UA Grant Assist Program

NSERC's Discovery Grants Program:
1501 Genes, Cells and Molecules

David Evans, July 2014

1501 – topic areas

- Immunology
- Microbiology
- Organelle function and trafficking
- Neuroscience
- Molecular Genetics
- Evolution and development
- Cell signaling and electrical properties
- Quantitative approaches
- Biochemistry
- Cell biology

The Problem: 1501 and CIHR

"Any research supported by NSERC must be to advance knowledge and training in the natural sciences or engineering" – NSERC guide

Your NOI will be scrutinized by NSERC staff to see if it falls in the eligible category, if not, the application will be rejected

Your grant will be scrutinized by reviewers and they may also score it negatively if they believe your are pursuing "non-NSERC" research

Eligible for NSERC support

- Research in animal health and veterinary medicine.
- Research in nutrition related to food components, nutraceuticals (as defined in Health Canada's Policy Paper – Nutraceuticals/Functional Foods and Health Claims On Foods), or functional foods.
- Research seeking to further our understanding of fundamental processes in humans.
- Research whose primary purpose is the development of monitoring and diagnostic technologies (such as health IT, in-vitro diagnostics, diagnostic imaging, patient monitoring, and endoscopic devices) unless it is at the clinical trials stage (as defined by the International Conference on Harmonisation (ICH) Guidelines to Good Clinical Practice). The research challenge must lie within the NSE.
- Research whose major challenges lie in the NSE (materials science, engineering, computer science, chemistry, etc) which could eventually lead, among other applications, to the treatment or prevention of human disease.

Not eligible for NSERC support

- Research involving the refinement of already existing technology for facilitating clinical therapies or health delivery systems.
- Research whose primary purpose is the investigation or development of vaccines, active pharmaceutical ingredients (API), or other therapeutic agents for human applications.
- Research whose primary purpose is the investigation/treatment of injuries or human performance.
- Research seeking to develop animal models of human diseases in order to study primarily the disease state, or treatments for injuries or diseases represented by the model.
- Applied research for disease treatment, diagnosis or prevention
- Research involving clinical trials (as defined by the International Conference on Harmonisation (ICH) Guidelines to Good Clinical Practice).

The trick

- Think very carefully how you pitch your grant:
- Good: “Poxviruses remain an interesting biological puzzle 30 years after smallpox was eradicated and ceased to be a medical problem”
- Bad: “Thousands of Canadians once died of smallpox and the medical community is united in the need to develop better medical treatments”

The review process

- A conference model is used to review grants
- Grants are scored by a “Dutch auction” process
- Success and funding is determined by where your grant gets “binned” in three categories

- Your application is reviewed by people like you. “Do unto others as you would…”

Thinking about reviewers

- Reviewers are busy, sometimes overwhelmed by other tasks (e.g. teaching), and uniformed of your brilliance. They may be hung over, tired, and will appreciate (and reward) your help.
- Your grant proposal must be simple to review. That means it should be easy to read and extract a review. It must tell an interesting story, use headers effectively, lack jargon and minimize abbreviations, and *absolutely must* be written in simple, clear, and error-free English (or French).
- The reviewers are also looking for a program of research, not a project, that gives you some leeway to discuss the big picture. Minimize getting into the weeds, but do it enough to show you are an expert (or clearly cite your own published work).

1501

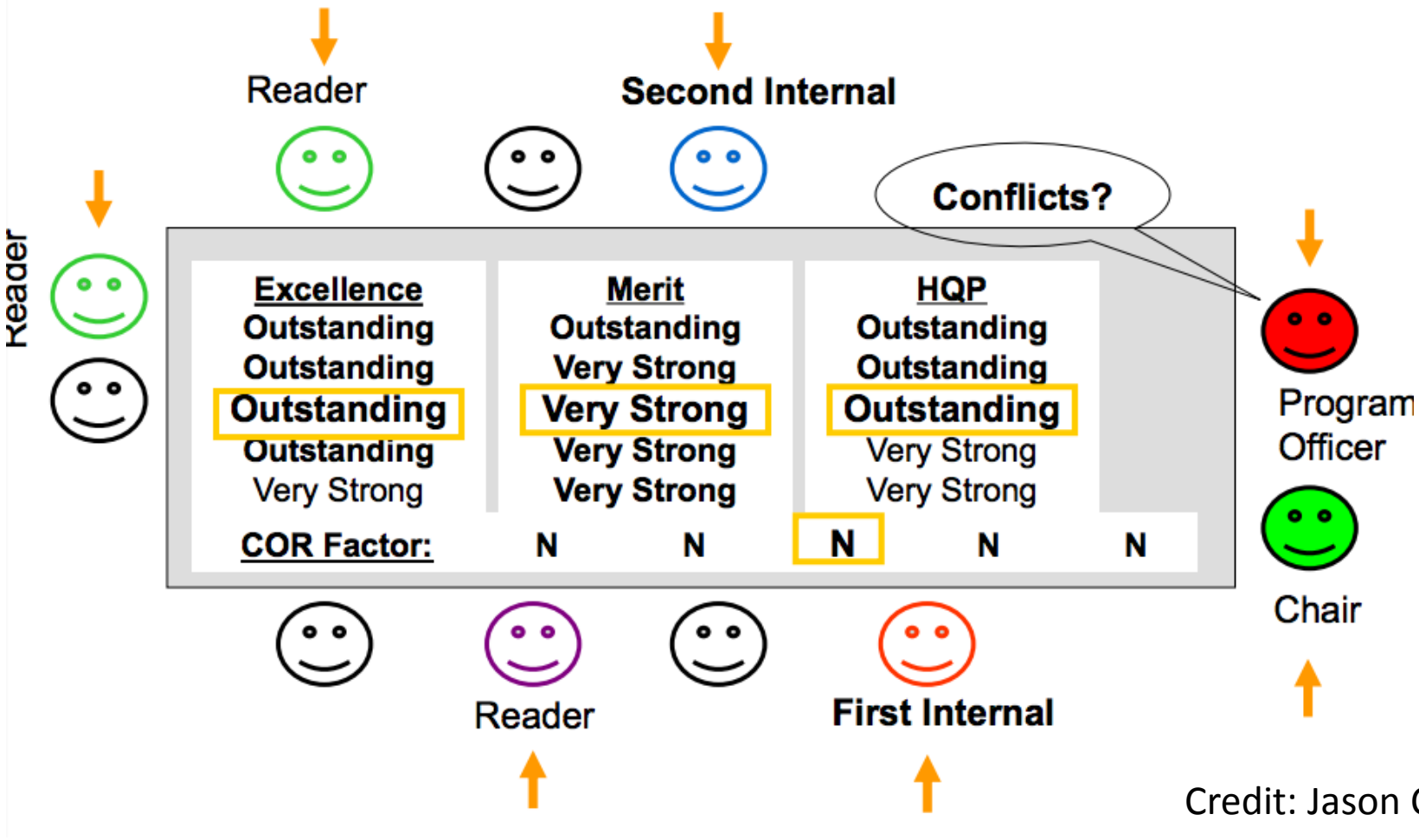
- Members – varied backgrounds, small medium and large universities, some international

1501 – Genes, Cells and Molecules

Genes, Cells and Molecules			
Role	**Name**	**Organization**	**End Date**
Group Chair	Janet Wood	University of Guelph	2015
Co-chairs	William Baldridge	Dalhousie University	2014
	Craig Brunetti	Trent University	2014
	Patricia Evans	The University of New Brunswick	2014
	Stephen Rader	The University of Northern British Columbia	2014
	Jacques Tremblay	Université Laval	2014
	Christopher Yost	University of Regina	2014
Members	Anthony Anyia	Alberta Innovates Technology Futures	2016
	Bernadette Ardelli	Brandon University	2014
	Diana Averill-Bates	Université du Québec à	2015

~50 members

Conference model



Credit: Jason Carey

Reviewers move from room to room in a complex dance: everyone must stick to a tight schedule

Scoring matrix

- Your grant is scored based on three *equally weighted* criteria
  - Excellence of the researcher
  - Merit of the proposal
  - Training (HQP)
- Reviewers depend upon
  - Application and CCV
  - Contributions (the papers you append)
  - External reviews
- Cost of research is simply scored L,N, or H. Most people get N unless you can make a special appeal to justify high costs

Example
(from NSERC's rating form)

Evaluation criteria (See Instructions for complete details)			
Excellence of researcher	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**
• Knowledge, expertise and experience • Quality of contributions to, and impact on, the proposed and other areas of research in the NSE • Importance of contributions • (For group applications) Complementarity of expertise between members and synergy	**Rationale for rating:**		
Merit of the proposal	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**
• Originality and innovation • Significance and expected contributions to research	**Rationale for rating:**		

You might be scored "outstanding" in the researcher category, "Very strong" in the proposal and "outstanding" in HQP. That puts you in a certain bin of researchers in NSERC's scoring matrix. Note that any "insufficient" excludes you from funding.

Review criteria: Researcher

- Knowledge, expertise and experience
- Quality of contributions to, and impact on, the proposed and other areas of research in the NSE
- Importance of contributions
- (For group applications) Complementarity of expertise between members and synergy

- These are always balanced depending upon the maturity of the applicant. Panels do give new investigators a break. They used to give senior investigators a bigger break, but not so much anymore

Review criteria: Merit of the proposal

- Originality and innovation
- Significance and expected contributions to research
- Clarity and scope of objectives
- Clarity and appropriateness of methodology
- Feasibility
- Discussion of relevant issues
- Appropriateness/justification of budget
- *Relationship to other sources of funds*

Review criteria: contribution to training of HQP

- Quality and impact of past contributions
- Appropriateness of the proposal for the training of HQP
- Training in collaborative and interdisciplicary environment (if applicable)

- Note: This section is weighted *equally* to the research proposal, spent a significant amount of time writing it well.

How did I write my NSERC application?

- file://localhost/Users/davidevans/Desktop/Final application.pdf
- Other suggestions – Look at the presentations from Carey, Wilman, and Funk on the UA website, many other helpful pointers.
- https://era.library.ualberta.ca/public/view/collection/uuid:ad6568e1-56c0-452f-b148-dcb2cf51f0ed

Questions?

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