



# University of Toronto

OFFICE OF THE VICE-PRESIDENT AND PROVOST

TO: Planning and Budget Committee

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DATE: August 21, 2007

AGENDA ITEM: 7

**ITEM IDENTIFICATION:** School of Graduate Studies / Faculty of Arts and Science:  
Proposal for a Master of Science (M.Sc.) and Doctor of Philosophy (Ph.D.) program in Cell and Systems Biology.

**JURISDICTIONAL INFORMATION:**

Excerpt from the terms of reference for the Planning and Budget Committee:

*4.4.2. The Committee advises the Academic Board on the planning and resource implications of plans and proposals to establish, disestablish or significantly restructure academic programs. Those implications might include significant planning and budgetary changes within the division or significant effects on other divisions, the University as a whole and the public.*

**PREVIOUS ACTION TAKEN:**

The Department of Cell and Systems Biology (CSB) was approved by Governing Council on February 9, 2006 effective as of July 1, 2006.

**HIGHLIGHTS:**

The proposed programs in CSB, described in the appended summary, arise from the recent re-organization of biological sciences in the Faculty of Arts and Science that resulted in the formation of the Department of Cell and Systems Biology (CSB) and the Department of Ecology and Evolutionary Biology (EEB). At the time of the reorganization, it was indicated that the new graduate departments would work towards the development of new aligned graduate programs.

With the founding of the new graduate department of CSB, faculty and students in the graduate department initiated a process to develop a proposal for the new CSB graduate programs. The proposed graduate programs have been tailored to align with the research interests of CSB faculty members and current graduate students.

There has been extensive consultation within the Department as well as with cognate units in the faculty and with other divisions in the University. Consultation included town hall meetings with CSB graduate students, an online survey of graduate students, and discussions with the CSB Graduate Studies Committee. Cognate units consulted included Ecology and Evolutionary Biology, Molecular & Medical Genetics, Medical Biophysics, Biochemistry, and Computer Science. There were also discussions with the Dean of Forestry, and the Chair of Chemical Engineering, as well as the program directors for the collaborative graduate programs in Proteomics and Bioinformatics, and Developmental Biology.

The M.Sc. and Ph.D. proposals were accepted following unanimous department faculty approval and majority graduate student approval. The proposals were approved by the Three Campus Graduate Curriculum Committee of the Faculty of Arts and Science (April 30, 2007) and by the Graduate Education Council (May 22, 2007).

This proposal will be presented to the Committee on Academic Policy and Programs on September 10, 2007.

**FINANCIAL AND/OR PLANNING IMPLICATIONS:**

The two existing graduate programs (Plant & Microbial Biology and Zoology) will continue to be jointly administered by the CSB and EEB departments, and the programs will continue until there are no more students registered in each program. A proposal to cease admission to the current programs and close them once no more students are registered in the program will be brought forward for approval once OCGS approval is received for proposed the new programs.

Establishment of the new graduate programs for CSB should have no new resource demands beyond those of the previous departments, and the CSB graduate program will have no new staffing beyond that agreed in the human resources plan for CSB, which was instituted on July 1, 2006. The financial plan has been reviewed by the Faculty of Arts and Science. This proposal will be presented to the Committee on Academic Policy and Programs on September 10, 2007.

**RECOMMENDATION:**

The Planning and Budget Committee concurs with the recommendation of the Committee on Academic Policy and Programs:

THAT the proposal to establish the Master of Science (M.Sc.) and Doctor of Philosophy (Ph.D.) programs in Cell and Systems Biology within the Faculty of Arts and Science be approved, effective September, 2008.

## **Master of Science (M.Sc.) & Doctor of Philosophy (Ph.D.) Program in Cell & Systems Biology**

### **Executive Summary**

#### **Academic**

- The Department of Cell and Systems Biology (CSB) proposes to offer a master's program leading to the degree of Master of Science (M.Sc.) and a doctoral program leading to the degree of Doctor of Philosophy (Ph.D.) in the fields of Cell, Molecular and Systems Biology.
- The objective of the M.Sc. program will be to provide students with skills in the generation, critical evaluation, assessment and communication of data so that they are equipped to proceed with further post-graduate degrees, or other career opportunities where such skills are desired.
- CSB Ph.D. graduates will be expected to emerge from the program as independent and autonomous scientists, producing a written thesis that describes original research that stands as a testimony to their ability to generate publishable, stand-alone contributions to the peer-reviewed scientific literature. They will form part of the next generation of independent researchers in cell, molecular and systems biology.

#### **Planning and Budget**

- The Department of CSB, together with its sister department, the Department of Ecology and Evolutionary Biology (EEB), emerged from the reorganisation of the former Departments of Botany and Zoology.
- The faculty members of the Department of CSB are eager to transform their successes with graduate training within the P&MB and Zoology programs, and offer their own, unique graduate program, specifically dedicated to Cell & Systems Biology.
- The proposed new CSB graduate program has been tailored to meet the graduate training needs of graduate students in this exciting area of biology, and builds on the collective experience of CSB faculty members in consultation with other graduate units and the current cohort of graduate students supervised by CSB faculty members.
- As the proposed CSB program will emerge from the reorganisation of the former Departments of Botany and Zoology, and the graduate programs associated therewith, there are no new resource allocations that are required for the new program.
- Creation of new graduate programs for CSB & EEB should have no new resource demands beyond those of the previous departments, and the CSB graduate program will have no new staffing beyond that agreed in the HR plan for CSB, which was instituted on July 1, 2006.

#### **Space and Facilities**

- The Department of CSB is located in the Earth Science Centre and Ramsay Wright Zoological Laboratories on St. George Campus, and in the Science buildings on the University of Toronto at Mississauga, and University of Toronto at Scarborough campuses.
- Faculty and student office space on all three campuses conforms with space regulations established for the University of Toronto as a whole, and, in all cases, exceeds the minimum requirements for space allocation for office and laboratory work.
- No changes in physical facilities are required to support the new CSB program, although consolidation of CSB faculty and students at the St. George campus into one building is being considered as part of the ongoing planning process for the reorganisation of biological science.
- CSB faculty and students have access to excellent library and computing resources, and state-of-the-art, cutting-edge research facilities and infrastructure.

#### **Students**

- The Department of CSB guarantees its graduate students a minimum annual stipend, in accordance with the Faculty of Arts and Science, University of Toronto policy.
- The Department of CSB is projecting an increase in graduate student enrolment.