



Introduction

It has been about twenty years since the Department of Geological Sciences issued a regular Newsletter for its alumni and other friends. Perhaps there was a shortage of news during much of that period. The situation certainly is different now.

There have been many profound changes in the Department in the past year. The "bad news" changes have been widely publicized: large expenditure and staff reductions, notice of termination of accreditation of the Geological Engineering Program, and the move of the Geological Sciences Library out of the Department and into the new Queen's University science and Engineering Library; and this has been disconcerting to many of our alumni and other friends. They have been asking: "What is happening to the department?"

This initial issue of what promises to be a periodic Newsletter from the Department of Geological Sciences, focuses on some of the good news associated with recent changes that were widely perceived as all bad news. We hope to share with you some of our optimism about the future of the department, as we begin to tell you what is happening to the department.

Ray Price (guest editor)

Geological Engineering Program -- The Good News

Most of you will have heard the bad news -- that the Canadian Engineering Accreditation Board (CEAB) announced in March 1997 that the accreditation of the Geological Engineering Program at Queens would be extended for one year but would terminate on June 30, 1998 (after the graduation of the Class of 1998). The CEAB

was concerned about the adequacy of the engineering science and engineering design component of the curriculum, and about the number of faculty teaching engineering science and design who are registered professional engineers in Canada.

The good news is that: (1.) in April 1997 the Geological Engineering Program was revised to respond to the concerns expressed by the CEAB, (2.) in June 1997 the CEAB announced that the program would be accredited until June 2001 (which means that second-year students admitted to the program in September 1997 (Class of 2001) could graduate from an accredited program), and finally, at the same time, (3.) the CEAB also announced that it would evaluate the revised Geological Engineering Program during the fall of 1997 to determine whether the accreditation would be extended beyond 2001.

Thanks to the good work of Jim Lee, Vicki Remenda and John Hanes, who led the effort to revise the Geological Engineering, we expect the revised curriculum to exceed the requirements for accreditation set by the CEAB.

The goal of the revised Geological Engineering Program "is to develop the knowledge, engineering skills, and design techniques required for an engineering discipline based in the Earth Sciences." The existing four options in the Program have been retained (G3 - Mineral and Energy Exploration, G5 - Geotechnical, G6 - Geo-environmental, and G7 - Applied Geophysics). All four options have an expanded common core that includes new engineering design courses in the third and fourth years, and new and restructured engineering science courses in the second and third years. Courses having substantial components of engineering science and design will be taught largely by professional engineers. Specific examples of



major changes are that the new Geological Engineering Field School course at the end of the third year will integrate field methods with a geological engineering design problem, and that the Geological Engineering Thesis will be replaced by a large-scale engineering design project in the fourth year.

The Geological Engineering Program has been growing in popularity. Last February more than 40 first-year engineering students registered their interest in being admitted to the program. We expect the new improved program will be even more popular.

New Departmental Earth Systems Computer Laboratory, Geoscience Map Library, Computer (Virtual) Library, and Reading Room/Lounge

The Department of Geological Sciences will soon have a new Earth Systems Computer Laboratory, Geoscience Map Library, Computer (Virtual) Library, and associated Reading Room/Lounge. These new facilities will be established on the first floor of Bruce Wing, in part of the space formerly occupied by the Geological Sciences Library. Most of the books and periodicals that were in the Geological Science Library have been moved to the new Queen's University Science and Engineering Library, which is located in the Douglas Library Building. The geological maps, sections and charts, the reports of the national and provincial/state government geoscience agencies, and some other books, will remain in the Geoscience Map Library, in Bruce Wing. A Reading Room/Lounge and a "Virtual (Computer) Library" Room will be established adjacent to these collections. The Reading Room/Lounge is expected to become a focal point for interactions among students and staff in the department. The "Virtual Library" will house a series of computer terminals linked to the

Queen's University Library System, and to geoscience reference databases such as GEOREF, and will accommodate a collection of geoscience CD-ROM's, and computer facilities for dealing with digitized geoscience maps and sections. The Reading Room/Lounge will accommodate pamphlets, brochures and some current scientific journals. The remainder of the space will be used for a computer laboratory comprising computer workstations and desktop PC's that will be used for teaching and as a work area for undergraduate and graduate students and staff.

Comings and Goings

The Department has experienced more retirements, resignations, and new additions to its staff within the last year than in any other year since separate Departments of Geology and Mineralogy were created in the New School of Mining in 1893! In September 1996, a Gala Dinner was held at the University Club to honor the eight members of the department who accepted the opportunity for early retirement offered by the university in its attempt to bring expenditures in line with reduced funding from the provincial government. In June 1997, two more retiring staff were honored at a barbecue hosted by Audrey and Herb Helmstaedt. The nine are:

Alf Dyck is working as a consulting geophysicist in Idaho.

Ed Farrar is an Emeritus Professor and will continue with his research in the department

Bob Foster begins his retirement this month (July 1997) in Kingston.

Jay Hodgson is an Emeritus Professor, and is Chief Geologist with Barrick Gold Corporation in Toronto.



Mary Mason has retired from the Queen's Library staff and is enjoying her retirement with her family in Kingston.

Bob Mason has established a mineral exploration consulting practice in Kingston (Mason Exploration Associates Ltd.).

Bruce MacDonald is enjoying his retirement in Kingston.

Brenda Mitton is enjoying her retirement and the extra time with her family in Kingston.

Ian Nichol is an Emeritus Professor and is deeply involved in preparations for an international workshop for exploration geochemists which will be held in Kingston just prior to Exploration 97, the Fourth Decennial International Conference on Geophysical and Geochemical Exploration for Minerals and Water.

Peter Roeder is an Emeritus Professor and is continuing his research in the department.

Two new professors have joined the Department under the Queen's National Scholars Program which is a university-wide competition for individuals with evidence of outstanding achievement in research and scholarship and evidence of quality in teaching.

Kurtis Kyser came from the University of Saskatchewan in mid 1996 to join the Department as a Professor. His research interests are isotope geochemistry, origin and chemical evolution of the earth, mass spectroscopy, evolution of fluids in sedimentary basins, low-temperature geochemistry, geochronology, environmental geochemistry, and fluid-rock interactions

James Lee joined the Department in mid 1996 as a tenure-track

Assistant Professor. He is a graduate in Geological Engineering from our department, and after completing a Ph.D. at Princeton he spent several years as post-doctoral fellow **and research fellow** at the Australian National University in Canberra. His research interests are in geochronology, fundamental problems in $^{40}\text{Ar}/^{39}\text{Ar}$ dating, field and lab diffusion studies of geochronologically important minerals, mathematical and numerical modeling of diffusional transport, influence of microstructures, and evolution of the early atmosphere.

Heather Jamieson, who has been a Research Associate and an Adjunct Professor in the department, was the successful candidate in the competition for a 1996 appointment as Assistant Professor in environmental geochemistry. She received her B.Sc. from the University of Toronto and her Ph.D. from Queen's. Her research interest are in environmental geochemistry, including the mineralogy of mine tailings, mineral-fluid reactions controlling the mobility of potentially hazardous metals, and urban and roadside metal contamination of soils.

Gerhard Pratt will join the Department in January 1998 as an Associate Professor of Geophysics. He is currently the Elf Lecturer in Geophysics in the Geology Department at the Imperial College of Science, Technology and Medicine in London, England. He is also an Associate Editor of *Geophysics*, which is published by the Society of Exploration Geophysicists (U.S.A.) Gerhard is a 1980 graduate of Engineering Physics from Queen's, and he received his M.Sc. and Ph.D. degrees from Imperial College. He has worked as a Schlumberger Wireline Engineer, and as a Geophysical Consultant. His research interests are in seismology with links to both exploration geophysics and crustal geophysics.

Degrees and Honors 1996-1997

**Ph.D.****1996**

Zhicai Cai *Statistical and Economic Analysis of Petroleum Exploration in Australia.*

Maurice Colpron *Stratigraphy, Structure and Thermotectonic Evolution of the Western Flank of the Selkirk Fan Structure, Northern Selkirk Mountains, British Columbia.*

Paul J. Johnston *The Geological Setting of the Hemlo Gold Deposit, Ontario, Canada.*

Roberta L. Millard *Structure, cation ordering and transition behaviour in Zn_2TiO_4 , Mg_2TiO_4 , $\text{MgCa}_2\text{Ga}_2\text{GeO}_4$ spinel solid-solution and $\text{B-Mg}_3\text{Ga}_2\text{GeO}_8$ by Rietveld refinement of X-ray or neutron diffraction data and ^{17}O MAS NMR.*

James L. Oliver *Geology of Stikine Assemblage Rocks in the Bearskin (Muddy) and Tatsamoni Lake District, 104K/1 and 104K/8, Northwestern British Columbia, Canada.*

Georg Rumpker *On Seismic Shear-Wave Propagation in Variable Anisotropic Earth Modes.*

Brian K. Townley *Ore Deposits, Tectonics and Metallogenesis of the Continental Aysen Region, Chile.*

1997

Daniel I. Brisbin *Geological Setting of Gold Deposits in the Porcupine Gold Camp, Timmins, Ontario.*

Neil P.M. O'Brien *The Geology and Genesis of the Cerattepe Volcanogenic Cu-Au-Ag Deposit and its Place in the Geological Development of the Artvin Volcanic Complex, Artvin, Northeastern Turkey.*

M.Sc.**1996**

Zaira G. Arias *Structural Evolution of the Central Michipicoten Greenstone Belt, Superior Province, Wawa, Ontario, Canada.*

Victoria L. Bannister *Composition and Distribution of Chromites in Parícutin Lava Flows.*

Stephanie Downing *Products of Magma Mixing in the 1902 and 1929 Volcanic Eruptions of Mt. Pelée, Martinique.*

Robert L. Guy *The Geology of the Holloway Gold Deposit, Abitibi Greenstone Belt, Ontario.*

Christophe Hyde *Borehole Electromagnetic Measurements: A Comparison of Scale-Model and Field Results for Permeable, Conductive Mineral Deposits.*

Bruce Northcote *A Petrographic and Geochemical Comparison of the Oldest and Youngest Plutons of the Cornubian Batholith, U.K.*

Matthew D. O'Keefe *Structural Geology of the Metasedimentary Rocks in the Northern Part of the Archean High Lake Greenstone Belt, Slave Province, N.W.T., Canada.*

Michael J.T. Orobona *Structural Setting of the Blue Star Sub-district: Implications for Origin of the Carlin Trend, Eureka County, Nevada.*

Robert S. Penczak *The Geological Context of Alteration and Gold Mineralization at the Campbell Mine, Red Lake District, Ontario.*

1997

Robert G. Brown *Petrogenesis and Rock Packaging of a Middle Ordovician Carbonate Ramp, Black River Group, Southeastern*



Ontario, Canada.

Michael A. Cooley *Closely Spaced Metamorphic Isograds along the Matthew Fault, Cariboo Mountains, British Columbia; Relationships Between Metamorphism and Dextral Strike-Slip Faulting.*

Clark G. Damer *Metamorphism of Hydrothermal Alteration at the Red Lake Mine, Balmertown, Ontario.*

David F.G. Gale *Structural Relations Between the Polydeformed Flin Flon Arc Assemblage and Missi Group Sedimentary Rocks, Flin Flon Area, Manitoba and Saskatchewan.*

Brian E. Martin *Seismic Surface-Wave Ray Tracing for Anisotropic and Laterally-Varying Earth Models.*

Michael J. Peshko *An Application of Geographic Information Systems and Image Analysis - Two Case Studies from the Southern Slave Province, N.W.T.*

Gordon W. Stretch *The Southern Termination of the Main Ranges and Western Ranges of the Southern Canadian Rocky Mountains: Stratigraphy, Structural Geology, and Tectonic Implications.*

independent project. The 1996/97 graduates, with their industrial affiliation and home base are:

Alfredo Bertens, Pegasus, El Toqui; Chile.

James Lariviere, Murgor Resources, East Main, Canterex; Canada

Steve Olsen, WMC Resources; Australia.

Michael Rosatelli, Kennecott, Lac/Bond; Canada.

Craig Waldie, BHP Minerals; Canada.

B.Sc (Eng.)

Kerry K. Acheson	Charlton S. Ager
Lawrence Arcand	David A. Baker
Stephanie P. Bertels	Matthew T. Boucher
Jason J. Crowder	Alison S. Cunningham
Gillian E. Evans	Kim M. Gross
J. Paul Hadcock	Richard G. Harris
David D. Hill	Catherine R. Isaac
Jeremy R. Kinch	Hon Q. Lu
Alison P. Mace	Kelly A. McKie
Nerissa Y. Moscote	Ryan P. Mulligan
Darlene A. Nelson	Erin S. O'Neill
Robert Panek	Christopher G. Podetz
Stephanie Prior	Darren J. Roblin
Negin Roohi	Anna F. Russell
Amy J. Sloma	Grace K. Tang

B.Sc. (Hons.)

Paul Joseph Buisseret	Christopher Herd
Kevin Stephen Kearns	Edward Lewis
Robert Alton Mains	Hilary Musonda
Andrea Lee Samuels	

M.Sc. (Mineral Exploration) Class of 1996/97

The Master of Science Program in Mineral Exploration is a continuing education program. Candidates are required to have had previous geological experience in industry or with government agencies. The program consists of eight term-length courses plus an

Awards

Departmental Medal - **Chris Herd**

The J.E. Hawley Memorial Scholarship in Geological Sciences - **Carly Grimsen**



The Homestake Achievement Award - **Jonas Hollis**

The Susan Near Prize in Geology - **Laurel Basciano**

Major James H. Rattray Scholarship in Geological Sciences - **Jennifer Lexmond**

The Carl Reinhardt Scholarship - **Blake Schaffer**

William E. White Scholarship in Geological Sciences - **Matthew Hatherly**

The Morley E. Wilson Scholarships in Geological Sciences - **Sarah Forte**

Amoco Canada Petroleum Limited Scholarship - **Marc Braden**

The Manley B. Baker Scholarships in Geology - **Luke Skinner**

The Leonard G. Berry Memorial Award - **Gavin Wardle**

Special Honors

Bob Dalrymple has been appointed Special Publications Editor by the SEPM (Society of Sedimentary Geology) for a four-year. He will oversee all non-journal publications for the SEPM.

During the joint 1997 Annual Meeting of the SEPM (Society of Sedimentary Geology) and the AAPG (American Association of Petroleum Geologists) in Dallas, in April 1997, **Noel James** was made an Honorary Member of the SEPM for his outstanding contributions to the study of carbonate sediments and his past service to the society as its President.

Kurt Kyser has been elected to Fellowship in the Royal Society of Canada for his accomplishments as "one of the leading geochemists in North America." "The principal thrust of his work involves the use of stable-isotope geochemistry to solve important problems in the Earth Sciences. He has made

major contributions to the evidence for a heterogeneous mantle for the Earth and has greatly advanced our understanding of sedimentary basins and their constituent fluids. His novel high-resolution chemical and isotopic work has, for the first time, provided us with a detailed picture of past and current processes that have formed these crucially important features of the North American continent."

At the February Annual Meeting of the American Association for the Advancement of Science (AAAS) **Ray Price** was made a Fellow for his research on the North American Cordillera and his leadership of important geological organizations. At the April Annual Meeting of the American Association of Petroleum Geologists he was awarded the Michel T. Halbouty Human Needs Award for contributions to international public service in science councils, professional associations, and governments; in education; and in research on thrust-fold belts and mountain building.

Vicki Remenda was selected by the students in the Faculty of Applied Science to receive a 1997 Golden Apple Award for her outstanding performance in undergraduate teaching.



Alumni Update

Would you please help us to create an accurate location and mailing list by completing this questionnaire:

NAME:	Queen's Degree(s) and Year (s)
HOME ADDRESS:	Telephone: Fax: e-mail:
Business Address:	Telephone: Fax: E-mail:
Degrees since leaving Queen's:	
Please use the space below (or an attached page) to add any news that we can pass on to other Queen's Geological Sciences alumni ?	
Please reply to:	Dianne Hyde-Kelcey Tel: (613) 545-2596 Departmental Assistant Fax: (613) 545-6592 Dept. Geol. Sciences E-mail: hydekelc@geol.queensu.ca Queen's University Kingston, ON K7L 3N6