

## CCCESD – REVIEW OF DEPARTMENTS – 2016

### LAKEHEAD UNIVERSITY, Department of Geology

In 2016/2017, our enrollment of majors has declined with 93 currently enrolled down from 113 last year. Fifty-six are enrolled in the HBSc Geology with the others in Environmental Earth Studies, Water Resource Science and the BSc degree. In addition, we currently have 14 MSc students in our program down one from last year. We are managing high enrolments in our Engineering service courses by switching to alternate week labs, but otherwise our service numbers are steady.

We have six faculty and two active emeritus professors and this year will be hiring five sessionals to cover four courses in order to cover teaching relief provided to offset additional administrative duties. We also have one sessional teaching First Year Geology at our Orillia campus. As in previous years we have two full time lapidary technicians and share an administrative assistant with another department. Four of our faculty and one emeritus professor currently hold NSERC Discovery Grants and we are seeing a slight uptick in industry funding for research.

The University is currently in the middle of a Strategic Enrolment Management process, which we think will lead to a revised budgetary model that will be more closely linked to enrolment and allocated space. Not sure where this will leave Geology as we have quite a bit of space but relatively small enrolments.

*Pete Hollings*

### LAURENTIAN UNIVERSITY, Harquail School of Earth Sciences

Earth Sciences at Laurentian University experienced several significant and positive changes in the past year. A \$10M donation to Earth Sciences from the Harquail family Midas Touch Foundation was announced on September 6<sup>th</sup> and the Department of Earth Sciences is now the Harquail School of Earth Sciences (HES). The funds will be used to support analytical laboratories and international PhD students for many years to come and will help elevate the profile of HES as a leader in mineral exploration research. We continue to expand our research programs and have seen significant growth in our graduate enrolment over the last several years. Laurentian was successful with our CFREF application, resulting in the funding of *Metal Earth*, a significant research program led by the Mineral Exploration Research Centre in HES. HES hired Dr. Alessandro Ielpi (Sedimentary Geology) and he arrived in January 2016.

We have recruited a Tier I Canada Research Chair in Metallogeny (CRC application in review) and anticipate arrival of the candidate in July 2017. We are currently advertising for 1 tenured research chair and 3 tenure-track faculty positions: 1) Research Chair in Exploration Targeting (July 2017); 2) Exploration Geophysics (July 2017); 3) Precambrian Geology (January 2018); and 4) Earth Systems Modelling (January 2018). Dr. Daniel Kontak was the

recipient of the 2016 Duncan Derry Medal, Mineral Deposits Division, Geological Association of Canada. Sarah Gordon (MSc graduate) & Dr. Andy McDonald were recipients of the 2016 James Edwin Hawley Medal.

Our graduate enrolment continues to increase. We welcomed 24 new MSc and 7 new PhD students this summer-fall. We currently have approximately 74 graduate students in our programs. Our new 1-Yr Applied MSc program is starting to see increased enrolment. Our BSc program enrolment has remained relatively constant over the last several years, in the high 80s to low 90s.

#### Enrolment

	2010F	2011F	2012F	2013F	2014F	2015F	2016F*
UG	76	89	90	91	88	89	94
MSc	25	27	22	24	29	40	52
PhD	11	15	17	21	20	23	26
<b>Total Grad</b>	36	42	39	45	49	63	78

\* *Estimated: final numbers not available*

### UNIVERSITY OF WINDSOR, Department of Earth and Environmental Sciences

#### Overview

- 14 faculty and 4 staff members.
- BSc Environmental Science (~40 majors), Bachelor of Environmental Studies (BES) (~90 majors), and MSc and PhD Earth Science (~20 students) programs.
- Several faculty maintain hybrid appointments with the Great Lakes Institute for Environmental Research (GLIER).
- Research includes environmental geochemistry & geophysics, hydrothermal mineral deposits, geodynamics, coastal geomorphology, hydrogeology, hydrocarbon reservoirs, trophic ecology, geographic information science.

#### News

- New Dean of Science (Chris Houser) is an EES member. Chris is a coastal geomorphologist (Guelph, U of T) that recently (July 1, 2016) joined the University of Windsor from Texas A&M.
- EES was successful in obtaining 1 of 50 strategic priority fund (SPF50) positions (quantitative watershed hydrologist) and is currently advertising until November 15 (<http://www1.uwindsor.ca/faculty/recruitment/001881TT-2017-EES-SPF50-27>).
- Full administrative control of BES program transferred to EES after Centre for Interfaculty Programming terminated.

### **Challenges/Opportunities**

- Enrolments have been flat but appear to be trending upward. Several recruitment initiatives being considered/implemented but no new resources available.
- University of Windsor has fully adopted an activity-based budget (ABB) and fortunes are linked directly to enrolments. Department and faculty are currently in deficit, however, ABB provides for growth whereas previous approaches (institution-wide cuts) did not. A combination of retirements, increased service teaching, forthcoming credit for BES students, and new programming initiatives (GIS certificate and online programs, course-based MSc) will significantly improve our budget position.
- Up to 40% of EES faculty are or will be eligible for retirement over the next 5 years. Provost has asked and EES has provided a plan for replacements, however, renewal must match institutional strategic priorities and provincial differentiation mandate (Great Lakes resource and environmental challenges). EES is well positioned to obtain renewals as long as replacements clearly meet strategic goals.
- Aging facilities and infrastructure – future of all University of Windsor science buildings currently under review as campus undertakes significant, long term capital works projects. Likely that EES will need to vacate long term home (Memorial Hall) for renovated space in Essex Hall (home to other units in faculty) within 1 to 2 years.
- IQAP review process ongoing – first external review of new Environmental Science program. Forms created by administration considered unnecessarily complex by all.

*Joel Gagnon*

### **UNIVERSITY OF WESTERN ONTARIO (“WESTERN UNIVERSITY”)**

#### **Current Faculty/student complement:**

- 24 full-time faculty including 6 research/externally funded chairs
- Recent retirements/resignations: Kristy Tiampo, Norm Duke
- Recent hires: Audrey Bouvier, Catherine Neish, Sheri Molnar
- Current searches:
  - Assistant Professor in Mineral Exploration
  - CRC 2 in Multi-hazard Analysis (together with Dept of Statistical and Actuarial Sciences)

#### **Current staff/student complement:**

- 25 support staff
- 100 graduate students
- Approx. 100 undergraduate students enrolled in years 2, 3 and 4
- 18 post-doctoral fellows and/or research associates and/or instructors
- Approximately 3600 students per year in Earth Science classrooms
- Growing e-learning enrollment, including introductory geology

### **Programs:**

- Undergraduate programs for Professional (P.Geo or P.Geol) Registration in Geology, Geophysics and Environmental Science, as well as Honors, Specialization, Major and Minor programs in these areas, and Minors in Geology, Geophysics and Planetary Sciences
- Graduate MSc and PhD programs in Geology and Geophysics
- Collaborative graduate programs in Planetary Science, Environment & Sustainability and Scientific Computing
- Joint JD/MSc in Geology or Geophysics and Law
- Focus on field education with 5 core field courses in our undergraduate program, and several graduate field courses

### **Research themes:**

- Earth and Planetary Sciences (one CRC 2, one IRC)
- Resource Geoscience (1 IRC, 1 externally funded chair, 2 visiting profs)
- Natural Hazards and Crustal Dynamics (one IRC)
- Earth Evolution: Surface, Life and Climate (one CRC 1)

### **Major changes in the past two years:**

- Major CFI successes (Microprobe, SEM, ICPMS)
- Some CFI setbacks (2015)
- Stability in Departmental Budget, at the start of a 4-year cycle
- Re-appointment of the Dean of Science for a second 5 year term
- Doubling of undergrad enrollment over the past 5 a (in part due to e-learning)
- Chronic space shortages, expect some relief in the next year with the allocation of “North Campus Building” to the Faculty of Science

### **Major challenges in the future five years:**

- Appointment of a new Department Chair following the end of Gerhard Pratt’s 2nd term in July 2017
- Budgetary challenges due to the expiration of external funding for the Hodder Chair, and the need to renew Limited Term appointments
- Ongoing challenges as employment opportunities in the resource sector shrink
- Ongoing uncertainties due to Ontario Government budgetary uncertainties
- Ongoing difficulties in maintaining operational resources for laboratories
- By 2022 at least 9 of our current 24 professors will be at retirement age

*Gerhard Pratt*

### McMASTER UNIVERSITY, School of Geography and Earth Sciences

The McMaster School of Geography and Earth Sciences has a compliment of 22 fully appointed faculty, and an additional 3 with joint appointments. The 22 include 3 teaching faculty and 19 research professors. 11 of the 19 research professors would be considered either earth or environmental scientists and of these, 10 hold NSERC awards.

We presently have 87 full time graduate students, about 50% PhD versus MSc and most in earth and/or environmental science. Undergraduate majors are around 400, with over 50% in the BSc versus BA programs. Owing to an "activities-based" budget model, the faculty of Science was running about a \$5million-\$7million/year deficit. SGES was running around -\$500/year deficit. In order to reconcile this deficit, our Dean offered a 1-time retirement package across the faculty. About 8 individuals took the package, with 5 of these in SGES. Last year we thus lost 5 faculty through retirements, 3 in human geography, and 2 in earth science (Jack Rink- mineralogy and age dating; Bill Morris - Geophysics and Remote Sensing). We also lost Professor Lesley Warren (bio-geo-chem), who accepted an endowed chair in civil engineering at U. Toronto. None of these positions have been replaced so far. Later in the year the Provost provided some budget reconciliation, and allowed the faculty of science to petition for positions. This resulted in 2 searches across the entire faculty, 1 in kinesiology and the 2nd an unfilled endowed chair in water and health. This 2<sup>nd</sup> position could be hosted in SGES, but the search is still under way. This year, our Dean was promoted to VP of Research and our acting Dean has once again asked for petitions, but only allowed 1 request per department. We are hopeful we may be allowed to replace 1 of our 6 faculty positions that we lost last year. We are also in the process of replacing our provost and dean next year.

This year, the first nations disallowed access to tribal lands for our annual field camp at Whitefish Falls, and we understand this ban is extended to other schools?

*Janok P. Bhattacharya*

### UNIVERSITY OF TORONTO, Earth Sciences

The recent consolidation of physical Geography to the department is now complete and we have a strong group of faculty contributing to the department and teaching in our new Earth and Environmental Systems major (currently beginning its 3rd years). Overall our faculty compliment remains reasonable with 17.5 on the ST George campus, 4 appointed at the graduate level at UT Mississauga (UTM) and 3 at UT Scarborough (UTS). We lost two faculty this past year both in core areas of geology (Ore deposits (retirement), Igneous petrology (resignation)). As usual we only had one of these positions replaced (Petrology, search just starting). Our faculty compliment in core areas of geological sciences (Paleontology, structure, metamorphic, igneous, economic, etc.) remains tenuous with our ability to teach core geology subjects in jeopardy. This is unlikely to change in the near future given the

administrations position on new hires (positions are allocated primarily on faculty/ student ratios). Although, enrollments in our courses and graduate student numbers remain reasonably strong.

Program	2014/15	2015/16	2016/17
Earth & Environmental Systems Major	0	17	29
Environmental Geoscience Major	6	3	3
Geoscience Major	36	37	38
Environmental Geoscience Minor	7	7	0
Geoscience Minor	25	28	31
Environmental Geoscience Specialist	9	12	9
Geology Specialist	41	46	40
Geophysics Specialist	24	29	25
Master's	25	13	18
PhD	32	33	33
PDFs			12

There are continuing issues with regard to taking on international students and funding them although recent endowments are helping here. Our strong emphasis on field education continues with trips planned to Turkey (16 students), Monserrat (16 students) and Scotland (16 students) along with our usual field camps. Faculty endowments and contributions from the faculty of arts and science keep student costs for these trips low. One issue that is of growing concern is replacement of teaching materials (microscopes, now 40 years old, replacement costs 800,000 to 1.2 million), Thin/polished sections, hand samples etc...). These costs do not appear to be on the radar of the Faculty of Arts and Science but we will be raising the issue. We have been very fortunate to obtain significant infrastructure funding enabling us to renovate our seminar room, and to build a state of the art E-classroom (ongoing) which will be active for the winter term teaching schedule.

From the research perspective funding remains a critical issue. NSERC grants continue to be low while funding for research equipment remains essentially non-existent. The new RTI program would have been useful but since RTI applications will be pre evaluated through the university, this means we will be at a distinct disadvantage given the size of the university and other departments and faculties. Another issue that will soon arise is who will fund the day to day running costs of the several CFI funded labs of faculty. While CFI provided much of the funding to build and purchase these research labs, nobody seems to have considered the fact that they will need ongoing financial commitments to continue running. The concept of funding labs through user fees is ridiculously unworkable.

*Grant Henderson*

## YORK UNIVERSITY, Earth and Space Science and Engineering

### Students

Total Enrollment	2015-16	2014-2015
Total UG in ESSE (EATS program)	328 (104)	234 (92)
Total MSc	37	47
Total PhD	43	47
Total	408	328

Department of Earth and Space Science and Engineering (ESSE) houses three undergraduate programs, namely Earth and Atmospheric Science (EATS), Space Engineering and Geomatics Engineering; Masters of Science and PhD in Earth and Space Science. We do not differentiate streams at the graduate level. But, the research areas include: Earth and climate science, atmospheric science, space science and engineering, Geomatics engineering. In 2016/17, the 1<sup>st</sup> year EATS enrollment is 44 (120% over the previous enrollment, projected 22).

27 full-time faculty members (2 sessional assistant professors, 3 alternate stream)

7 emeritus professors

### Faculty and Research highlight

- Prof. Qiuming Cheng was elected the new president of the International Union of Geological Sciences (IUGS) – International Geological Congress (IUGC)

### Challenges

- Introduction of two large Earth Science courses for all Science and Engineering students
- Currently recruiting a technician and two faculty members: CRC Tier II in Planetary Science, Assistant Professor in Earth or Atmospheric Science
- Transition to Outcomes-based education model

## CARLETON UNIVERSITY, Earth Sciences

*Enrolment;* Our undergraduate enrolment underwent a period of steady growth since 2000. This year (2016-17) we have 138 undergraduate students; 58 honours. In fall 2015-16 there were 1821 students registered in service and general interest courses. In 2015-16 we had 44 (28 M.Sc. and 16 Ph.D. students) and in 2016-17 we have 50 (30 M.Sc. and 20 Ph.D).

*Faculty members;* We have 11 full time faculty members, one cross-appointed faculty member, a two-year term Associate Professor and several contract instructors. We are hiring a replacement in Geochemistry for Dr. Nadine Wittig who resigned in 2015. We are also hiring a replacement in economic geology for Dr. Richard Taylor who retired in 2016. In addition, our former Banting PDF, Dr. Hillary Maddin, joined our faculty in September 2015. She has been awarded over a CFI and Ontario Research Funds (>\$200, 000).

*Staff:* This year we hired a Laboratory Coordinator, Dr. Geoffrey Pignotta, for the first and second year courses.

*Space:* We acquired ~ 4600 ft<sup>2</sup> of new space in 2015 and have completed the first and the most of second stage of renovation and going through the third stage. The issue of adequate storage for our collections remains unresolved. We are awaiting Carleton's renovation to install a new XRD (Dr. George Dix) and a NEPTUNE multicollector ICP-mass spectrometer (Dr. Cousens) recently bought from the National Research Council lab in Ottawa.

*QA:* We have developed course learning outcomes and are in the process of mapping them back to our program learning outcomes to comply with the recommendations from our recent and successful Quality Assurance. We will go through the learning outcomes assessment next year.

*CU75:* We will be hosting an Alumni reception for CU75 in 2017 to show case our new labs, equipment and Arctic Greenhouse documentary. Dr. Claudia Schröder-Adams documentary (Arctic Greenhouse) will have its premiere on Jan. 26, 2017 as an opening event to a conference on Arctic biodiversity taking place the following day at the Canadian Museum of Nature. The documentary, which is also in collaboration with University of Frankfurt, is an hour long and features her research in the Arctic. Over 200 scientists will be coming to Ottawa for this event. The dean has agreed to sponsor the event as well and highlight it as a signature event for Science CU75.

*Dariush Motazedian*

## UNIVERSITY OF OTTAWA, Earth & Environmental Sciences

### Human Resources

Overall enrolment in our undergraduate programs remains relatively stable while the enrolment in our graduate programs continues a slight increase, and projected to increase more.

- 227 BSc students (Honours, majors)
- 4 PDFs, 19 PhD students, and 55 MSc students
- 15 current faculty members, including:
  - 2 CRCs (Earth Systems & Radiochemistry and Environmental Health)
  - 1 Distinguished University Professor
  - 1 Goldcorp Chair in Economic Geology
  - 1 University Research Professor
- 1 replacement professor
- 2 teaching support staff
- 3 administrative support staff
- 2 research associates
- 16 research staff
- Currently reviewing applications for a new permanent tenure-track position (relatively open discipline)

- Currently advertising for a new permanent tenure-track position in AMS applications and development
- Currently advertising for a new permanent support technician in AMS applications and development

#### Physical Resources

- Recently funded and currently in progress Science-Technology-Engineering-Math (**STEM**) **building**. The structure will be 6 levels + 2 basement levels encompassing 25,000+ m<sup>2</sup> and must be completed by 30 April 2018. (Ha!) EES teaching, research, and administrative functions of the department will be located in three proximal buildings: Advanced Research Complex (research+offices), Marion Hall (teaching+research), and STEM (offices).
- A new \$10M CFI application led by **Jack Cornett**: "microSTARR" request will upgrade the André E Lalonde-AMS to enable measurement of many new isotopes especially those with an isobaric interference, and to measure smaller (microgram) samples with increased precision especially for carbon-14. The AMS group also participated in a "Geophotonics" CFI proposal led by uOttawa Photonics Centre that will enable laser raster scanning across minerals for AMS analysis and another laser system for coherent Raman measurements.

#### Noteworthy

- **Pascal Audet** chosen as Sloan Research Fellow
- **Sarah Dare** won Geological Association of Canada Mineral Deposits Division William Harvey Gross Award
- **Jonathan O'Neil** and **Pascal Audet** each received Ontario Ministry of Research and Innovation Early Researcher Awards
- **David Schneider** received University of Ottawa's prestigious Excellence in Education award

#### Challenges

- 2016 is first time ESS did not have enough TA positions for all graduates that applied.
- High cost of (2x) tuition for international graduate students (except France).
- Looking for ways to increase total student enrolment, and in service courses; teaching new *Apocalyptic Earth* course for non-science majors.

David Schneider

#### McGILL UNIVERSITY, Earth and Planetary Sciences

Table – Distribution of Students

Students	Total Enrollment 2015-2016	Total Enrollment 2014-2015	Total Enrollment 2013-2014
U1	12 (+9)	8 (+2)	14 (+4)
U2	6 (+5)	13 (+4)	10 (+7)
U3	13 (+11)	13 (+11)	17 (+7)
Honours	3	1	6
<b>Total UG*</b>	<b>31 (+25)</b>	<b>34 (+17)</b>	<b>47 (+18)</b>
M.Sc.	17	16	18
Ph.D.	31	33	33
<b>Total Grads</b>	<b>48</b>	<b>51</b>	<b>51</b>
<b>Total Students</b>	<b>79 (+25)</b>	<b>98 (+18)</b>	<b>98 (+18)</b>

\* Not including Physics/Geophysics program, ~ 2/year

\*Numbers in parentheses are students registered in a declared minor concentration in EPS/Geology/Geochemistry

**Students** - As seen in the table, our undergraduate enrollment has decreased for the 4<sup>th</sup> year in a row, from a high of 53 total undergrads in 2013/14 and 2011/12 to just 31 undergrads this academic year. (Although the number of students in the minor concentrations has increased.) The number of graduate students remains steady.

**Faculty** - The department currently has 16.5 faculty members (not including emeritus, adjuncts, etc.), of which 8.5 are untenured. This fall saw the arrival of a new Isotope Geochemist, Peter Douglas, and this past summer saw the departure of Boswell Wing, who moved to the University of Colorado – Boulder. Additionally, Prof. Al Mucci's term as Chair has ended, and Prof. Jeffrey McKenzie is the new Chair. The department currently has one CRC Tier II Chair.

**News** – Currently advertising for a tenure-track position in Geobiology.

Jeff McKenzie

## UNIVERSITÉ LAVAL, Geology and Geological Engineering

Program	1 <sup>st</sup> year 2015	1 <sup>st</sup> year 2016	Total registered this fall
U Geology	17	11	37
U Geological engineering	22	24	110
M.Sc. Earth Sci. (research)	5	7	29
M.Sc. Env. Tech.	1	1	6
Ph.D. Earth Sci.	6	1	21

### Students

- Overall undergraduate student enrolment at our department has remained steady between 2012 and 2015. A slight increase has occurred since 2015.
- Graduate studies enrolment has increased significantly since 2010: from a low of around 25 students registered in 2010 to more than 50 students registered this fall.

### Faculty and staff

- The department has 12 faculty members (of which 1 CRC tier II, 1 NSERC IRC, 2 endowed positions), 14 adjunct professors, and the following permanent staff: 4 professionals, 3 technicians, 2 secretaries.
- Jacques Locat went into retirement last September. The department now lacks expertise in slope stability and natural hazards. A replacement position is soon expected.

### Challenges

- Aging research equipment (microprobe, SEM). New CFI proposal in the making.

### Research

- Departmental research activities cover 4 broad domains: Mineral Resources, Ground water, Natural Risks, Geomaterials.
- *CentrEau* was recently created by regrouping multidisciplinary experts on water management issues. It is composed of 23 regular members, 105 graduate students, 9 post-doctoral fellows.
- Excellent results for *CFI John R. Evans leaders* competition: Carl Guilmette was awarded fund to obtain a MicroXRF instrument for petrographic mapping whereas Christian Dupuis obtained funding for borehole geophysical instruments.

SGA 2017 biennial meeting will occur in Québec city (Convention center, August 20-23, 2017) – *Mineral Resources to Discover*. This international congress is chaired by Georges Beaudoin.

## UNIVERSITÉ DU QUÉBEC À CHICOUTIMI, Ingénierie et Géologie

We are a sector of a department that is dominantly engineering (Dept. Sciences Appliquées). We have 9 professors in the following disciplines: hydrogeology, rock mechanics, hydrology, economic geology, structural geology, petrology and geochemistry. A recent retirement has not been replaced, but we hope that this will change with the numerous retirements planned in the next 3 years. We are a partner in the Metal Earth program of Laurentian and will be recruiting a new prof in the new year. We also have permission to search for a junior chair. Our research institute CERM is reinvested and we have just received new analytical equipment for our geochemistry lab. Enrollment has not changed much in recent years, except for our 12-month Professional MSc in Mineral Exploration. This has grown to 12 students, some of whom feed into our MSc thesis program. Most of our foreign students are from France, with some from francophone Africa, Brazil and elsewhere.

Total student enrollment:

BSc: 60 in geology and 80 in geological engineering

MSc (thesis): 25

MSc (professional): 12

PhD : 17

*Michael Higgins*

## UNIVERSITY OF NEW BRUNSWICK, Earth Sciences

- Dr Ron Pickerill retired after 30 + years of service. We were fortunate to be able to hire Dr Audrey Limoges (PhD UQAM, currently a post-doc with the Danish Geological Survey) to take over teaching and research in palaeontology.
- Following Dr Tom Al's departure for U. Ottawa, we had two searches for a new faculty member to support our geological engineering program. We recently hired (soon to be Dr.) Jennifer Day (Queen's) who will be teaching in the general area of rock mechanics and geological engineering design.
- Cliff Shaw signed on for another 4 years as department Chair – this term will end July 1 2020.
- Student numbers are declining a little. The geological engineering program is strong but numbers may be impacted by enrolment management policies recently enacted by the Faculty of Engineering. The downturn in the resource sector seems to have had a negative influence on students coming in to second year.
- Our outreach activities have grown to be province-wide. Dr. Ann Timmermans (instructor and curator of the Museum in the Quartermain Earth Science Centre) has been developing new EdGeo activities and has been extremely active in bringing in school groups of all ages.
- The Geological Engineering program recently received a 6-year accreditation from the Canadian Engineering Accreditation Board (CEAB).

*Cliff Shaw*

### **ACADIA UNIVERSITY, Earth and Environmental Science**

This fall Acadia's incoming student numbers increased substantially over 2015 and contribute to a student body that exceeds the perceived limit of around 3500 full-time students. In 2016, the E&ES Department has maintained high first year enrollments though we experienced a significant decline in Geology and Environmental geoscience students. Our geology programs still have about 20% more undergraduates than 5 years ago. We presently have about 150 majors split 60/40 between environmental science and geoscience. We currently have 7 faculty members, 1 instructor and 1 part-time lab technician and a full-time administrative assistant. We currently hold 4 NSERC grants, 1 SSHRC grant and also have faculty funded through NSERC Engage. One of our researchers was awarded a \$500,000 JELF CFI grant this year which will be used to build a lab specializing in XRD analysis and will significantly add to our research capacity. As well, our building will be undergoing much need renovations courtesy of the Federal/Provincial Governments. We currently are supervising 14 graduate students at Acadia, though graduate courses are considered as overload teaching at Acadia. Our department recently converted a CLT position to Tenure Track, which has secured some longer term stability. We have also been fortunate in securing some per-course replacements. The effects of undergraduate student growth remain significant with pressure to enlarge classes, reduce sections and limit elective options. Large enrolments in our service courses (Natural Disasters and Oceanography) continue to enhance our visibility on campus and are important internal (to Acadia) retention tools. Our research programs continue to be vital though accessing both internal and external funding remains difficult. We continue to partner with industry to provide graduate student opportunities.

*Ian Spooner*

### **DALHOUSIE UNIVERSITY, Earth Sciences**

The Department has been facing a decline in faculty complement over the past few years, with retirements outpacing new hires, despite recent undergraduate enrolments that have severely taxed our teaching resources. Most past hires have been of the "opportunity" type, including CRCs, NSERC Woman Faculty awards. A bright spot was a search last year for two new positions, one senior to take on the job of department chair, and the other junior. I filled the senior position (starting January 2016), and the junior spot was filled at the assistant professor level by Dr. Owen Sherwood (currently at INSTAAR/U Colorado), who deferred his start date until July 2017. A challenge has been adequate funding of startup and a CFI allocation, as well as good quality space, given his needs for mass spectrometry instrumentation and wet lab-type sample preparation facilities.

The really good news is the recent funding of a \$220 million CFREF proposal for the Ocean Frontier Institute, jointly with MUN and UPEI. Through the OFI, Earth Sciences has received a Tier 2 CRC in the area of

Costal Zone Processes, for which advertising has begun. Significant funds will be available for that CRC, and for other researchers whose work aligns with the OFI objectives. The OFI will also provide for construction of new research space in Dalhousie's Steele Ocean Science Building. Funds from the OFI should help in Owen's case, given his research alignment to Ocean Sciences.

These new hires of full faculty members certainly help, but there has still been an increasing trend at Dalhousie to rely on part-time and limited-term appointments to fulfill teaching needs. Although these people contribute significantly to maintaining the teaching portion of the department's programs, they generally do not do research. Also, the department has hired a number of full-time instructors, who on the one hand teach a significant number of classes (normal teaching load is 6 per year), but again, they generally do not do research. With the decline of the regular faculty complement, the number of graduate students has also fallen.

Our Dean of Science has asked Earth Sciences to consider absorbing the Environmental Science B.Sc. Program at Dalhousie. This would include 2.5 FTE of new faculty hires, some clerical support and space renovation for faculty research and teaching. The department is currently spread a little thin in terms of delivering its core "PGeo-focused" program, so has been a little hesitant to say yes. However, the new faculty positions are enticing, and would give the department the chance to define the areas of hiring in support of the ENVIS program, that also align with needs of the core program. To inform us better, we have commissioned a "white paper" on the topic of ENVIS Science programs, and will hold a department retreat to decide on a way forward, with a final decision to the Dean scheduled for January. I have gotten some feedback already on this issue from other institutions (thanks Rob Raeside), and would appreciate knowing of the experiences of others.

*James Brennan*

### **SAINT MARY'S UNIVERSITY, Geology**

In September 2016, the Geology Department at SMU welcomed Todd Ventura, our new Tier II Research Chair in Petroleum Geochemistry. This brings to six a complement that had been crystallized at five for nearly 30 years. Todd will be introducing an upper level course on Petroleum Geochemistry, and another on Statistics Applied to Geology. He is now in the process of setting-up his lab. Although part of it will be taken care of by his CFI grant, the trials that he is facing regarding this underlines the fact that, although our institution is rather good at providing money for infrastructural changes related to our teaching labs, not much support is offered to new faculty members when they are setting-up their research lab beyond the standard infrastructure that is provided to all Science faculty members.

Regarding enrolment, our numbers are increasingly inflated, partly because of aggressive scouting by SMU officials abroad, notably in Colombia, China, India, Pakistan, Nigeria, Kenya, and in the U.A.E., making Saint Mary's the Canadian University with the greatest ratio of international to

national students. Beyond issues related to profound cultural differences are more serious issues related to deeper differences in academic background.

Regarding miscellaneous news, Jacob Hanley has been honoured with the Young Scientist Award by the Mineralogical Association of Canada this year. Finally, our part-time faculty room, our graduate student room and one of our teaching labs were thoroughly renovated to increase capacity, and a new teaching lab hosting our 20 reflected light microscopes has been set-up, all at the expense of our Dean's budget.

Pierre Jutras

### MEMORIAL UNIVERSITY, Earth Sciences Students

Total Enrollment	2015-2016	2014-2015
<b>TOTAL UG (2<sup>nd</sup>-4<sup>th</sup> year)</b>	<b>181</b>	<b>189</b>
<b>TOTAL GRAD</b>	<b>87* (25% PhD, 75% MSc)</b>	<b>84* (30% PhD, 70% MSc)</b>
<b>TOTAL STUDENTS</b>	<b>268</b>	<b>273</b>

\*Breakdown by degree:

MSc (Geology): 43      PhD (Geology): 13  
MSc (Geophysics): 22      PhD (Geophysics): 9

#### • FACULTY INTERESTS AND RESEARCH

- 27 current faculty members including one University Research Professor and five emeritus professors (including two University Research Professors)
- One CRC Tier II in Seabed Imaging; one NSERC-Altius A-IRC; one NSERC-Chevron A-IRC
- Two faculty searches recently completed: Applied Seismology (Kim Welford); and High-T Geochemistry (Michael Babechuk)
- HMDC Chair in Basins Analysis will soon be advertised and will hopefully be matched by RDC and hopefully will become an NSERC A-IRC (this has been on hold for a while till it could be linked to a retirement)
- Trying to achieve a steady-state of 30 full time regular faculty members.

#### • EXTERNAL SUPPORT FOR TEACHING AND INFRASTRUCTURE

- Looking for renewal of industry or government funds for field school support for next five years. Last 3.5 years were supported by HMDC.

#### • CHALLENGES

- Problems with start up funds for new faculty given the recent mandate established by the RDC (the main source of start-up funds for all MUN faculty)
- Replacement of aging equipment given CFI and NSERC RTI-1 funding constraints; must rely on industry R&D and E&T from offshore revenue and not a good time for that

- Attracting high quality applicants for faculty positions and especially chairs
- Increase in enrollment straining teaching infrastructure
- 5-6 retirements looming in next five or so years; not be easy to replace all of them 1:1
- Looking for ways to increase total student numbers in 1<sup>st</sup> year and 2<sup>nd</sup> year introductory and service courses

John Hanchar

### UNIVERSITY OF VICTORIA, School of Earth and Ocean Sciences Enrollment

*Undergraduate:* After regular growth in undergraduate student numbers since 2004, the total enrollment in courses offered by the School of Earth and Ocean Sciences (SEOS) has plateaued near 2000 in recent years, with 1859 this past year, down slightly from 1954 in the previous year. Of current students, 775 are enrolled in first-year SEOS courses, 377 in second-year, 474 in third-year, and 233 in fourth-year. A total of 233 students are pursuing BSc degrees in SEOS (declared Major and Honours students in all years). Of these, 167 are pursuing Earth Science degrees, 20 combined SEOS-Geography degrees, 14 combined SEOS-Physics degrees (7 Geophysics, 7 Ocean-Atmosphere Dynamics), 12 combined SEOS-Chemistry degrees, and 20 combined SEOS-Biology degrees. In all, 34 students graduated with SEOS Majors degrees and 7 with Honours. Our Earth Sciences program accounted for 18 of these graduates, while combined programs with other departments accounted for 23. In addition, 24 students are pursuing an Ocean Sciences Minor and 5 an Earth Sciences Minor; 7 graduated with the former and 3 with the latter. The proportion of male to female students in our programs/courses is approximately equal.

*Graduate:* Currently, 54 graduate students are enrolled in SEOS (down from 57 last year). This includes 23 MSc and 31 PhD students. Seven graduate students completed EOS programs (3 MSc, 4 PhD), and 5 (4 MSc, 1 PhD) are scheduled to defend their theses before year-end. Our graduate-student numbers peaked at just over 80 in 2011. The recent lower numbers are thought to reflect a drop in the number of senior faculty in the School. Over the past four years two geologists (Johnston and van der Flier-Keller) have moved to other universities, two geophysicists (Spence and Chapman) retired, and one climate scientist (Weaver) has gone on extended political leave (only one of these losses has been replaced to date).

#### Program/Course Changes

Last year (2015/16 academic year) we moved three courses required for our Ocean Sciences Minor (OSM) program from the summer term to the fall or spring terms to make them more accessible to students outside of the OSM. These courses include EOS 312 Introductory Chemical Oceanography, EOS 313 Introductory Geological Oceanography, and EOS 314 Descriptive



Physical Oceanography. This resulted in a doubling of enrollment in both EOS 312 and 313, to about 36 per course.

We are currently discussing the addition of a full undergraduate program in Ocean and Atmospheric Sciences, implemented as a series of combined programs with other Science Departments (Biology, Physics, Chemistry, Biochemistry). Such a program would include a dedicated Oceans Field School course.

### **Faculty/Staff**

SEOS currently has 18 tenured/tenure-track faculty members, although accounting for cross-appointments, secondments and political leave results in ~13 FTE faculty positions. In addition, we have 1 limited-term faculty appointment, 4 Professor Emeriti, and 50 adjunct professors. There have been several faculty and staff changes in 2016. Stan Dosso was appointed to a 5.5-year term as SEOS Director in January 2016, after serving as Acting Director from September to December, 2015. We carried out two successful faculty hires in 2016: Edwin Nissen (currently on faculty at Colorado School of Mines) will join SEOS in January 2017, as an Associate Professor and Tier 2 Canada Research Chair in Earthquake Geophysics, with research interests in active tectonics via remote sensing, seismology, field observations and geochronology. Jon Husson (currently a post-doctoral fellow at University of Wisconsin-Madison) will join us in April 2017, as an Assistant Professor in Geology, with research interests in Earth history, stratigraphy, sedimentary carbonates and stable isotope geochemistry. We are now seeking to initiate another faculty search to replace Eileen van der Flier-Keller, who left UVic in 2016 to take up a Teaching Professorship at SFU.

We hired a new staff member, Edward Wiebe, in 2016 to handle a combination of technical and academic responsibilities including computer-systems administration, senior lab instructing, marine technology, and maintenance of the Victoria School-based Weather Network. Otherwise, SEOS has 3 administrative staff, 3 senior laboratory instructors, and a 0.8 FTE ICP-MS and Geochemical Lab Manager.

### **Issues/Challenges**

Although our undergraduate student numbers have stabilized in recent years, we remain stretched to the limit in teaching our core Earth Science program, given a reduction in faculty members over the past few years (our two new hires will not fully address this). Attracting students into ocean/atmospheric sciences is necessary to balance the department; hence our efforts at crafting an attractive Ocean and Atmosphere undergraduate program.

*Stan Dosso*

### **UNIV. BRITISH COLUMBIA, Earth, Ocean & Atmospheric Sciences**

EOAS is in reasonably good shape, considering the challenges in the resource industries. Research programs are doing well and enrolments and program-student numbers remain strong or are growing modestly. The number of faculty is down, a result of a large number of retirements and secondments to administrative positions. Rejuvenation of the faculty is our top priority.

### **Budgets**

Our budget picture is improving through both enrolment growth and increases in international student numbers and tuition. The Faculty of Science is preparing to distribute new, recurring money. However, the recently awarded general wage increase of 2%, and 2% in 2014, and 2015, exceeding the 0% and 1% that the province would fund. The 2% and 1% gap between the award and the province's mandate reduced the amount of new money flowing to the departments, approximately equivalent to one faculty hire for EOAS.

### **Undergraduate Education**

EOAS program enrollment is relatively stable, with 555, 550, and 566 undergraduates enrolled in 2014, 2015 and 2016. Most programs are stable over the last few years. Our largest programs, Environmental Sciences and Geological Engineering are at quota. Total students taught is up slightly after several years of very strong and broad growth across disciplines.

### **Research**

Graduate enrolment is up slight to 207 students, evenly split between masters and PhD. Our total research funding remains fairly strong although the resource economy is affecting our applied programs. Several EOAS faculty have been recognized with important awards, including geochemist Dominique Weis and oceanographer Philippe Tortell who were elected as Fellow of the Royal Society and Member of the Canada College of New Scholars, Artists and Scientists respectively. Management and maintenance of shared analytical facilities remains a challenge requiring entrepreneurial fee-for-service contracts to support research operations.

### **Faculty**

We are in process the process of rejuvenating our faculty after 7 retirements in the last two years. Scott McDougall, a landslides and debris flow expert was hired last year and started in July 2016. We are now searching for a position in Earth Systems Evolution, following a hiring strategy that was developed by mostly young faculty last year. We hope to search for two new faculty members next year. The university recognizes that the ability to recruit and retain young talent is strongly affected by the Vancouver housing market and have promised a radical new housing plan. We have effectively lost three faculty to short-term (< 5 years) secondments: Philippe Tortell is the new Director of the Peter Wall Institute, Susan Allen has been appointed Associate Dean, and Evgeny Pakhomov is the Director of the Institute for Oceans and Fisheries. Accordingly, service loads have been distributed among fewer

people, and about 15% of our face-to-face courses are taught by non-tenure-track faculty. Perhaps our most daunting task this year will be to define our workload policy – the number of courses and amount of department service expected from each rank.

### **Staff**

Our staff levels have not changed year over year, although we are down by one machinist and one IT support person over the last five years. We plan to replace the machinist with a research support technician.

### **Infrastructure**

For the most part, we have good infrastructure except, as reported the last several years, our 3rd year geology camp in Oliver, BC, which is in critical need of renewal. While field-school operating costs have been reduced and fees increased in recent years, the department subsidy for the 40 – 60 students who take the course each year remains substantial.

*Roger Beckie*

### **SIMON FRASER UNIVERSITY**

We have 17 faculty members consisting of 12 associate and full Professors, 1 teaching Professor, 2 senior lecturers, 1 lecturer and a limited term lecturer who is in his last year. We also have 18 adjunct faculty. Our faculty expertise is diverse, representing all the major fields in the Earth sciences. Our staff remains unchanged with three office staff responsible for all administrative activities and two technical staff.

This past summer we had the addition of Eileen van der Flier-Keller as a Teaching Professor who brings expertise in sedimentology as well as innovative teaching techniques and outreach. She came from UVIC and is a spousal hire; her husband Peter Keller is the new VP Academic. Eileen is being seconded to the Deans office to stimulate outreach in the Faculty so will only be teaching 1 course a year in EASC for the next few years.

We were successful in our search and will have a new Assistant Professor in Metamorphic Petrology starting in October 2017. He is a recent graduate of Oxford and is doing a 1 year post-doc at Oxford. We look forward to his arrival.

The big, sad news in the Department was the retirement of Dr. John Clague last May. As you know, John is one of the most respected Quaternary scientists in Canada, a leader in Natural Hazards, has an unparalleled publication record, and has received numerous awards. John joined the Department 18 years ago and his international profile attracted many visitors and led to the development of international field schools and exchanges. For a young Department having to compete with larger, established institutions this was very important for us. Although difficult, we are hoping to “replace” John with a promising, young, high profile and energetic new colleague, but in the present financial climate at SFU, this will be difficult. John is planning to stay on as Emeritus for the foreseeable future.

There are presently severe budgetary constraints in the Faculty of Science. Part of this is due to a new Faculty Allocation Model that changed the weighting of lab courses (from 2 to 1). Exacerbating this is the Faculty Association’s 1<sup>st</sup> Collective Agreement. Although this has given us some modest salary increases, these increases may be coming directly out of the Faculty budget. We hope that this is not the case and the university covers these salary increases.

Our undergraduate enrollments have stayed relatively constant from last year with approximately 100 majors. Our undergraduates mainly take one of two streams, Geology or Environmental Geoscience, both of which lead to Professional Registration with the Association of Professional Engineers and Geoscientists of British Columbia. We also have 4 majors in our joint Chemistry-Earth science stream. Our Graduate program remains strong with 57 students representing 22 PhD and 35 MSc.

Three years ago we created a new field school, EASC 308, covering Quaternary and Terrain Mapping, Hydrogeology and Applied Geophysics, and Marine Sedimentology and Stratigraphy. Two summers ago we had our Dean of Science attending so she could see what it was like and to see the bus she bought us in action. This course is required for all majors and is proving to be very popular. It filled a need to better prepare our students for employment in the Environmental geosciences, as well as Petroleum geology.

### **Notable Awards:**

- Dan Marshall- CIM Distinguished Lecturer 2016-2017
- Diana Allen – NSERC Group Chair for Geosciences
- Diana Allen – Robert N. Farvolden Award IAH

*Brent Ward*

### **UBC OKANAGAN, Earth and Environmental Sciences**

Faculty members in the Departments of Earth & Environmental Sciences and Physical Geography, which together comprise ‘Unit 7’ (one of eight administrative Units in the Irving K. Barber School of Arts and Sciences), agreed in June 2016 to merge, forming a single department named ‘Earth, Environmental and Geographic Sciences’. Final approval for the integration and renaming of these departments is expected during the 2016-17 academic year. The new department will consist of 19 faculty: 6 Professors, 11 Associate Professors and 2 Senior Instructors. There are currently no pre-tenure faculty in the department. Three faculty members are cross-appointed with Biology, one with Human Geography and one with Chemistry.

Two faculty members were promoted last year:

1. Dr Kyle Larson was promoted to Associate Professor with tenure in July 2016.
2. Dr Lael Parrott, who is cross-appointed with Biology, was promoted to Full Professor in July 2016.

The department continues to make progress in securing new support staff. Ms. Christina Morris joined the department in July 2016 as a new 0.5 FTE Unit Assistant, increasing our support staff complement to 2.5 positions (1.5 Unit Assistants and 1 Laboratory Manager).

Two faculty are on study leave during the 2016-17 academic year: Dr Karen Perry (July 16 to June 2017) and Dr Jeff Curtis (Jan to Dec 2017).

The Department currently offers two undergraduate degree programmes: Earth & Environmental Sciences (EESC) and Freshwater Sciences (FSWC), and shares a Geography (GEOG) degree program with the Human Geography caucus in Unit 1 (Community, Culture and Global Studies). Our enrolment for 2016-17 is strong with 40 new declared EESC Majors and 8 FSWC Majors in September 2016. Enrolment in our first year EESC and GEOG courses (five courses in total) is up this year by 16%.

The EESC degree program will offer a new 3<sup>rd</sup> year field course in geological mapping beginning in August 2017. The two-week course will be taught by Dr Kyle Larson and will be based in the Crowsnest Pass area of SW Alberta.

Efforts are ongoing to create a new degree program in Sustainability (SUST). The program is a Faculty-wide initiative that will be hosted in our department. The degree program proposal will be submitted to the BC Ministry of Education during the 2016-17 academic year. A second proposal is being developed to create a new Minor in Geospatial Information Systems. It is expected that a full-time (non-tenure track) Lecturer will be hired during the summer of 2017 to lead course development and delivery of the Minor.

We received approval from Senate during the summer of 2016 to change the name of our graduate (M.Sc. and Ph.D.) degree program from Environmental Sciences (ENVI) to Earth and Environmental Sciences (EESC).

Dr Kyle Larson had his NSERC Discovery Grant renewed in 2016 and also was awarded the NSERC Discovery Accelerator Supplement.

Seven new graduate students (5 M.Sc. and 2 Ph.D.) joined the department in 2016-17, bringing the total complement of graduate students to 23. Two Fipke Scholar awards (\$25,000 each) were made to high-achieving Ph.D. students in 2016-17. A further two awards will be made to new Ph.D. students who begin their studies in 2017-18. The award consists of a personal stipend and a research allowance to use instrumentation in the Fipke Laboratory for Trace Element Research (FiLTER).

A new full-time technician position will be advertised shortly to operate and maintain two ICP mass spectrometers, an Excimer laser system, and clean lab in the FiLTER facility. Other instrumentation in the facility includes a Tescan Scanning Electron Microscope and Cameca Electron Microprobe equipped with a field emission electron source.

External review of our undergraduate degree programs has been postponed until the 2017-18 academic year.

## **MOUNT ROYAL UNIVERSITY, Earth and Environmental Sciences**

Our relatively new department now houses a BSc - Major in Geology, BSc - Major in Environmental, and Geography Minor program.

### **Enrollment**

Our geology program has an intake of 24 students per year. Our environmental science program has a mandate over the next few years to increase first-year intake from 27 to 42 students. An additional 10 senior undergraduate students will be added to the environmental science program through our collaborative degree with Keyano College in Ft. McMurray. Courses will be distance-delivered through Cisco TelePresence systems. The first year of the Keyano component was postponed this year due to fire-related issues. General Science and other science majors seeking Geography minors remain low in number. Geology, environmental science and geography service courses continue to be offered to other science majors as well as a large university-wide audience through our General Education offerings. MRU General Education requirements have recently been reduced from 12 to 10 courses. It appears that 2017/2018 will be the year that we proceed with limited direct entry into our geology and environmental science programs. A recent 2016/2017 drop in geology program applications is concerning. Full enrollment statistics will be reported in the annual CCCESD survey.

### **Faculty & Staff**

The department currently has 15.5 tenured/tenure-track faculty, 1 emeritus professor, 1 full-time lab instructor (new hire) and 3.5 instructional assistants (1 new hire). Both geology and environmental science will develop proposals to compete for a new single tenure track position that will be established for the Faculty of Science & Technology in 2017/2018. For the first time in many years all geologists and environmental scientists are teaching during the 2016/2017 academic year while 2 of our 4 geographers are on sabbatical. All disciplines have a large compliment of sessional contract instructors. Research activity amongst faculty seems to be advancing every year.

### **Space & Resources**

Space constraints continue to challenge the new combined department. There is little room to house sessional instructors, research assistants, and meet other miscellaneous space requirements. Substantial amounts of additional office and classroom space will become available due to our new library opening in Spring 2017. Planning has commenced to see how this space should be repurposed and how new space will be allocated to academic units. Collection storage space continues to be very limited with few prospects for new space. The budgeting process at MRU has come under intense scrutiny in the past year. New processes are in development. Provincial funding to the institution remained stable with some modest growth. Everyone is concerned about a projected 10.9 billion dollar provincial deficit.

*Ed Hornibrook*

## News

Our geology program is in the final stages of Campus Alberta Quality Council review. The environmental science program will undergo a similar review in a few years' time. This past fall was the first trial of a new structure to our geology field schools. We now run a 6 day series of field-based activities prior to second year, a 6 day mapping project prior to third year and a 2 week mapping field school prior to fourth year. MRU will be hosting the 2017 GSA Rocky Mountain Section Meeting from June 8-10, with Katherine Boggs as the organizational committee chair and Jenni Scott coordinating the sessions and workshops. This represents a collaboration between APEGA, the Calgary GSC office, the U of Calgary and MRU. The EarthsCAN research initiative lead by MRU's Katherine Boggs made significant progress over the past year and Katherine will provide an update to the CCCESD on Monday from 3:30-4 pm.

*Brian Sevick*

## UNIVERSITY OF CALGARY Department of Geoscience

Although undergraduate enrollment had undergone a period of steady growth since 1997, when there were about 200 students in our program, 2016-17 saw ~14% dip in enrolment. We currently we have 698 Geoscience majors, and an additional 3307 students registered in service and general interest courses. We recently removed our specializations at the undergraduate level. Students can now complete a BSc in either Geology or Geophysics, with specialization possible at the students' discretion in course selection.

We currently offer five field schools. Students in the second year field school now rotate between three geographic locations with varied geology, with the instructors staying put at each location. We have an industry-sponsored upper year field school in sedimentology. The Faculty of Science is encouraging international experiences for undergraduate field schools, and our faculty members have recently led field schools in Hawaii and Utah.

There are currently more than 200 graduate students in program, with no significant enrolment decline in the past year. In the past four years, the Geoscience department graduated an annual average of 24 thesis-based MSc, 13 course-based MSc (including six from a new Reservoir Characterization program), and nine PhD students. About 230 graduate applications were received for Fall 2016, of which 56 were accepted. The department is being encouraged to foster 'professional', or course-based MSc students. We have our first cohort of '3+2' students from China (where select students with three years of undergraduate in China complete their fourth year and a one-year course based MSc at UC). We expect the number of teaching assistantships, which are an important source of stipend support for graduate students, to decrease over the next few years as undergraduate enrolment declines.

Geoscience currently has 38 faculty members, which includes nine instructors (4 of whom are Senior rank, and one who is a Teaching Professor), four Assistant, ten Associate, and 15 Full Professors. Six faculty members are currently chair holders, and one is an Associate Dean in the Faculty of Science. Four of the current complement are recent hires and our department is currently hiring for two new positions (in 'Water Energy Nexus' and 'Lithosphere Evolution'). Six of 38 of our faculty are female, which was a concern in the 2015 departmental review.

*Cathy Ryan (Associate Head)*

## UNIVERSITY OF ALBERTA, Earth and Atmospheric Sciences

There are 45 tenured and tenure-track faculty in EAS. In addition we have three faculty members who are cross-appointed in Physics, and one faculty member cross-appointed in Biology. Our labs and our planning program are run by 5 Faculty Service Officers (FSOs), and we have a total of 26 Support Staff, including technicians and office staff.

Our Research Geochemistry group includes 13.5 Faculty. Within this group, we have recently lost one economic geologist and are about to lose another. We have, however, received permission to hire two economic geologists (to be advertised this fall). 14 faculty are included in the Sedimentary-Hydrocarbon Geoscience group. This group suffered the recent loss of a structural geologist with an expertise in geothermal energy. Another faculty member is scheduled to retire in 2017. We have an applied 1-year MSc program in Integrated Petroleum Geoscience (IPG) that lies within the Sedimentary-Hydrocarbon domain. A structural geologist has just been hired on a 5-year contract position as the Associate Director of the IPG program, and their job will include teaching, supervision of 'capstone projects' and promotion of the program.

Our Surface Processes and Environmental Change group consists of 15 faculty, but has been hard hit by departures (4 since 2013 and 7 in total since 2011). 3 new faculty have joined the group over the past 2 years, including two watershed scientists hired through the Campus Alberta Innovates Program (CAIP chairs).

Geography in EAS is divisible into Planning and Human Geography groups. Planning consisting of 5 faculty and one FSO (the Associate Director of Planning). In addition, two Associate Professors in the Faculty of Extension do the bulk of their teaching within our Planning program. The planning program is being reviewed this fall for accreditation, and our first PhD student in Urban and Regional planning successfully passed her Candidacy exam earlier this year. In addition, a proposal is currently before the Provincial Government to allow us to offer 1 and 2 year, course-based Masters programs in Urban and Regional Planning. There are three Human Geography Faculty members, and we are in the process, in the face of rapidly climbing undergraduate enrolment, of trying to hire a fourth.

*Stephen Johnston*

## UNIVERSITY OF SASKATCHEWAN, Geological Sciences

Despite the poor economic times for natural resources, our student number remain high and are similar to those over the last few years. Graduate student numbers continue to increase slowly.

In the past year, we have gained one term appointment faculty in geobiology, Prof. Joyce McBeth and Prof. Chris Holmden has been appointed as the McLeod enhancement chair. Prof. Robin Renaut retired as of July 1<sup>st</sup> and unfortunately, we were not able to hire a replacement for him. However, we were able to hire a replacement for our retiring electronics technician whose duties include taking care of the geophysical and geochemical equipment. Prof. Jim Hendry announced this year that he would be transitioning to part-time in 2017 and fully retiring in 2019.

After the sudden and unexpected cancellation of one of our undergraduate field schools to Zortman, Montana in the fall of 2015, I am pleased to report that we have successfully returned to this location for field schools in the spring and fall of 2016. The annual field school in Flin Flon, Manitoba and the geophysics field school also ran successfully.

Continuing to offer our programs given the continued large enrollment remains difficult, particularly with our recent decrease in faculty complement. Finding funding for maintaining and staffing laboratory analytical equipment remains challenging.

*Sam Butler*

## BRANDON UNIVERSITY, Department of Geology

### • Programs:

➤ **Undergraduate:** We offer 4-types of undergraduate degree:

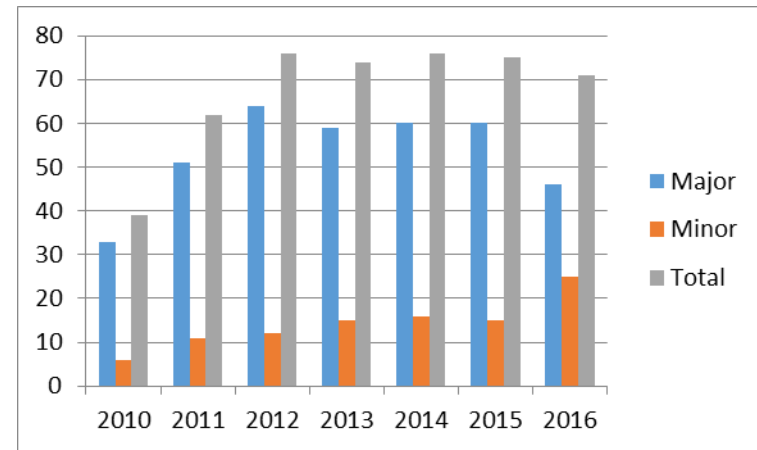
- 1) 4-year major (honours)
- 2) 4-year major
- 3) 3-year major
- 4) Minor

➤ **Graduate:** We established Master of Environmental and Life Sciences in the Faculty of Science in 2014. Our first geology-oriented graduate student will graduate this year. We have accepted 3 graduate students in 2016.

• **Faculty:** In June 2016, we hired a colleague (tenured-track) to fill a joint position between Brandon University and University College of North (Flin Flon, Manitoba). He is teaching “Introduction to Geophysics” (in addition to some other courses), a course that was not offered for over 10 years at BU. Also he has some administrative and teaching responsibilities in the University College of North.

Now the Department of Geology has 4 tenured faculties, 1 untenured faculty, 1 tenured Instructional Associate (teaching) and 1 tenured Instructional Associate (lab manager/technician), and 2 emeritus professors.

**Student Enrolment:** Although the number of geology students has increased significantly in the last a few years, it appears that the number of Major in Geology is decreasing while number of Minor in Geology is increasing (the effects of slower mining/oil industry).



There is a growth in number of international students (mainly from Nigeria) at BU (including in Geology).

**Program Review:** All departments at Brandon University will be reviewed every 5-7 years. The first review of Geology program at BU started early this year. An external reviewer (Dr. Hollings) and an internal reviewer (Dr. Richards) visited the Department and interviewed the faculty, students and administration. The report is not finalized yet.

## UNIVERSITY OF MANITOBA – Geological Sciences

### 1. Personnel and department direction.

- a. One professor, one instructor, and our administrative assistant retired and we were granted the request to fill these positions. We are currently looking for a sedimentologist and instructor. Our financial assistant filled the administrative assistant position. Therefore, we are now looking for a financial assistant.
- b. Geological Sciences continues collaboration with the Northern Manitoba Mining Academy (NMMA) in Flin Flon. It is offering two first-year correspondence courses at NMMA this term and next term it will provide a face-to-face offering of the first-year lab-based Dynamic Earth course.
- c. We received an internal grant of ~\$500,000 and we upgraded our petrography labs, purchased a new SEM and built a new core facility.
- d. We held our first PDAC alumni night in 2016. Donations from alumni will be used to update our rock cutting facilities, purchase new software for our undergraduate computer labs, and purchase new geophysical

equipment for field school. We will hold a joint University of Brandon/University of Manitoba Alumni night at the 2017 PDAC.

**2. University administration.**

- a. Dr. Janice Ristock is our new provost.
  - b. Budget cuts continue to affect the department and faculty. We are now reducing the number of extended education courses. Field school costs are major expense for the department. This year we will need to significantly increase tuition for field school to cover the shortfall.
  - c. The resource centered management (RCM) model is being implemented in phases by our administration.
  - d. Our faculty association (UMFA) is currently negotiating a new collective bargaining agreement with the administration.
- 3. Student numbers.** Our overall undergraduate numbers in Geological Sciences have stabilized. In the Honors and Majors programs, our undergraduate enrollment is approximately 120 students (Years 2-4), with more students on the waiting list or in the General, 3-year program.
- 4. NSERC.** Research funding remains a major impediment in our department. There is limited success in the discovery grant, SPG and CRD applications. Overall, there seems to be limited opportunity to apply for geoscience funding. It appears that the majority of the new funds for research are directed towards large programs such as the CERC and CFREF.

*Mostafa Fayek*