



**Faculty of Science**

Office of the Dean  
St. John's, NL Canada A1B 3X7  
Tel: 709 864 8154 Fax: 709 864 3316  
deansci@mun.ca [www.mun.ca/science](http://www.mun.ca/science)

**MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE**

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, September 18, 2019 at 1 p.m. in C-2045.

**AGENDA**

- 1. Regrets**
- 2. Adoption of the Minutes of May 15, 2019**
- 3. Business Arising from the Minutes**
- 4. Correspondence:**
- 5. Reports of Standing Committees:**
  - A. Undergraduate Studies Committee:** None
  - B. Graduate Studies Committee:**
    - a.** Department of Computer Science, special topics course, COMP 6774, Data Visualization, approved by the committee and presented to Faculty Council for information only (Paper 5.B.a., pages 6-9)
    - b.** Department of Biochemistry, calendar changes, MSc Oral Exam (Paper 5.B.b., pages 10-13)
  - C. Library Committee:** None
- 6. Committee Matrix** (Paper 6, pages 14-15)
- 7. Distinguished Emerging Scholar Award** (Paper 7, pages 16-18)
- 8. Post Secondary Education Review**
- 9. Reports of Delegates from Other Councils**
- 10. Report of the Dean**
- 11. Question Period**
- 12. Adjournment**

A handwritten signature in blue ink, appearing to read "M. Abrahams".

Mark Abrahams, Ph.D.  
Dean of Science



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**FACULTY OF SCIENCE  
FACULTY COUNCIL OF SCIENCE  
MINUTES OF MEETING OF May 15, 2019**

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, May 15, 2019, at 1:00 p.m. in room C-2004.

- FSC 2675 Present**
- Biochemistry**  
M. Berry, V. Booth
  
  - Biology**  
T. Chapman, B. Staveley
  
  - Chemistry**  
C. Bottaro
  
  - Computer Science**  
S. Bungay
  
  - Earth Sciences**  
G. Layne
  
  - Mathematics & Statistics**  
J. Craighead, JC Loredano-Osti, D. Pike, S. Sullivan
  
  - Physics & Physical Oceanography**  
S. Curnoe, J. Lagowski, I. Saika-Voivod
  
  - Psychology**  
K. Fowler, C. Thorpe, C. Walsh
  
  - Dean of Science Office**  
C. Barrett, K. Foss, T. Fridgen, G. Jackson, L. Zedel
  
  - CITL**  
A. Todd
- FSC 2676 Regrets: None**

- FSC 2677 Adoption of Minutes**  
**Moved:** Minutes of the March 20, 2019, meeting be adopted (Sullivan/Berry). **Carried.**
- FSC 2678 Business Arising:**  
Dr. Abrahams has met with Steve Green regarding space in the Henrietta Harvey building. The space on the second floor of the building is a secure space that is not accessible after 5pm. Steve Green may be able to move some equipment on the third floor of the building to the second floor and then provide that third floor space to the Department of Mathematics and Statistics. Also, there are plans to put more equipment into the ITS space on the second floor, so, while it is vacant now, it will not remain vacant.
- FSC 2679 Correspondence:** None
- FSC 2680** Dr. Aimée Surprenant, Associate Vice-President (Academic) and Dean, Graduate Studies, presented on the Graduate Strategic Enrolment (SEM) Plan.
- FSC 2681 Reports of Standing Committees:**
- A. Undergraduate Studies Committee:**  
Presented by Shannon Sullivan, Chair, Undergraduate Studies Committee
- a. Department of Ocean Sciences, Special Topics course, OCSC 4921, Special Topics in Reproductive Strategies of Marine Animals, approved by the committee and presented to Faculty Council for information only.
  - b. Department of Ocean Sciences, Special Topics course, OCSC 4910, Hot topics in Oceanography, approved by the committee and presented to Faculty Council for information only.
- B. Graduate Studies Committee:**  
Presented by Carolyn Walsh, Chair, Graduate Studies Committee
- a. **Moved:** Department of Mathematics and Statistics, proposal for a new course, Math 6333, Representation Theory (Walsh/Loredo-Osti). **Carried.**
  - b. **Moved:** Department of Mathematics and Statistics, proposal for a new course, Math 6329, Galois Theory (Walsh/Loredo-Osti). **Carried.**
  - c. **Amended Motion:** Department of Psychology, new course: PSYC 7021, Practicum in Adult Assessment and Diagnosis II. The paperwork submitted for the new course contained an error, indicating that new resources were needed. However, this is incorrect and no new resources are needed. (Walsh/Fowler). **Carried.**
- C. Nominating Committee:** None
- D. Library Committee:** None
- FSC 2682 Report of Teaching Consultant:** None

**FSC 2683****Report of the Dean**

Presented by Mark Abrahams, Dean

1. Work is ongoing for Strategic Enrolment Management. I thank those individuals who participated in the session held for the Faculty of Science. As a member of the committee involved in preparing the plan, I will be participating in a half day planning session on June 5th.
2. As you all know, the provincial government announced a budget and then quickly thereafter announced an election. Nevertheless, the announced budget continued with the ongoing budget cuts to the university, so we will be planning with that in mind.
3. I am also continuing to work with the University's Buildings Working Group which is considering options associated with the potential demolition of the Science building. The plan is expected to go to the Board of Regents this summer, but it is taking into account the specific requirements of the Departments of Physics and Psychology, and also integrating new space for Mathematics & Statistics.
4. About two weeks ago the new MUNFA Collective Agreement was signed. That now triggers the formation of the committee tasked with establishing a university-wide teaching equivalency.
5. Tomorrow is election day. I encourage you all to exercise your democratic right to vote and also that the Provincial Election Act requires that employers provide their eligible employees with four consecutive hours to vote while polling stations are open between 8:00 a.m. and 8:00 p.m.

**FSC 2684****Question Period**

The Dean spoke to the possibility of a new University wide teaching equivalency document as a result of the new MUNFA collect agreement. When the committee is struck and meets, everything will be considered for teaching equivalencies including, minimum enrolment numbers, student supervision, etc.

With ongoing discussions regarding the plan for the Science building once the new Core Sciences Building is opened, the Dean acknowledged that the University's Building Committee is aware that the Science building contains a large number of classrooms, including a large lecture theatre. There will probably be a partial teardown of the building to leave some classrooms intact.

The issues regarding the Henrietta Harvey Building are now being reviewed by the University Building Committee. The full recommendation of the committee will hopefully go to the Board of Regents this summer. The Dean continues to actively look to exchange space in the Henrietta Harvey Building in order to increase the space for the Department of Mathematics and Statistics. Anne Browne, Associate Vice-President (Facilities) is aware of issues concerning a Tender for Asbestos Abatement and it is a high priority item.

**FSC 2685      Adjournment**  
The meeting adjourned at 1:50 p.m.



# Request for Approval of a Graduate Course

Paper 5.B.a. (page 6 of 15)

School of Graduate Studies

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: <http://get.adobe.com/reader>. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

[School of Graduate Studies](#); Memorial University of Newfoundland; IIC-2012 (Bruneau Centre for Research and Innovation); St. John's, NL A1C 5S7 Canada Fax: 709.864.4702 eMail: [sgs@mun.ca](mailto:sgs@mun.ca)

To: Dean, School of Graduate Studies  
From: Faculty/School/Department/Program  
Subject:  Regular Course  Special/Selected Topics Course

Course No.:

Course Title: Data Visualization

I. To be completed for all requests:

A. Course Type:  Lecture course  Lecture course with laboratory  
 Laboratory course  Undergraduate course<sup>1</sup>  
 Directed readings  Other (please specify)

B. Can this course be offered by existing faculty?  Yes  No

C. Will this course require new funding (including payment of instructor, labs, equipment, etc.)?  Yes  No  
If yes, please specify:

D. Will additional library resources be required (if yes, please contact [munul@mun.ca](mailto:munul@mun.ca) for a resource consultation)?  Yes  No

E. Credit hours for this course: 3

F. Course description (reading list required):

Methodology and tools for data visualization in in the general area of data science. Methodology is covered as a survey topic; visualization frameworks and tools will be case study of visualization software. Students will have individual projects evaluated as presentation of methodology (oral) and desing and implementation of practical software solution (written). Tools studies will include: R,

G. Method of evaluation:	Percentage	
	Written	Oral
Class tests		
Assignments	80	20
Other (specify):		
Final examination:		

Total 100

<sup>1</sup> Must specify the additional work at the graduate level

**II. To be completed for special/selected topics course requests only**

**For special/selected topics courses, there is no evidence of:**

- |  | <b>Instructor's initials</b> |
|--|------------------------------|
| 1. duplication of thesis work              | EB<br>_____                  |
| 2. double credit                           | EB<br>_____                  |
| 3. work that is a faculty research product | EB<br>_____                  |
| 4. overlap with existing courses           | EB<br>_____                  |

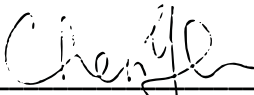
Recommended for offering in the                      Fall                      Winter                      Spring                      20 19

Length of session if less than a semester:

**III. This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies**


E Brown  
Course instructor

July 9 2019  
Date

  
Approval of the head of the academic unit

August 21, 2019  
Date

**IV. This course proposal was approved by the Faculty/School/Council**

  
Secretary, Faculty/School/Council

August 28, 2019  
Date

## Part F. Course description (reading list required)

Methodology and tools for data visualization in the general area of data science. Methodology is covered as a survey topic; visualization frameworks and tools will be case study of visualization software. Students will have individual projects evaluated as presentation of methodology (oral) and design and implementation of practical software solution (written). Tools studies will include: R, Jupyter, plot.ly, and D3.js.

### Reading List

Munzner, Tamara, (2014) *Visualization Analysis and Design*, 428 pages, Taylor & Francis, ISBN 9781466508910

Matthew O. Ward , Georges G. Grinstein , Daniel Keim, (2015) *Interactive Data Visualization : Foundations, Techniques, and Applications, Second Edition* CRC Press, 578 pages, ISBN 9781482257373

Scott Murray, (2017) *Interactive Data Visualization for the Web*, O'Reilly, ISBN 9781491921289

Hadley Wickham, and Garrett Grolemund (2017) *R for Data Science*, O'Reilly, 522 pages, ISBN 978-1491910399

Hadley Wickham, (2010) *A Layered Grammar of Graphics*, Journal of Computational and Graphical Statistics, 19(1) pp. 3-38.

SuperDataScience, *Learn Plotly* ( free video series), online:  
<https://www.superdatascience.com/pages/learn-plotly>

## Detailed Proposal:

### COMP 6XXX

Special Topics in Data Visualization

### Students Interested

Those in data science or data analysis or data visualization models and tools.

### Rationale

Data science is becoming an important computationally related branch of applied science. Visualization tools are becoming more prolific and important in the interpretation, analysis and application of big data and data collections in general, with a wide variety of tools and techniques. An introduction to these tools and methods is a timely

### Objectives of the Course

Provide students with an introductory and working knowledge of common tools, packages and programming techniques in data visualization, along with an understanding of basic models and



methods to apply and create visualization designs appropriate to various analysis problems. Students will get hands-on exposure to coding solutions by working on problems related to information visualization for scientific data sets. Principles, models and techniques related to information visualization and code examples will be studied.

## **Background**

Common programming languages and platforms (javascript, python and Web programming)

Working knowledge of introductory inferential statistics

Knowledge of machine learning or data mining would be an asset

## **Representative Course Outline**

- Visual perception
- Visual encodings
- Distributions, descriptive and inferential stats
- plotting models, tools and packages (ggplot2, plotly and D3.js)
- computational workbooks
- visualization design

## **Readings**

See section F of course proposal form

## **Instructors**

E Brown

## **Calendar Entry**

COMP-6XXX : uses programming examples to study the design and implementation of visualizations for the analysis, comprehension, exploration, and explanation of large data collections of abstract information. Topics to be covered include principles of visual perception, visual encodings of data, visual representation of relationships, interaction methods.

## Biochemistry - MSc Oral Defence

### **Proposal**

The MSc program in the Department of Biochemistry currently has no oral defence requirement. The only requirement is to give a seminar in the BIOC6999 course at some point in their second year. We propose to include an oral MSc defence as part of the requirements to complete the MSc program in Biochemistry.

### **Rationale**

The oral defence of a MSc thesis is the norm in most universities in Canada. The Department of Biochemistry has oral defence requirements for the PhD and the BSc Honours programs, but not for the MSc program. We would like to add an oral defence requirement that fits within the SGS rules for MSc programs. The defence needs to be fair and rigorous, while also helping the student finalize their thesis for submission for examination to SGS. The barrier to holding a proper oral defence during the examination process is that it would not fit into current SGS regulations on Evaluation of Master's Theses (Section 4.10.3 in Calendar). The decision of the examiners evaluating the written thesis is binding, and so holding an oral defence after the examination of the written thesis would have no bearing on the outcome of the MSc program. Moreover, SGS will only send out theses for examination once all requirements for the program are complete. So because this proposed oral defence will become a 'requirement' of the MSc program, it needs to be held before the submission of the final thesis to SGS for examination.

As a result, we propose to hold the MSc Oral Defence immediately after approval of the thesis by the student's Supervisory Committee, but before submission of the thesis to SGS. This would require a quick turnaround, so as not to delay the student's program, but also needs to be fair, rigorous and easy to coordinate. In order to have the MSc Oral Defence completed quickly, we propose to have the Supervisory Committee sit as the examination committee, since they will have just read the final thesis and will be best able to examine the student's oral defence performance thoroughly.

Note: There is an existing seminar requirement for BIOC6999 for MSc students. In that course, students are required to present a seminar to the Department. The MSc Oral Defence will not replace that requirement in 6999. These two presentation formats are quite different and students should have both experiences: presenting to the broader department, as well as defending their thesis conclusions.

### **Format**

The MSc Oral Defence will be administered by the Department of Biochemistry under the purview of the Deputy Head (Graduate); no funds or administration will be required from SGS. As part of the program requirements, the MSc Oral Defence must be completed before submission of the final thesis to SGS.

To proceed to the MSc Oral Defence, the student's supervisor will inform the Deputy Head (Graduate) in writing that the thesis is completed, has been reviewed by the Supervisory Committee, and its

conclusions are ready to be defended. Advance notice of this timeline is advisable to schedule the examination, but the Defence will not proceed until the completed thesis has been read by the Supervisory Committee, and submitted to the Department office. The MSc Oral Defence will be held no less than one week after submission of the final thesis to the Department office. The Supervisory Committee will serve as the Examination Committee for the MSc Oral Defence and this Examination Committee will be chaired (non-voting) by the Deputy Head (Graduate), or delegate. The Supervisor and at least two other Supervisory Committee members should be present (in person or by video) to examine the student.

The MSc Oral Defence presentation by the student will normally be 20-30 minutes and will be open to the public. The presentation will be followed by two rounds of questions: the first round (normally 10-15 min per examiner) will be open to the public, while the second round of questions will be in camera after the audience has been dismissed.

### **Evaluation**

Evaluation of the MSc Oral Defence will be based on the student's performance for the oral presentation and their ability to respond to questions. The written thesis will not be considered in the evaluation as that will have already been approved by the Supervisory Committee, and further evaluation of the written thesis will subsequently occur by other examiners in the examination process via SGS.

Following the MSc Oral Defence, the candidate is excused and the Examination Committee will meet in camera to render a final assessment. Outcomes of the examination will be:

- "Pass"—proceed to submission of thesis to SGS for examination; or
- "Re-Examination Required"—Oral Defence will be repeated no less than one week after the last exam, but within six months; if the re-examination is inadequate, then the supervisory committee will convene to make a final recommendation on the student's overall program as per SGS Regulations 4.9.3.1 and 4.13.1(f); or
- "Fail"—if the student fails to perform the Oral Defence, then the supervisory committee will convene to make a final recommendation on the student's overall program as per SGS Regulations 4.9.3.1 and 4.13.1(f).

As this is part of the program requirements, the Supervisory Committee will complete the Supervisory Approval Form only after the successful completion of the MSc Oral Defence. If any corrections to the thesis are recommended by the committee, these corrections will be made prior to completion of the Supervisory Approval Form. The thesis can then proceed to examination following SGS procedures.

## PROPOSED CALENDAR CHANGES (underlined and italicized) to accompany addition of MSc Oral Defence Requirement to Program

Proposed Calendar Changes:

### 25.6 Biochemistry

- [www.mun.ca/sgs/contacts/sgscontacts.php](http://www.mun.ca/sgs/contacts/sgscontacts.php)
- [www.mun.ca/science](http://www.mun.ca/science)
- [www.mun.ca/biochem](http://www.mun.ca/biochem)

The Degree of Master of Science is offered in Biochemistry or Food Science to full-time and part-time students.

#### 25.6.1 Admission

The admission requirements for the graduate programs in Biochemistry and Food Science are as given under **Regulations Governing Master of Science Degrees**.

#### 25.6.2 Program of Study

1. The program of a candidate for the M.Sc. Degree shall be the responsibility of the supervisory committee, composed of the Supervisor and at least two other faculty members recommended with the concurrence of the Supervisor by the Head of the Department or delegate.
2. All students must enrol in Biochemistry 6999 (Seminars in Biochemistry and Food Science), and must complete Biochemistry 7000 (Graduate Skills) plus a minimum of 6 credit hours of graduate courses with a minimum B grade. Depending on the background and/or area of specialization, a candidate's program may include additional courses taken for credit in Biochemistry, Food Science, or related subjects.
3. It is the responsibility of the student to arrange regular meetings with the student's supervisory committee. A semi-annual report, prepared by the Supervisor and signed by all members of the supervisory committee, is required to be given to the Head of the Department or delegate.
4. *M.Sc. candidates are required to complete a M.Sc. Oral Defence of their thesis research. The defence will be examined by the Supervisory Committee (at least three voting members) and chaired by the non-voting Deputy Head (Graduate), or delegate. The Defence and first round of questions will be open to the public; the second round of questions will be in camera. Outcomes of the examination will be:*
  - a. *"Pass"—proceed to submission of thesis to SGS for examination; or*
  - b. *"Re-Examination Required"—Oral Defence will be repeated no less than one week after the last exam, but within six months; if the re-examination is inadequate, then the supervisory committee will convene to make a final recommendation on the student's overall program as per SGS Regulations 4.9.3.1 and 4.13.1(f); or*
  - c. *"Fail"—if the student fails to perform the Oral Defence, then the supervisory committee will convene to make a final recommendation on the student's overall program as per SGS Regulations 4.9.3.1 and 4.13.1(f).*
5. *The M.Sc. Degree program will conclude with a thesis examination as prescribed in the Regulations Governing the Degree of Master of Science.*

### 4.9.3 Supervisory Reports

1. At least annually, the Supervisor, Supervisory Committee or the Department shall make evaluations of a student's progress in a program. Recommendations concerning continuation, amendment, or termination (see **Termination of a Graduate Program**) of a candidate's program, are sent to the Dean, who shall take appropriate action. Students shall be advised of the contents of this evaluation and the subsequent recommendation(s).

## 4.13 Termination of a Graduate Program

Grounds for termination of a graduate program are as follows:

1.
  - a. Failure to comply with the conditions of admission into a program, unless the conditions of admission have been changed with approval of the academic unit and the School of Graduate Studies;
  - b. Failure to register in any semester by the final date for adding courses (see **Registration, Program Registration 1.**);
  - c. Failure to obtain the required grades in courses as stated in the appropriate degree regulations (see **Evaluation**);
  - d. Failure in comprehensive examinations (see **Comprehensive Examinations**);
  - e. Demonstrated lack of progress in a program supported by written documentation;
  - f. Recommendation of the Supervisory Committee (see **Supervision**);
  - g. Failure of Thesis, Project, or Internship (see **Theses and Reports**);
  - h. Academic misconduct as outlined under **General Regulations, Academic Behaviour** governing the School of Graduate Studies.

# Committees

	<b>Undergraduate Studies</b>	<b>Graduate Studies</b>	<b>Library</b>
<b>DOS</b>	Travis Fridgen Shannon Sullivan (senior academic advisor)	Len Zedel	Len Zedel
<b>BIOCHEMISTRY</b>	Janet Brunton	Rob Bertolo	Valerie Booth
<b>BIOLOGY</b>	Suzanne Dufour	Ted Miller	Kathryn Hargan
<b>CHEMISTRY</b>	Peter Warburton	Christina Bottaro	Graham Bodwell
<b>COMP SCI</b>	Sharene Bungay	Oscar Meruvia-Pastor	Todd Wareham
<b>EARTH SCI</b>	Penny Morrill	Graham Layne	Joe Hodych
<b>MATH &amp; STATS</b>	Graham Cox	Asokan Variyah	Yorck Sommerhauser
<b>OCEAN SCIENCES</b>	Annie Mercier	Chris Parrish	Pat Gagnon
<b>PHYSICS &amp; PO</b>	James Munroe	Stephanie Curnoe	Mykhalo Evstigneev
<b>PSYCHOLOGY</b>	Christina Thorpe	Darcy Hallett	Sue Walling
<b>ASM CE</b>	Theresa Mackenzie	Rebecca Newhook	
<b>AQUACULTURE</b>		Cyr Couturier	
<b>COGNITIVE &amp; BEHAVIOURAL ECOLOGY</b>		David Wilson (co-chair)	
<b>ENVIRONMENTAL SCIENCE</b>		Evan Edinger	
<b>SCIENTIFIC COMPUTING</b>		Ron Haynes	
<b>THEORETICAL PHYSICS</b>		Ivan Booth	
<b>ECONOMICS</b>			

<b>GEOGRAPHY</b>			
<b>LIBRARY</b>			
<b>GSU</b>			
<b>MUNSU</b>			

***FACULTY OF SCIENCE AWARDS COMMITTEE***

Christina Bottaro (C), Alison Malcolm, Craig Purchase, Alwell Oyet,

***REPRESENTATIVES FROM OTHER COUNCILS***

<b>FACULTY OF BUSINESS</b>	Oscar Meruvia-Pastor
<b>FACULTY OF EDUCATION</b>	Dawn Bignell
<b>FACULTY OF ENGINEERING</b>	Penny Morrill
<b>FACULTY OF MEDICINE</b>	Carolyn Walsh
<b>FACULTY OF SOCIAL SCIENCES AND HUMANITIES</b>	David Wilson
<b>MARINE INSTITUTE</b>	Amanda Bates
<b>OFFICE OF THE REGISTRAR</b>	Tracey Edmunds
<b>LIBRARIES</b>	Mykhaylo Evstigneev
<b>SCHOOL OF GRADUATE STUDIES</b>	Christina Bottaro, Asokan Variyath, Andrew Lang
<b>SCHOOL OF MUSIC</b>	Jacqueline Blundell
<b>SCHOOL OF NURSING</b>	Scott Harding

***STUDENT UNIONS REPRESENTATIVES TO FACULTY COUNCIL***

<b>GSU</b>	
<b>MUNSU</b>	

## **Dean of Science Award for Distinguished Emerging Scholar:**

### **Nomination Deadlines** February 1, 2020

The completed nomination form and tenure package must be submitted by the nominator. Nominations for this award are generally made by the candidate's home Department Head or delegate. Normally only one nomination per department will be accepted, though a second nomination may be made, with proper justification. Self-nominations will not be considered.

### **Eligibility**

The Dean's Award for Distinguished Emerging Scholar may be made to any current Regular Faculty Member within the Faculty of Science in the year in which they are applying for tenure.

The Selection Committee shall be the Faculty of Science Awards Committee. Normally a maximum of one award will be made annually. The committee can recommend that no award be made in a given year if, in its opinion, none of the files examined present a sufficiently compelling case. Likewise, if the committee feels there is more than one exceptional candidate more than one award may be made.

Questions of interpretation or application of award eligibility criteria and procedures shall be referred to the Dean of Science, whose decision will be final.

### **The Award**

Recipients of the Dean of Science Award for Distinguished Emerging Scholar will be honoured with the following:

1. \$1,000 to be used by the recipient in support of research activities
2. Recognition and citation from the Dean of Science

### **Criteria**

Nominees will be adjudicated based upon the quality, excellence, and impact of both their teaching and research. The candidate's national and international stature as a researcher assessed by their peers will form a vital piece of the overall selection. In the context of this award, research refers to peer-reviewed, adjudicated or equivalent research/scholarly work. Indicators of outstanding performance will be evaluated using the criteria for the President's Award for Outstanding Research:



1. Evidence of scholarly dissemination (e.g., publication in refereed journals or series or by publishers recognized as leaders in the field, performances of artistic works, leadership performances (conducting, directing), juried art shows, archival projects, etc.).
2. High ratings of the publications and other research or creative work as attested (where appropriate) by citations indices, by references in published literature, or in letters from distinguished scholars or critics in the field.
3. Favorable published reviews of the publications or creative works.
4. Awards by professional associations for outstanding research or creative work.
5. Grants based on competitive jury recommendations.
6. Research leadership, as evidenced by team achievements.
7. Breadth of expertise.
8. Any other clear evidence of exceptional contribution to the chosen field.

## **Nomination Process**

### **Nomination Documents**

The nomination documents will consist of the tenure dossier as laid out in the current collective agreement and a letter from the Nominator explaining why they feel the Nominee should be considered for this award. The Nominee must also agree, by signed letter, that the tenure package can be accessed by the Faculty of Science Awards Committee.

**Nomination form for the Dean of Science Award for Distinguished Emerging Scholar**

**Name of Nominee:**

**Name of Nominator:**

**Position of Nominator (e.g. Chair of XX Department):**

**Please attach:**

- 1) Permission from nominee to use tenure dossier (e.g. via email) which will then be provided to the awards committee by the DOS office.
- 2) Letter outlining why nominee should be given the award (written by nominator)