



FACULTY OF SCIENCE

COUNCIL OF THE FACULTY OF SCIENCE

Notice of Meeting

**Tuesday, January 10, 2017
at 3:00pm – 4:30pm, in 306 Lumbers**

Agenda

1. Call to Order and Approval of Agenda
2. Chair's Remarks
3. Minutes of December 13, 2016 meeting
4. Business Arising
5. Inquiries and Communications
6. Associate Deans' and Bethune Master's Remarks
7. Reports from Science Representatives on Senate Committees
8. Reports from Standing Committees of Council
9. Other Business
 - 9.1 Presentation by Lucy Bellissimo, Deputy Registrar & Linda West, Assistant Registrar on Accommodated Tests and Exams
 - 9.2 Consultation with Council regarding Metrics for research and other indicators
Useful link: <http://www.heqco.ca/en-ca/Research/ResPub/Pages/Canadian-Postsecondary-Performance---Impact-2015.aspx>

Comment from the Chair of Council: "Item 9.2 is relevant for the upcoming new Strategic Mandate Agreement with the Ontario government. Metrics will be related to teaching as well as to research. For reference, we attach a document that was prepared in 2007 by the Faculty of Science & Engineering's Research & Awards Committee."



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Minutes

**Tuesday, December 13, 2016
at 3:00pm – 4:30pm, in 306 Lumbers**

Attendance: M. Bayfield, D. Golemi-Kotra, K. Tamara, A. Mills, A. Mun, H. Delwar, E. Hamm, J. Elwick, M. Caplan, J. Lazenby, P. Delaney, G. Monette, T. Salisbury, G. Audette, W. Taylor, P. Szeptycki, W. P. Tholen, M. Horbatsch, T. Kirchner, M. Haslam, K. Kuznetsov, J. Philip, P. Gibson, S. Morin, P. Potvin, V. Tsoukanova, D. Hastie, G. Lavoie, N. Madras (Chair), K. Maltman, D. Logan, J. Clark, N. Nivillac, R. Tsushima, E.J Janse van Rensburg, D. Wilson, M. Xu, S. Siyakatshana (Assistant Secretary of Council)

Guests: B. Sheeller & M. Hough

1. Call to Order and Approval of Agenda

The Chair of Council, Dr. Neal Madras called the meeting to order and the Agenda was adopted with a notation that as soon as Provost R. Lenton and Vice-President G. Brewer arrived, they would be accorded an opportunity to make their presentation to Council.

2. Chair's Remarks

The Chair reminded faculty that the new policy on anomalous grade was now in effect starting fall 2016.

3. Minutes of November 8, 2016 meeting

Minutes were approved.

4. Business Arising

Dr. Madras informed Council that he had reached out to the Director of Faculty Relations, B. Miller in reference to the discussion on issues regarding benefit payments to Post-Doctoral Visitors. He added that he will update members in due course once the information became available.

5. Inquiries and Communications

Council noted the Senate Synopsis of the November 24, 2016 meeting.

6. Dean's Report to Council

Dean Jayawardhana reminded Council that the deadline for receiving application for the York Science Fellowships program is January 1, 2017. Announcements had already been sent out to numerous universities in order to generate broad interest, in addition to placing online ads at Nature and Science. He noted that applications had already started coming in. He encouraged faculty members to spread the word about these new Fellowships.

The Dean informed Council that as part of York's Impact Campaign, the University had placed an ad in the Globe & Mail featuring the Simons gift to Science, and showed a copy of the newspaper.

He reported on the successful Media Workshop for Researchers organized by Margaret Mroziewicz. The workshop featured Dawn Bazely, Sapna Sharma, Markus Giesler, Joseph Hall and Kate Lunau. He also added that the Physics & Astronomy Department held a High School Physics Teachers' Night: Making waves with gravity.

The Dean congratulated the following:

- Jianhong Wu - Honourary Doctorate, University of Szeged in Hungary
- Vivian Saridakis - Cancer Research Society grant

- PhD graduate Martino Lupini (supervised by Ilijas Farah) – the Sacks Prize, Association for Symbolic Logic for the most outstanding doctoral dissertation in mathematical logic
- Catherine Zahn, alumna & CAMH CEO – Bryden Alumni Award for outstanding achievement from York University.

He also acknowledged several Science faculty who were recently featured in the media. These are; Ron Pearlman, who appeared on The Agenda with Steve Paikin regarding CRISPR and Sapna Sharma, Matthew Johnson, Edward Jones-Imhotep and Norman Yan all of whom were featured in Fall 2016 York U Magazine.

He mentioned that Associate Dean Morin would be providing an update on the Farquharson renovation project.

Provost Lenton and Vice-President G. Brewer made a presentation to Council following the Dean's report. However, for the purpose of the minutes format their presentation appears under Other Business, item 10.3 as per the agenda.

7. Associate Deans' and Bethune Master's Remarks

Associate Dean Morin, updated Council on the Major Science and Health Refresh project with a total budget of 110M\$ (including a York contribution of 65M\$). She noted that the PSB renovation had been cancelled now because of the CFF grant being awarded. She added that the project management structure included the Project Committee, Farquharson User Committee, Decanting Working group, Vivaria Working Group and Other User Committees.

She outlined the important dates relating to the timelines of the project. She noted that the project had to be complete by the deadline date of April 2018. She added that the challenges faced include the relocation of faculty, staff and students during a highly disruptive modernization of the facilities, phasing of the works to minimize disruption, isolate services to the Vivaria and west wing to minimize disruption throughout the length of the project and be able to meet the SIF project deadline.

Associate Dean Morin also walked Council through the various layout plans in progress.

She noted that the next step would be to further discuss floor plans between occupants and the architects and room programing one on one meeting with the architects. Furthermore, an update town hall meeting will be held in January for the Science and Health community.

A motion was moved, seconded and carried to extend the meeting by fifteen minutes.

Associate Dean Mills postponed his report to January as it did not pertain to anything urgent.

Associate Dean Janse van Rensburg reminded faculty members of January 5th deadline for the Office of the Dean to receive applications for the anomalies exercise.

8. Reports from Science Representatives on Senate Committees

There were no reports. Dr. L. Donaldson invited faculty to forward their comments to him for all the Senate subcommittee meetings that he sits on as a Science representative.

9. Reports from Standing Committees of Council

Science Curriculum Committee

The Chair of Council, Dr. N. Madras reminded Council they should use the new form pertaining to the change in degree requirements proposals as the old form labeled "Program Change form" had now become absolute. He urged departments to use proper forms which are on the Senate website.

Council moved, seconded and carried a motion to approve the Science Curriculum Committee items.

10. Other Business

10.1 Motion to revise the Rules of FSc Council pertaining to the Petitions Committee quorum

Associate Dean Mills spoke to this motion. He stated the proposed change as follows,

The Petitions Committee for the purpose of hearing student petitions shall consist of an Associate Dean (ex officio), six members of Council, and two student members of Council. The Committee may divide the workload by splitting the Committee membership into two panels of four people each. A quorum for a panel shall consist of either (a) two voting faculty members and one student member or (b) three voting faculty members.

Accordingly, this proposal reduces quorum for the Petitions Committee from four people to three, and it specifically provides that the Committee membership may be split in two so that two panels of four may work independently.

Council moved, seconded and carried a motion pursuant to section 32 of the Rules of Faculty Council (Faculty of Science) to amend the Rules of Faculty Council, in particular the sub- section establishing the Petitions Committee and the details of its committee structure.

10.2 Item for information: Research Ethics Review of Undergraduate and Graduate Course-Related Research (Including MRPs): Streamlining and Harmonization of Research Ethics Review Processes

N. Madras informed Council that the Associate Dean for Research and Graduate Supervision required a mechanism to be able to deal with research ethics reviews and refer

them to departments accordingly in the event that it comes up, most likely in the context of course work. Furthermore, this was required for information gathering. The Chair encouraged faculty members to forward their comments to him or S. Morin.

10.3 Presentation by Provost R. Lenton & Vice-President G. Brewer on the Academic and Budget Planning and the IIRP

Provost R. Lenton provided an update to Council regarding student enrolment, university funding formula review, the budget and the institutional integrated resource plan. The presentation can be reviewed on <http://science.yorku.ca/files/2016/12/FSc-presentation-by-Rhonda-Gary.pdf>

R. Lenton informed Council that the York's Strategic Mandate Agreement (SMA) of 2014-2017 was expiring this year and in January 2017 the university would negotiate the new SMA with the government. The government will come up with a new funding model. There will be an effort to align the new funding model with the SMA metrics. This calls for our university to consult on research metrics and define and establish metrics that are important to our university. If not, the government will use the system wide metrics.

She stated that in order to mitigate the challenges of domestic enrolment, we need to ensure that we are doing all we can to influence the big levers in the enrolment model such as conversion and retention so as to not simply rely on applications. She noted that last year the university did much better on enrolment because York performed much better on retentions and conversions. She however, emphasized on the need to improve the enrolment numbers for the Master's programs as the FTE's were below the Ministry's target.

Vice-President G. Brewer also echoed Provost Lenton's comments on the budget. He noted that the university had a manageable balance going into fiscal year 2017/2018.

With respect to the institutional integrated resource plan, Provost Lenton urged Science to identify a much smaller set of initiatives required at institutional level to advance the Faculty of Science.

A discussion ensued and the Provost responded to some questions from the floor. She concluded the discussion by requesting faculty to provide further feedback to her via email and copy Marla Chodak on the correspondence.

Meeting adjourned.

N. Madras, Chair of Council

S. Siyakatshana, Assistant Secretary of Council

Faculty of Science and Engineering

Response to the APPC Call: “*A Call to Colleagues for Implementation on Measuring Research*”

On Oct 26, 2006, the Academic Policy and Planning Committee of Senate issued a call to the university committee for assistance in facilitating a collegial initiative related to the University Academic Plan’s objectives on measuring research. In short, the call asked all units to initiate an exercise consisting of three steps:

1. Develop the research indicators: The first step was to articulate the indicators needed to establish the quantity, quality, and impact of our research.
2. Gather Data on the Indicators: The second stage of the analysis involves the actual collection of data on the indicators. Utilizing internally defined measurements, disciplines and interdisciplinary units should compile information on research activities over the past three years. To give context to these data, where possible and appropriate units should use them to situate themselves in the broader context of university research in Canada and internationally.
3. Reflections and Suggestions for Future Improvement: Throughout the process – but particularly as a culminating step -- units should analyze barriers to enhancing research and consider the kinds of best practices (here and elsewhere) which might be implemented in order to improve York’s research cultures.

Response

The Faculty of Science and Engineering is now reporting progress on this initiative, particularly with respect to steps 1 and 3. Step 2 will be on going and will take additional time. The Call was briefly discussed in Council twice in the 2006/07 academic year. Through discussions in the faculty, it was decided that the Research Awards Committee of FSE would meet to respond to this call. Initially the FSE representatives on APPC and SCOR met to establish an initial draft of an all inclusive list of research indicators that would be suitable for all types of research carried out in the faculty. This draft was presented to the research awards committee and was modified through discussion. In order to ascertain the importance of different types of indicators to faculty members in FSE, a call was then sent to all faculty in FSE by e-mail. A copy of that call can be found in Appendix A. In short, faculty were asked to rank the importance or **relevance** of each of the research indicators for measuring or promoting research in four different categories: R1. research conducted by yourself or colleagues in your field of research? ; R2. research conducted in the Faculty of Science and Engineering (ie-comparing ourselves to other science and engineering faculty); R3. research conducted at York University (ie- projecting our research image to outside agencies); R4. for the purpose of recruitment of high quality graduate students to FPAS?. A five point scale was used with a rank of 1 indicating the indicator has little or no relevance for the stated purpose and a rank of 5 indicating the indicator is extremely relevant. The call to FSE also asked for comments on barriers to research. In total, 25 faculty responded to the numerical survey, and more responded with verbal or written comments.

Discussion of the Numerical Survey Results

The responses to the FSE numerical survey are presented and discussed below. It was hoped that some inter departmental differences might show up in the relevance indicators, although a simple numerical analysis of the results indicated that there were no statistical differences between departments, partially due to insignificant numbers of respondents in each department and potentially due to the lack of any actual differences. For this reason, the results of the survey are presented at the faculty average level only as shown in Table 1. For each indicator, refer to Appendix A for more descriptions of potential quantity, quality and impact measures. For easy visual reference, color codes are applied to the average results in the table as follows:

Red	extremely relevant indicator	$4.5 < n < 5.0$
Orange	very relevant indicator	$3.5 < n < 4.5$
Yellow	somewhat relevant indicator	$2.5 < n < 3.5$
Blue	small relevance	$1.5 < n < 2.5$
White	little or no relevance	$n < 1.5$

Attention should be paid to red, orange and yellow categories.

For the purpose of promoting ones own research in a given field of research (see column 1) faculty members in science and engineering still place greatest value on the very traditional indicators of research, or derivatives thereof, including numbers or intensity of refereed publications of various types, books and book chapters and the quality of such publications as measured by various citation indexes or other impact measures. It is also clear that very little value is placed on non refereed publications as a research measure. Great value is also placed on external financial support received, grants and chair positions more than contracts, presumably due to the peer review process that goes along with application to granting agencies and the granting of chair positions. Other very relevant indicators of research include numbers and types of national and international awards received by a faculty member, and to a lesser extent awards received by the trainees of a faculty member including PhD, MSc and undergraduate students performing research under their supervision. The training of highly qualified personnel is also highly ranked as a measure of research productivity to promote ones research, with PhD students being the most highly ranked. Quantity is measured by the number of trainees graduated, quality can be measured by the awards won by the trainee (dissertation awards, travel awards, presentation awards at conferences, etc) and the impact can be measured by the after graduation placement of those individuals in society. Placement information is valued, because the success of the individual as measured by their ability to obtain a placement of scientific importance in their field, can be a measure of the quality of research training received within the supervisors group. The placement information is requested by granting agencies such as NSERC, and is routinely collected by faculty members for future grant application purposes. Scholarly communication of research at conferences or other external locations by the faculty member or trainees is a relevant research indicator, with greatest value placed on invited lectures at conferences or other external locations. Several measures of professional research work (science committees, science advisory boards, journal editorial positions, etc.) are suggested in the table and are considered relevant as indicators of research to faculty members in science. Public communication of research (newspaper, TV, radio) are only marginally important as an indicator of ones own research, but it becomes clear that these indicators become more important (as one moves right in the table) for the promotion of research in the faculty, the university and for the recruitment of graduate students.

Differences in the importance of indicators for the promotion of research in ones own field, in the faculty of science and in the university (compare columns 1, 2, 3) are only slight and will not be discussed. Of course, the quantity measures change slightly as one moves to faculty or university

measures and are more adequately measured by publication intensity, not total numbers. Of potential importance to the University in terms of plans to increase graduate enrolments is the opinion of faculty members in science of the relevance of these research indicators for the recruitment of high quality graduate students to FSE. The most relevant indicators for this purpose are (in order of importance): refereed journal publications, availability of financial support in the form of research grants to the supervisor, PhD students supervised by the faculty member and awards won by those students, awards won by the faculty member, and newspaper articles about the research. It should be emphasized that this is the perception of the importance of these indicators from the view of faculty members. A separate poll of graduate students may indicate that there are other more important factors that are not on this list.

Other feedback from faculty

The research committee in general held the opinion that collection of research indicators by FSE is an important endeavor, not just for the purpose of satisfying APPC, but for its own strategic purposes of "knowing thyself" and increasing research intensity relative to other science faculties at other universities. Feedback was received from faculty and departmental reps regarding the indicators initiative as part of the survey and through discussions. The written feedback is presented here verbatim, in unadulterated form:

- a number of faculty mentioned the H index as a useful measure of research output times impact
 - a number of faculty were very skeptical about the entire exercise and did express concerns about the measures being used to evaluate faculty, despite what is being claimed. This will be a hard sell for some proportion of faculty
 - one faculty member suggested asking well-known faculty in comparable fields outside of the university as a better measure of research quality
 - one faculty member thought the elaborate survey was not worthwhile and just a straight count of publications and dollars would be much simpler and not miss much
 - grant size can be misleading due to large differences across fields
 - Overall, there was agreement that research measures must be quantitative. The exact measure, # of papers, avg. citations/paper, h-index, is arguably less important as long as it is quantitative. Using several quantitative measures to compare units at York with similar units elsewhere should yield an improved unit-by-unit research profile for York.
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- Regarding "ii) ... comparing ourselves to other science and engineering faculty", it was noted that differences between disciplines -- and even within disciplines -- absolutely must be kept in mind, so that apples are compared with apples. (For example, theoretical and experimental particle physicists have very different citation patterns in the literature.)
 - Regarding "iii) measuring and promoting research at York University (i.e. projecting our research image to outside agencies)", it was noted that NSERC is extremely focused on training highly qualified personnel, and graduate students more so than postdocs.
 - It was also noted that a researcher's h-index (defined as the number h of the researcher's papers which have been cited \geq h times in the literature; so a person with 8 papers cited \geq 12 times, 9 papers cited \geq 10 times, and 10 papers cited \geq 8 times, would have an h-index of 9) is an index which has recently gained much attention, and should be compiled along with more traditional indices.
 - One colleague was concerned by the amount time this exercise would require in the future.
...we need to look out for is that this not become the thin edge of the wedge of the research assessment exercises that our longsuffering British colleagues must endure. I.e., an enormous

consumption of administrative resources and much waste of time, assessment by counting as opposed to reading etc...

...sshrc no longer uses # of subscriptions as an index of a journal's significance or impact. Of course, they're still looking for reliable indicators (aren't we all?), but it's good to know that they're not just reaching out for something that's easily enumerated...

Still another colleague, and this I sense is a view held by many of us, felt that as research expectations for STS people in the Division of Natural Science are driven by SSHRC they are in some ways different from those for the rest of the faculty.

We also need to stress very strongly that the SSHRC view of the world is included: Fewer grants, longer papers and fewer of them, books rather than journal articles, edited chapters, book reviews etc.

There was also a demand for recognizing the organization of conferences (from the academic rather than from the logistical point of view) as a valuable contribution to research.

Finally, it was pointed out that we should take into consideration the internal recognition of research such as honours and awards. *If these are not included it begs the question as to whether they are significant and should be funded at all!*

Collection of Indicators (Step 2)

It was also the opinion of the FSE research committee that any method of collection of indicators, to be worthwhile, must be robust and reproducible. It must not be a voluntary exercise and as such, any attempt to collect indicators by voluntary poll should be discouraged. In addition to being flawed, it is also disruptive as it adds another burden to research intensive faculty who should be concentrating on research. Several options were discussed including:

1. Collection of faculty wide indicators by a research officer through computer based approaches (WEB of Science, etc.)
2. making use of faculty CV's to collect relevant information. This of course would require sensitivity to collective agreements and non-disclosure of any statistics that exist on a personal level.

The issue of how to collect the indicators in FSE will be resolved shortly.

Barriers to Research

Step 3 of the process asked for reflection on the barriers to enhancing research and to consider best practices that might be implemented in order to improve Yorks research culture. The following is feedback received from faculty in FSE, in short form. Redundancies have not been removed:

- more student office space is needed
- seed money for grad student research needed
- small amounts of funding for honours research thesis projects
- more support for grant writing, less bureaucracy/administrators in FSE needed
- infrastructure- e.g. freezer room in Lumbers building with no proper cooling
- more research space is critically needed
- less time devoted to administration, more time needed for critical thinking and research.
- electronic interference in the form of e-mail is a serious impediment to research time

- money is needed to support undergraduate research projects. Currently, senior thesis project courses are paid for by faculty members research grants. With significant growth in undergraduate enrolments, this is starting to drain the limited resources some of us have for graduate student support.
- computing personnel must be allowed to place research support at a higher priority level
- faculty and research staff must be allowed to focus on research, rather than on administration. As a concrete example, the eventual collection of research indicators must be undertaken with minimal impact on faculty and research staff.

Faculty of Science and Engineering Research Indicators				FACULTY AVERAGES: N=25			
RESEARCH INDICATORS				Relevance of Indicator			
		R1	R2	R3	R4	UNIT	FSE YORK GS's
1	Scholarly Publications	fill with numbers of 1-5, 5=highest relevance					
1.1	Refereed Journals publications - QUANTITY	4.2	4.1	4.3	3.8		
1.1	Refereed Journals publications - QUALITY	4.6	4.3	4.2	3.9		
1.1	Refereed Journals publications - IMPACT	3.8	3.8	3.8	3.4		
1.2	Other Refereed Publications (proceedings, CD pubs, WEB based pubs) - QUANTITY	3.0	2.9	3.3	2.9		
1.2	Other Refereed Publications (proceedings, CD pubs, WEB based pubs) - QUALITY	3.2	2.9	3.2	2.9		
1.2	Other Refereed Publications (proceedings, CD pubs, WEB based pubs) - IMPACT	2.7	2.4	2.7	2.5		
1.3	Non-Refereed Journals publications	1.5	1.3	1.4	1.3		
1.4	Non-Refereed Proceedings (Journal, CD WEB)	1.4	1.3	1.4	1.3		
1.5	Books	3.2	3.1	3.5	3.4		
1.6	Book Chapters	2.9	2.7	3.0	2.9		
1.7	Patents	2.7	2.8	2.8	2.4		
2	Scholarly Communication of Research						
2.1	Conference presentations & abstract	3.3	3.0	3.0	2.7		
2.2	Conference posters & abstracts	2.7	2.5	2.6	2.3		
2.3	External Lectures (univ, govern, other)	3.3	3.2	3.4	3.2		
2.4	Other research presentations	2.3	2.1	2.2	2.1		
2.5	Conference presentations of trainees	2.8	2.6	2.7	2.6		
3	External Financial Support						
3.1	Research Grants	4.2	4.2	4.1	3.7		
3.2	Research contracts	3.2	3.4	3.5	3.2		
3.3	Other Support?	3.0	3.2	3.3	2.9		
3.4	Chairs	3.5	3.6	3.9	3.2		
4	Research Awards						
4.1	National or international awards	4.0	3.7	4.0	3.5		
4.2	Awards to your graduate students	3.2	3.0	3.2	3.7		
4.3	Awards to your undergraduate students	2.6	2.6	2.8	3.0		
5	Training of Highly Qualified Personnel						
5.1	Post doctoral fellows supervised	3.5	3.5	3.5	2.9		
5.2	PhD graduates supervised (dissertations)	3.8	3.8	3.9	3.7		
5.3	MSc graduates supervised (thesis & project)	3.3	3.2	3.3	3.3		
5.4	Research assistants/associates supervised	2.6	2.4	2.5	2.4		
5.5	Undergraduates research supervised (thesis)	2.5	2.4	2.6	2.8		
5.6	Coop or summer students research projects	2.2	2.0	2.2	2.4		
6	Professional Research Work						
6.1	Position on National and International Science committees	3.3	3.0	3.5	2.7		
6.2	Research advisory boards	3.1	2.8	3.2	2.6		
6.3	Member of research journal editorial boards	3.2	3.1	3.4	2.8		
6.4	Scientific Organizing Committee - Conference	2.7	2.5	2.8	2.3		
6.5	Symposium and Session Chair - Conference	2.4	2.3	2.4	2.2		
7	High Impact and High Visibility Achievements						
7.1	Chairs	3.2	3.6	3.7	3.3		
7.2	Successful Alumni doing important research	2.8	3.2	3.4	3.3		
8	Public Communication of Research						
8.1	Newspaper articles about research	2.5	2.8	3.1	3.5		
8.2	Radio or TV highlights about research	2.4	2.7	3.0	3.4		

APPENDIX A – a call to colleagues in Faculty of Science and Engineering

Dear Colleagues,

In response to a "A Call to Colleagues on Measuring Research" by the Senate Academic Policy and Planning Committee (APPC), we are looking for your help in providing feedback on how to best measure research in the Faculty of Science and Engineering. The FSE Research & Awards Committee has met, and has viewed a tentative list of research indicators that might be used for measuring research. It is realized that the relative importance of each research indicator, (in terms of #, quality and impact) will be variable from unit to unit and will also depend on its intended use.

The short term immediate goal is to come up with a list of suitable research indicators that are important and relevant for research conducted in FSE. The collection of research indicators in FSE will occur in another future phase that we need not be concerned with right now, other than to emphasize that the intended use of the indicators would only be to measure our research at aggregate levels (units and faculties), not at the individual level, and for the purpose of promoting a stronger research culture at the University.

For those who have the time to participate, we ask that you:

1. review the list of research indicators in the attached spreadsheet file, and rate the importance of each research indicator on a level of 1-5 (5 = most important) for 4 purposes :
 - i) measuring and promoting your own research or other researchers in your field, either here or at another institution.
 - ii) measuring and promoting research conducted in the Faculty of Science and Engineering
 - iii) measuring and promoting research at York University
 - iv) recruiting high quality graduate students in your field of research.

[Note: if you are pressed for time, we would appreciate if you just filled out column i) in the spreadsheet and forward it by June 8, 2007.]

2. Provide any comments on missing indicators or comments on quality and impact of indicators that are not present in the list.
3. Please comment on barriers that may exist to our collective goal of enhancing research in FSE and the University and comment on best practices that might be implemented to improve York's research culture.

Please forward all information and comments to your departmental representative on the Faculty Research & Awards Committee, by June 8, 2007. Names and e-mails are provided below. In advance, thank you for your time and attention to this matter.

BIOLOGY - Stephen Wright <stephen2@yorku.ca>
CHEMISTRY - Bill Pietro <pietro@yorku.ca>
CSE -- Natalie Vlajic <vlajic@cse.yorku.ca>
ESSE - Peter Taylor <pat@yorku.ca>
MATH & STATS - Andrew Toms <atoms@yorku.ca>
PHYSICS & ASTRONOMY - Patrick Hall <phall@yorku.ca>
NATURAL SCIENCE - Dov Lungu <dlungu@yorku.ca>

Sincerely

Robert McLaren
Academic Policy and Planning Committee of Senate - FSE Representative

Faculty of Science and Engineering Research Indicators

RESEARCH INDICATOR	QUANTITY	QUALITY	IMPACT	Relevance/Importance of Indicator			
				R1	R2	R3	R4
1.0 Scholarly Publications							
1.1 Refereed Journals publications	#						
1.1 Refereed Journals publications		single or corresponding author, contributing author, citn indexes, journal impact factors, etc					
1.1 Refereed Journals publications			citation indexes, journal impact factors, etc				
1.2 Other Refereed Publications (proceedings, CD pubs, WEB based pubs)	#						
1.2 Other Refereed Publications (proceedings, CD pubs, WEB based pubs)		single or corresponding author, contributing author, citn indexes, journal impact factors, etc					
1.2 Other Refereed Publications (proceedings, CD pubs, WEB based pubs)			citation indexes, journal impact factors				
1.3 Non-Refereed Journals publications	#		perceived impact				
1.4 Non-Refereed Proceedings (Journal, CD WEB)	#		perceived impact				
1.5 Books	#		# sold, use in external institutions				
1.6 Book Chapters	#		# sold, use in external institutions				
1.7 Patents	# and \$		commercialization?				
1.8 Other ?	#						
2.0 Scholarly Communication of Research							
2.1 Conference presentations & abstracts	#	invited or uninvited	importance of conference?				
2.2 Conference posters & abstracts	#	invited or uninvited	importance of conference?				
2.3 External Lectures (univ, govern, other)	#	invited	importance of lecture				
2.4 Other research presentations	#	invited or uninvited	measure?				

2.5 Conference presentations of trainees	#	presentation awards, etc.	measure?				
3.0 External Financial Support							
3.1 Research Grants	# and \$						
3.2 Research contracts	# and \$						
3.3 Other Support?	# and \$						
3.4 Chairs		Type of Chair					
4.0 Research Awards							
4.1 National or international awards							
4.2 Awards to your graduate students							
4.3 Awards to your undergraduate students							
5.0 Training of Highly Qualified Personnel							
5.1 Post doctoral fellows supervised	#	awards	current placements				
5.2 PhD graduates supervised (dissertations)	#	awards	current placements				
5.3 MSc graduates supervised (thesis)	#	awards	current placements				
5.4 Research assistants/associates supervised	#	awards	current placements				
5.5 Undergraduates research supervised (thesis)	#	awards	current placements				
5.6 Coop or summer students research projects	#	awards	current placements				
6.0 Professional Research Work							
6.1 Position on National and International Science committees	#		importance of committee				
6.2 Research advisory boards	#		importance of committee				
6.3 Member of research journal editorial boards	#	importance of journal	assoc editor, editor, founding editor				
7.0 High Impact and High Visibility Achievements of Research							
7.1 Chairs	level	Type of Chair					

7.2 successful alumni doing research, etc.							
8.0 Public Communication of Research							
8.1 newspaper articles about research	#	positive or negative press	readership or audience size				
8.2 radio or TV highlights about research	#	positive or negative press	readership or audience size				

Questions of Importance/Relevance

In your opinion, how important or relevant is each research indicator (including quantity, quality and impact) for measuring or promoting research :

- 1. conducted by yourself or colleagues in your field of research?**
- 2. conducted in the Faculty of Science and Engineering (ie- comparing ourselves to other science and engineering faculty)?**
- 3. conducted at York University (ie- projecting our research image to outside agencies)?**
- 4. for the purpose of recruitment of high quality graduate students to FSE?**

Answers:

- 5- Extremely relevant**
- 4- Very relevant**
- 3- Somewhat relevant**
- 2- Small relevance**
- 1- Little or no relevance**