

Neale Medal Awarded to David M. Baird

Citation

The 2003 E.R. Ward Neale Medal of GAC is awarded to field geologist and educator David McCurdy Baird, O.C., Ph.D., D.Sc., F.R.S.C., in recognition of his lifelong contributions to science education in Canada.

Born in Fredericton in 1920, David Baird spent his early childhood in China with his missionary parents, and received early education in Nova Scotia and New Brunswick. He received his B.Sc. at UNB, his M.S. from University of Rochester in New York, and his Ph.D. from McGill. He held teaching positions in geology at Mount Allison and UNB, and was Department Head at Memorial and University of Ottawa.

He was then appointed founding Director of the Museum of Science and Technology in Ottawa, where he oversaw concept, design, and construction, and then led this highly successful museum for fourteen years. He then directed the building of the Royal Tyrrell Museum in Alberta, which has set a standard for natural history museums, and has averaged more than 400,000 visitors per year since it opened in 1985. He has also served as Director of the Rideau Canal Museum in Smith's Falls, Ontario, and consultant to the new Johnson Geo-Centre in St. John's.

His publications include over 80 items in the natural sciences, and over a dozen articles in the international museum press on museological principles. He has given many public lectures, presentations to Parliamentary committees, major conference addresses, and he has worked in television productions. His many books include impressive volumes on several National Parks, a guide to geology for visitors to Canada's National Parks, and a guide to the geology and scenery of the National Capital Region.

David Baird's fascination for lighthouses has resulted in books such as 'Lighthouses Of Atlantic Canada' and 'Northern Lights', a photographic exhibition that has toured the world, and a lecture tour for the Royal Canadian Geographical Society on 'Lighthouses – the vanishing sentinels'.

He has served on many professional committees, chaired his Local School Board, was Vice-President of the International Association of Transport Museums, President of the Youth Science Foundation, and member of the Board of Trustees of the Canadian Museum of Nature.

He has been honoured as Fellow of the Royal Society of Canada and later, its Bancroft Award, Massey Medal of the Royal Canadian Geographic Society, Heritage Award of Parks Canada, Honorary Doctorates from Memorial, UNB, and Calgary, the Heritage Award of Parks Canada, and in 1986, he was named an Officer of the Order of Canada for his contributions to natural sciences, education, and museums.

For these contributions, GAC is pleased to honour David Baird by awarding him the 2003 E.R. Ward Neale Medal.

Acceptance

President, Distinguished Head Table, Ladies and Gentlemen- At the beginning I would like you to know how very much I appreciate my nominators, the Medal Committee and the Geological Association of Canada for this honour today. For me it is especially meaningful for I have known Ward Neale for more than 50 years, and have worked with him on common goals off and on over that time. I remember well when he arrived in Newfoundland one summer when I was Provincial Geologist for Newfoundland and welcoming a respected colleague. There was, however, a lurking suspicion that he had been sent to the remote edges of the country as a missionary to explain to the heathen how their rocks actually worked. That idea was shattered when shortly after I left Newfoundland and Memorial University who should turn up to become a distinguished member of that community but Ward Neale. It completed a remarkable parallelism of careers - Master's degree at the University of Rochester, Ph.D. from McGill, Geological Survey of Canada, Memorial University of Newfoundland and a long interest in promoting Geology.

Now, you younger geologists, (and because of my birth date was announced to you in the introduction I am forced to include anyone under 70 years) who are hell bent for leather in establishing yourselves in the world of publish or perish, in petroleum geology, mineral deposits, surficial geology, volcanology and the rest, you may wonder why career men such as Ward Neale, your speaker, or even great men of times past such as Tuzo Wilson, should take time out to popularize and promote Geology, quite aside from the usual pride felt in all professions and trades be it by astronauts, clergymen, physicists or even mousetrap salesmen. For me there have been three principal motives. The first springs from a deeply felt conviction that now, more than ever, geological literacy is important in the general population and in those who make decisions for us in government. These are times when it is vital that we understand where our raw materials come from, what we are doing to our environment and what we should be doing, why natural disasters occur and how we might predict earthquakes, volcanic eruptions, typhoons, global warming with rising sea levels, how living things relate to the physical environment, the limits of our uncontrolled extraction of fish from the sea. The second started with the first encounter with geology as a separate discipline while an undergraduate at UNB. Suddenly mountains were no longer bumps on the horizon that cut off the further view, places where engineers had difficulty running railway lines and where strange things were done with pitons, ropes and spiked boots. Now they became dynamic places where rivers, glaciers, landslides, even wind, were wearing down the heights while at the same time unaccounted for titanic forces inside the earth's crust were pushing them up so that even now Mount Everest is measurably higher than it was when this 180 second address began. Rivers became places where all sorts of processes were at work, not just places at the bottoms of valleys where, of course, water gathers and flows on downhill. The seashore became so much more than the place to breath deeply of the sea air and to watch the waves breaking one after another…those waves perhaps generated in a storm a thousand miles away, ocean currents out there controlling weather, all manner of living things occupying an incredible variety of ecological niches, and two-thirds of the earth's surface with great mountains, volcanoes and wide plains lying on the ocean bottom. All this wonderment I wanted to share. The third motive is related to that propensity of mankind that sets him apart from all other living things - "intelligent curiosity". When Uncle Josiah Wedgewood was telling Charles Darwin's father that it would not be the feared waste of time to let young Charles go off on a two or three year voyage on ''Beagle" because he would see more than most, being a man of "enlarged curiosity". What a wonderful idea — " enlarged curiosity". Once in a conversation with my ophthalmologist while waiting for the eye drops to take effect, he the eye doctor and I the rock doctor, we got talking about outstanding teachers we had had. He mentioned that one of his, would occasionally say, "I will have succeeded if I leave some of you just a little curious". I think that for me at the end of my career I will feel satisfied if among students, friends, the public, even family, I have added something to their enjoyment of life in this wonderful world by leaving them "just a little curious".

Jérôme H. Remick III Poster Awards

The Jérôme H. Remick III Trust fund of the GAC was established in 1994 with monies donated by Jérôme H. Remick III, a long-time member and former Chairman of the GAC Membership Committee. The purpose of the fund is to sponsor awards for meritorious posters at the GAC-MAC Annual Meetings. These awards recognize that posters are a legitimate presentation medium at conferences, and encourage higher standards by recognizing the best posters in terms of scientific content, organization and presentation of data, and overall aesthetics.

The judges were members of GAC Council: Kevin Ansdell, Roger Mason, Fran Haidl, and Catharine Farrow.

There were approximately 175 posters presented at the Vancouver GAC-MAC-SEG conference, many of which were superb. The best three posters, which were awarded the Gold ($1000), Silver ($900), and Bronze ($800) prizes, were:

Gold

Alison Rust (U. Orogen), K. Cashman, H. Wright and J. Roberge
Permeability of vesicular silicic magma (*photo top*)

Silver

Jody Spence (U. Victoria) and K. Telmer
Sulphuric acid induced fluxes of CO2 between the atmosphere/ocean and rocks: Evidence from river chemistry and carbon isotopes in the Canadian Cordillera (*photo centre*)

Bronze

Zhaoshan Chang (Washington State University) and L. Meinert
Vermicular textures of quartz phenocrysts, endoskarn, and implications for late stage evolution of granitic magmas (*photo lower*)

Runners-up (in alphabetical order)

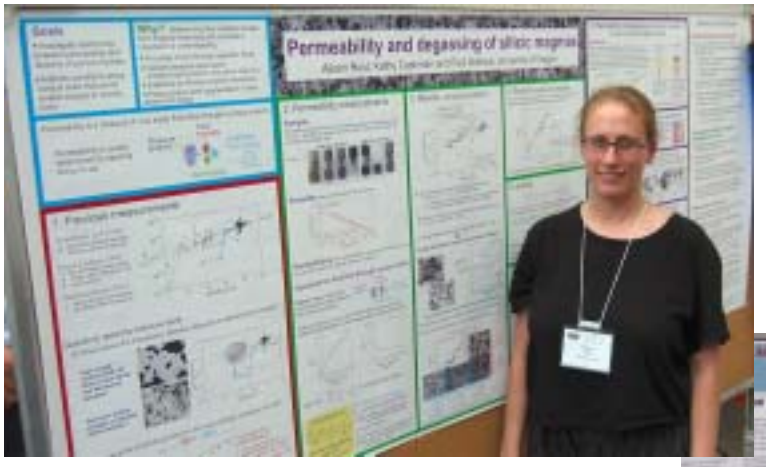
Austin, N.J. (UBC) and Kennedy, L.A.
The brittle failure of dolomite: Experimental results

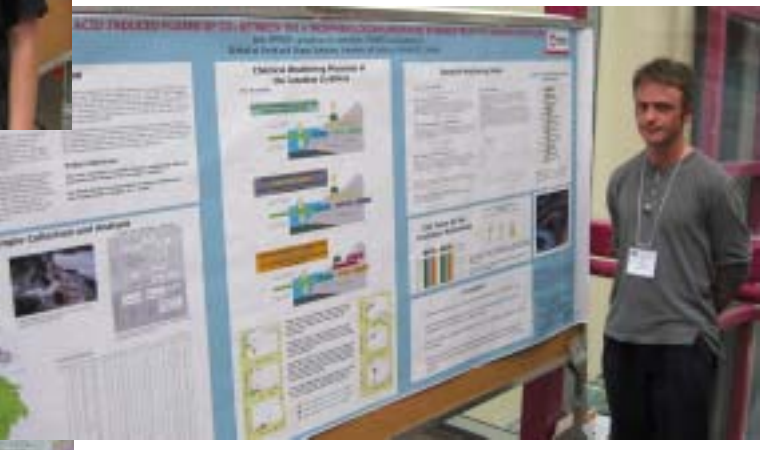
Conly, Andrew (U. Toronto) and S. D. Scott
The Boleo Cu-Co-Zn deposit, Baja California Sur, Mexico: Syngenetic sulfide mineralization in an initial rift fill sedimentary sequence of an oxidized continental rift basin

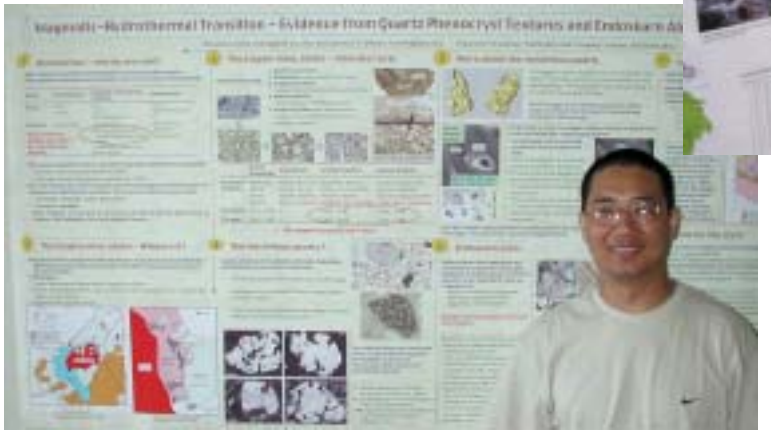
Hetherington, C.J., (Geologisk Museum, Oslo) Nakrem, H-A., and Batchelor, R.A.
The Bjorntvet Brudd metabentonite: A new Silurian correlation tool?

O'Neil, J.E. (UQAM) and Stevenson, R.
Implications for the composition and evolution of the lower crust of the Superior Province from lower crustal xenoliths

Smithson, D.M., (UBC) Rowins, S.M., Mortensen, J.K. and Newport, G.R.
Late Eocene felsic magmatism and reduced porphyry copper-gold mineralization at the North Fork deposit, Central Cascade Mountain Range, Washington, USA.







GAC Division Medals

MARINE DIVISION

The Michael J. Keen Medal is normally awarded annually to a scientist who has made a significant contribution to the field of marine or lacustrine geoscience. This year's recipient is **William R. Normark**, US Geological Survey, Menlo Park, CA (photo below left).

The Elkanah Billings Medal is a biennial award honoring Elkanah Billings (1820-1876), the first Canadian paleontologist and is made by the Paleontology Division of the Geological Association of Canada to recognize distinction in research and publication in Canadian Paleontology. This year's recipient is **Brian S. Norford**, Geological Survey of Canada, Calgary, AB (photo below right).

MINERAL DEPOSITS DIVISION

The Duncan R. Derry Medal is the highest award bestowed by the Mineral Deposits Division (MDD). It is awarded annually to the outstanding economic geologist who has made significant contributions to the science of economic geology in Canada. This year's recient is **Robert Kerrich**, Dept. of Geological Sciences, University of Saskatchewan, Saskatoon, SK (photo above left).

The William Harvey Gross Medal is bestowed upon a geoscientist less than 40 years of age who has made a significant contribution to the field of economic geology in a Canadian context. This year's recipient is **Ross Sherlock**, Canada - Nunavut Geoscience Office, Iqaluit, NU (photo above right).

VOLCANOLOGY & IGNEOUS PETROLOGY DIVISION

The **Career Achievement Award** is made in recognition of career achievements in the field of volcanology and/or igneous petrology. Candidates are judged on their lifetime scientific contribution. This year's recipient is **Donald Francis**, Dept. of Earth & Planetary Sciences, McGill University, Montreal, QC (photo top left).

Leopold Gelinas Medals

The Leopold Gelinas medals are awarded annually for the most outstanding theses, written by Canadians or submitted to Canadian universities, which comprise material at least 50% related to volcanology and igneous petrology.

Patricia Corcoran, Gold-PhD (photo top right)

"Physical Volcanology, Geochemistry, and Tectonic Evolution of Three Selected Areas in the Point Lake and Beaulieu River Volcanic Belts, Slave Province, Northwest Territories, Canada". Supervisor: Jarda Dostal, Dalhousie University

Craig Stanley, Silver-MSc (photo bottom right))

"Petrology of mantle xenoliths hosted in Tertiary lavas of the Vogelsberg, Germany: Implications for mineral-melt reactions and a comparison to mantle xenoliths from the Hessian Depression and Rhon." Supervisor: Neil MacRae, University of Western Ontario

Mathieu Richer, Bronze-BSc (photo bottom left)

"Mafic Magma injection triggering eruption at Ilopango caldera, El Salvador, Central America". Supervisor: John Stix, McGill University

GAC Distinguished Service Awards

Photo by Otto Krauth

Robert Cathro, Cathro Exploration Group, Chemaninus, BC, for continued service to the Mineral Deposits Division for 25 years including the past 15 years as Treasurer.

Mel Stauffer, Dept. of Geological Sciences University of Saskatchewan, Saskatoon, SK, for dedicated service in managing all phases of the successful Saskatoon GAC-MAC meeting.

GAC Volunteer Awards

For their contribution to the success of the Saskatoon meeting - **Yuanming Pan, Kevin Ansdell, Robin Renaut, Chris Holmden, Don Gendzwill, Les Coleman, Michael Cuggy.**

Luke Webster
A designer at the Royal Tyrrell Museum, he voluntarily designed the logo, pin and plaque for the newly instituted Pikaia Award of the Paleontology Division.

PIKAIA award

Photos from the GAC/MAC/SEG meeting have been posted at: **http://gac.pma-map.com**
They were taken by Otto Krauth of the GSC Vancouver.

GAC 50 Year Members!

The GAC congratulates its newest Fifty Year Members
Alan F. Gregory, Peterborough, ON
David S. Robertson, Toronto, ON
Denis M. Shaw, Hamilton, ON

GAC | AGC

Photo by Otto Krauth

Like proud parents, Cathie Hickson (GAC), Greg Dipple (MAC) and Steve Rowins (SEG) beam in anticipation of a great meeting at the GAC President's Reception with the Vancouver skyline behind them.

GAC Geophysics Division

Dawn A. Kellett is the winner of the 2003 GAC Geophysics Division student award for her presentation "Geophysical measurement of reaction progress for mineral carbonation reaction in serpentinite, Atlin, B.C." at the GAC-MAC-SEG Vancouver 2003 meeting. This is the inaugural year of what is to become an annual award by the Geophysics Division for "outstanding student presentation on a geophysical topic" at the annual GAC meeting. We congratulate her and her co-author (her BSc supervisor), Prof. Greg Dipple of the University of British Columbia. In the fall Ms. Kellett will begin field work in the Himalayas for her graduate studies at Queen's University in Ontario, under the supervision of Prof. Laurent Godin, after spending a summer in the Yukon looking for emeralds.

Photo by Otto Krauth

GAC Publications Director Karen Dawe buttonholes Peter Mustard and Jim Monger to enquire about impending publication contributions at the GAC luncheon.

Photo by Dave Lentz

Karen Johnston, and Venessa Bennett, Karen Dawe were kept busy with publication sales at the GAC booth.

Photo by Otto Krauth

Members of GAC Council take a breather from nearly continuous meetings. From left to right, they are Kevin Ansdell (Program Chair), Sandy McCracken (outgoing Publications Chair), John Clague (outgoing President), Harvey Thorliefson (incoming President), Steve Morison (Past-President) and Roger Moton (Secretary-Treasurer).

Photo by Otto Krauth

David Baird (left) accepts congratulations from E.R.Ward Neale, upon being awarded the Ward Neale Medal, held by the new GAC President, Harvey Thorliefson.

from page 1.

The commemorative sessions were well-attended and attracted world class Canadian and international researchers and explorationists to help celebrate or commemorate the contributions of some outstanding Canadian geoscientists in the fields of volcanology, marine geohazards, metamorphic petrology, diamond exploration, and structural geology and tectonics.

The meeting was also notable as the slide projectors were largely dormant as most presentations were digital, mainly via PowerPoint. For many this was their first attempt at producing and presenting their science using PowerPoint. Session chairs had to deal with a mix of slide projectors and overhead projectors as well as laptops and CD's and digital projectors which all needed coordination, and organizers had to ensure that the bits and pieces needed to project the presentations were all present and in working order. But despite the angst of presenters and technical program chairs, with the exception of a handful of talks that did not project, everything seemed to go smoothly.

A program highlight was the close and enthusiastic collaboration amongst and dedication of the technical program chairs for the 3 partnering societies (as well as sponsorship of one session by CSPG).

For the Program Chair, Cathie Hickson, "the real highlight was the incredible energy I saw in the poster sessions. There seemed to be lots of discussion as well as just plain good fun and catching up happening. I think this is the real essence of the meeting - researchers from across Canada finding out about the terrific research done right here at home! I was glad we could provide a stimulating venue that most attendees took advantage of."

Among the highlights for Technical Chair Bob Anderson was the "enthusiasm, knowledge, creativity and hard work of the 68 topical session organizers who really brought in the substantive part of the technical program and were responsible for its broad scope and appeal".

Letters to GEOLOG

GAC's Antiquated Membership Rules

Dear Roger (GAC Sec/Tres)

RE: Should we change our membership rules (GEOLOG v. 32-1, p. 15)

Thanks for the opportunity to have some input on the current GAC membership structure and specifically comment on the relative rights accorded Fellows (voting, participation on Council and Committees) and Associate Members (non-voting, ineligible for Council and Committees). The current state of affairs, with two membership levels, is one which smacks of being a holdover of Victorian era mentality and evokes smoking jackets, leather wingback chairs and cigars in darkened rooms. It is unconscionable in this day and age that any organization would promulgate the notion that two "Members", each paying exactly the same dues, should be given different rights and privileges.

I, for one, have adamantly refused to upgrade my status from Associate to Fellow. Although such a promotion is possible (by my simply asking a current fellow to sign my upgrade status), the artificial nature of being conferred fellow status has always rankled me.

The GAC has long made noises about the need to include new Members, partners and most importantly, active participants in the organization and operation of the Association. Keeping the exclusive club rites (rights!), is not the sign of a forward looking, inclusive, idea conscious organization.

Please put my Associate-level vote (recognizing that I don't have voting rights), to the abandonment of this antiquated, colonial system.

Sincerely,

Mike Villeneuve
Geological Survey of Canada
Ottawa ON

Name Game

What's in a name? A lot - depending on one's interests, prejudices, education and lots of other factors. I retired from a Department of Geological Sciences, formerly Department of Geology when in the Engineering Building, now located in the Geology Building, which is connected to Biology and Physics. The change the name to Department of Earth Sciences would be confusing to visitors, particularly farmers and other agriculturalists to whom earth is "…a material that can be moved and handled economically with pick and shovel" (Canadian Oxford Dictionary) Keep GAC as the GEOLOGICAL ASSOCIATION OF CANADA.

W.O. Kupsch
University. of Saskatchewan,
Saskatoon, SK

Commentary

GSC Gearing-up for maximum effect

We in the Earth Sciences Sector (ESS) welcome constructive debate about the role of the earth sciences in Canada. At issue seems to be the scope of the potential influence of the earth sciences. We contend that the contributions of the earth sciences go well beyond reducing risk and exploration costs for the resource extraction industries. We believe earth sciences has a role to play in the health, safety and social well being of Canadians. We do fear that, possibly because they are so fundamental, the importance of the earth sciences are being taken for granted. Those same Canadians who fund our science and technology (S&T) activities with their tax dollars should understand that earth sciences are as innovative and essential, as information technology, bio-engineering and nanotechnology. Our motivation is simple. In recent years, investment in earth science S&T has dwindled (e.g., Hall and Lawton, 2003). We want to ensure that governments, granting agencies and Canadians recognize our worth and give priority to funding our work.

To this end, ESS is taking specific and deliberate steps to focus its S&T in areas of clear federal responsibility. Our S&T Strategy recognizes the importance of natural resources and sustainable development, with a particular rural and northern focus in Canada. Our Business Plan (www.nrcan.gc.ca/ess/info_e.php) outlines the 17 S&T programs we have designed to address six issues identified by the federal government. It is important to note that these overarching government issues have not fundamentally changed over the past twenty years.

As Professor Burden notes (Geolog, v. 32, pt. 1), Canada is geographically vast. This fact is at the basis of our focus on partnerships. ESS alone cannot satisfy all of the geoscience knowledge needs of Canadians, but through solid partnerships we can make the most of our resources and overcome challenges, such as lack of infrastructure in parts of the country, short field seasons and long distances.There is after all only 1 Geological Survey of Canada employee for 17,000 km^2 of Canada, compared to 1 employee for a few 100 km^2 for most European geological surveys.

Management of natural resources, is however, a provincial, rather than federal, responsibility. One of the key roles of the Geological Survey of Canada is to facilitate a national framework in which to place the geoscience produced by ourselves, our provincial colleagues and others. Through the National Geological Surveys Committee, ESS and the provincial surveys have been promoting the establishment of the Cooperative Mapping Strategies and of the Canadian Geoscience Knowledge Network (www.CGKN.net). The Government of Canada's "Connecting Canadians" initiative has been integral to our efforts with CGKN and many other partnered geospatial initiatives, while conducting exhaustive cross-Canada consultations.

While efforts to balance government budgets have resulted in funding cuts, ESS has had some recent success in establishing and/or managing funding for new S&T initiatives. In addition to the "Connecting Canadians" funding ($60 million over 5 years), the Climate Change Action Fund: Impacts and Adaptation will receive $37.5 million over five years and the Targeted Geoscience Initiative invested $15 million over three years, in work directly related to mineral exploration, and will invest an additional $10 million over the next two years (Geolog., v. 32, pt. 1, p. 25).

Change is often difficult and causes discomfort and uncertainty and, in some cases, angst in our clients, partners and stakeholders, as well as with our own staff. We acknowledge this. Change, however, is as inevitable as evolution. Rather than shrink from it, Earth Sciences Sector has opted to take steps to create a more focussed organization to better serve the needs of the federal government and Canadians. We plan to deliver clearly defined programs that are designed to provide specified and tangible results. We want to do so in partnership with others in the Canadian earth sciences community.

"Geology" and "surveys" are still part of the Geological Survey of Canada activities. We would prefer, however, that our name be associated and recognised with the benefits our efforts produce rather than the myriad of scientific disciplines and methods we employ. The name Geological Survey of Canada will continue into the future, carrying broad connotations about evocative connections to the Canadian identity and, we trust, how the Geological Survey of Canada has evolved and will evolve to reflect the changing needs of Canada. It is out intention to keep the larger Canadian geoscience community appraised of developments, as Earth Sciences Sector implements its current S&T strategy.

Richard Grieve
Chief Scientist, Earth Sciences Sector
Ottawa ON

David Boerner
Acting Director General, Minerals and Regional Geoscience Branch, Geological Survey of Canada
Ottawa ON

Bert Struik
Program Manager, Natural Hazards and Emergency Response, Earth Sciences Sector
Vancouver BC

J. Hall and D.C. Lawton, 2003, Geosciences in Canada, Current Status, Geoscience Canada, v. 30, 17-24.

Conference Reports

New Frontiers in the 4th Dimension

Generation, Calibration and Application of Geological Timescales

A GAC Nuna Conference

Mt. Tremblant, Québec, Canada, March 15-18, 2003

Paleontologists, biostratigraphers, radiogenic isotope geochemists and others gathered at Club Tremblant Hotel in Quebec's Laurentian Mountains north of Montreal to discuss research directions of geological time and timescales in the most recent GAC Nuna Conference.

The Conference attracted some forty participants with a wide variety of backgrounds, including 17 from outside Canada. Participants represented domestic and international academia and government research institutions, as well as one attendee from industry. Also in attendance was Felix Gradstein, primary author of the upcoming global timescale being produced under the auspices of IUGS and ICS, as well as Paul Sikora and Anthony Koppers as representatives of the new NSF funded CHRONOS project. Geographic representation came from Australia, New Zealand, Germany, Hungary, UK, USA, and from across Canada.

The integration of space and time has underpinned the science of geology since its inception and manifests itself in the creation of the geological timescale. Canada already has the global stratotypes for the base of the Cambrian and Ordovician and there are world-class candidates for other geological periods and epochs.

This conference represents the desire to more fully integrate the datasets representing chronostratigraphy and chronometry into a more accurate and useful geological timescale. Unlike other conferences dealing with this issue, the theme of this Nuna centered on the mechanics and limits of collecting and connecting the two types of data, rather than the specifics of defining a new timescale epochs, ages and stages. As such, presentations and discussions were general in nature and focused on the limits and applicability of the methods. In addition, a number of presentations by specialists highlighted state-of-the-art advances in bio- and chronostratigraphic correlation and calibration.

The program for the conference was divided into five thematic segments. After an introduction by Andy Okulitch on the practical issues faced in amalgamating the two datasets, the remainder of the opening session highlighted approaches for (re-) constructing a timescale for the 7/8 of earth's history represented by the Precambrian. This was followed by a session presenting the range of geochronological methods and outlining limits of error analysis and interpretation therein. This was followed by a session on the unique needs and approaches involved in handling late Cenozoic chronologies – a time period where radiogenic isotopic data plays a supporting role to cyclo- and magnetostratigraphy. Day three was turned over to the biostratigraphers and the session ended with practitioners outlining different ways of calibrating chronstratigraphies. Following a presentation by Felix Gradstein on the upcoming global timescale project, the morning of the last day was dedicated to discussion and consensus building.

From the tenor of discussion and conversations at the conference, it appears that the goal of promoting cooperation and understanding of key issues in the biostratigraphic community (paleontologists) and the chronometric community (isotope geologists, paleomagneticians) was successful.

Tangible post-meeting outcomes include the establishment of a new ICS Subcommission on subdivision and calibration of the Precambrian time scale (http://www.micropress.org/stratigraphy/subcom.htm). A new chapter on calibrating Precambrian time has been completed for the global timescale volume as a result of presentations and discussion that took place at the meeting. A full review paper will be published in an upcoming Geoscience Canada. The web page (www.nunatime.ca) remains registered as a domain until March 2004. It currently hosts all the abstracts and will be updated to reflect meeting outcomes. It is hoped that it will continue to serve as a communication tool for those interested in timescale research.

Paul Renne of the Berkeley Geochronology Center said, "This, and the 1998 (GAC) Roddick Symposium, are among the best meetings I've ever attended. I would definitely like to come to another one…"

Mike Villeneuve, John Westgate, Godfrey Nowlan and Andy Okulich

3rd International Mammoth Conference

The 3rd International Mammoth Conference was held in the Yukon Territory from May 4 through 29, 2003. This conference features new research on mammoths and their environment. It is held every four years: the original International Mammoth Conference was held in St. Petersburg in 1995, and the 2nd IMC took place in Rotterdam in 1999. Yakutsk, Sakha Republic, has offered to organize the 4th IMC in 2007, and an offer to host the 5th IMC in Great Britain in 2011 is already on the table.

There were 123 delegates from 12 countries (Canada, Denmark, France, Germany, Great Britain, Japan, Mexico, Netherlands, Poland, Russia, Spain, and the United States) gathered in Whitehorse for an opening reception at the Yukon Beringia Interpretive Centre. Then the conference moved to Dawson City for three days of technical sessions at the Odd Fellows' Hall, and a day-long field excursion through the Klondike Goldfields.

In all, 42 talks were given and 28 posters were presented. Eleven sessions spanned the breadth of interdisciplinary research in paleontology and paleoecology of the Ice Age in the Northern Hemisphere. New fossils from Siberia were discussed, establishing that mammoths and their fauna survived there past 10,000 years BP on the northernmost mainland as well as the previously recognized survival on Wrangell Island. New finds of frozen carcasses in Siberia were presented, with several accounts of new expeditions.

New insights on the cultures of Palaeolithic mammoth hunters and a northward extension of their geographical range were discussed. Research on stable isotopes of carbon and nitrogen in fossil mammals has yielded new insights into ancient environments and diets, and new methods of interpretation of the evidence are evolving. Mammoth tusks yield evidence, in their growth rings, of environmental richness, movement in the landscape, seasonality, and temperature history. DNA evidence clarifies taxonomic relationships and population movements of mammals; and new genetic information of plants, animals, and microorganisms has been taken directly from frozen soils. Large suites of radiocarbon dates can be used to interpret faunal turnover late in the Pleistocene. Plant macrofossils and insect remains add to the richness and the precision of the paleoenvironmental record.

The foregoing are some of my conference highlights; you can pick your own by looking at the conference abstracts at www.yukonmuseums.ca/mammoth/index.htm or by obtaining the printed Program and Abstracts volume from John.Storer@gov.yk.ca.

Accompanying the Mammoth Conference were an art show of works by George Teichmann and Halin de Repentigny; and a fossil show of bones from a selection of placers and miners, and a live demonstration by Dan Fisher (University of Michigan) coring an important mammoth tusk to analyze growth rings and stable isotopes. Both these events were at the Dawson City Museum. There were two public talks at the Dänojà Zho Cultural Centre, Tr'ondëk Hwëch'in First Nation: "Excavations at the Lugovskoye Site, Western Siberia: the Northernmost Mammoth Hunting Site in Siberia," by Evgeny Maschenko; and "Mammoths by Land, Sea, and Air," by Dick Mol and Ralf-Dietrick Kahlke. Perhaps the pièce de résistance of the conference was a papier mâché mammoth, full-sized, created by Halin de Repentigny and displayed on the front lawn of the Dawson City Museum.

At the conference banquet in the Palace Grand Theatre, a special award was presented to Tara Christie, President of the Klondike Placer Miners' Association, in commemoration of more than a century's cooperation between placer miners and paleontologists.

The conference could not have succeeded without many hard-working volunteers in Whitehorse and Dawson City. Corporate sponsors were the International Arctic Research Center, University of Alaska Fairbanks; National Park Service (United States); Alaska Quaternary Center; Klondike Visitors Association; Cultural Services Branch, Yukon Tourism and Culture; The Mammoth Site of Hot Springs, South Dakota; Yukon Geological Survey; Yukon's energy solutions group of companies (Yukon Development Corporation, Yukon Energy, Energy Solutions Centre); Dawson City Museum; Klondike Placer Miners' Association; Tr'ondëk Hwëch'in First Nation; City of Dawson; Downtown Hotel; and Eldorado Hotel.

John Storer
Yukon Territorial Government
Whitehorse, YK

Joint Meeting of Atlantic Geoscience Society & Northeastern Section, Geological Society of America

The Atlantic Geoscience Society added another milestone to their record of achievement, in recently hosting a joint meeting of AGS and the Northeastern Section of the Geological Society of America. The conference was held March 27-29 in Halifax. Close to 700 registrants (all of whom are now AGS members!), including geoscientists, students, and educators, were treated to a wide variety of technical sessions that forced participants into some difficult choices indeed. The technical program consisted of five symposia and twelve theme sessions, covering a broad spectrum of the geological sciences. Symposia topics were: Eastern North America Mesozoic-Cenozoic Margins and Their Hydrocarbon Potential; New Developments in Understanding of the Avalon Terrane from the Southern Appalachians to Newfoundland; Regional Hydrogeological Studies in Northeastern America; Metals in the Environment; and Evolution of the East Laurentian Continental Margin, Eastern USA-Canada. Theme sessions included: Metallogeny of the Northern Appalachian Orogen; Ichnology and Biofacies: Innovations and Applications; Late Glacial-Early Holocene Climate and High Resolution Records of Climate Change from Lakes; Paleozoic Arcs in the Northern Appalachian Orogen and Their Accretionary History; Processes in Felsic Magma Chambers; Energy Resources of the Paleozoic; Geological Impacts of Extreme Events on Land and Sea; Late Pleistocene Mastodon Environments; Communicating the Critical Relevance of Earth Science; Mesozoic Basalts, Sills, and Feeder Dykes; Crustal Structure of the Atlantic Margin and Northern Appalachian Orogen; and Undergraduate Research in the Geological Sciences.

Student participation, always an important part of AGS Colloquia/Symposia, included 165 oral and poster presentations, all of which earned a complimentary copy of the Society's flagship publication, The Last Billion Years: The Geological History of the Maritime Provinces of Canada. "TLBY", as it is fondly known to AGS, drew a lot of attention at the conference, and sales of the book, along with other AGS publications, were brisk at the AGS booth.

Related conference events were as varied as the main technical program. They included (1) a field trip to the South Mountain Batholith, led by Barrie Clarke of Dalhousie University, concluding with dinner at Peggy's Cove; (2) a special presentation at the N.S. Museum of Natural History by Paul Olsen of the Lamont-Doherty Earth Observatory, entitled "Mass Extinctions, Asteroid Impacts and Giant Volcanic Eruptions: The Beginning and End of the Dinosaurs"; (3) a Conventional Drillcore Display workshop (Sedimentary Basins Onshore and Offshore Nova Scotia) at the Canada Nova Scotia Offshore Petroleum Board, organized by David Brown, Grant Wach, Andrew MacRae, and Mary Jean Verrall; and (4) a short course entitled "From Lithosphere to Basin: Numerical and Analogue Modelling of Basin Evolution", organized by Djordje Grujic.

Steve Blasco (right) is thanked by Gordon Fader for his after-dinner presentation at the closing banquet of the AGS - NE GSA Joint Meeting.

AGS and GSA luminaries pose for a post-banquet group photo at the March 2003 Joint Meeting. From left to right: Paul Karabinos (Past-President, NE GSA); Tony Naldrett (Past-President, GSA National); Jennifer Bates (Past-President, AGS); Sandra Barr (Technical Program Co-Chair); David Scott (Co-Chair, Local Organizing Committee); Steve Pollock (Secretary-Treasurer, NE GSA); Reg Wilson (President, AGS); and Marcos Zentilli (Co-Chair, Local Organizing Committee).

The meeting concluded with the Saturday evening banquet, where, in keeping with AGS tradition, a highlight was the presentation of the Society's awards. This year's winner of the Distinguished Scientist Award (Gesner Medal) is Georgia Pe-Piper of St. Mary's University; Georgia is presently on sabbatical in Greece and Pierre Jutras accepted on her behalf. Bob Grantham, formerly of the Nova Scotia Museum of Natural History and currently at the Johnson GeoCentre in St. John's, was awarded the Society's Distinguished Service Award for exceptional and altruistic services to the AGS over a long period of time. Of special note was the banquet appearance of the only Life Member of AGS, Dr. Laing Ferguson. Laing has been unable to attend the last several annual meetings because of illness, so we were very pleased that he was able to return to the fold. Guest speaker Steve Blasco of GSC Atlantic delivered a highly entertaining after-dinner presentation, describing his exploits aboard a Russian submersible while exploring the remains of HMS Titanic. All told, the Halifax meeting was an excellent showcase for AGS, and the members of the Local Organizing Committee, co-chaired by Marcos Zentilli and David Scott, are to be congratulated for their outstanding achievement. Our extremely able Technical Program Chairs were Sandra Barr, David Piper, Matt Salisbury and Martin Gibling. Thanks are also extended to the other members of the LOC, namely Jennifer Bates, Jane Barrett, David Brown, Thomas Duffett, Djordje Grujic, Linda Ham, Andrew Henry, John Hogg, Mike MacDonald, Alan Ruffman, Pat Ryall, Brian Todd, Danika van Proosdij, Grant Wach, Peter Wallace, Charles Walls, and Graham Williams.

For AGS members, the conference will long be remembered as a major success. The numerous talks describing geoscience research in New England were a refreshing (and sometimes provocative) complement to our usual Atlantic Canadian focus. Our GSA colleagues and friends came away impressed with the ability and enthusiasm demonstrated by our relatively small association in staging a meeting of this kind, and their comments were invariably complimentary. AGS is not resting on its laurels however, as many of our members are involved with the June meeting of CANQUA, and Scott Swindon's organizing committee has plans well in hand for hosting the 2005 GAC-MAC-CSPG conference in Halifax.

Reg Wilson, P.Geo.
N.B. Department of Natural Resources and Energy
Bathurst, NB

Students News

WIUGC 2003

Exploring the Future of Geology in Regina

The 39th annual Western Inter-University Geology Conference was held from January 9-11 in Regina, Saskatchewan. As this was the first time the conference was ever held in Regina, the organizing committee thought it would be a great time to introduce a couple of new things to the conference. For example, this year was the first time that a Friday Luncheon Technical Session was offered to WIUGC delegates. Dr. Tom Kotzer from Canadian Light Source spoke about the application of Synchrotron radiation technology to the geosciences. The particle physics project has been under way in Saskatoon, Saskatchewan for the last few years.

As well, Dr. Graham Davies offered a short course on hydrothermal dolomite and fluid flow to conference delegates. Many students found this 4-hour session on the exploitation of such reservoirs extremely valuable and recommended that a similar course be offered at WIUGC 2004.

While new ideas and change are great ways towards innovation, some things are best left to tradition. Such traditions included the student presentation and poster competitions, the career/industry fair, and of course, the bun fight! After a lively display of inter-university bun-tossing, the delegates were addressed by Dr. John Clague, President of the Geological Association of Canada. Dr. Clague spoke candidly about his adventures as a geologist and shared photos from around the world with the conference attendees.

Awards for presentations and poster displays are as follows:

Best graduate student presentations:
FIRST PLACE: Natalie Sirman (University of Alberta) – "Ichnology & Sedimentology of the Late Mississippian (Visean) Kiskatinaw Formation, Northwest Alberta"

RUNNER UP: Henry Lamb (University of Calgary) – "User-programmable Computer Graphics as a Pedagogical Tool in Structural Geology"

Young at Heart: L-R: Fred Mandybura (Shell Canada Limited), Jason Kosford (JD Mollard & Associates), Todd Radenbaugh (University of Regina), Brad Hayes (Canadian Society of Petroleum Geologists), John Clague (Geological Association of Canada).

WIUGC 2003 Staff: (From L-R, back row:) Jared Galenzoski (Vice-Chair), Shannon Czemmers (Volunteer), Greg Niebergall (Audio-Visual Tech), Chad Yuhasz (Volunteer), David Weber (Social Chair), Danielle Boivin (Chair), Rob Olson (Social Chair), Dawn Birchard (Technical Chair), Melissa Naka (Program Chair). Trevor Keating (Audio-Visual Tech), Nadene Egland (Technical Chair), Kim Bailey (Treasurer), Carrie Kreutzer (Accommodations Chair). MISSING: Sara Zimmerman (Secretary).

Best undergraduate presentations:
FIRST PLACE: Rob Mackie (University of Manitoba) – "Emplacement History and PGE-Enriched Sulfide Mineralization of a Heterolithic Breccia Zone in the Mayville Intrusion, Southeastern Manitoba"

RUNNER UP: Aaron Lussier (University of Manitoba) – "The Crystal-Chemistry of Liddicoatite: A Rare, Gem-Tourmaline Found in Madagascar Pegmatites"

Best student posters:
FIRST PLACE: Rebecca Hunter (University of Saskatchewan) – "Geological Setting of the Campbell River Group, Southwestern Peter Lake Domain"

RUNNER UP: Kristin Salzsauler (University of Manitoba) – "The Snow Lake Arsenic Residue Pile – A Heap of a Problem"

FIRST PLACE: Rob Mackie (University of Manitoba) – "Emplacement History and PGE-Enriched Sulfide Mineralization of a Heterolithic Breccia Zone in the Mayville Intrusion, Southeastern Manitoba"

HONOURABLE MENTIONS: Matt Senkow (University of Regina) and Sarah Ranson (University of Regina)

The 40th WIUGC is to be held at the University of British Columbia in January of 2004. As always, the conference is sure to be a great learning experience for both the organizers and the delegates!

2002/2003 GAC Student Chapters

GAC supports the career and academic advancement of geoscience students through its Student Chapter Program. Financial assistance is provided to GAC Student Chapters for professional activities such as field trips and conference attendance. In the second year of the program, nine 2002/2003 Student Chapters were approved, and $500 grants were awarded to each. The GAC Logan Student Chapter Grants will again be offered in autumn 2003. The application deadline will be October 15 this year. Details are available at **http://www.gac.ca/STU/stu.html**.

Univ. of British Columbia, Dawson Club
- Contact: Stacey Loptson
- Faculty Advisor: Greg Dipple
- Community Advisor: Jim Ryan, GSC
- Grant Awarded: Field trip to Peru

Simon Fraser University
- Contact: Lesley Meston
- Faculty Advisor: Doug Stead
- Community Advisor: Robbie Dunlop
- Grant Awarded: Field trip to Scotland

University of Saskatchewan, Ore Gangue
- Contact: Sarah-Lynn Novlan
- Faculty Advisor: Kevin Ansdell
- Community Advisor: Phil Olson, Claude Resources
- Grant Awarded: Field trip to US SW

Univ. of Windsor, Jull Earth Science Club
- Contact: Cara Donnelly
- Faculty Advisor: Ihsan Al-Aasm
- Community Advisor: Julie Clarke, Duke Energy
- Grant Awarded: Field trip to Ohio

University of Waterloo, Watrox Earth Science Undergrad Club
- Contact: Michelle Fraser
- Faculty Advisor: Alan Morgan
- Community Advisor: John Gartner, Gartner Lee
- Grant Awarded: Field trip to US SW

University of Toronto
- Contact: Natalie Warman
- Faculty Advisor: Steve Scott
- Community Advisor: Glenn Brown, Haywood Securities
- Grant Awarded: Field trip to Québec

York University
- Contact: Zhijing Wang
- Faculty Advisor: Qiuming Cheng
- Community Advisor: George Zhang, Ontario Ministry of the Environment
- Grant Awarded: Field trip to Niagara Falls

Acadia University, Fletcher Geology Club
- Contact: Natalie MacLean
- Faculty Advisor: Sandra Barr
- Community Advisor: Chris White, Nova Scotia Dept. of Natural Resources
- Grant Awarded: Conference attendance

Memorial University of Newfoundland; Alexander Murray Geology Club
- Contact: Heather Hunt
- Faculty Advisor: Derek Wilton
- Community Advisor: Frank Blackwood, Geological Survey of Newfoundland and Labrador
- Grant Awarded: Conference attendance

Laurentian's NEW PhD Geology

Laurentian University Department of Earth Sciences has recently announced that a Ph.D. program in Mineral Deposits and Precambrian Geology has been approved by the Ontario Council of Graduate Studies (OCGS). This development is significant as this will be Laurentian's first doctoral program. The first students are expected as early as summer 2003.

This Mineral Deposits and Precambrian Geology Program will cover the study of individual mineral deposits and their origin, as well as regional studies on the nature and origin of the rocks in which the mineral deposits occur.

As explained by Dr. Chair of the Department of Earth Sciences, Richard James, has indicated that this program is the natural evolution of its existing Master of Science program that focused on mineral deposits and Precambrian geology. The Ph.D. program will complement ongoing research activities at the University's Mineral Exploration Research Centre (MERC) and provides a strength within the department's academic and research credibility that is consistent with it's geological expertise, location and interactions with the mining sector."

The presence of MERC, the Ontario Geological Survey, the Ontario Geoscience Laboratories, and the Ministry of Northern Development and Mines in the Willet Green Miller Centre on the Laurentian campus will support field-based teaching and research in mineral deposits and Precambrian geology. Other strategic advantages include the existing NSERC Research Chair in Mineral Exploration and the designation of the Willet Green Miller Building as a Mines and Minerals Research Centre.

GAC Salutes Top Students

2002/2003 Student Prize Winners

The GAC Student Prize is awarded annually to outstanding students enrolled in BSc earth science programs at Canadian universities. The winner also receives a one-year GAC membership, which includes subscriptions to *Geoscience Canada* and *Geolog*. One winner per campus is selected by the Head of the principal earth-science department. The prize is intended for students in their penultimate year who are expected to complete their degree in the normal time.

University	Nominated Student	Program
Acadia	Frances Mitchell	Geology
Alberta	Jennifer Sarnecki	Geology
Brandon	Trevor Hoffman	Geology
British Columbia	Tilman Roschinski	Geological Sciences
Brock	Adam Dawe	Earth Sciences
Calgary	Lindy Kruger	Geophysics
Carleton	Ashley Wilson	Geology
Dalhousie	Andrew Hilchey	Earth Sciences
École Polytechnique	Catherine Ranger	Geological Engineering
Guelph	Pam Montgomery	Earth Surface Sciences
Lakehead	Colin Lacey	Geology
Laurentian	Caitlin Blackadder	Geology
Laval	Simon Auclair	Géologie
Manitoba	Tashia Dzikowski	Geology
McGill	John Evangelatos	Earth & Planetary Sciences
McMaster	Sean Dickie	Earth & Environmental Sciences
Memorial	Stephen Hinchey-King	Earth Sciences
New Brunswick	Jennifer Paradis	Geology
Ottawa	Krista Michol	Geology
Québec à Chicoutimi	Veronique Hounsell	Géologie
Québec à Montréal	Olivier Nadeau	Géologie des ressources
Queen's	Kate McCutcheon	Geological Engineering
Regina	Kim Bailey	Geology
Saskatchewan	Lori Barth	Geophysics
Simon Fraser	Dejan Milidragovic	Earth Sciences
St. Francis Xavier	Shari Hayne	Earth Sciences
Saint Mary's	Lila Dolansky	Geology
Toronto	Adrian van Rythoven	Physical Science
Victoria	Ryan Rhodes	Geography & Earth Sciences
Waterloo	Steven Berg	Environmental Hydrogeology
Western Ontario	Erin Kirk	Geology & Environmental Science
Windsor	Ashley Armstrong	Environmental Geoscience
York	Ryan Massey	Earth & Atmospheric Science

Divisions and Sections

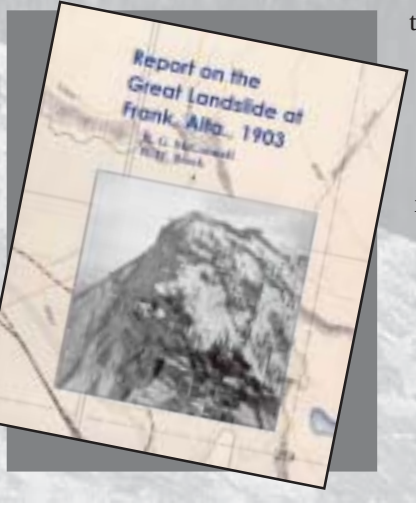
Edmonton Geological Society

The Edmonton Geological Society wrapped up another successful year and members continue to be active in many different events. The year started off with a successful field trip, "Geology of the Miette Hot Springs Region" led Dr. Hans Machel (U of A) and Dr. Willem Langenberg (Alberta Geological Survey). Technical highlights included Disaster Point hike, with spectacular views of Roche Miette; Proterozoic carbonates exposed on Highway 93A; Sunwapta Falls, Stutfield Glacier viewpoint, Miette Hot Springs, Nigel Creek hike, Cline River hike and Whirlpool Point.

Throughout the year, several guest speakers gave excellent luncheon talks with a wide variety of themes. Andrew Beaton (AGS) gave an excellent overview of coalbed methane in Alberta. Robinson Lecture Tour speaker Dr. John Percival of the GSC visited Edmonton and presented "Superior Province: A billion-year record of Archean craton evolution and the birth of plate tectonic processes". Don Lewycky (City of Edmonton) and Peter Barlow (AMEC Earth & Environmental) presented a hot local topic, "The Whitemud Road Landslide, Edmonton". Switching to a mineral exploration theme, Dr. Herman Grütter (Mineral Services Canada) discussed mapping of the Slave craton mantle root. A joint luncheon seminar also focused on mineral exploration with Mark Smith (Dahrouge Geological Consulting Ltd.) discussing tantalum, pyrochlore and the exploration for carbonatites in the Blue River area of British Columbia and Mike Dufresne (Apex Geoscience Ltd.) gave insight into what maybe Alberta's first metallic mineral producer at Micrex's Burmess Fe-Ti deposit in the Crowsnest Pass. Lastly, Stewart Hamilton (OGS) popped in to give an interesting lecture on redox responses in glacial overburden above buried sulphides, kimberlites and gas occurrences.

Our first curling bonspiel was a great success, with competitive teams from the University of Alberta, the Alberta Geological Survey and industry vying for top positions. Although the Shear Slides and Apex Animals provided fierce competition (and some of the prizes), it was AGS curling legend, Dixon Edwards who was crowned in the inaugural event.

The EGS released a new publication this past year to commemorate the 100th anniversary of the Frank Slide. On 30 April 1903, a day after the Frank Slide, the Superintendent of Mines in the Canadian Department of the Interior instructed two senior staff of the Geological Survey of Canada (R.G. McConnell and R.W. Brock) to investigate the catastrophe. Their report was published in 1904 and has been out-of-print for a long time. EGS decided to reprint this report on the occasion of the centennial of the Frank Slide in 2003. McConnell and Brock's conclusion was that the slide was due to a combination of causes the chief of which, the structure and condition of the mountain, was aided by exceptional atmospheric and other natural conditions. The condition of the strata before the slide was affected by slight readjustments attendant on mining operations. The careful contemporary account of the landslide's impact on Frank is still one of the very few available for risk assessment studies. The book includes a reproduction of the original geological map, and is a must for anybody interested in hazards.



The year ended with our annual general meeting/pub night held at Fort Edmonton. The guest speaker was Dr. René Barendregt (University of Lethbridge) who gave a wonderful world tour through the eyes of a magnetostratigrapher. At this meeting, the EGS decided to overhaul the old logo and to design something simple, yet reflective of the great city we live in and also strengthen our ties to the GAC parent organization. The new logo will be unveiled later this year. At this year-end meeting, the new executives were immediately sworn in and are already working hard to provide another fun-filled year in Edmonton.

The fierce winds threaten to sweep the field party off Disaster Point. Roche Miette looms in the background.

Roger C. Paulen
Edmonton, AB

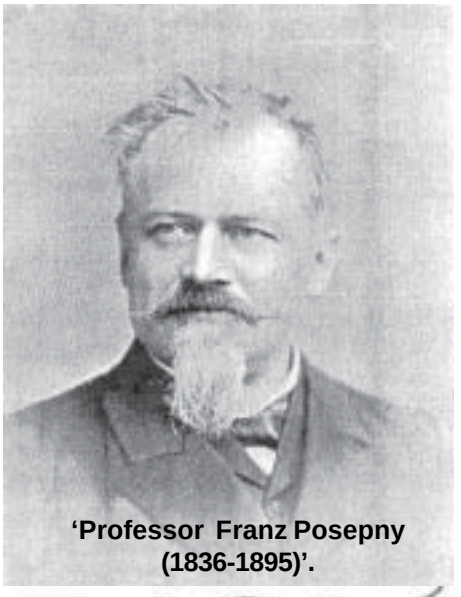
History of Economic Geology

This is the second installment in a series that traces the emergence of economic and mining geology as an academic discipline about a century ago. Development of this area of study was stimulated by the rapid growth of mining exploration and development in the Western United States during the second half of the Nineteenth Century. This was the first opportunity for examination of, and communication of ideas about deposits around the globe. The focus will be on those mining engineers and geologists who made lasting contributions to genetic, as well as descriptive, studies of mineral deposits. The success of this series will be the discussions and contributions that are generated and elicited from readers. Your comments are welcome. Bob Cathro [bobcat62@telus.net]

Roots in Erzgebirge, Saxony and Bohemia

The initial contribution (*Geolog, v. 32, no. 1, p. 19-20*) contained this controversial 1910 quote by the prominent English mining engineer/journalist T.A. Rickard: "Englishmen founded geology and Germans started the systematic study of ore deposits".

In giving all the credit to the Germans, Rickard was only half-right. The region he was referring to is centered on the Erzgebirge (Ore Mountains) that form the boundary between the ancient kingdoms of Saxony, which has always been part of Germany (until recently it was in East Germany), and Bohemia. The German side of the mountains was better known because of the influence of the German geologists and mining engineers, and because it was home to the medieval mining district near Freiberg and the pioneer scientist/writer Georgius Agricola,



'Professor Franz Posepny (1836-1895)'.

The Bohemians would have taken strong offence to being called Germans because their region was part of the Austro-Hungarian Empire during the period referred to by Rickard. It became Czechoslovakia after World War One and is now part of the Czech Republic. The Bohemian side of the mountain range, called Krušné Hory in Czech, was home to the historic mines at Joachimsthal (now Jachymov) and Przibram (now Pribram). Moreover, it could be justly proud of its most famous economic geologist, Franz Pošepný.

The medieval mining district centered on the Erzgebirge extended west to the Harz Mountains (Goslar) area of Germany and eastward to the Schemnitz district in Hungary. Schemnitz is now Banská Štiavnica in the Slovak Republic (banská is mining in Czech). The history of the Harz Mountains district is quite interesting because it was part of the Kingdom of Hanover until 1705 and ruled by George Lewis, the great grandson of James I of England. Between 1714, when he became King George I of England and 1837, when Queen Victoria's reign began, the duchy belonged to the English Crown (Habashi, 1998, p. 99). According to Adams (1938, p. 171), mining began at Schemnitz by 745 AD or earlier, at Goslar in 970, in the Freiberg district in 1170, in the Schneeberg district (Saxony) in 1420, at Annaberg (Saxony) in 1495, at Joachimsthal in 1520, and at Andreasberg (Harz) in 1570. An influential mining academy that opened at Freiberg in 1765 was not the first; that distinction went to Schemnitz, which opened three years earlier. Another important mining school was founded at Clausthal (Harz) in 1775. After the Hungarian Revolution in 1849, another mining academy was opened at Przibram in 1848 (Habashi 1997). According to the Technical University of Ostrava, Czech Republic, a mining vocational school was established at Joachimsthal in 1716.

Because of these discoveries, this region became "one of the richest and most prosperous districts in Europe. Populous cities sprang up in all directions and the number of men from the mining centers who rose to distinction in all walks of life showed that the development was not one of wealth and material prosperity only, but also of the high civilization and culture. … Not only were advances made … in the technology of mining, ore dressing and metallurgy, but … there was accumulated a great body of knowledge connected with the geological sciences. It was here that the science of Mineralogy … took its rise." (Adams 1938, p. 70). Examples of the profound influence that the mining prosperity produced in the region during the Renaissance and the Reformation include the theologian and initiator of the Protestant Reformation, Martin Luther from Wittenberg, and the musical geniuses Bach and Wagner from the Leipzig area and Handel from the Harz Mountains.

According to Adams (1938, p. 277), the first scientist to develop a theory on the origin of metals may have been Aristotle (384-322 BC), who believed that the metals found in the earth's crust have a celestial origin. It is possible that others theorized about the subject as mining and metallurgy were developed in Asia Minor, South

cont. next page

from page 23

America and Asia (see Cathro 2000) but if so, no written records have been preserved. The Romans were accomplished prospectors and miners but it appears to be a question that they neglected. Interest in the origin of metals was apparently not renewed until the 15th Century, when the alchemists postulated that individual planets were the heavenly bodies that produced the seven known metals. Thus, the Sun produced gold, the Moon silver, Mercury was responsible for mercury, copper came from Venus, iron from Mars, tin from Jupiter, and lead from Saturn. However, the first recorded attempts to use observation rather than logic to understand the origin were begun in the 16th Century by Georgius Agricola.

Born as Georg Bauer at Glauchau (Saxony) in 1494, he is one of the most outstanding figures in the history of the geological sciences. The German writer/philosopher Goethe compared him to Lord Bacon and the German geologist Werner called him the father of mineralogy. His early education gave him a thorough knowledge of the classical languages, which he taught at Zwickau in 1518 and later at the University Leipzig. He then continued his studies at Bologna, Venice and Padua, Italy, which was the foremost European country in the cultivation of the natural sciences, medicine and mathematics during the 16th Century. Then he turned to medicine at the university in Ferrara and learned the new fields of printing and publishing in Venice, where he met the Dutch scholar Desiderius Erasmus, who was editor of the Froben Press in Basel. Agricola next moved to the new mining town of Joachimsthal, where he became city physician ('stadtarzt') between 1527-1533 but spent all his spare time visiting the mines and smelters. He then held the same position at Chemnitz (Saxony) until 1545, when he became Burgomaster (mayor) (Hoover and Hoover 1912).

The next contribution will deal with Agricola's accomplishments and theory of metal genesis and a review of the work of Werner and Posepny before considering how the geology of these mineral districts and the training provided by the mining academies influenced the mining industry in the Western United States.

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Rickard, T.A., 1910. Geology Applied to Mining; Mining and Scientific Press, April 2 (a lecture delivered at the Royal School of Mines).

Ore Mineralogy On-Line

Practical Ore Microscopy and Mineralographty is a web-based course recently completed by Dr. A.J. Sinclair, that is available as part of the Professional Development Program of Robertson Infomine, a commercial firm specializing in providing information to the mining industry. The course is a merged product of two courses taught for many years by Dr. Sinclair at UBC, Mineralography (for geology students) and Ore Microscopy (for mining engineering students). The original courses have been substantially expanded and supplemented with many coloured photomicrographs and line diagrams (about 200 figures in total). The main components of the new course are more-or-less stand-alone units, as follows: (1). Introduction to Ore Microscopy (2). Mineral Identification and Characterization (3). Exsolution, Metamorphism and Mineral Stabilities (4). Practical Aspects of Microscopy (e.g., Modal Analysis, Liberation) (5). Case Histories (6). Exercises (involving information derived from ore microscopy studies) A general description of the course can be accessed on the web at www.edumine.com/xedumine/edumine.htm

Mélange

Palaeontographica Canadiana's Twentieth Anniversary Sale!

The inventory on some early Pal Can volumes is getting low (less than 100 copies), and thus it shortly will be impossible to buy a complete, un-used set.

I am making the following limited-time offer to GAC members (and their institutional libraries).
GAC is now offering a 20% discount on a set of No. 1-12 of this series. The advertised selling price of $406.50 has now been reduced to $325.00 ($CDN for orders shipped to Canadian addresses; $US for orders shipped outside of Canada), until August 31st, 2003. This price includes postage and handling via surface mail.

Please note the following:
* this offer is not available through the GAC web site;
* you must be a GAC member or a member's institutional library (give member's name);
* since the inventory of some of the volumes is low, the offer will only be available until August 31st, 2003 or until supplies last, which ever comes first;
* GAC requires prepayment (cheque in Canada, plus Visa, MasterCard, American Express and US cheques);
* Orders can be faxed to Arlene Power at 709-737-2532 if paying by credit card or mailed to Geological Association of Canada, Dept. of Earth Sciences, Memorial University of Newfoundland, St. John's, NL A1B 3X5;
* GAC offers standing orders for this series and if your university library would like to continue to receive these volumes as they are published Arlene can arrange to set up a standing order.
* No. 21 by Hunda, Chatterton and Ludvigsen was published in January; No. 22 will be published later in 2003.

Do not hesitate to contact Arlene Power, Publications Manager if you require any further information. You can see the full Palaeontographica Canadiana listing at the GAC website online bookstore (www.gac.ca).

Sandy McCracken
Chair, Joint Committee on Paleontological Monographs

Carleton gets Gem of Endowment

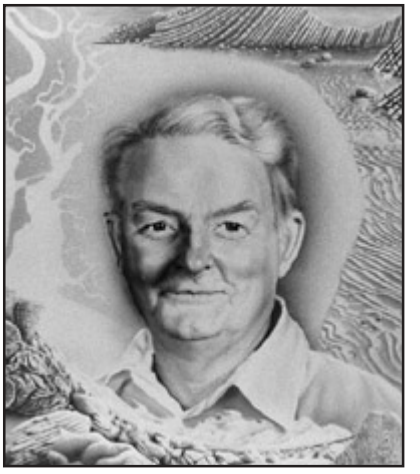
Carleton University's Department of Education recently learned that most of the estate ($150-200 k) of Dr. Harry Reid Cox will be left in the form of an endowment received by the Department to promote education in gemmology and mineralogy. They are planning to have the annual disbursement of funds in the form of student internships in collaboration with the Canadian Museum of Nature. This is an exciting venture whereby students will have access to learning alongside mineralogy experts working at the Museum.

Great Canadian Geologists Recognized by SEPM

Photo by James MacEachern

S. George Pemberton was recently awarded the Raymond C. Moore Paleontology Medal of the SEPM which is awarded in recognition of "Excellence in Paleontology." George has made exceptional contributions to the widespread application of ichnology to the fields of sedimentology, stratigraphy and petroleum geology. George's contributions have been highly influential in highlighting the applications of trace fossil analysis in understanding sedimentary environments and petroleum geology. He is currently a Research Chair at the University of Alberta. In addition to several books and numerous papers, George has recently published Ichnology and Sedimentology of Shallow to Marginal Marine Systems, GAC Short Course Notes.

Image from GVM website



Gerard V. Middleton has been awarded the SEPM Twenhofel Medal. This award is the highest award of SEPM Society for Sedimentary Geology and is presented in recognition of "Outstanding Contributions to Sedimentary Geology." Last year's winner was Noel James. Gerry was awarded this medal for his unswerving dedication to process-oriented sedimentology, and to life-long education and training. He has been at McMaster University since 1955 where he researched the principles of sediment transport, mostly with respect to assessing the "how" and "why" of turbidites. Gerry's breadth as a sedimentologist is apparent as a major contributor to the "Origin of Sedimentary Rocks", but has been more recently focused toward more quantitative analyses as indicated by recent publications on "Mechanics in the Earth and Environmental Sciences" and "Data Analysis in the Earth Sciences, using MATLAB". Current focus is on the history of Geology and Sedimentology. Among very many other things, Gerry is a Past-President of the GAC (1987-1980), a former *Geoscience Canada* Editor, and winner of the GAC Logan Medal (1990).

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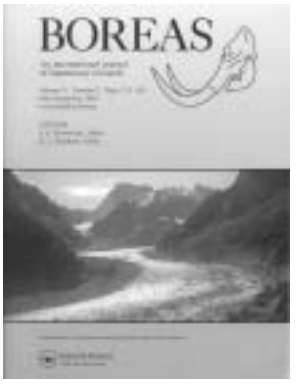

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$41 Million in New Initiatives for Arctic Research

The federal government has recently announced investments totalling $41 million to raise Canada's international profile in Arctic science and answer important questions about the effects of global change in the North.

Funding includes:
• $27.7 million from the Canada Foundation for Innovation to retrofit an icebreaker with state-of-the-art equipment for Arctic research. • $10 million from the Natural Sciences and Engineering Research Council of Canada (NSERC) to support a multi-year project to study the ecosystem and climate impacts of melting ice in the Arctic Ocean.

• $3 million from Fisheries and Oceans Canada to reactivate and refit the Canadian Coast Guard icebreaker for its new role as a dedicated Arctic research platform.

The international project, led by Dr. Louis Fortier of Université Laval will re-energize Canadian Arctic science by giving researchers access to the Arctic Ocean. Over the next 10 years, the vessel will support several major multidisciplinary programs of international stature to advance our understanding of climate, oceanic circulation, sea-ice dynamics, biology, biogeochemistry, sedimentology, paleoceanography, and geology in the Canadian sector of the Arctic Ocean. The ship will set sail for the Beaufort Sea in September as the first mission on the icebreaker.

The Canada Foundation for Innovation, and Fisheries and Oceans Canada funds will be used to retrofit an existing icebreaker – supplied by the Canadian Coast Guard – with state-of-the-art research equipment to study the environmental, social, and economic impact of global warming on Canada's northern regions.

NSERC will allocate its funding directly to the Canadian Arctic Shelf Exchange Study (CASES) – an NSERC Research Network involving 13 Canadian universities. Fisheries and Oceans Canada, Environment Canada, Natural Resources Canada and the National Defence also made major in-kind contributions to the Network, by providing access to infrastructure and services essential to the realization of its mission.

The CASES Research Network will gather detailed information on variations in ice cover on the Mackenzie Shelf and the impact it has on the Arctic ecosystem. The collaboration involving foreign experts from nine countries will allow for the most comprehensive study of the Arctic shelves to date.

THIRTEENTH CANADIAN PALEONTOLOGY CONFERENCE (CPC-2003)

September 19th - 21st, 2003

The 13th annual Canadian Paleontology Conference (CPC-2003) will be held in Edmonton, Alberta, on September 19th-21st, 2003. The University of Alberta's departments of Earth and Atmospheric Sciences and Biological Sciences are pleased to host this year's meeting and to showcase their long, vibrant, and ongoing tradition of paleontological research. The University of Alberta currently has six academic paleontologists on staff, two active professors emeriti, nearly twenty graduate students, and an Honours Paleontology undergraduate degree program boasting twenty-three registered students!

The City of Edmonton is firmly anchored to the Upper Cretaceous bedrock of the Edmonton Formation which is beautifully exposed along the scenic banks and ravines of the North Saskatchewan River. Edmonton and its Cretaceous rocks are also the source name for the dinosaur genera *Edmontosaurus* and *Edmontonia* - a hadrosaur and ankylosaur respectively. No other Canadian city can claim to be the namesake of two dinosaur genera!

Participants of CPC-2003 have the option of submitting either a short paper or an extended abstract for their presentations. Students are particularly encouraged to submit short papers for publication in the volume (short papers will not be refereed). The submission deadline for both short papers and conventional abstracts is provisionally set for July 15, 2003.

To receive the second circular, please contact: Brian Chatterton, Dept. of Earth and Atmospheric Science, University of Alberta, Edmonton, AB, T6G 2E9, email: brian.chatterton@ualberta.ca

The New Geological Garden of Université Laval

Université Laval has hosted a Geological Garden since 1968. It comprised representative large ore samples and examples of granite quarry stone exploited in Québec, and it was built around a serpentine-clad fountain built for the Universal Exposition in Montréal in 1967 and it comprised several interpretation panels. Following construction of new university buildings, the Geological Garden had to be relocated.

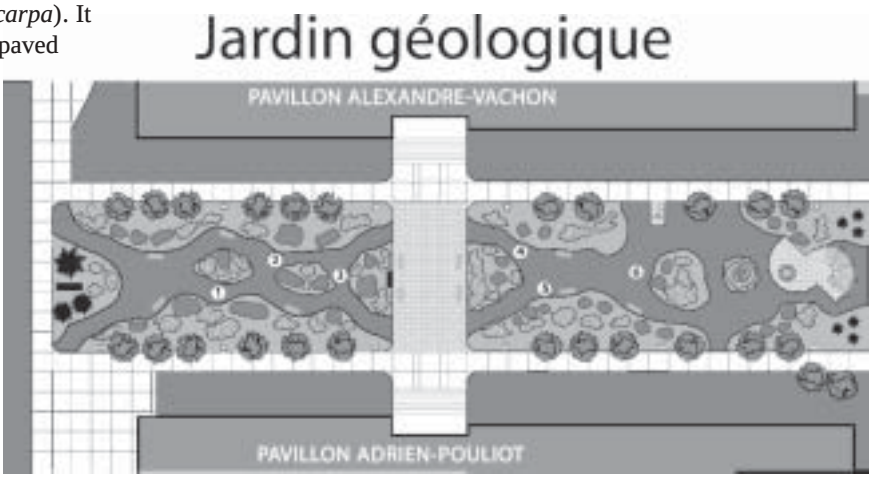
The Faculté des sciences et de génie is hosted in two buildings, the Alexandre-Vachon and Adrien-Pouliot pavilions, initially separated by a car and bicycle parking lot. This space however, is also along the East-West main axis crossing the campus that is trekked by thousands of students and university employees every day. This prime estate was thus selected to host the new Geological Garden, giving it increased visibility. It was inaugurated on October 8, 2002, in the presence of the Rector and more than a hundred students, alumni and friends.

The new Geological Garden covers 2100 m^2, forming an elongate rectangle between the two pavilions (top photo). The 33 ore samples record the various types of ore mined in Québec during the 20th century. They are from most major base and precious metals mining districts in Québec, from Schefferville to Murdochville, Havre-St-Pierre, Val-d'Or and Rouyn-Noranda. They have a range of shapes and size including an imposing 8 m^3 massive black ilmenite cube the Lac Allard mine, weighting 34 tonnes, and a majestuous 3 m high "menhir" of copper-molybdenum porphyry-style ore from Mines Gaspé (bottom figure). The ore samples are grouped into six types of mineral deposits, 1) porphyries and skarns, 2) titanium, 3) banded iron formation, 4) gold quartz veins, 5) copper-zinc volcanogenic massive sulphides, and 6) nickel-copper magmatic massive sulphides (Figure 1). A panel explains in simple terms the genesis of each of these deposit types.

The Geological Garden is bordered by sidewalks and rows of white oak (*Quercus macrocarpa*). It is cut in two by a large paved alley connecting the two buildings of the Faculty. The Geological Garden is a landscaped park where the ore samples are displayed within a shrubby background comprised of hydrangea, currant, spirea, potentilla and graminacea. A large, majestuous linden thrones in the centre of the eastern section. The eastern section also host a hemispheric pergola constructed of atmospherized iron (that is pre-rusted!) clad of white cedar planks. The pergola host massive benches made of 'granit vert Prairie', in fact a quartz jotunite, from Rivière-à-Pierre, Québec. The pergola also host the Commemorative Table in honour of the fourteen women victims of the Ecole Polytechnique tragedy in 1989. The Table is heptagonal and made of the same "granit vert Prairie", sitting on an aluminium frame designed by engineering students. The names of the 14 victims are engraved into the *granit* along with citations on the place of women in science and engineering.

The new Geological Garden increases greatly the exposure of Earth Sciences on the campus while serving as a peaceful place for lunch, or a break, to the university community. It is used as an exceptional tool for Earth Science introductory and mineral deposit courses as well as for scientific outreach to high school students. A virtual visit of the Geological Garden is available at http://www.ggl.ulaval.ca. The new Geological Garden is integrated with the 'Musée de géologie René-Bureau', that comprises one of the major collection of minerals and fossils in Canada, and the 'Séismographe' display of the QCQ seismograph that can also be seen and downloaded from http://www.ggl.ulaval.ca/seismographe.html.

Georges Beaudoin
Département de géologie et de génie géologique
Université Laval
Québec QC



Map of the new Geological Garden with layout of samples according to deposit types (numbered, see text).

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• Geological Society Special Publication 203

Glacier-Influenced Sedimentation on High-Latitude Continental Margins

Edited by J. A. Dowdeswell and C. Ó Cofaigh

This book examines the processes and patterns of glacier-influenced sedimentation on high-latitude continental margins and the geophysical and geological signatures of the resulting sediments and landforms. It contains a range of papers concerning modern and ancient glacially-influenced sedimentation in high-latitude areas from both hemispheres, many of which discuss the relationship between glacier dynamics and the sediments and landforms preserved in the glacimarine environment.

This volume will be of interest to those in academia and industry working in the broad fields of glacimarine environments, the development of high-latitude margins and marine geology and geophysics.

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• Geological Society Special Publication 206

Proterozoic East Gondwana: Supercontinent Assembly and Breakup

Edited by M. Yoshida, B. F. Windley and S. Dasgupta

This volume focuses on Late Mesoproterozoic to early Cambrian events related to Gondwana assembly and break up. The 19 papers provide a comprehensive review including advanced knowledge and new data from all critical areas of East Gondwana. The recent knowledge of the evolution of East Gondwana, which was regarded as an integral part of the Mesoproterozoic supercontinent Rodinia, is the major theme of the volume, which is reinforced by highlighting this radical and new understanding of the evolution of this region.

This volume is of use as both a text and reference book for Earth Science postgraduates, and should appeal worldwide to professional geologists with an interest in Rodinia, Gondwana and that important transition from the Proterozoic to the Phanerozoic Earth.

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Fracture and In-Situ Stress Characterization of Hydrocarbon Reservoirs

Edited by M. S. Ameen

This publication introduces the newly developed, integrated discipline of fracture and in-situ stress characterization of hydrocarbon reservoirs, through 16 well-illustrated case studies. These cover a wide range of tools, from borehole scale (logs and core) to reservoir scale (3-D and 4-D seismic). It also covers surface studies (outcrop and remote sensing). In addition, it addresses the impact of fractures and in-situ stresses on fluid flows and their simulation.

This volume deals with a subject that is gaining increasing interest with the advancement of technologies and shifting boundaries of marginal fields into more challenging ground. Fractures and their response to current-day in-situ stresses have become a crucial part of reservoir characterization in deep tight reservoirs. In addition, maturing reservoirs, which were considered as 'conventional' at discovery, are displaying symptoms characteristic of fractures and/or geomechanical contribution. This has lead to the need to delineate the fractures and the stresses in these reservoirs and revise reservoir management accordingly.

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Calendar

2003

* July 14 – 17
MODSIM 2003, Townsville, Australia
Web: mssanz.cres.anu.edu.au/modsim2003.html

July 14 – 18
Cities on Volcanoes, Hilo, HI
http://www.uhh.hawaii.edu/ ~ cov3/

* July 23 – 30
XVI INQUA Congress on Quaternary Science, Reno, NV
Web: http://inqua2003.dri.edu/inquahome.htm

August 9 – 21
SEG/IGCP 473 Field Symposium, Paleozoic Geodynamic Processes and Metallogeny of Chinese Altay and Tianshan, Urumqi, China
E-mail: jingwenmao@263.net
Web: www.nhm.ac.uk/mineralogy/cercams/activities/Urumqi_firstcircularlast.doc

August 10 – 14
Geoscied IV: Earth Science for the Global Community, Calgary, AB
Web: www.geoscied.org

August 10 – 16
XV International Congress on Carboniferous & Permian Stratigraphy, Utrecht, The Netherlands

August 10 - 14
American Fisheries Society 133rd Annual Meeting, Quebec City, PQ
Web: www.fisheries.org

* August 11 – 14
Stockholm Water Symposium and Institute, Stockholm, Sweden
Web: www.siwi.org/waterweek2003

August 18 - 21
9th International Symposium on the Ordovician System & 7th International Graptolite Conference, San Juan City, Argentina
E-mail: galbanesi@arnet.com.ar
Web: ceor.seos.uvic.ca/ordovician or iago.stfx.ca/people/mmelchin/silurian9.htm

August 16 – 21
State-of -the-Arc, Cascades, WA
E-mail: leeman@ruf.rice.edu

August 19 – 21
Fermor Flagship Meeting, World Class Mineral Deposits & Earth Evolution, Cardiff, UK
E-mail: mcdonaldil@cf.ac.uk
Web: www.mdsg.org.uk

* August 24 – 29
Hydrofractals '03, Ascona, Switzerland
E-mail: hydrofractals@ihw.baug.erthz.ch
Web: www.ihw.ethz.ch/hydrologie/hydrofractals03/index.html

August 24 - 28
SGA Meeting, Athens, Greece
Web: www.igme.gr/sgaconference.htm

August 25 - 29
7th International Symposium on Antarctic Glaciology, Milan, Italy
Web: www.igsoc.org/

August 27 - September 3
International Geochemical Exploration Symposium, Association of Exploration Geochemists, Dublin, Ireland
Web: www.aeg.org

August 29 – September 2
SEG/SGA Field Trip: Srednogorje Zone, Bulgaria
E-mail: kamen@gea.uni-sofia.bg
Web: www.segweb.org/BulgariaTrip.htm

August 31 - September 3
North Atlantic Minerals Symposium (NAMS), Dublin, Ireland
Tel: 709-729-5946; E-mail: bfk@zeppo.geosurv.gov.nf.ca
Web: www.gov.nf.ca/nams/

September 2 – 6
Fifth Hutton Symposium on the Origin of Granites, Toyohashi, Japan
E-mail: Hutton-V@m.aist.go.jp
Web: www.gsj.jp/Info/event/hutton

September 7 – 11
6th Intern'l Symposium on Environmental Geochemistry, Edinburgh, Scotland
Web: www.iseg2003.com

September 7 – 12
Goldschmidt Conference, including Volcanic, Geothermal & Ore-Forming Fluids: Rulers & Witnesses of Processes in the Earth, Kurashiki, Japan
E-mail: hedenquist@aol.com
Web: www.ics-inc.co.jp/gold2003/

September 10 - 12
Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment, Davos, Switzerland
Web: www.wsl.ch/3rdDFHM

* September 15 – 19
IAH Conference, Groundwater in Fractured Rocks, Prague, Czech Republic
E-mail: krasny@natur.cuni.cz
Web: http://www.natur.cuni.cz/gwfr2003

September 17 – 19
IGWMC Modflow and More: Understanding through Modeling, Golden, CO
Tel: 303 273-3103; Fax: 303 384-2037; E-mail: igwmc@mines.edu

* September 22 – 26
Chapman Conference, The Role of Diatom Production and Si Flux and Burial in the Regulation of Global Cycles, Paroikia, Greece
Web: www.agu.org/meetings/cc03dcall.html

* September 23 – 26
Ore Deposits at Depth: Challenges & Opportunities, Timmins, ON
Web: www.porcupineprospectors.on.ca

* September 29 – October 1
2003 IAH-CNC/CGS Groundwater Specialty Conference, Winnipeg, MB

October 6 – 10
Chilean Geological Congress & Andean Metallogenesis Symposium, Chile
Web: www.udec.cl/cgeologico

* October 12 – 15
Ore Deposits Mapping Course, NV
E-mail: membership@segweb.org
Web: www.segweb.org/meetings.htm

* October 13 – 15
Coupled T-H-M-C Processes in Geosystems: Fundamentals, Modelling, Experiments and Applications (GEOPROC-2003), Stockholm, Sweden
E-mail: ove@kth.se
Web: www.geoproc.org

* October 14 – 22
Research Basins and Hydrologic Planning, Huangshan City (Tunxi), China
E-mail: rbhp2003@vip163.com or seiler@gsf.de; Web: www.gsf.de/OA/kong.htm

October 22 – 26
AIMMGM Annual Meeting, Acapulco, Mexico
E-mail: david_giles@penoles.com.mx; Web: http://aimmgmac-son.org.mx/

* October 22 – 25
Underground Injection Science and Technology, Berkeley, CA

* = new entry

E-mail: cftsang@lbl.gov; Web: www.lbl.gov/conferences/UIST

October 24 - 25
SEG Workshop on orogenic, intrusion-related, Carlin style, epithermal and porphyry deposits, Beijing, China
E-mail: goldfarb@usgs.gov

November 2 – 5
GSA 115th Annual Meeting, Seattle, WA Geological Society of America
Tel: 303 357-1038; Fax: 303 357-1072; E-mail: bmartinez@geosociety.org; Web: www.geosociety.org/meetings/index.htm

* November 6
SEG Field Trip, Hydrothermal Alteration in Ancient and Modern Volcanoes, Mount Rainier Area: Applications to Ore Genesis and Volcanic Hazards
E-mail: djohn@usgs.gov; Web: www.segweb.org/GSAFieldTrip.htm

* November 24
SEG Student Chapter, Laval-INRS-ETE Short Course, Diamonds and Kimberlites, Quebec City, PQ
E-mail: chbochud@ggl.ulaval.ca; Web: www.segweb.org/UofTdiamondcourse.pdf

November 24 – 25
Sustainable Minerals Conference, London, UK
E-mail: fmcevoy@bgs.ac.uk

* November 24 – 27
Québec Exploration 2003, Ministère des Ressources naturelles du Québec and the Québec Mineral Exploration Association, Quebec City, PQ
Tel: 418 627-8609 poste 3019 or 1 800 463-4558; E-mail: annie.berube@mrn.gouv.qc.ca

December 1 – 5
NWMA Meeting and SEG Technical Session, Spokane, WA
E-mail: vaalbara@u.washington.edu; Web: www.nwma.org

December 8 – 12
American Geophysical Union 2003 Fall Meeting, San Francisco, CA
Web: www.agu.org/meetings

2004

January 26 – 30
AGI 2004 Ocean Sciences Meeting, Portland, OR
Tel : 202 777-7340; Fax: 202 328-0566; E-mail: asinger@agu.org; Web: agu.org/meetings/

February 23 – 25
Society for Mining, Metallurgy and Exploration, Annual Meeting and Exhibit, Denver, CO
Tel: 303 973-9550. Fax: 303 979-3461; E-mail sme@smenet.org

May 12 – 14
GAC/MAC 2004, St. Catharines, ON
E-mail: GACMAC04@brocku.ca; Web: www.stcatharines2004.ca

* May 2004
Joint Rocky Mountain - Cordilleran Section meeting of GSA. Boise, ID
E-mail: vgillerm@boisestate.edu; Web: http://earth.boisestate.edu/gsa2004/

* May 17 – 21
2004 AGU-CGU Joint Assembly, Montreal, PQ

And Finally ...

Mr. Christopher Evans of Lady Arbour Court, Eardisley, Herefordshire, UK is the great, great, grand nephew of Sir William Edmond Logan, a descendent of Logan's sister Agnes Stewart.

He is the owner of the Logan Octant, held in trust by the Geological Association of Canada, and on display at the Geological Survey of Canada in Ottawa. Mr. Evans would like to acquire a copy of Harrington's biography of Logan published in 1883. Any suggestions for a possible source? Contact C. Gordon Winder, UWO Earth Sciences, London.

Eevents on-line at:
www.gac.ca/PUBLICAT/GEOLOG/calendar.htm
hyperlinks and all...

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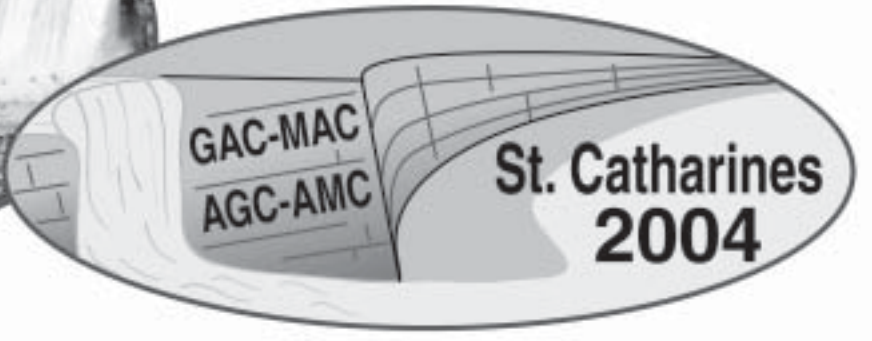

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