

# Department of Biological Sciences Newsletter

*"from biomolecules to the biosphere"*



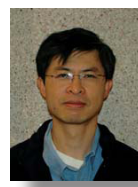
No. 36

November 4, 2011

## Announcements



to **Dr.s Fred Biddle, John Chang, Thomas Jack, and Peter Komers** on being recommended to the Povost for reappointment as Adjuncts of the Department. Their new periods of appointment run from July 1, 2011 to June 30, 2014. **Dr Sui Huang** has been similarly recommended for this first appointment as an adjunct, with the same period of appointment as the four re-appointees.



**Fumehoods** - The University has been successful in obtaining funding to replace some of the older and outdated fume hoods on campus. These fume hoods are ones that do not meet current design standards and, due to their age or condition, can no longer be adequately maintained to work as they should.

At this time twelve fume hoods have been identified for replacement and a request for a quote has gone to the manufacturer in anticipation of ordering. Once they are ready for installation there will, of course, be some amount of disruption in the labs as they must first be made safe for the contractors to work to remove the old hoods and install the new ones. Fred Doré will be working closely with the users who are already aware of the plan as Fred spoke to them regarding the utilities they would require etc.

For your information the fume hoods identified for replacement are in rooms; BI107, BI196, BI199, BI136 (X3), BI138 (X2), BI138B, BI145, BI156.

Hopefully this year's replacements will go forward successfully and we will be able to keep this program moving forward in successive years to finish this building and move on to others.

Please contact Fred Doré ([fdore@ucalgary.ca](mailto:fdore@ucalgary.ca)) if you have any questions.

**During the last Departmental meeting**, the Department voted to revise the format of Ph.D. Candidacy Examinations. As indicated in the attached document, the Graduate Policy and Admissions Committee has since identified four options based on the input it received, and it now seeks Departmental decision about which option will be adopted. To this end, a Departmental meeting will be held on Thursday, November 10 at 2:30 pm in BI 211. The attached document (pp 12-13) outlines the options under consideration and the decision process that will be implemented during the meeting. I look forward to constructive discussion and resolution. - Lawrence Harder

### Important upcoming dates

Nov 18 - Travels at Lunch - Michael Hynes - New Zealand! (George Drummond Hall)

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

## Recent Publications



**Booth, S.C., Workentine, M.L., Weljie, A., Turner, R.J.** (2011) Metabolomics and its application to study metal toxicity. *Metallomics*. 3; 1142-1152.



## Seminars



**EEB seminars** - Fridays at 11h00 in BI 211

Nov 18 - Marco Musiani - Ecological differentiation in highly mobile mammals such as wolves and caribou, but not elk

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

Nov 7 - Suren Markosyan - A new approach to studies of ion and DNA permeation in nanopores based on the Grand-Canonical Monte-Carlo/Brownian Dynamics

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

Nov 9 - Jessica Rosin- Determining the function of short stature genes during neural tube development

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

Nov 7 - Haydeé Peralta: Ecology of mite phoresy on bark beetles

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

Nov 9 - Marcela Restrepo - Isolation and characterization of *Rhizobium leguminosarum* phages from western Canadian soils

## Scholarships



- **Commonwealth Scholarship Plan – United Kingdom – Deadline: November 12, 2011**

Two types of doctoral award are offered for applicants in any discipline.

For more information visit: [http://www.scholarships-bourses.gc.ca/scholarships-bourses/can/csp\\_uk-abc\\_uk.aspx?lang=eng&view=d](http://www.scholarships-bourses.gc.ca/scholarships-bourses/can/csp_uk-abc_uk.aspx?lang=eng&view=d)

- **Foreign Government Awards – Switzerland – Deadline: November 12, 2011**

Awards are available for studies at the Master's/PhD level or for research at the Post-doctoral level in Switzerland. Priority will be given to PhD and Post-doctoral level applicants.

For more information, visit: [http://www.scholarships-bourses.gc.ca/scholarships-bourses/can/fga\\_switzerland-bge\\_suisse.aspx?lang=eng&view=d](http://www.scholarships-bourses.gc.ca/scholarships-bourses/can/fga_switzerland-bge_suisse.aspx?lang=eng&view=d)

**- Canada-China Scholars' Exchange Program – Deadline: November 12, 2011**

Please see website for more information: <http://www.scholarships-bourses.gc.ca/scholarships-bourses/can/ccsep-peucc.aspx>

**- Post Doctoral Research Fellowships (PDRF) 2012-2013 - Deadline: November 12, 2011**

**Government of Canada Awards - Post-Doctoral Research Fellowships**

[http://www.scholarships-bourses.gc.ca/scholarships-bourses/non\\_can/pdrf-brpd.aspx?lang=eng&view=d](http://www.scholarships-bourses.gc.ca/scholarships-bourses/non_can/pdrf-brpd.aspx?lang=eng&view=d)

**Canadian Commonwealth Scholarships Program - Post Doctoral Research Fellowships**

[http://www.scholarships-bourses.gc.ca/scholarships-bourses/non\\_can/ccsp\\_pdrf-pcbc\\_brpd.aspx?lang=eng&view=d](http://www.scholarships-bourses.gc.ca/scholarships-bourses/non_can/ccsp_pdrf-pcbc_brpd.aspx?lang=eng&view=d)

**Canada-Mexico Awards - Post-Doctoral Research Fellowships**

[http://www.scholarships-bourses.gc.ca/scholarships-bourses/non\\_can/cm\\_pdrf-cm\\_brpd.aspx?lang=eng&view=d](http://www.scholarships-bourses.gc.ca/scholarships-bourses/non_can/cm_pdrf-cm_brpd.aspx?lang=eng&view=d)

**- Fulbright Canada Scholarship Deadline: November 15, 2011** [www.fulbrightcanada.com](http://www.fulbrightcanada.com)

**- IODE War Memorial Scholarships: Queen Elizabeth II Diamond Jubilee Scholarship – Deadline: December 1, 2011**

Award valued at \$25,000. Please see the website for more details. [www.iode.ca](http://www.iode.ca)

## Graduate Student Affairs



### Research Proposals

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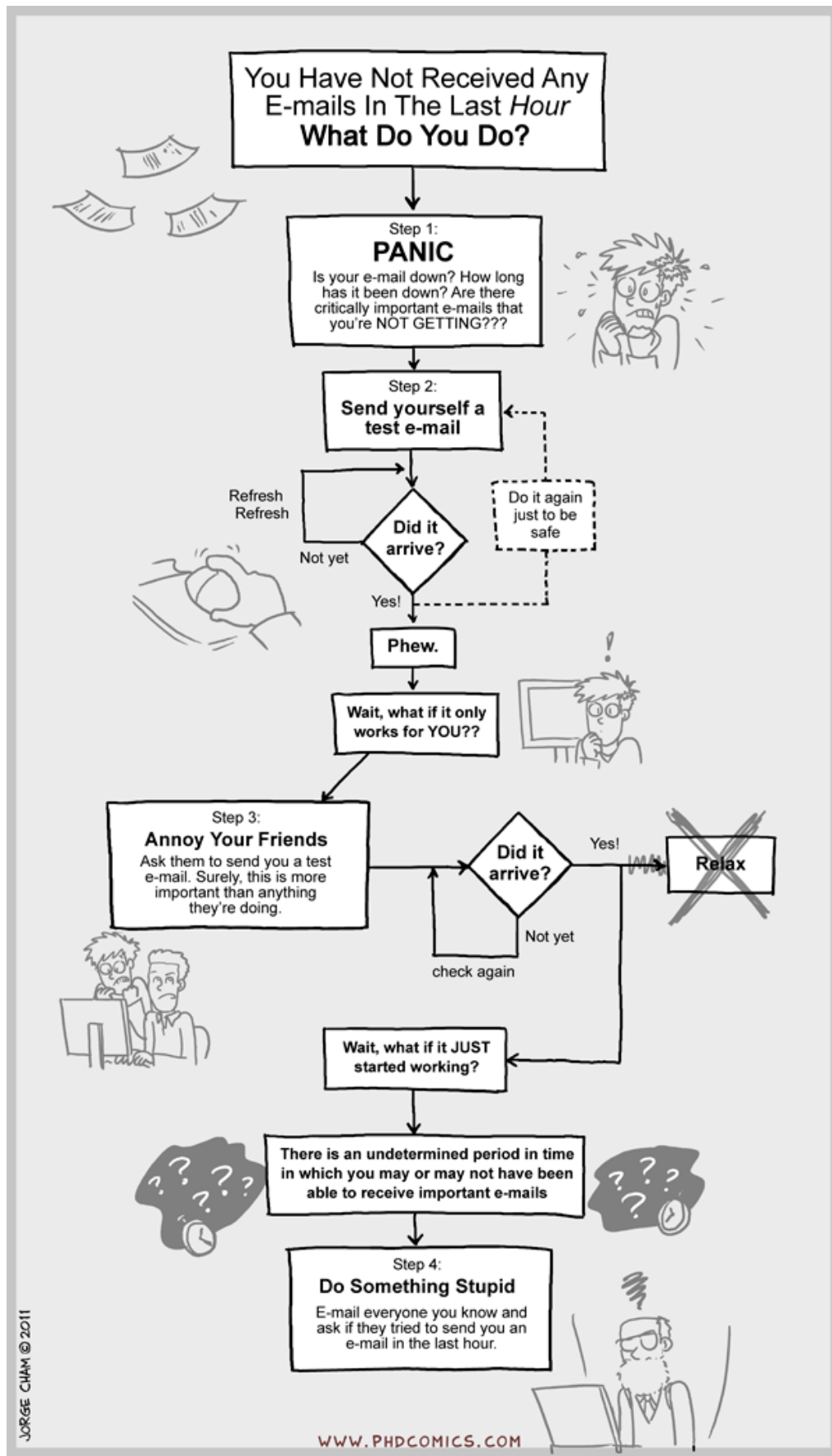
The Ph.D. Research Proposal for Sumukh Deshpande entitled “Integrated approach to Derivation of Atomistic Models of Closed, Open and Inactivated states of hERG1 channel using ROSETTA Protein Modeling Suite and Molecular Dynamics Simulations”, will be held on November 29, 2011 at 2:00 p.m. in Biological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

The M.Sc. Research Proposal for Justin Wood in the area of “Functional Genomics”, was accepted by his Supervisory Committee on November 1, 2011.

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

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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).



Odül Karayazi (Supervisor: C. Shemanko), will be holding her Candidacy Oral Defense, in the area of “Chemotherapy Resistance” 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**

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**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: TBA).

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).



### Sessional Teaching positions available, Biological Sciences, University of Calgary:



#### **CMMB 527, Winter 2012**

##### **Sessional Lecturer (winter term 2011) – CMMB 527 Immunology**

An individual is required to teach up 2/3 of this half course. CMMB 527 provides a comprehensive overview of the immune responses. The successful candidate will teach antibody-antigen interactions, Ig structure, function, genetics, T-cell immunology, and will assist the course coordinator with oversight of course administration and examinations. Preferred qualifications include a Ph.D. in Immunology or a related discipline. The base salary is \$ 3954 for 2/3 of the half course. Interested persons should apply to Dr. Michael F. Hynes, Associate Head (undergraduate), Dept. of Biological Sciences, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4 (email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)). **Deadline for submission of an application letter and resume is November 21, 2011.**



#### **BIOL 305, Winter 2012**

##### **Sessional Lecturer – Biology 305, The Human Organism**

An individual is required to teach this half course which will be offered during the Winter 2012 term. Biology 305 introduces human biology to non-majors, leading to an appreciation of how the human body maintains itself and carries out the functions necessary to sustain any organism. Preferred qualifications include a Ph.D. in one of the Biological Sciences, and a background in Animal or Human Physiology. The base salary is \$5930. Interested persons should apply to Dr. Michael Hynes, Associate Head (undergraduate), Dept. of Biological Sciences, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4 (email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)). **Deadline for submission of an application letter and resume is November 21, 2011**



#### **BIOL 305, Winter 2012**

##### **Sessional Lecturer – Biologie 305, L'organisme humain**

An individual is required to teach this half course which will be offered during the Winter 2012 term. This course is offered in French as part of the FLIP (French Language Instruction Program) program. Biology 305 introduces human biology to non-majors, leading to an appreciation of how the human body maintains itself and carries out the functions necessary to sustain any organism. Preferred qualifications include a Ph.D. in one of the Biological Sciences, and a background in Animal or Human Physiology. The successful candidate must be a native French speaker or have near native fluency in the French language. The base salary is \$5930. Interested persons should apply to Dr. Michael Hynes, Associate Head (undergraduate), Dept. of Biological Sciences, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4 (email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)). **Deadline for submission of an application letter and resume is November 21, 2011**



#### **CMMB 413, Winter 2012**

##### **Sessional Lecturer, CMMB 413, Human Genetics**

An individual is required to teach this half course which will be offered during the Winter 2012 term. This is an advanced course in Human Genetics, with an enrolment of over 100 students.

Preferred qualifications include a Ph.D. in one of the Biological Sciences, and expertise in Human or Mammalian Genetics. The base salary is \$5930. Interested persons should apply to Dr. Michael Hynes, Associate Head (undergraduate), Dept. of Biological Sciences, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4 (email: [biosci@ucalgary.ca](mailto:biosci@ucalgary.ca)). **Deadline for submission of an application letter and resume is November 21, 2011**

**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: [www.universityaffairs.ca/career-ads/index.html](http://www.universityaffairs.ca/career-ads/index.html)

## Conferences / Workshops / Courses



<http://www.universityaffairs.ca/career-ads/index.html>

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

ICNFA'12 will bring together the Canadian and International community working in the field of nanotechnology to discuss new advances in this field. This is an ideal platform to share knowledge and expertise taking advantage from the synergy developed during the previous conferences. ICNFA'12 will cover a wide range of nanotechnology related topics

Short papers or full manuscripts are welcome for submission prior to March 1st, using the guidelines given on the conference website. All submissions will be peer reviewed and the accepted papers will be published in the conference proceedings DVD. Also we would like to announce that a number of experts and leading researchers in the field of nanotechnology will be delivering keynote lectures at ICNFA'12.

<http://ICNFA2012.International-ASET.com>

**The Waterlution Hub Network Presents: Pioneering Change: Creating Water-Centric Leadership**  
How do we seek the knowledge from water's past, present & future? Don't miss this opportunity to develop meaningful connections, insights and tools for affecting positive change!

Join us in launching  
The Waterlution Calgary Hub  
November 16, 6-9pm  
Southern Alberta Pioneers Memorial Building

Special guest Councillor Gian-Carlo Carra, Ward 9 City of Calgary

Plus a surprise theatrical performance by Theatre Encounter

Appetizers provided and drinks available

Free admission with registration

(<http://waterlutioncalgaryhub.eventbrite.com/>)

**Mark A. Batzer, Boyd Professor and Dr. Mary Lou Applewhite Distinguished Professor** from the Department of Biological Sciences, Louisiana State University (Web: <http://batzerlab.lsu.edu>) will present the 2012 Drummond Memorial Lecture in Biochemistry in the afternoon of May 25, 2012. His talk is entitled “Jumping around human and other primate genomes”.

**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.

## Classified Ads



For more details visit [www.biofor.ca](http://www.biofor.ca)

**WHAT WILL YOU BE DOING NEXT SUMMER?** - On Tuesday, November 15th at 6:15 PM in ES 342, Dr. Justin Hines of the field research organization Operation Wallacea will be giving a presentation about opportunities available for students next summer. Choice of location includes the cloud forests and coral reefs of Honduras, the lush tropical rainforest and immense coral reefs of Indonesia, the rivers and estuaries of the Peruvian Amazon, the bush of northeastern South Africa, the desert & coral reefs of the Sinai Peninsula in Egypt and the coral reefs of Cuba. For 2012, we are very excited to announce our new project in Mexico!

Opportunities include:

- Learning to dive on an uninhabited tropical island among world class coral reefs
- Jungle trekking in pristine unsurveyed rainforests seeking out species new to science
- Working on sustainable community development projects with the locals (Indonesia, Honduras)
- Surveying birds and reptiles at a World Heritage Site (Egypt)
- Surveying river dolphins, manatees, uakari and spider monkeys and macaws along the Peruvian Amazon
- Performing big game surveys and assessing bush habitat (South Africa)

There are over 40 projects available for research assistants and over 150 individual research projects. So come to the presentation and hear more about what this exciting program has to offer!

For further details please visit our website [www.opwall.com](http://www.opwall.com) and if you have further questions please contact the office either via e-mail at [canada@opwall.com](mailto:canada@opwall.com) or by phone on (905) 231-2095.



UNIVERSITY OF  
CALGARY

# ARE YOU INTERESTED IN RESEARCH FOR SPRING & SUMMER 2012?

## Markin Undergraduate Student Research Program (USRP) in Health & Wellness

- 30 Studentships of \$6000 available
- Students from all faculties welcome to apply
- Research must be in the area of Health & Wellness

**Application Deadline**  
**February 15, 2012**



[www.ucalgary.ca/usrp](http://www.ucalgary.ca/usrp)  
403.220.2278  
[usrp@ucalgary.ca](mailto:usrp@ucalgary.ca)

Visit our website for  
application form or  
more information

- You do not need to be a current student to apply.....
- ..... as long as the research was conducted while you were an undergraduate student
- The award is retroactive (e.g., apply by February 15, 2012 deadline for conference attended October 2011)
- For travel between June 2011 and February 2012
- Not restricted to USRP studentship recipients
- Research must be in the area of Health & Wellness

# \$1000 Graeme Bell Travel Awards in Health & Wellness

Application Deadline  
February 15, 2012



[www.ucalgary.ca/usrp](http://www.ucalgary.ca/usrp)  
403.220.2278  
[usrp@ucalgary.ca](mailto:usrp@ucalgary.ca)

Visit our website  
for application  
form or more  
information





# WINTER SOCIAL BGSA

**HAPPY HOUR ALL  
NIGHT!**

date	location	time	price	Tickets available until Nov. 11 through the BGSA (biogsa@ucalgary.ca), Josie (BI196), Jesse (BI249), Prat (BI240), Chandni (BI430), and Sarah (BI117)
<b>2011-12-03</b>	<b>VARSITY COMMUNITY CENTRE</b>	<b>6:00 PM</b>	<b>\$25</b> includes meal	

## Context

Faculty of Graduate Studies expectations (from the 2011-2012 Graduate Calendar, pg. 40)

- “Admission to candidacy is an acknowledgement that a student is fully prepared to devote his/her full attention to the dissertation research.”
- “The candidacy examination should focus on the background knowledge of students in their discipline, as well as their preparedness to conduct research of high quality in their particular fields of study.”
- “Although the oral candidacy examination is the official Faculty of Graduate Studies examination, graduate programs have the option of adding a written component. If there is a written component, the period during which the written examination and the oral examination are conducted must not exceed one month.”

At its September 27, 2011 meeting, the Department voted that the format of the written component of the Candidacy Examination should be modified. The Graduate Policy and Admissions Committee (GPAC) collected suggestions for possible formats and now presents the Department with a slate of four options, based on these suggestions, for consideration. Other possibilities exist, but were not identified in the suggestions received from the Research Clusters, and so were not considered to develop the proposed options, in respect of the discussion that has already occurred. The Department is expected to identify the option favored by the majority, which will then be adopted as the requirement for incoming students (July 2012) and as an option for students who are currently in program.

## Options

As required by the Faculty of Graduate Studies, the Candidacy examination will involve a two-hour oral examination. The following options concern whether the Candidacy Examination also includes a written component and, if so, its format. Regardless of the option, the scope of all components of the Candidacy Examination is restricted to a student’s area of specialization, which is identified during the student’s thesis proposal meeting. Three of the options outlined below include a written component that involves one or more of three types of documents:

*Critical review essay* – This review should address a topic that is more restricted than the student’s area of specialization, but is sufficiently broad to allow synthesis of related subjects, issues and perspectives. Recent reviews in “Critical Reviews in ...” or “Trends in ...” journals provide examples of the expected scope of such reviews. Such a review should: include a historical overview; explain essential concepts and critically evaluate contemporary perspectives; appraise the empirical support for the guiding concepts, including apparent inconsistencies; and identify topics that warrant specific attention to advance the field of study.

*Simulated research proposal* – This proposal should address a hypothesis concerning a specific subject that is not the topic of the student’s own research. The proposal will begin by identifying the scientific rationale for the proposed research that motivates a specific hypothesis, which in turn will generate the prediction(s) to be tested. Then, a description of the proposed research will characterize the study design and the specific methods that would be used to conduct the

research. The scope of the proposed research, were it to be conducted, should be sufficient to produce a single publication in a top-ranking journal in the field of study ( $\leq 10$  pages of text).

*Essay on focussed topic* – This essay will address current perspectives on a specific phenomenon, hypothesis, or protocol. The topic of this essay should be more limited than would be addressed by a review, allowing the student to examine it in greater detail ( $\leq 10$  pages of text).

The following options are listed in order of increasing number of written components: this order implies nothing about the preferences of the GPAC.

Option 1) No written component.

Option 2) Critical review essay only. This review should not exceed 30 pages of text (i.e., excluding references and illustrative material).

Option 3) A critical review, but somewhat more limited in scope and extent than for Option 2 ( $\leq 20$  pages of text), and **either**: i) a simulated research proposal; **or** ii) an essay on a more focussed topic. The student will be informed of whether her/his specific examination will involve alternative i or ii well in advance of the examination period, ideally during their proposal meeting, when the area of specialization is identified.

Option 4) A critical review as described for Option 3, and **both** a simulated research proposal **and** an essay on a more focussed topic.

For options 2, 3 and 4, the topics of all written components would be assigned one month before the oral examination and these components would be completed during the following three weeks, so that the resulting documents could be submitted to the Examination Committee one week prior to the oral examination. A matter for discussion is whether a student will be assigned a single topic to address in a written component, or will be given a choice between two topics (in either case, the topic(s) is decided by the Examination Committee). A consistent approach should be employed for all examinations.

### **Decision process**

Identification of the new format for the Candidacy Examination will be the sole item of business for a Departmental meeting on Nov. 10 (2:30 pm, BI 211). The meeting will begin with a brief overview of the four options, followed by discussion to clarify the options under consideration. Then, the members in attendance will vote on which of the four options they prefer (paper ballot). If one option receives majority ( $>50\%$ ) support, it will be adopted as the new format for Candidacy Examinations. If no option receives majority support, a second vote (show of hands) between the two options that received the most support during the first vote will decide the new format. Final discussion will then establish any additional details (e.g., whether students have a choice of topics and, if so, how many).