

# Department of Biological Sciences Newsletter

*"from biomolecules to the biosphere"*



No. 39

November 25, 2011

## Announcements



### Fall convocation

Fall convocation for Science students was held on the morning of November 10<sup>th</sup>. Our department was represented at the ceremonies by Rob Longair, Lash Gedamu, and Michael Hynes, as well as Ed. McCauley in his new administrative role. Forty-five undergraduate degrees and 14 graduate degrees were conferred on students from our department. Graduate students receiving degrees:

### Ph.D.

Teklu Gerbaba, (supervisor Lash Gedamu), Mary Le (Elmar Prenner), Hilary Maddin (Tony Russell and Jason Anderson)

### M.Sc.

Nick Clarke (Steve Zimmerly), Cameron Laing (Peter Tieleman), Ellen Lea (John Post), Lindsay Leahul (David Hansen), Jennifer Litzenberg (Elmar Prenner), Cory Olson (Robert Barclay), Swathi Purighalla (Doug Storey), Wai Mui Tjia (Sui-Lam Wong), Anna Urbanska (Carrie Shemanko), William Wade (Doug Morck and Howard Ceri), Xuan Zhao (David Hansen)

Among the undergraduate degrees, there were four awarded in Biochemistry, three in Ecology, three in Zoology, and 35 in Biological Sciences. Special mention is merited for the following students:

Colleen Michael (Honours Ecology), Andrea Terpstra (Biochemistry, with distinction), Amandeep Bhopal (Biological Sciences, with distinction), Pamandee Kaur Chahal (Biological Sciences, with distinction), David Johns (Biological Sciences, with distinction)

**Congratulations** to all our graduates, and best wishes for continued success in their endeavours.



**Free Final Exam printing deadline - Dec 1st.** Please get your exams to either Jillcent or myself to get the final exams printed for free by printing services.

We typically save between \$2500-\$3500 in printing costs by having the exams sent off early.

### Important upcoming dates

Dec 1 - Travels at Lunch - Troy Feener - Jordan, Egypt & Morocco: Pre Arab Spring (George Drummond Hall)

Nov 29 - Departmental Meeting - 14h00 - 16h00 - BI 211



As Margaret's last day was Friday, November 18, I just wanted to provide some information on how we will continue to process purchase requisitions and expense claims. We are currently working with the Dean to get a replacement for Margaret's position, but in the interim:

1. Please continue to take your purchase requisitions to the Bio Stores and Laureen will process these for teaching and research
2. For all expense claims that are being charged to research (**Fund 60**), please drop them off directly in the RTA office in BI 530 B or drop them with Christine in the main office and she will take them upstairs. For expense claims that need to be entered and are being paid from Fund 60, you can take all your receipts up to BI 530 B and they will enter your claims for you
3. For expense claims entered and charged to Fund 10, drop them off with Christine in the main office and she will forward them to Accounts Payable

Also, I will be away from November 16 returning December 5. During my absence please contact David Bininda (220-8307) or Christine Goodwin (220-3578) and they will be able to help you.

For any HR related matters contact Joan Anderson directly @ 220-6286 or [joanders@ucalgary.ca](mailto:joanders@ucalgary.ca).

- Pam



*All exhaust fans & fume hood repairs biological sciences - **Thursday Dec 8th starting at 7 AM** - All activity that takes place in fume hoods that are linked to the alarm system must **stop**. All containers must be sealed, Air handling units for 2-5 floors will not be operational. Occupants will be notified when the system is operational.*

## Recent Publications



**Brown, C. M., C. A. Boyd, A. P. Russell.** 2011. A new basal ornithomimid dinosaur (Frenchman Formation, Saskatchewan, Canada) and its implications for late Maastrichtian ornithomimid diversity in North America. *Zoological Journal of the Linnaean Society*. 163 p 1157-1198.

## Scholarships



**ACA GRANTS IN BIODIVERSITY** - <http://www.acabiodiversity.ca/>



This grant program is sponsored by the Alberta Conservation Association, and has been established to increase knowledge of flora and fauna in Alberta, and to support Alberta-based research. Graduate students are invited to submit applications outlining proposals for research studies to be done in Alberta. Any scientific area of interest relevant to biodiversity will be considered. Deadline for

Applications: 4:00pm, December 1, 2011.

The department organizes a courier package, and if you wish to avail this service, please submit your complete application to BI 186 by 30 November (12.00 pm).

## Seminars



**BCEM seminars** - Mondays at 16h00 in BI 211

Nov 28 - Bryan Pyle - Identification, Isolation and Functional Characterization of Multiple Sesquiterpene Synthases from the Medicinal Plant Species *Valeriana officinalis*

**CDP 601 seminars** - Wednesdays at 16h00 in MS 319

Nov 30 - Melissa (Dawn) Byars- Understanding variation in the ability of fish to tolerate warm temperatures

**EEB 601 seminars** - Mondays at 12h00 in BI 211

Nov 28 - Jobran Chebib - Signatures of selection in lake whitefish

**Micro 601 seminars** - Wednesdays at 11h00 in BI 211

Nov 30 - Sean Booth - Effects of metal toxicity in bacteria in the context of polychlorinated biphenyl degradation

## Graduate Student Affairs



### Did you know....

If you require an enrollment verification letter, you have the ability to do so through your Student Centre. You have the option of printing off two types of letters. A "General Letter" and a "Permit Letter".

If there is a hold on your account or if you have changed your degree or department within the past year you will be unable to print either letter and must contact the Faculty of Graduate Studies.

Please see the link below for more details on how to access the ability to print these letters:

[http://grad.ucalgary.ca/files/grad/Student\\_Centre\\_Enrolment\\_Verification\\_Letters\\_Aug2008.pdf](http://grad.ucalgary.ca/files/grad/Student_Centre_Enrolment_Verification_Letters_Aug2008.pdf)

### Research Proposals

The M.Sc. Research Proposal for Jason Burt entitled "Evaluation of Techniques for Determination of Integral Membrane Protein Interaction in Multidrug Transporter EmrE", will be held on November 28, 2011 at 1:00 p.m. in Biological Sciences room 246.

The M.Sc. Research Proposal for Christine Godwin-Sheppard entitled "Effects of Contaminants on Songbird Reproduction and Survival in the Oil Sands Region of Northeastern Alberta, Canada", will be held on November 29, 2011 at 10:00 a.m. in Biological Sciences room 186C.

The Ph.D. Research Proposal for Sumukh Deshpande entitled “Integrated approach to Derivation of Atomistic Models of Closed, Open and Inactivated states of hERG1 channel using ROSETTA Protein Modeling Suite and Molecular Dynamics Simulations”, will be held on November 29, 2011 at 2:00 p.m. in Biological Sciences room 499.

### **Ph.D. Candidacy Oral Examinations - Candidacy Exams are Closed Exams.**

Kate Chatfield-Reed (Supervisor: G. Chua), will be holding her Candidacy Oral Defense, in the area of “Functional Genomics”, on December 1, 2011 @ 10:00 a.m. in BioSciences room 312. (Neutral Chair: S. Vamosi).

Brian Rankin (Supervisor: J. Theodor), will be holding his Candidacy Oral Defense, in the area of “Vertebrate Paleontology Paleobiogeography”, on December 12, 2011 @ 9:00 a.m. in BioSciences room 312. (Neutral Chair: J. Post).

Mauricio Arias (Supervisor: H. Vogel), will be holding his Candidacy Oral Defense, in the area of “Membrane Biophysical Chemistry”, on December 14, 2011 @ 10:00 a.m. in BioSciences room 499. (Neutral Chair: S. Noskov)

Odül Karayazi (Supervisor: C. Shemanko), will be holding her Candidacy Oral Defense, in the area of “Cell Biology and Tumor Progression” on December 15, 2011 @ 9:00 a.m. in BioSciences room 312. (Neutral Chair: L. Gedamu).

Alexander Tinius (Supervisor: A. Russell), will be holding his Ph.D. Candidacy Examination, in the area of “Vertebrate Morphology”, on December 16, 2011 @ in BioSciences room 389. (Neutral Chair: L.J. Jackson).

### **Thesis Oral Examinations**

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

**It is the student’s responsibility to book the necessary com-media equipment with either Christine (220-3578) or David (220-8307) for their examination. Please book the equipment as soon as you have the date set for your exam/proposal meeting. (defense seminars are held one hour before the stated defense time in BI 211 unless noted otherwise)**

Lisa Nelson (Supervisor: H. Ceri), will be defending her Ph.D. Thesis, in the area of “Bacterial Interactions at the Mucosa”, on November 25, 2011 at 3:00 p.m. in BioSciences room 389. (Neutral Chair: Marie Fraser).

Matthew Morris (Supervisor: S. Rogers), will be defending his M.Sc. Thesis, in the area of “Ecological Genomics”, on December 1, 2011 at 10:00 a.m. in BioSciences room 389. (Neutral Chair: J. Fox).

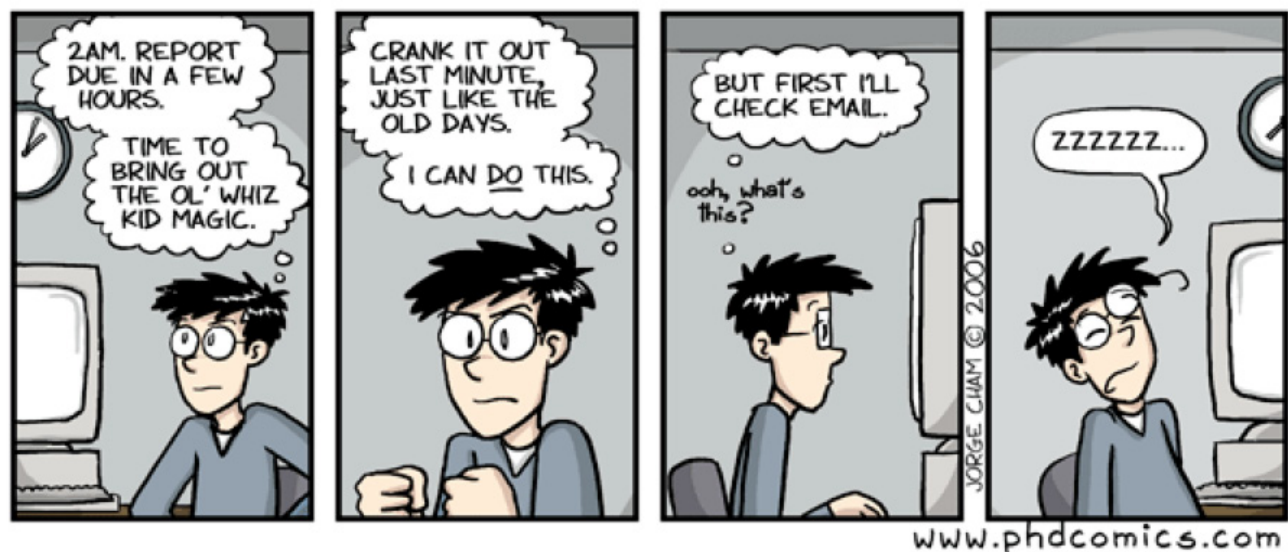
Cameron Callbeck (Supervisor: G. Voodouw), will be defending his M.Sc. Thesis, in the area of “Environmental Microbiology”, on December 7, 2011 at 10:00 a.m. in BioSciences room 312. (Neutral Chair: L. Gedamu).

Nina Hobbhahn (Supervisor: L.D. Harder), will be defending her Ph.D. Thesis, in the area of “Plant Reproductive Ecology”, on December 12, 2011 at 10:15 in BioSciences room 499. (Neutral Chair: J. Vamosi).

Amy Laderoute (Supervisor: G. Chua), will be defending her M.Sc. Thesis, in the area of “Functional Genomics” on December 12, 2011 at 2:00 p.m. in BioSciences 499 (Neutral Chair: J. Cobb).

Susanne Golby (Supervisor: R. Turner & H. Ceri), will be defending her M.Sc. Thesis, in the area of “Environmental Microbiology”, on December 20, 2011 at 10:00 a.m. in BioSciences room 499. (Neutral Chair: D.G. Storey).

Hao Ding (Supervisor: M.F. Hynes), will be defending his Ph.D. Thesis, in the area of “Bacterial Genetics”, on January 12, 2012 at 10:00 a.m. in BioSciences room 389. (Neutral Chair: TBA).



## Positions / Opportunities



**Biotech Job Bank** ([www.bhrc.ca](http://www.bhrc.ca)) has current employment opportunities in the biotechnology industry in Canada. The Biotech HR Pulse is available in PDF format at: [www.bhrc.ca/Pulse/index.html](http://www.bhrc.ca/Pulse/index.html). Phone 519-457-1470, Ext 268, Fax 519-457-3997.

**University Affairs Career Ads.** Current employment opportunities, including all facets of the biological sciences, in Canadian universities may be found at the University Affairs website: [www.universityaffairs.ca](http://www.universityaffairs.ca). Career ads are available in HTML format at: [http://www.universityaffairs.ca/career\\_ads/index.html](http://www.universityaffairs.ca/career_ads/index.html)



**3rd International Conference on Nanotechnology: Fundamentals and Applications (IC-NFA'12)** will be held in Montreal, Canada August 7-9, 2012. This conference will be hosted by the International ASET Inc. and McGill University.

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**The Biorefining Research Initiative and Lakehead University**, through the support of the Centre for Research and Innovation in the Bioeconomy (CRIBE), are hosting a new international forum on Bioenergy, Biorefining and the Bioeconomy.

The BIOFOR Conference aims to communicate on research conducted on forest (and other lignocellulosic) biomass through novel biorefining process technologies in the emerging bio-industry and bio-economy.

BIOFOR is being held May 14-15, 2012 in Thunder Bay, Ontario and we invite you to be a part of the discussion and discovery. The second call for abstracts is on now. For more details visit [www.biofor.ca](http://www.biofor.ca)

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**SustainabilityON: Power Off Challenge** - (see the announcement on the last page of this edition) Every year the U of C converts over 180GWh into light and computing power, costing about 18 million dollars. Since every Watt-hour increases our ecological footprint and our energy bill, we have at least two excellent reasons to reduce our need for electrical energy in every way that we can. Until the end of November the University of Calgary will hold the three-week PowerOFF Challenge. During last year's challenge your united efforts saved about \$109,000 worth of electricity, which I needn't tell you was great, and we are looking forward to seeing similar results during the next few weeks.

As a special encouragement the Office of Sustainability will select the building with the greatest savings during the PowerOFF Challenge. For every kWh saved in that building the United Way will receive a \$5 donation. Thus, small efforts can go a very long way.

All the best - Alex. [atinius@ucalgary.ca](mailto:atinius@ucalgary.ca)



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# Advanced Orthomolecular Research

## CAREER POSTING

### Research and Regulatory Associate:

Advanced Orthomolecular Research (AOR) has an established reputation in Canada as the most advanced natural health supplement formulator in the country.

The ideal candidate will have a working knowledge of biology, physiology, and pharmacology. Familiarity with Natural Health Products (dietary supplements) is a plus.

#### Responsibilities will include:

1. Product regulatory licensing, from licensing application through to post-licensing amendment and implementing compliance;
2. Contacting regulatory agencies, suppliers, and researchers for information regarding product licensing applications and novel ingredients;
3. Cooperating with R&D, production, and marketing teams on product research and development;
4. Reviewing current or archived peer-reviewed literature which deals with any facet of natural health products;
5. Summarizing (writing brief synopses) of these papers in non-technical English;
6. Providing technical product information to retailers, professionals, and consumers.

#### Qualifications:

Excellent grammar, syntax, and word usage is a must.

French language skills desirable but not required.

Faculty / Degree / Major: Faculty of Science/BSC-DEG-Biological Sciences, Faculty of Kinesiology

Degree Level(s): Bachelor, Master, Doctorate

Position Type: Permanent/Full-time

Please e-mail resume and cover letter to [drchou@aur.ca](mailto:drchou@aur.ca)

Dr. Mary Chou, MSc, PhD

Senior Research Scientist and Research and Regulatory Affairs Manager



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## CALL FOR PAPERS

# 2<sup>nd</sup> IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS)

Feb. 23-25, 2012, Las Vegas, Nevada

Advances in high-throughput technologies such as DNA sequencing and mass spectrometry are profoundly transforming life sciences, resulting in the collection of unprecedented amounts of biological and medical data. Using this data to advance our knowledge about fundamental biological processes and improve human health requires novel computational models and advanced analysis algorithms. IEEE ICCABS aims to bring together leading academic and industry researchers to discuss the latest advances in computational methods for bio and medical sciences.

### SCOPE

Topics of interest include but are not limited to:

- **Biological modeling and simulation**  
Molecular and cellular modeling, stochastic and rule-based modeling, modeling languages and systems
- **Biomedical image processing**  
Image segmentation and classification, visualization, functional and molecular imaging
- **Biomedical data and literature mining**  
Data integration, knowledge discovery from electronic medical records and scientific literature
- **Computational genetic epidemiology**  
Linkage and association analysis, gene-gene and gene-environment interaction modeling, genetic risk analysis
- **Computational metabolomics**  
Metabolomics databases, metabolite identification, spectral analysis, metabolic network modeling
- **Computational proteomics**  
Peptide identification and quantification, post-translational modifications, protein-protein interactions
- **Databases and ontologies**  
Biomedical data warehouses, database integration, biomedical ontologies and semantic web services
- **Gene regulation**  
Regulatory motifs and modules, post-transcriptional regulation, regulatory networks
- **Genome analysis**  
Genome assembly, genome annotation, comparative genomics, metagenomics
- **Health Informatics**  
Medical data management and privacy, medical recommender systems, therapy optimization
- **High-performance bio-computing**  
Cloud and grid computing, advanced multi-core, GPU, and FPGA biomedical applications
- **Immunoinformatics**  
Epitope prediction, vaccine design, immune system simulators
- **Molecular evolution**  
Models of evolution, reconstruction of phylogenetic trees and networks, comparative genomics
- **Population genomics**  
Haplotype and recombination analysis, structural genomic variation, signatures of natural selection
- **Sequence analysis**  
Multiple sequence alignment, motif discovery, sequence search and clustering
- **Structural bioinformatics**  
RNA and protein structure prediction and classification, molecular docking, RNA and protein design
- **Systems biology**  
Systems approaches to molecular biology, multi-scale modeling, biological networks, synthetic biology
- **Transcriptomics**  
Microarray and sequencing-based transcriptome profiling, novel transcript discovery, alternative splicing, non-coding RNA analysis

### SUBMISSION INSTRUCTIONS

Authors are invited to electronically submit extended abstracts in PDF format by following the instructions at <http://www.easychair.org/conferences/?conf=iccabs12>. Submissions should be prepared using IEEE Computer Society's Word/LaTeX templates available at <http://www2.computer.org/portal/web/cscps/formatting> and should not exceed 6 pages in length. Accepted abstracts will be published in the IEEE Xplore Digital Library. Special issues of *BMC Bioinformatics* and *BMC Genomics* on selected extended abstracts are under negotiation. A number of student travel awards will be made (conditional upon NSF support).

### KEYNOTE SPEAKERS

- *We expect to have three keynote speeches and 10 invited speeches*

### KEY DATES

Abstract submission	<b>Dec. 22, 2011</b>
Notification of acceptance	<b>Jan. 25, 2012</b>
Camera-ready version and author registration	<b>Feb. 2, 2012</b>

<http://www.iccabs.org/>

#### STEERING COMMITTEE

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# POWER OFF CHALLENGE

Nov. 14<sup>th</sup> to Dec. 4<sup>th</sup> 2011



## LIGHTS OFF

- Use day light or a task lamp
- Adopt an orphan space. Turn off the lights when it's empty.



## COMPUTERS

- Turn monitor off if leaving for 15+ mins
- Turn computer off if leaving for 1+ hrs
- Enable sleep mode and disable screen savers
- Turn down your monitors brightness



## TEMPERATURE CONTROL

- Personal space heaters waste energy. Submit a Work Request through FM&D to have the temperature in your office adjusted.



## FUME HOODS

- Shut the sash. Fume hoods use 3.5 times the energy of a house when left open.



## LAB EQUIPMENT

- Turn off chilled centrifuges, ovens, etc when not in use
- Eliminate old samples in freezers
- Defrost and clean refrigerator/freezer coils



## APPLIANCES

- From toasters and coffee makers to TV's and DVD players, turn off what you aren't using



## GET INVOLVED

- Become a SustainabilityON Coordinator or join the Sustainability Street Team and help the University of Calgary become a leader in sustainability

**For more information on these steps and more visit [www.ucalgary.ca/sustainability](http://www.ucalgary.ca/sustainability)**

**SustainabilityON**  
U of C - Stepping Up Together