



## Greetings from the Head of Department

I was somewhere over the Atlantic Ocean when I officially became head of department, and was awake to contemplate this big change. Did it feel different from being “just” a Professor? Yes. Did it feel different from being an Associate Dean? Absolutely!

Being head means that the good and of course, the “less good” of the department are my immediate concerns, not the somewhat distant concerns as they are in the other roles I’ve played. Fortunately, under the exemplary stewardship of Jean Hutchinson, we have fared well financially, been awarded three faculty positions (the long-awaited Sedimentology Position! and two additional positions from extraordinary programs), launched a new and innovative graduate program Masters of Earth and Energy Resources Leadership (MEERL), replaced our outrageously out-of-date microscopes and continued to enjoy a leading position in earth sciences in Canada despite our relatively small size. We thank you, Jean, for your hard work and leadership! We wish you well in your new adventure of “just” being a professor – you will have more time for your research and teaching, which will give you even more time to earn awards!

In the last few months we have said farewell to Rob Renaud, who served as IT and Geophysics technician for 28 years, and Dianne Hyde, our former Departmental Manager who spent 26 years at Queen’s with most of that time here in Miller Hall/ Bruce Wing. It is hard to say good bye to our friends and colleagues, but also wonderful to welcome new colleagues to the team. Dan Bullock has recently joined us as IT Systems Coordinator, formerly of the Kingston Police Services, and Megan Rhymer became the Departmental Manager in mid-April 2017. Megan brings a wealth of project management and budgetary experience from her years as an engineer with Construction Canada. Dan is searching for ways to replace the aging IT infrastructure with the appropriate mix of in-house and Queen’s ITS solutions.

August 2017 will never be forgotten for the sudden and tragic death of our friend and colleague Dr. T. Kurt Kyser, who died while teaching the carbonates field trip in Bermuda. He is survived by his partner in life and science, Ms. April Vuletich, who is also a member of the department and the famed Queen’s Facility for Isotope Research (QFIR). Dr. Kyser’s obituary, which follows, details his achievements as a world-renowned Isotope Geochemist and the creator of QFIR. What the formal obituary did not convey is that he had a wicked smile, a great sense of humour, and kindness touched with asperity. He had a passion for good science, good company, good food and good wine. We miss him every day. In the face of this terrible event, I am proud to say that the staff, students and faculty of the department, and especially those who work in association with QFIR, were united in their resolve to “get back to work”, a favourite saying of Kurt’s, to pick up the pieces,

teach the courses, adopt the graduate students, and carry on. We celebrated Kurt’s amazing life with an event in Grant Hall, October 20, followed by a wake at the University Club and a Geochemist’s wake at a downtown pub. We thank the University Chaplain, Kate Johnson, and speakers, April Vuletich, Daniel Layton-Matthews, and Noel James from GS&GE, and Fred Longstaffe (Western), Mostafa Fayek (U Manitoba, Bill MacFarlane (Exploration Consultants Associated), and Larry Lahusen, (Urvan Minerals) for their words of comfort and inspiration.

We are also celebrating the last lectures of famous faces from the Department – Dr. John “Hockeystick” Hanes, Dr. Doug Archibald, and Dr. Ron Peterson! Drs. Hanes and Peterson will take sabbaticals before their retirements in the coming months and Dr. Archibald has one more field outing to Sutton Quebec. I suspect that most of you have been taught by one of these great professors!

A final word on retirements... after 2018, we will be retiring Sutton Quebec as the location of the spring field school. A team of creative and diligent field-oriented professors have been working away this fall and will continue in the coming months. Stay tuned for an update on the new location and information on the new format.

As the new head, I am also meant to set strategic priorities for the coming years. While my plan to start consulting with everyone on a new vision and strategic plan was waylaid by an over-busy fall, the theme of the next few years is renewal! We will “onboard” three to six new faculty members in the next two to three years. We will undertake a “facelift” of the main public spaces and labs in Miller and Bruce, as funding permits. We will continue to take stock of our field learning and revise and refresh our offerings without “throwing the baby out with the bathwater”. We will find better ways to help our students find summer and post-degree work. We will “rejig” our image to highlight not only our wonderful collections and focus on field learning, but also to showcase 21st century field, laboratory and computational tools and capabilities to attract a new generation of students and faculty.

In early November, I had the incredible good fortune to be in Calgary to meet with many alumni. I now understand why all former heads say that meeting alumni is one of the very best parts of the job! I am looking forward to trips to Vancouver and to Ottawa in New Year. I would like to extend an invitation to you all to email me (remendav@queensu.ca) with ideas, thoughts, and feedback, and of course to visit us here in Kingston as your schedules permits.

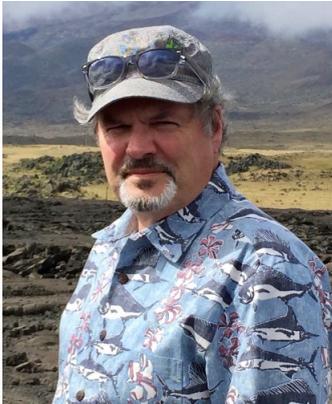
With my very best wishes for a wonderful holiday –  
Vicki



# DEPARTMENT NEWS

Keep up to date with the department by visiting the departmental website [queensu.ca/geol](http://queensu.ca/geol)

## Remembering our Colleague Dr. Kurt Kyser



Professor T. Kurt Kyser, Fellow of the Royal Society of Canada and pioneering geochemist, died while teaching in Bermuda on August 29, 2017.

Professor Kyser joined the Department of Geological Sciences and Geological Engineering at Queen's University in 1995. He created and directed one of the leading geochemistry laboratories in North America, the Queen's Facility for Isotope Research. Dr. Kyser was a world-renowned researcher whose creativity and gift for solving scientific problems produced more than 500 peer-reviewed papers, books, book chapters, and technical reports. Beyond these seminal contributions, his lasting legacy is the hundreds of former students and post-doctoral fellows that he mentored. Each was touched in an insightful and inspirational way that not only challenged them, but elevated them as people.

Dr. Kyser's work has been recognized by numerous awards and accolades. Prominent awards include the Duncan R. Derry Medal, Hawley Medal, Willet G. Miller Medal, Past President's Medal of the Mineralogical Association of Canada, and Past President's Medal of the Geological Association of Canada. In addition to these honours, he was a Fellow of the Royal Society of Canada, a Queen's Research Chair, a Queen's National Scholar, a Killam Research Fellow, a Fellow of the Mineralogical Society of America, and recipient of the E.W.R. Steacie Memorial Fellowship. Dr. Kyser's service to the scientific community was also unwavering. He was the Editor-in-Chief of the Geological Society of London's journal *Geochemistry: Exploration, Environment, Analysis*, Past President of the Mineralogical Association of Canada and an active member of the Mineralogical Society of America, American Geophysical Union, Geochemical Society of America, Association of Applied Geochemists, and the Mineralogical Association of Canada.

Dr. Kyser was born in Montana, grew up in California, and completed his B.Sc. at the University of California, San Diego, and earned his M.A. and Ph.D. from the University of California, Berkley. His Ph.D. research pioneered the use of stable isotopes to understand seafloor basalt. He completed a post-doctoral fellowship at the U.S. Geological Survey in Denver and a NATO post-doctoral fellowship at the University of Paris in 1980. Before coming to Queen's, he was a faculty member in the Department of Geological Sciences at the University of Saskatchewan. He collaborated with colleagues worldwide and believed strongly that field geology is fundamental to geochemical research. Many close friendships were born from these collaborations, which led to fieldwork in Canada, Australia, United States, Africa, South America, Europe, and Russia.

Professor Kyser is survived by his wife and partner in science and life, April Vuletich, and his larger family of former students and post-doctoral fellows. - Eric E. Hiatt and Peir K. Pufahl

## Dr. Hutchinson Receives Multiple Awards



Congratulations to Dr. Jean Hutchinson who is the recipient of numerous awards! Dr. Hutchinson has received the following awards:

- The 2016 Schuster Medal, a joint award from the Association of Environmental & Engineering Geologists (AEG) and the Canadian Geotechnical Society (CGS). This award recognizes excellence in geohazards research in North America.
- The 2016 Excellence in Education award from the Faculty of Engineering and Applied Science (FEAS) at Queen's University. The award is given in recognition of outstanding contributions to the educational environment in FEAS.
- The 2017 Canadian Pacific Railway Medal from the Engineering Institute of Canada (EIC).
- The 2017 T. Geoffrey Flynn Advancement Champion Award from the Office of Advancement at Queen's University.

## Dr. Narbonne Elected Chair of Prestigious International Committee



Congratulations to Dr. Guy Narbonne, who was elected Chair of the International Geoscience Programme (IGCP), a joint initiative of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the International Union of Geological Sciences (IUGS) at the annual meeting at UNESCO Headquarters in Paris in February 2017. IGCP is dedicated to scientific research supporting the use of geology "in the service of society" through studies in Hydrogeology, Geodynamics, Geohazards, Global Change, and Earth Resources. The main focus of IGCP is on establishing projects and communication dealing with these issues worldwide - principally between developed and developing countries and increasingly among different developing countries.

## GAC/MAC 2017

The joint annual meeting of the Geological Association of Canada (GAC) and the Mineralogical Association of Canada (MAC) was held at Queen's from May 14-17, 2017. The last time this meeting was held at Queen's was in 1967, 50 years ago. The meeting was hosted by the Department of Geological Sciences and Geological Engineering, and its faculty, staff and students were extensively involved with the organization of the meeting. The General Chair was the late Dr. Kurt Kyser, with the assistance of Dr. Rob Rainbird from the Geological Survey of Canada (GSC). The meeting, which had "Back to Where It Began" as its catch phrase, celebrated the founding of the GSC in Kingston 175 years ago (in 1867), as well as the 175th anniversary of Queen's University and the 70th anniversary of the founding of GAC.



The meeting was a great success, with nearly 700 registrants. The Technical Program was designed following the vision of Kurt Kyser to showcase the applied aspects of the earth sciences, and to emphasize their importance to society as a whole. The oral and poster programs were structured around six themes, Environmental Issues, Quaternary Systems, Geochemical Systems, Tectonics, Earth Surface Systems, and Geological Engineering spanned the breadth of the earth sciences, while building on the unique strengths of the Department. A total of 278 oral presentations and 160 poster presentations were given over three days. A number of local and more distant field trips were also run. An active social program included a Pub Crawl highlighting many of Kingston's historic watering holes, a tour of some of the outstanding wineries of Prince Edward County, a Dinner Cruise through the 1000 Islands, and the conference banquet at historic Fort Henry. In addition, there were multiple opportunities to socialize with colleagues and friends at the Icebreaker and poster-viewing sessions each afternoon. For more information about the meeting, including access to the abstracts, please go to [www.kingstongacmac.ca/en/home/](http://www.kingstongacmac.ca/en/home/).

## GAC/MAC AWARDS



Congratulations to Dr. Jamieson, Dr. Narbonne, and the late Dr. Kyser, on their respective awards presented during GAC/MAC 2017.

Dr. Heather Jamieson received the Peacock Medal from the MAC.

Dr. Kurt Kyser received the Duncan R. Derry Medal from the Mineral Deposits Division (MDD) of the GAC.

Dr. Guy Narbonne received the E. R. Ward Neale Medal from the GAC.



Congratulations to MSc student, Mark Ahenda on receiving first place for best student poster at the GAC-MAC 2017 conference. Mark received the Gold award of the Jerome H. Remick Poster Awards from the Geological Association of Canada (GAC).

The poster was entitled "Early Cenozoic evolution of the Gurla Mandhata core complex, NW Nepal Himalaya."



### 3rd Virtual Geoscience Conference

On August 22 - 24 2018, Queen's University Department of Geological Sciences and Geological Engineering will be hosting the third annual Virtual Geoscience Conference (VGC). The VGC provides a meeting place for researchers and industry members at the forefront of technological developments and latest applications of geomatics and visualization tools in the geosciences. For more information, visit: [www.virtualoutcrop.com/vgc2018](http://www.virtualoutcrop.com/vgc2018)

## Miller Museum Receives Funding for Permanent Augmented Reality Sandbox Display



The Association of Professional Geoscientists of Ontario (APGO) Education Foundation has generously donated \$5,300 to the Miller Museum of Geology for the installation of a permanent Augmented Reality Sandbox Display (AR Sandbox). By combining a three dimensional imaging device with a powerful computer and projection system, the AR Sandbox overlays contour lines and topographic map data on the landscape built by visitors to the museum in a conventional sandbox. As the user changes the shape of the land in the sandbox, by building hills or scooping out valleys, the overlay map is updated in real time to show the resulting changes on the topographic map. As an added bonus, visitors can make it virtually “rain” on the landscape, and watch how the water would run down the slopes and pool in the low areas to form lakes.

Dr. Bill Pearson, MSc’77, PhD’80, and Chair of APGO Education Foundation commented, “The AR Sandbox is a remarkable teaching tool. The Miller Museum previously used a portable version with great success. A permanent installation will make this exciting technology more readily available to the public. We are delighted to support this innovative project. This tool shows users how topography controls watersheds, surface water and runoff, demonstrating some of the basics of geomorphology and environmental geoscience.”

The AR Sandbox is an exciting addition to the department. Mark Badham, BSc’86, MSc’97 and Curator of the Miller Museum commented: “Being able to add this incredibly interactive and educational exhibit to the museum displays has been a major goal since we first saw the videos of this amazing technology in action. The museum is extremely grateful to the APGO Education Foundation for the support to build the AR Sandbox which will help to inspire and educate people of all ages who come to our facility each year.”

More information is available on the APGO Education Foundation website, and in the press release from the APGO Education Foundation. The APGO Education Foundation (“the Foundation”) is a registered charitable organization that is supported by the Association of Professional Geoscientists of Ontario (APGO), the regulatory body for professional geoscientists (P.Geo.’s) in Ontario.

## Welcome Dr. Matthew Leybourne



Welcome to Dr. Matthew Leybourne who joined our ranks August 1 under the auspices of the CPARC (Canadian Astrophysics Research Centre [www.cparc.ca](http://www.cparc.ca)) funded by the Canada First Research Excellence Fund. Matthew will lead the study of ultra-low backgrounds of a variety of elements of importance in the CPARC experimental effort, including developing analytical tools and procedures to measure elemental concentrations and distributions at extremely low levels in a variety of complex materials. He will also continue his research focused on the geochemistry of fluids associated with ore deposits, geochemical exploration, and the petrogenesis of igneous rocks, including developing new analytical methods with Dr. Joe Petrus, a Post-Doctoral Fellow.

## Student Awards

- **Mark Ahenda** MSc: First place for best student poster at the GAC-MAC 2017 conference. Mark received the Gold award of the Jerome H. Remick Poster Awards from the Geological Association of Canada (GAC).
- **Katie Irwin** MASc: 2017 Canadian Geophysical Union (CGU) Best Student Paper in Geodesy Award.
- **Sarah Cain** MASc: 2016 Dan Einstein Memorial Scholarship from the Tunneling Association of Canada (TAC).
- **Callum Walter** PhD: 2017 SEG/Lucien LaCoste Scholarship and the 2017 SEG/KEGS Ontario fellowship from the Society of Exploration Geophysicists (SEG).
- **Megan van Veen**, MASc: Second prize in the Canadian Geotechnical Society 2016 Graduate Student Competition.
- Undergraduate students **Alison Martin**, **Sara Pieczonka** and MASc student **Robin Maedel** MASc: 2017 KEGS Foundation award scholarships.
- **Timothy Packulak**, MASc: 2017 Dan Eisenstein Memorial Scholarship (TAC).

# Fund Updates

An update on funds in the department



## Hodgson Learning Centre Fund

In February of this year, the department launched an initiative to raise funds in honor of Dr. Jay Hodgson. The fund was created with the intention of creating a dedicated exploration “think-tank” space on the top floor of Miller Hall. We have made great head way on this fund, but we still need your help to make this vision a reality! More details on the vision and how you can give to this fund today can be found at [www.givetoqueens.ca/geological](http://www.givetoqueens.ca/geological)



## T. Kurt Kyser Memorial Scholarship Fund

In loving memory of Kurt and his deep commitment to education and Queen’s University, the T. Kurt Kyser Memorial Scholarship Fund has been established. Thank you to everyone who has contributed to the fund to date. You can also help support Kurt’s memory by contributing to the fund: [www.givetoqueens.ca/kyser](http://www.givetoqueens.ca/kyser)

## Field Studies Fund



It takes a dedicated community of Queen’s geologists and geological engineers to raise the stakes on the Field Studies Fund!

While we have had incredible success supporting opportunities for field learning, as we grow our student numbers and our faculty complement, we need to set a new, even more ambitious target of 4 million for the field studies fund. As you know the fund continues to offset the costs borne by individual students on these crucial learning experiences. We will renew existing equipment and of course develop and acquire new tools and instruments for field learning and processing of field data. Imagine that our 2nd year students have a bird’s eye view from a drone traversing inaccessible terrain, something

our grad students are already doing? To “stand” atop glaciers in the Rocky Mountains? To zoom across the laddered fens in the James Bay Lowlands?

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## New Undergraduate Student Award Created by Generous Alumnus

Thank you to alumnus Bob Whillans, BSc’71 and his wife Lindsay Whillans, from Ottawa. Bob and Lindsay have established the Robert T. Whillans Award for undergraduate students studying Geological Sciences and Geological Engineering. Thanks to their generosity, the department will be able to provide financial assistance to 2nd, 3rd and 4th year students in the department who display financial need and academic achievement. Speaking about the award, Bob noted “I was fortunate to be able to complete my Queen’s experience in the 1970’s without the need for institutional financial assistance. Over time it became clear that such financial aid could make the difference in achieving a higher education for many exceptional students lacking the means to continue their university education.” Thank you to Bob and Lindsay for this generous gift! This award will complement a number of other awards available to Geology students with financial need, thanks to the generous support of our wonderful alumni.

To support the department:

Visit [www.givetoqueens.ca/geological](http://www.givetoqueens.ca/geological)

Or if you would like to donate by mail, please send a cheque payable to Queen’s University to:

Department of Geological Sciences and Geological Engineering  
Miller Hall, Bruce Wing 240  
36 Union Street  
Queen’s University  
Kingston, Ontario  
Canada, K7L 3N6

# Alumni Updates & Congratulations



Dr. Michelle Thompson, BSc'11, one of the top 32 candidates vying to become an astronaut for the Canadian Space Agency.



Dr. Andrew Feustel PhD'95, about to enter the final phase of training for an upcoming six-month mission to the International Space Station.



Dr. Jennifer Day, BSc'11, BA'12, PhD'17, received the 2017 Dr. N.G.W. Cook Ph.D. Dissertation Award from the American Rock Mechanics Association (ARMA).



Dr. Ehsan Ghazvinian MSc'10, PhD'15, awarded the Best AfriRock 2017 Paper by a Young Author award, from the South African Institute of Mining and Metallurgy (SAIMM).



Cathy Corrigan, BA '91, BSc '94, MSc '98, an Award of Excellence from the Association of Consulting Engineering Companies (ACEC) in Canada on her project at the Giant Mine.



Geology students created this awesome GEO crest out of lego! The crest is currently on display in the Bruce Wing Reading Room. We welcome all alumni to come back to Miller Hall/Bruce Wing to see all the new and exciting changes that have been happening: the Dr. W. A. Gorman Teaching Exhibits, the permanent Augmented Reality Sandbox Display, newly renovated classrooms, and more! Why not speak to some of our students too while you're here? Contact us at [geolalum@queensu.ca](mailto:geolalum@queensu.ca) to set it up. Join the "Queen's GEO alumni" group to keep up to date too.

Share your good news stories with us! Send to [geolalum@queensu.ca](mailto:geolalum@queensu.ca), or share on the "Queen's GEO Alumni" Facebook group!



## 2017 ALUMNI REUNIONS

Visit [www.queensu.ca/geol](http://www.queensu.ca/geol) for upcoming events

Vancouver RoundUp



Geoconvention

Homecoming



Calgary 15th Annual

