



# Department of Biological Sciences Newsletter

*"from biomolecules to the biosphere"*

No. 7

February 26, 2016

## Announcements



Congratulations to **Howard Ceri, Merle Olson, Carol Stremick, Doug Morck and Andre Buret**. Their paper "The Calgary Biofilm Device: New Technology for Rapid Determination of Antibiotic Susceptibilities of Bacterial Biofilms" has been cited over 1000 times.

<http://jcm.asm.org/content/37/6/1771.short>



## Seminars



EEB 601 Seminar - Mondays 12h00 in BI 211

Feb 29 - **Haley Glass** - Monitoring of amphibians in Jasper National Park using eDNA metabarcoding



BCEM 601 Seminar - Mondays 16h00 in BI 211

Feb 29 - **Ahmad Vahab** - Characterization of *A. thaliana* Shewanella-Like Phosphatase 1



Micro 601 Seminar - Wednesdays 12h00 in BI 211

Mar 2 - **Ruth Moges** - Immunomodulation of tylvalosin on porcine macrophages and neutrophils



EEB Seminar - Fridays 12h00 in BI 211

Mar 4 - **Jason Holliday** - Genomics of local adaptation in trees: potential and constraint in the context of past and contemporary climate change



ICB 601 Seminar - Fridays 15h00 in BI 211

Mar 4 - **Xin Wen** - TBA

## Important Dates

April 29 - University 50th birthday

June 9 - Convocation (morning) and luncheon



## Graduate Student Affairs

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### Research Proposals

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The M.Sc. Research Proposal for **Logan Skori**, in the area of “Developmental Biology”, was accepted by her Supervisory Committee on February 18, 2016 at 2:00 p.m.

The M.Sc. Research Proposal for **Kara Vanden Broek**, entitled “MRG-1 – a Proliferation Fate Promoting Protein in *C. elegans* Germline”, will be held on February 29, 2016 at 1:00 p.m. in Biological Sciences room 389.

The M.Sc. Research Proposal for **Michelle Chang** entitled “Elucidation of the role that metabolic adaptations play in *Pseudomonas aeruginosa* infections using metabolomics approaches”, will be held on February 29, 2016 at 2:00 p.m. in Biological Sciences room 312.

The M.Sc. Research Proposal for **Doug Curley** entitled “Effects of lake physical characteristics and the presence of an invasive species on intra and inter-population diet variation in three-spined stickleback (*Gasterosteus aculeatus*)”, will be held on March 2, 2016 at 1:00 p.m. in Biological Sciences room 312.

The M.Sc. Research Proposal for **Adam Lakusta** entitled “Comparative molecular and biochemical studies of natural rubber metabolism in guayule and goldenrod”, will be held on March 2, 2016 at 9:00 a.m. in Biological Sciences room 312.

The M.Sc. Research Proposal for **Taylor Woo** entitled “Investigation into the Natural History of *Pseudomonas aeruginosa* and the Microbiome of non-cystic fibrosis bronchiectasis (nCFB) patients”, will be held on March 4, 2016 at 12:00 p.m. in Biological Sciences room 389.

The M.Sc. Research Proposal for **Susan Anderson** entitled “Implications of nitrogen limitation in cyanobacteria in shallow lakes”, will be held on March 9, 2016 at 12:00 p.m. in Biological Sciences room 312.

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

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**Jeremy Morris** (Supervisor: P. Facchini), will be holding his Candidacy Examination, in the area of “Biochemistry”, on March 10, 2016 at 10:00 a.m. in Biological Sciences room 312. (Neutral Chair: S. Noskov).

**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).

**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: TBD).

**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).

**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....**

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**Dr. Cameron Semper**, who passed his Ph.D. Thesis Oral Examination, in the area of “Biochemistry” on February 23, 2016!

Our goal is to build a LinkedIn group as a resource for getting in touch with alumni for career development seminars/workshops. Please help us grow our LinkedIn group by joining and sending the link to past and present members of your research group.

We appreciate your time and effort towards creating a long-term resource that could prove invaluable for present and future grad students of the department. We envision that this could help us create an alumni night in the future. Wouldn't that be great thing to have?

Here is the link - <https://www.linkedin.com/groups/8421129>

or you can find us by searching on LinkedIn for :

Biological Sciences Graduate Student's Association -University of Calgary



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

## Employment & Other Opportunities

**Spring/Summer 2016 Sessional Instructor positions:**

**Sessional Instructor in Biology 205 (Spring 2016), Faculty of Science**

**Position Description:** The Department of Biological Sciences at the University of Calgary invites applications for a Sessional Instructor position in Biology 205 (The Organization and Diversity of Life) during the Spring 2016 session.

The appointee will have responsibilities for instruction and associated duties for one half of the course during the Spring 2016 Session. There are no laboratories or tutorials associated with this course.

Biology 205 provides a study of biological concepts and mechanisms for non-majors, illustrated by current examples of medical and environmental problems. The portion of the course for which we require an instructor deals with concepts in organismal biology and ecology.

Candidates must have a Ph.D. in one of the biological sciences and a strong, substantial record demonstrating teaching excellence. Previous experience in teaching Biology 205 is an important asset.

Details on the Department of Biological Sciences are available <http://www.bio.ucalgary.ca>

Qualified applicants should submit prior to the closing date of March 4, 2016 a curriculum vitae, a brief teaching dossier (including statement of teaching philosophy, and evidence of teaching effectiveness), and have three letters of reference sent directly to:

Dr. Heather Addy  
Associate Head (Undergraduate Programs)  
Dept. of Biological Sciences  
University of Calgary  
2500 University Drive NW  
Calgary, AB, Canada  
T2N 1N4  
Email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)

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### **Sessional Instructor in Biology 311 (Spring 2016), Faculty of Science**

**Position Description:** The Department of Biological Sciences at the University of Calgary invites applications for a Sessional Instructor position in Biology 311 (Principles of Genetics) during the Spring 2016 session.

The appointee will have responsibilities for instruction and associated duties for the course during the Spring 2016 Session. Duties will not include coordination of the laboratory component of the course.

Biology 311 introduces topics of Mendelian inheritance, allelic relationships, genetic and sex linkage, sex determination, chromosome structure, segregation and recombination, structure and function of genetic material, molecular genetics, genetics of bacteria and viruses, gene function, complementation, and regulation of gene expression.

Candidates must have a Ph.D. in one of the biological sciences and a strong, substantial record demonstrating teaching excellence. Previous experience in teaching Biology 311 is an important asset.

Details on the Department of Biological Sciences are available <http://www.bio.ucalgary.ca>

Qualified applicants should submit prior to the closing date of March 4, 2016 a curriculum vitae, a brief teaching dossier (including statement of teaching philosophy, and evidence of teaching effectiveness), and have three letters of reference sent directly to:

Dr. Heather Addy  
Associate Head (Undergraduate Programs)  
Dept. of Biological Sciences  
University of Calgary  
2500 University Drive NW  
Calgary, AB, Canada  
T2N 1N4  
Email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)

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### **Sessional Instructor in Biology 243 (Summer 2016), Faculty of Science**

**Position Description:** The Department of Biological Sciences at the University of Calgary invites applications for a Sessional Instructor position in Biology 243 (DNA, Inheritance and Evolution) during the Summer 2016 session.

The appointee will have responsibilities for instruction and associated duties for the course during the Summer 2016 Session. Duties will not include coordination of the laboratory component of the course.

Biology 243 is the second of two introductory biology courses; it provides an introduction to central concepts in evolution and biodiversity, as well as the role of DNA as a vehicle for inheritance of genetic information.

Candidates must have a Ph.D. in one of the biological sciences and a strong, substantial record demonstrating teaching excellence. Previous experience in teaching Biology 243 is an important asset.

Details on the Department of Biological Sciences are available <http://www.bio.ucalgary.ca>

Qualified applicants should submit prior to the closing date of March 4, 2016 a curriculum vitae, a brief teaching dossier (including statement of teaching philosophy, and evidence of teaching effectiveness), and have three letters of reference sent directly to:

Dr. Heather Addy  
Associate Head (Undergraduate Programs)  
Dept. of Biological Sciences  
University of Calgary  
2500 University Drive NW  
Calgary, AB, Canada  
T2N 1N4  
Email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)

# CROSS-COUNTRY SKI CLINIC

REGISTER FOR A CLASSROOM SESSION

BIGGSA@UCALGARY.CA

FEB 29, 2016, B1499

4:30-5PM



Guided trips to  
Shaganappi and  
Confederation Golf Course  
March 6 and 13  
(Weather permitting)

Rent from the outdoor centre

\*You can rent a full set up for \$17.85



@biogsa



BGSA-University of Calgary



biogsa@ucalgary.ca



by BGSA

Calgary Youth Science Fair - Friday April 15, 2016



Calgary Youth Science Fair  
PO Box 84041, Market Mall PO  
Calgary, AB T3A 5C4  
www.cysf.org



You are invited to help us judge at the:  
**52nd Annual Calgary Youth Science Fair**  
**Friday April 15, 2016**  
**7:15 AM to Noon**

**Olympic Oval, University of Calgary**

If you would like to judge, please register online at:

<http://cysf.org/checkboxlist-judge.html>

(step 2 is the registration form)

The Calgary Youth Science Fair (CYSF) has been inspiring young scientists for over 50 years, and with 800 students and several hundred judges, it's one of the largest science fairs in Canada. The fair's success depends on dedicated and enthusiastic volunteer judges. Judging is both fun and rewarding, and many judges return year after year. However, we always have plenty of room for new judges, and we offer training and support leading up to the big day.

# Leaf

## News from the BGSA

### Cross-country Ski Clinic!

Are you interested in learning how to cross-country ski?

Register for a classroom session (4:30pm-5pm Feb 29 in BI499) .

We are also planning two guided field trips to the Shagnappi and Confederation Golf Course on two Sundays, March 6 and 13 (Weather permitting). In case of warm weather an alternative cross-country ski trip will be made to the Canmore Nordic Centre. Rent a full set up for \$17.85 from the outdoor centre (eligible for a 10% student discount). Don't forget: all full time students are given \$25 in credit which can be used for equipment rentals at the outdoor centre!

### Annual General Meeting, Friday, March 4<sup>th</sup>, 2016

The Annual General Meeting (AGM) for BGSA will be held on Friday, March 4<sup>th</sup> at 4:00 pm in Room 211. All department graduate students are invited and encouraged to attend. We will discuss the accomplishments of our current executive and announce the call for candidates for the next executive team.

### ASPB speaker Panel

Interested in a career in biology but aren't sure where to start? Come out and hear some Professional Biologists talk about their career path over pizza and learn what the industry is like.

Register through the link below so they can order enough pizza!

<http://survey.constantcontact.com/survey/a07ec6bgzwiijuq2d3/start>

Presented by the ASPB: Alexander Elliott

Inquiries at [alexander.s.elliott@gmail.com](mailto:alexander.s.elliott@gmail.com)



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



BGSA – University of Calgary



@biogsa





committed to the promotion of *excellence* in the practice of biology

## So you want to be a Professional Biologist?

**Date:** Thursday, March 17, 2016

**Time:** 5:30 – 7:00 pm

**Location:** University of Calgary Biological Sciences Building, room 211

This is a **free** event for anyone interested in a career in biology after academia.  
For inquiries, contact Alexander Elliott [alexander.s.elliott@gmail.com](mailto:alexander.s.elliott@gmail.com)

### Summary

Not sure what you want to do with your degree after you graduate? Interested in a career in biology but aren't sure where to start?

If you answered **yes** to any of these questions then come out and hear some Professional Biologists talk about their career path over pizza and learn what the industry is like.

Register at <http://survey.constantcontact.com/survey/a07ec6bgzwijvuq2d3/start> to make sure that we have enough pizza for everyone!

Alber t a Societ y of Pr ofessi onal Biologi sts  
370, 105 12 Ave SE  
Calgar y, AB T2G 1A1

Ph one: 403.264-1273  
Websit e: [www.aspb.ab.ca](http://www.aspb.ab.ca)  
Email : [pbiol@aspb.ab.ca](mailto:pbiol@aspb.ab.ca)

7<sup>th</sup> annual interdisciplinary conference for students, by students

# CONFORWest

April 8<sup>th</sup> – 11<sup>th</sup>, 2016

Barrier Lake Field Station – Kananaskis, AB

Welcoming Ph.D., masters, and senior undergraduates from all environmental disciplines!

Forestry · Ecology · Botany · Hydrology · Entomology · Silviculture · Agroforestry · Soil Science · Ecophysiology · Climate Change · Remote Sensing · Landscape planning · Socio-environmental · Environmental policy · Wildlife Management · Natural Resource Management · ...and more!

**Sign up for oral or poster presentations!**

**Abstracts due February 29<sup>th</sup>**

***Room and board will be covered by conference fees!***

For abstract submission, conference information, and more, visit

**[www.conforwest.ca](http://www.conforwest.ca)**



# DANTA COSTA RICA FIELD COURSES 2016



## **Primate Behavior and Conservation**

(June 15 – July 10, 2016)

## **Human Ecology and Tropical Conservation**

(June 27 – July 10, 2016)

## **Methods in Primate Behavior and Conservation**

(July 15 – 29, 2016)

## **Tropical Rain Forest and Wildlife Conservation**

(August 6 – 19, 2016)

**Sponsoring Organizations:** DANTA: Association for Conservation of the Tropics in collaboration with Osa Conservation and Planet Conservation. University credit available.

**WWW.DANTA.INFO OR  
CONSERVATION@DANTA.INFO**



# Field Assistants Needed



## Ferruginous Hawk Research

We are looking to hire 1-2 field assistants for a University of Alberta study on the relationship between Ferruginous Hawks and industrial development in southern Alberta.

**Apply early before the positions are filled!**

- Tasks:**
- Nest searching and monitoring
  - Behavioural observation
  - Habitat features identification
  - Landowner communication
  - Hawk capture and banding
  - GPS satellite transmitter attachment
  - Automatic Recording Unit (ARU) setup
  - Additional related tasks

### Job Requirements:

- Excellent note-taking skills (detailed and accurate)
- Valid class 5 driver's license with clean record
- Capable of driving long distances
- Cannot be afraid of heights, insects, or heat
- Able to work independently and on a team
- Flexible, willing to learn, and well spirited

### Additional Assets:

- Ability to identify prairie raptors
- Experience interacting with rural landowners
- Driving 4WD trucks and basic navigational skills
- Reading maps and operating GPS units
- Aptitude for technology based work
- Experience with basic climbing
- Experience identifying grassland vegetation
- Knowledge of Alberta's Species At Risk
- Experience working with and handling birds
- Experience with radio telemetry
- Valid Standard First Aid



### Pay Rate, Work Schedule & Work Term:

- \$2500 - \$3000 CDN/month (depending on experience) plus housing and food in the field.
- Typical schedule consists of a 10 days on / 4 days off rotation (this is flexible); but overall work schedule equates to 22 days/month.
- Positions start in early April through July 31 with possibility of extension.

Please send your cover letter of interest outlining your qualifications and available start dates, resume, and three professional references in an enclosed PDF document to:

Nick Parayko  
nparayko@ualberta.ca  
(Please indicate in subject line: Field Assistant)

**Positions filled as soon as suitable candidates found**  
Only candidates selected for an interview will be contacted

# An Afternoon of Philosophy & Ecology



Thursday, April 14<sup>th</sup>, 12 – 5pm, SS1253

**Jay Odenbaugh**, Lewis & Clark College:

*A Sense of Scale: Integration in Ecology.*

**Stefan Linquist**, University of Guelph:

*Yes! There are resilient generalizations  
(‘laws’) in ecology.*

**Alkistis Elliott-Graves**, Rotman Institute, Western University:

*Two Kinds of Ecological Generality.*

**Adrian Currie**, University of Calgary:

*Models, Bottles & Understanding.*

Lunch provided from 12pm