



# Department of Biological Sciences Newsletter

*"from biomolecules to the biosphere"*

No. 10

March 18, 2016

## Announcements

### Congratulations to the recipients of the ACA Grants in Biodiversity!



**Susan Anderson** (Lee Jackson)

**Emma Carroll** (Steve Vamosi)

**Haley Glass** (Steve Vamosi)

**Jori Harrison** (Sean Rogers)



**Mark your calendars!** This year's **Undergraduate & Graduate Student Research Symposium** will run from Tuesday, March 29 – Friday, April 1.

The **undergraduate presentations** will occur on Tuesday, Wednesday and Thursday (March 29-31). See page 6.

The **graduate poster sessions** will be on Thursday, March 31 from 9:00 to 4:00 in the +15 walkway between Biological Sciences and Science Theatres. A new feature of this year's symposium is **3-Minute Thesis talks**, which will be held on the morning of Friday, April 1 in BI 211.

The presentation by the recipient of the **Ed McCauley Postdoctoral Award** will be on Friday April 1 at 2 pm in BI 211, followed by the **Presentation and Poster Awards, and Reception** at 3:30 pm.

## Seminars



EEB 601 Seminar - Mondays 12h00 in BI 211

Mar 21 - **Jenn Retzlaff** - Does landscape structure local communities of bumble bees by tongue length and body size in agricultural landscapes?

## Important Dates

April 29 - University 50th birthday

June 9 - Convocation (morning) and luncheon





BCEM 601 Seminar - Mondays 16h00 in BI 211  
Mar 21 - **Joe Lemire** - Using a chemical genetic approach to unravel the antimicrobial mechanisms of silver



Micro 601 Seminar - Wednesdays 12h00 in BI 211  
Mar 23 - **Margaret Cramm** - Thermophilic endospores in deep ocean sediment



ICB 601 Seminar - Fridays 15h00 in BI 211  
Mar 25 - **Joel Bowron** - TBA

## Graduate Student Affairs

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### End of auto-forwarding for students: Feb. 11, 2016

In order to enhance our IT security and reduce the risks posed by any future phishing attempts to student email accounts, the university will be disabling the ability to auto-forward email in Office 365 beginning Feb. 11, 2016. This also aligns with our current auto-forwarding policy for faculty and staff.

After Feb. 11, emails will not be auto-forwarded and will remain in your university assigned ucalgary.ca email inbox, which is the primary communication vehicle from faculty and staff and other areas of the university.

#### **Alternative to auto-forwarding:**

We recommend installing your ucalgary.ca email address on your smartphone or tablet and then configure your device to use the 'combined inbox' view for the same experience as auto-forwarding. Further instructions are provided by visiting the Office 365 support page.

We apologize for the inconvenience, however, it is important to provide the most secure solutions available for our university community. For additional support or if you have questions, please contact the IT Support Centre at [itsupport@ucalgary.ca](mailto:itsupport@ucalgary.ca) or 220-5555.

## Research Proposals

The M.Sc. Research Proposal for **Taylor Woo**, in the area of “Host Pathogen Interactions”, was accepted by his Supervisory Committee on March 4, 2016.

The M.Sc. Research Proposal for **Haley Glass**, in the area of “Ecology”, was accepted by her Supervisory Committee on March 8, 2016.

The M.Sc. Research Proposal for **Susan Anderson**, in the area of “Ecology”, was accepted by her Supervisory Committee on March 9, 2016.

The M.Sc. Research Proposal for **Anja Ljubojevic**, in the area of “Developmental Biology”, was accepted by her Supervisory Committee on March 15, 2016.

The M.Sc. Research Proposal for **Hannah Kienzle**, in the area of “Ecology”, was accepted by her Supervisory Committee on March 15, 2016.

The MSc Research Proposal for **Karelia Delgado Magnero** entitled “Large-Scale Plasma Membrane Models”, will be held on March 18, 2016 at 1:00 p.m. in Biological Sciences room 389.

The M.Sc. Research Proposal for **Jori Harrison** entitled “Using Environmental DNA to Detect and Assess Species Abundance of at Risk Alberta Fishes”, will be held on March 18, 2016 at 2:00 p.m. in Biological Sciences room 389.

The M.Sc. Research Proposal for **Robert Morgante** entitled “The role of plant-soil feedbacks in climate change mediated range shift”, will be held on March 22, 2016 at 1:00 p.m. in Biological Sciences room 389.

The M.Sc. Research Proposal for **Jessica Hopson** entitled “Effects of dispersal and population regulation on synchrony in population dynamics”, will be held on March 23, 2016 at 9:00 a.m. in Biological Sciences room 312.

The M.Sc. Research Proposal for **Vaidehi Patel** entitled “Adverse impact of wastewater treatment plant effluent on reproduction of fish”, will be held on April 15, 2016 at 10:00 a.m. in Biological Sciences room 246.

## Ph.D. Candidacy Oral Examination - Candidacy Exams are Closed Exams.

**Tegan Barry** (Supervisor: S. Rogers & H. Jamniczky), will be holding her Candidacy Examination, in the area of “Evolutionary Biology”, on March 24, 2016 at 10:00 a.m. in Biological Sciences room 389. (Neutral Chair: H. Habibi).

**Mohsen Ramezanzpour** (Supervisor: P. Tieleman) will be holding his Candidacy Examination, in the area of “Biochemistry”, on April 15, 2016 at 1:00 p.m. in Biological Sciences room 389. (Neutral Chair: R. Edwards).

**Samuel Robinson** (Supervisor: R. Cartar), will be holding his Candidacy Examination, in the area of “Ecology”, on April 19, 2016 at 10:00 a.m. in Biological Sciences room 389. (Neutral Chair: J. Post).

**Christina Amat** (Supervisor: A. Buret), will be holding her Candidacy Examination, in the area of “Host Pathogen Interactions”, on May 31, 2016 at 2:00 p.m. in Biological Sciences room 389. (Neutral Chair: G. Chua).

**Thesis Oral Examinations - Exams are “Open” unless otherwise noted.**

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**Hazel Cameron-Inglis** (Supervisor: L. Harder), will be holding her M.Sc. Thesis Oral Examination, in the area of “Evolutionary Biology”, on March 22, 2016 at 10:00 a.m. in Biological Sciences room 389. (Neutral Chair: M. Hynes).

**Mathew Frankel** (Supervisor: R. Turner) will be holding his M.Sc. Thesis Oral Examination, in the area of “Environmental Microbiology”, on April 7, 2016 at 10:00 a.m. in Biological Sciences room 312. (Neutral Chair: D. Muench).

**Yibo Wang** (Supervisor: S. Noskov), will be holding his Ph.D. Thesis Oral Examination, in the area of “Biophysical Chemistry”, on April 11, 2016 at 3:00 p.m. in Biological Sciences room 389. (Neutral Chair: H. Habibi).

**Brandon Allen** (Supervisor: S. Rogers), will be holding his M.Sc. Thesis Oral Examination, in the area of “Evolutionary Biology”, on April 14, 2016 at 2:00 p.m. in Biological Sciences room 389. (Neutral Chair: A. Russell).

**Ella Bowles** (Supervisor: S. Rogers) will be holding her Ph.D. Thesis Oral Examination in the area of “Evolutionary Biology”, on April 15th at 10:00 a.m. in Biological Sciences room 542. (Neutral Chair: G. Voordouw).

**Lisa Oberding** (Supervisor: L. Gieg), will be holding her M.Sc. Thesis Oral Examination, in the area of “Environmental Microbiology”, on April 15, 2016 at 2:00 p.m. in Biological Sciences room 389. (Neutral Chair: P. Dunfield).

**Ezgi Ogutcen** (Supervisor: J. Vamosi), will be holding her Ph.D. Thesis Oral Examination, in the area of “Evolutionary Biology”, on April 22, 2016 at 1:00 p.m. in Biological Sciences room 312. (Neutral Chair: J. Theodor).

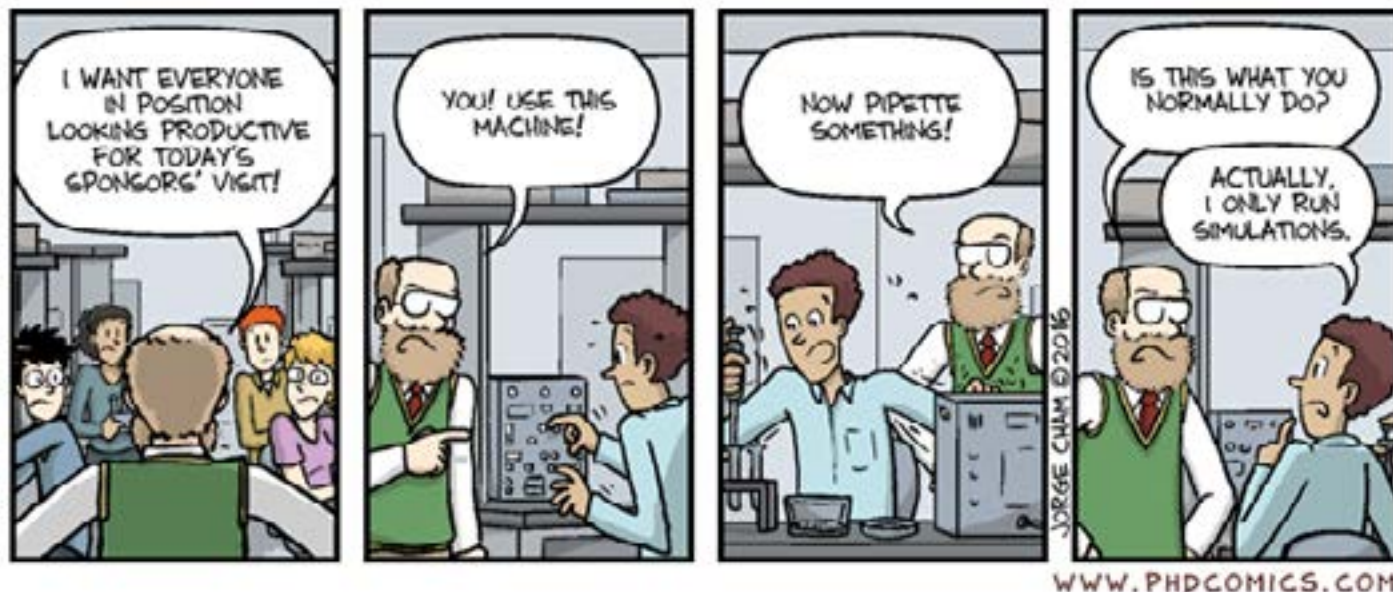
**Larry Powell** (Supervisor: A. Russell), will be holding his Ph.D. Thesis Oral Examination, in the area of “Evolutionary Ecology”, on May 25, 2016 at 2:00 p.m. in Biological Sciences room 389. (Neutral Chair: J. Fox).

**Jordan Roberts** (Supervisor: D. Syme), will be holding his M.Sc. Thesis Oral Examination, in the area of “Physiology”, on May 25, 2016 at 10:00 a.m. in Biological Sciences room 312. (Neutral Chair: V. Zaremborg).

**Please note:** *Pre-defense seminars are a degree requirement for a M.Sc. and Ph.D. students in Biological Sciences. Typically the seminar will take place immediately preceding the Oral Defense Exam.*

Congratulations to.....

**Jeremy Morris**, who passed his Ph.D. Candidacy Examination, in the area of “Biochemistry”, on March 10, 2016.



“Piled Higher and Deeper” by Jorge Cham  
[www.phdcomics.com](http://www.phdcomics.com)

Undergraduate Student Symposium 2016

Time	Tuesday March 29			Wednesday March 30		Thursday March 31			Friday April 1				
	BI 211	BI 499	BI 587	BI 211	BI 499	BI 211	BI 499	BI 587	BI 211				
8 am													
9 am	CMMB	ZOOL		CMMB		CMMB	ECOL						
10 am													
11 am									BCEM	PLBI			
12 pm	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch						
1 pm	CMMB	ZOOL	PLBI		ECOL	CMMB	BCEM						
2 pm													
3 pm													Presentation Postdoc Award Winner 2 – 3:30 pm
4 pm													
5 pm													

**2016 Biological Sciences Student Symposium  
Undergraduate Student Presentations**

**TUESDAY MARCH 29**

**Morning, BI 499                      ZOOLOGY STUDENTS**

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- 8:30            Welcome
- 8:40            **Blandford-Townes, Sarah**                      (W. Wildering)  
                  Title: TBA
- 8:40            **Ostberg, Tia**                                      (A. Buret)  
                  HIF-1a in Giardiasis
- 9:20            **Jaeger, Conrad**                                  (A. Buret)  
                  Title: TBA
- 9:40            **Meghan Tucker**                                (K. Ruckstuhl)  
                  Feeding ecology of male Big Horned Sheep in the Rocky Mountains
- 10:00          **Jessy Bokvist**                                  (M. Vijayan)  
                  The effect of cortisol mediated enzyme activity on cortisol deposition into zebrafish  
                  (*Danio rerio*) oocytes

**10:20            BREAK**

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- 10:40          **Sarah Bryden**                                  (R. Dyck & W. Wildering)  
                  Impact of minocycline treatment on cortical zinc levels in mice
- 11:00          **Siena Achal**                                    (S. Bray & D. Syme)  
                  Quantifying cerebral blood perfusion in adolescents with Autism Spectrum Disorder  
                  using arterial spin labeling MRI
- 11:20          **Christine Sosiak**                                (R. Longair)  
                  The effects of urban park ecological integrity on ant biodiversity
- 11:40          **Rosanna Punko**                                (R. Cartar)  
                  The importance of matrixes and corridors for *Pterostichus melanarius* in an agroeco  
                  system

**TUESDAY MARCH 29**

**Morning, Room BI 211 CMMB STUDENTS**

**Chair Casey Hubert**

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- 9:00            **Chu Chu**                                      (L. Gieg)  
                  Polymer Biodegradation
- 9:20            **Corynne O'Farrell**                              (L. Gieg)  
                  Towards an understanding of oil spill clean-up: Biodegradation of hydrocarbons  
                  under methanogenic condition
- 9:40            **Aaron Jang**                                    (G. Chua)  
                  Investigation of the Puf3 Mediated mRNA Degradation Pathway in *Schizosacchar-*  
                  *myces pombe*

10:00 **Joey Poon** (D. Storey)  
Characterization of the Pyocins for *Pseudomonas aeruginosa* Isolate 14651 with Potential to Inhibit Competitive Strains in Lung Infections of Cystic Fibrosis Patients

**10:20 BREAK**

**Chair:Kunyan Zhang**

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10:40 **Michael Pham** (K. Zhang & D. Storey)  
The Molecular Characterization and Evolution of Canton & Canadian MRSA ST398 Isolates

11:00 **Catherine Chau** (J. Alcanatra & L. Gedamu)  
Plant derived vaccine production against *Neisseria meningitidis*

11:20 **Aymara Clarke** (J. Alcanatra & L. Gedamu)  
Construction of a selectable genetic marker in *Chlorella zofingiensis*.

11:40 **Ayodele Oyeyemi** (A. Buret)  
Modulation of host defenses during Giardia co-infections

**Afternoon, BI 499 ZOOLOGY STUDENTS**

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13:00 **Sikta Samantray** (F. Smith & H. Habibi)  
The Renin Angiotensin System in the Developing Newborn

13:20 **Maria Varem** (R. Cartar)  
Title: TBA

13:40 **Bradley Kievit** (D. Syme)  
Force response to potentiation and calcium manipulation in rainbow trout red muscle

14:00 **Jenna Dobry** (N. Cheng & W. Wildering)  
Developmental profile of microglia in a mouse model of autism

14:20 **Pauline de Jesus** (R. Barclay)  
Title: Why are some bats hairier than others?

14:40 **Adam Lognon** (W. Wildering)  
Title: TBA

15:00 **Soham Shah** (H. Habibi)  
Title: TBA

**15:20 BREAK**

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15:40 **Conrad Wilson** (J. Anderson & J. Theodor)  
Title: TBA

16:00 **Ariana Dirk** (H. Habibi & J. Thundathil)  
Title: TBA

16:20 **Wachoski-Dark, Garrett** (W. Wildering)  
Title: TBA

**TUESDAY MARCH 29**

**Afternoon, Room BI 211 CMMB STUDENTS Chair:Constance Finney**

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13:00 **Shine Vazhappilly** (H. Schmeling & D. Hansen)  
Immunization Status and Barriers in Childhood Rheumatic Diseases in Comparison to Controls





**WEDNESDAY MARCH 30****Afternoon, Room BI 499 ECOL STUDENTS**

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14:00 - 17:00

**THURSDAY MARCH 31****Morning, Room BI 211 CMMB STUDENTS Chair: Joe Harrison**

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- 10:40 **Amanda Dos Santos** (G. Voordouw)  
Investigation of Electrical Microbially Influenced Corrosion Using *Desulfovibrio ferrophilus* as Model Organism
- 11:00 **Linh Lam** (T. Dong & J. Harrison)  
Analysis of antibiotics resistance in waste water treatment sample and how resistant cells can be killed
- 11:20 **Linda Khuu** (J. Harrison)  
Silver resistance in *Pseudomonas aeruginosa*
- 11:40 **Crystal Ma** (J. Harrison)  
The Role Potential Bacterial Genes Encoding Silver Resistance in *Pseudomonas aeruginosa*

**THURSDAY MARCH 31****Morning, Room BI 499 ECOL STUDENTS**

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9:00 - 11:00

**THURSDAY MARCH 31****Morning, Room BI 499 BCEM STUDENTS Chair: Sergei Noskov**

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- 11:00 **Milly Tesfazgy** (R. Turner)  
Membrane Transporters
- 11:20 **Jenelle Erin Umbsaar** (El. Prenner)  
Interactions of Cisplatin with Lipids
- 11:40 **Wayne Ngo** (S. Noskov & D. Cramb)  
Lipid nanoparticles

**THURSDAY MARCH 31****Morning, Room BI 587 PLBI STUDENTS Chair: Doug Muench**

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- 11:00 **Vy Hoang Mai** (J. Vamosi)  
The effect of the invasive species Scotch broom (*Cytisus scoparius*) on the pollinator community of the Gary oak grassland
- 11:20 **Benjamin Cheung** (J. Vamosi)  
Marine Invertebrate Specialization to Algal Hosts.
- 11:40 **Maegan Ray Lacuata** (J. Vamosi)  
Evaluating the Oxford Nanopore MinION Sequencer

**THURSDAY MARCH 31****Afternoon, Room BI 499 BCEM STUDENTS**

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- 13:00 **Isaiah MacDonald** (G. Moorhead and A. Goodarzi)  
Recruitment mechanism of CHD5 to chromatin
- 13:20 **Tejinder Kaur** (G. Moorhead)  
PPI Proteomics: Identifying LSPI motif containing protein interacting partners of PP2A-B56
- 13:40 **Tina Chen** (C. Finney)  
Development of a Murine Epithelial Cell - *Heligmosomoides polygyrus* Co-culture System for the Study of Initial Host-Parasite Interactions
- 14:00 **Kurt Ebeling** (I. Lewis)  
Metabolomics for infectious diseases
- 14:20 **Guneet Khosa** (G. Moorhead)  
PP1 Phosphatase
- 14:40 **Melissa White** (S. Zimmerly)  
Group IIA Intron: Binary Splicing

**THURSDAY MARCH 31****Afternoon, Room BI 211 CMMB STUDENTS Chair: Michael Hynes**

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- 13:00 **Sama Banaei** (D. Hansen)  
Investigation of the ERAD pathway in *C. elegans* and its potential role in suppressing cell proliferation
- 13:20 **Anna Kim** (S. J. Childs & D. Hansen)  
Ras in Vascular Malformations
- 13:40 **Kelsey Williamson** (M. Hynes)  
Characterization of a potential DNA gyrase inhibitor and toxin-antitoxin system in *Rhizobium leguminosarum*
- 14:00 **Nicole Jervis** (D. Storey)  
The generation of a *Pseudomonas aeruginosa* PAO1 delta-PA3327 mutant through the two-step allelic exchange method

**Chair: Ken Ng**

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- 14:40 **Dean Lang** (T. Schryvers & K. Ng)  
Characterizing the thermostability of hybrid transferrin binding proteins in *E. coli*
- 15:00 **Nicholas D'Aleo-Sotas** (Ken Ng)  
Protein Purification of a Group IIC Intron IEP
- 15:20 **Sikta Samantray** (S. S. Grewal & D. Hansen)  
The role of nutrition on *Drosophila* survival and weight
- 16:00 **Austin Nguyen** (M. Parkins & D. Storey)  
Inhaled Antibiotics and Cystic Fibrosis



# BIOSCI 3 MINUTE SEMINAR COMPETITION

SIGNUP BY 4PM MARCH 29

BIOGSA@UCALGARY.CA

YOUR RESEARCH

IN 3 MINUTES AND 1 SLIDE (NO ANIMATIONS)

FRIDAY APRIL 1 AT 9AM

WINNERS AND CASH PRIZES\*



UNIVERSITY OF  
BIRMINGHAM



INSTITUTE OF  
MICROBIOLOGY  
AND INFECTION

## Academic Opportunities in the Institute of Microbiology & Infection

**Join our research family and help solve one of the world's emerging healthcare challenges.**

The University of Birmingham has identified **Antimicrobials and Antimicrobial Resistance** as a priority theme. To tackle this global challenge, the University has invested over £10 million in the establishment, expansion and future development of the Institute of Microbiology and Infection (IMI). With 50 investigators and over 170 additional staff and doctoral students, the IMI now represents the UK's leading concentration of microbiologists and is a destination site for microbiological research and training.

Our vision is to lead the discipline of Microbiology, both nationally and globally, by promoting excellence in research and postgraduate training, for the ultimate benefit of society. To achieve our ambition we wish to strengthen our research capacity. We are offering a

unique opportunity to **recruit 7 world-class academics** (at Lecturer to Chair level, dependent on level of experience) in the following areas:

- **Microbial Genomics**
- **Antibacterial Resistance & Drug Discovery**
- **Cellular Microbiology**
- **Microbial Metabolomics/Lipidomics**
- **Oral Microbiology**

This represents an exciting opportunity to join a rapidly growing community of successful, interdisciplinary and collaborative researchers in a thriving academic environment.

To find out more, please visit [www.birmingham.ac.uk/imi-recruitment](http://www.birmingham.ac.uk/imi-recruitment) or contact Professor Ian Henderson ([i.r.henderson@bham.ac.uk](mailto:i.r.henderson@bham.ac.uk), +44 (0)121 4144368)

Closing date for receipt of applications is 10<sup>th</sup> April 2016.

VALUING EXCELLENCE; SUSTAINING INVESTMENT.

*“from biomolecules to the biosphere”*

# *Aiming for the Stars*

An Evening with

**CHANCELLOR  
ROBERT THIRSK**

Open to ALL Students

Monday, March 21st, 2016

Program starts @ 5:00 p.m.



MacEwan  
Ballroom

Former Canadian Space Agency Astronaut

For more information contact [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca)



# Leaf

## News from the BGSA

### 3 minute seminar competition

We will be hosting a 3 minute seminar competition with graduate students from the department Friday April 1 at 9am. Each presenter will get 3 minutes and 1 slide (no animations) to present a summary of their research. Presenters are competing for small cash prizes with winners chosen by audience scoring. To sign up please email [biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca) by **March 29 at 4pm**. presentations need to be submitted by this time as well. Any inquiries about the friendly competition can be directed to [biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca)

### Call for Candidates BGSA Executive 2016-2017

the call for candidates to replace the current BGSA executive is underway. Joining the BGSA executive is a great way to build your CV and get involved in the graduate student community. Further inquiries about the positions are welcome. Candidates must nominate themselves by **March 21** and submit a short text platform (up to 150 words). Nominations can be made by emailing your name, executive position you are applying for, and platform to [biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca)

### Graduate Student Retreat

The annual graduate student retreat will occur this year April 16-17 at the Kananaskis Biogeo-science institute. The cost for the retreat is only \$10 for students! This includes room and board overnight, dinner and breakfast. We will have alumni guest speakers discussing careers in industry and social activities planned for the evening. Please sign up by emailing [biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca)

### Self Defence Class

Are you interested in learning some of the basics of self-defence? Join us for the **FREE** GSA organized defence class at the MacHall loft, 5-7pm April 6. Email [analisa.lazarocote@ucalgary.ca](mailto:analisa.lazarocote@ucalgary.ca) to sign up



[biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca)



BGSA – University of Calgary



@biogsa

# Rent Shared Condo

## \$775/Month



For rent: a private basement suite in a shared Bowness condo. You would have a private bathroom, bedroom and living space in the basement and share the kitchen and laundry with the two upstairs tenants. The condo is clean, well-maintained, and trendy.

None of the current tenants are big partiers, but we are social, active people who work a lot. I'm currently a biology grad student.

I'm ideally looking for working professionals or grad students.

A cat is negotiable (but generally welcome).

- ▶ Close to parks, bike paths and the river
- ▶ 20-minute bus to the U of C, SAIT, Foothills
- ▶ Internet and utilities are not included
- ▶ Non-smoking; street parking
- ▶ Fast internet

When: Available now, 6-month lease

Where: Bowness, 75th St

Cost: \$775/month, + utilities, internet

Please email and we can easily set up a meeting to show the condo.

[susan.m.anderson@outlook.com](mailto:susan.m.anderson@outlook.com)