NSERC Discovery Grants & RTI

UofS

Ron Borowsky, NSERC Lead UofS, EG 1502 Member/Chair (2010-14, 2017-21)
Heidi Smithson, Research Facilitator, College of Engineering
Pat Krone, College of Medicine, former RTI and EG 1501 Member/Chair
Lisa Jategaonkar, Associate Director, Strategic Research Initiatives

NSERC

Marie-Claude Caron, Team Leader, Engineering and Life Sciences, NSERC (via WebEx)
Guillaume Romain, Program Officer, EG 1502, NSERC (via WebEx)

Panel of NSERC EG/RTI members: Tips, Strategies, Q&A

- **Julia Boughner**, Associate Professor of Anatomy and Cell Biology, College of Medicine
  *Current member of **EG 1501 – Genes, Cells and Molecules***

- **James (J.D.) Johnston**, Associate Professor of Mechanical Engineering, College of Engineering
  *Current member of **EG 1512 – Mechanical Engineering***

- **Pat Krone**, Professor of Anatomy and Cell Biology, College of Medicine
  *Former chair of **RTI Genes, Cells and Molecules committee**, former member/chair of **EG 1501 – Genes, Cells and Molecules***

- **Regan Mandryk,** Professor of Computer Science, College of Arts and Science
  *Former member/chair of **EG 1507 – Computer Science***

- **David Palmer**, Professor of Chemistry, College of Arts and Science
  *Current member of **EG 1504 – Chemistry***

- **Greg Penner,** Associate Professor of Animal and Poultry Science, College of Agriculture and Bioresources
  *Current member of **EG 1502 – Biological Systems and Functions***

- **Jean-Pierre St. Maurice**, Professor of Physics and Engineering Physics, College of Arts and Science
  *Current member of **RTI Physics committee***

- **Yangdou Wei,** Professor of Biology, College of Arts and Science
  *Current member of **EG 1502 – Biological Systems and Functions***

NSERC Research Facilitators & Planning Officers

- **Agriculture and Bioresources**: Kevin Driscoll
- **Arts and Science**: Javier Tavitas
- **Edwards School of Business:** Joelena Leader
- **Engineering**: Heidi Smithson
- **Centre for the Study of Science and Innovation Policy within Johnson-Shoyama School of Public Policy:** Anne Balllantyne
- **Kinesiology and School of Rehabilitation Science**: Lori Ebbesen
- **Medicine** (college): Bruna Bonavia-Fisher
  - **Department of Medicine**: Jon Watts
  - **Department of Surgery**: Karen Mosier
- **Pharmacy and Nutrition**: Gen Clark
- **Western College of Veterinary Medicine**: Lianne McLeod
- **School of Environment and Sustainability:** Shelley-May Neufeld

Schedule of events

8:30 – 9:00 AM	Registration and Breakfast
9:00 – 10:00 AM	Welcome, Introductions, and Overview of the Evaluation Group Process at NSERC
10:00 – 11:30 AM	Panel of NSERC EG/RTI Members: Tips, Strategies, Q&A
11:30 – 11:45 AM	Opportunities and Strategies for Collaborative/Partnered NSERC Grants
12:00 – 3:00 PM	Celebration, Networking and Discussion Lunch (Marquis Hall, Exeter Room)

What is NSERC?

NSERC = Natural Sciences and Engineering Research Council of Canada

- Part of the federally-funded Tri-Council network (along with SSHRC and CIHR)

What is the Discovery Grants Program?

- Supports ongoing programs of research with long-term goals, rather than a single short-term project or collection of projects
- 'Grants in aid'; provides long-term operating funds to help support the costs of a research program
- Up to five years in length (six for ECRs!)
- Applicant must hold a position (min 3 yr term) that allows for independent research, and to supervise student or post-doc research; see NSERC Eligibility Criteria

UNIVERSITY OF SASKATCHEWAN

Intention to apply (usask)

NOI to NSERC

Draft proposal for internal review(usask)

RTI deadlines

RSEO submission deadline

(ask your RF for earlier college/dept deadlines)

NSERC Discovery Grant (DG) and Research Tools and Instruments Grant (RTI) 2018 Competitions			
Internal Review and Submission Timelines			
DG	**RTI**	**REQUIREMENT**	**DEADLINE**
X	X	Applicants initiate their intention to apply and/or request for internal review by submitting the Intention to Apply/Request for Internal Review Form for NSERC DG/RTI to grant.review@usask.ca (306-966-7521). Please put **'Lastname_NSERC_DG/RTI'** in the subject heading.	**July 3, 2018**
X		**NSERC Deadline for Submission of DG Notification of Intent (NOI) to Apply** NOI must be submitted to NSERC through the NSERC Research Portal.	**August 1, 2018**
X		Applicants participating in the Internal Review, please e-mail a copy of your **submitted NSERC DG NOI** to grant.review@usask.ca (306-966-7521). Please put **'Lastname_NSERC_DG'** in the subject heading.	**August 2, 2018**
X	X	Applicants consult with their suggested reviewers, Research Facilitators, Associate/Vice-Deans Research, or mentorship teams to strategize and prepare their draft application.	**July 3 – September 17, 2018**
X	X	Applicants submit **draft application** and **CCV** for internal review to grant.review@usask.ca (306-966-7521). Please put **'Lastname_NSERC_DG/RTI'** in the subject heading.	**September 17, 2018**
X	X	Completed internal reviews are returned to the applicants.	**October 10, 2018**
X	X	Applicants consult with their suggested reviewers, Research Facilitators, Associate/Vice-Deans Research, or mentorship teams to incorporate reviewer feedback. Research Facilitator reads for the logistical flow and completion of the proposal.	**October 10 – 17, 2018 (RTI)** **October 10 – 24, 2018 (DG)**
	X	**Research Services Submission Deadline (RTI)** Final applications must be received through the University Research System (UnivRS) by Research Services and Ethics Office (RSEO). **NOTE:** College/school/department approval deadlines precede the RSEO deadline. Please check with your Research Facilitator or Associate/Vice-Dean Research.	**October 18, 2018**
	X	**NSERC RTI Submission Deadline** Final applications must be **submitted by applicants** to NSERC through the NSERC Research Portal, and will be forwarded by the RSEO staff.	**October 25, 2018**
X		**Research Services Submission Deadline (DG)** Final applications must be received through the University Research System (UnivRS) by Research Services and Ethics Office (RSEO). **NOTE:** College/school/department approval deadlines precede the RSEO deadline. Please check with your Research Facilitator or Associate/Vice-Dean Research.	**October 25, 2018**

UNIVERSITY OF SASKATCHEWAN

NSERC DG deadline

X		**NSERC DG Submission Deadline** Final applications must be **submitted by applicants** to NSERC through the **NSERC Research Portal**, and will be forwarded by the RSEO staff.	**November 1, 2018**

Workshops and Webinars Calendar

DG	RTI	EVENT	DATE
X	X	**NSERC Discovery Grant/RTI Workshop and Celebration Luncheon** The workshop will provide insights on the evaluation process, successful strategies for grant writing, and tools and approaches to enhance the quality of DG and RTI applications. Celebration/networking luncheon with NSERC grant recipients to follow. Click **here** to see the **workshop slides** and **here** to download the **video recording**.	**May 14, 2018**
X		**DG Webinar: Submission of a Notification of Intent to Apply (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**May 22, 2018** **11:00 am – 1:00 pm (SK)**
X	X	**NSERC CCV and Research Portal Computer Lab Clinics for DG and RTI Applicants** For more information, please contact grants.workshop@usask.ca.	**Mid-June (TBA)**
X		**DG Webinar: Submission of a Notification of Intent to Apply (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**June 19, 2018** **11:00 am – 1:00 pm (SK)**
X		**DG Webinar: Submission of a Notification of Intent to Apply (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**July 12, 2018** **11:00 am – 1:00 pm (SK)**
X		**DG Webinar: Submission of an Application** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**August 28, 2018** **11:00 am – 1:00 pm (SK)**
	X	**RTI Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**August 30, 2018** **11:00 am – 1:00 pm (SK)**
	X	**RTI Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**September 13, 2018** **11:00 am – 1:00 pm (SK)**
X	X	**Full Application Research Portal Computer Lab Clinics for DG and RTI Applicants** For more information, please contact grants.workshop@usask.ca.	**Mid-September (TBA)**
X		**DG Webinar: Submission of an Application** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**September 25, 2018** **11:00 am – 1:00 pm (SK)**

NSERC Grant Update

- **2017: UofS submitted 69 NSERC Discovery Grant applications, Overall success rate = 65%; Overall value of these grants = $7.5M** (incl. 2 DAS and 1 Northern Res. sup)
  - **Early Career Researcher rate = 59%**
  - **Established Researcher rate = 83%**
  - **Established Researcher Not Holding Grant rate = 35% (50% if did internal review)**
  - **28 NSERC RTI Grant applications, 3 awarded (worth $343,825)**

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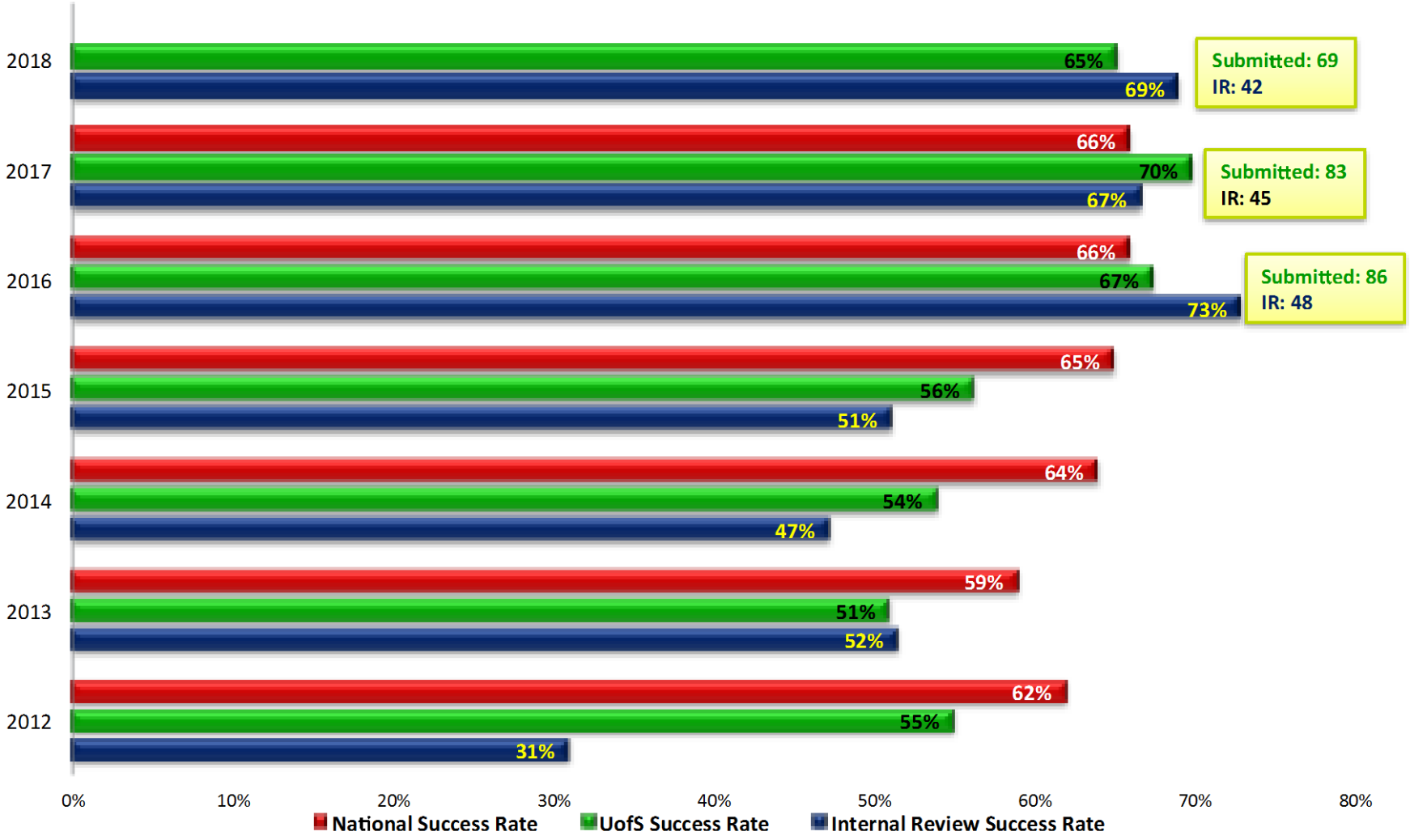
NSERC Discovery Grant Success Rates (National vs. USask 2012-2018)



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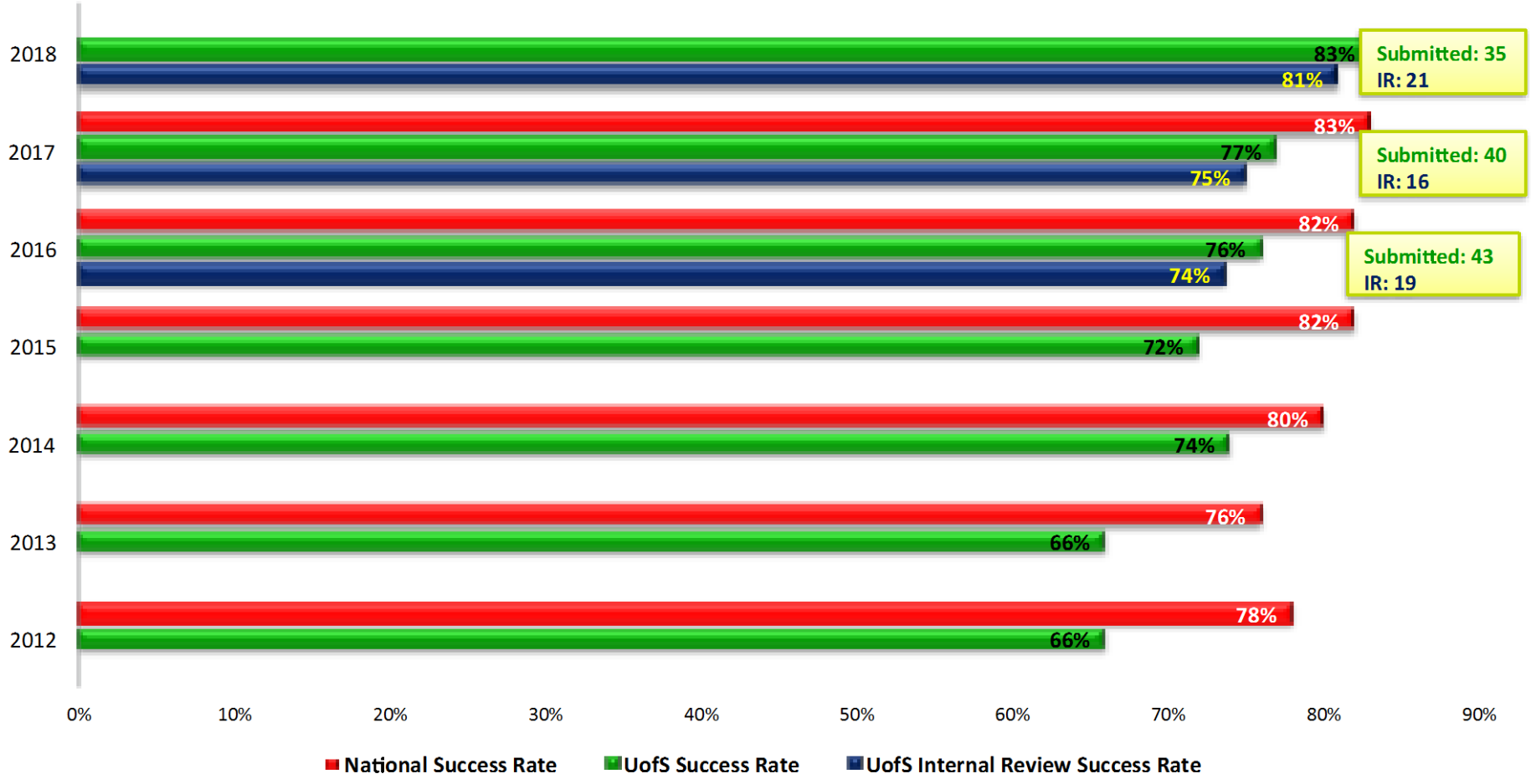
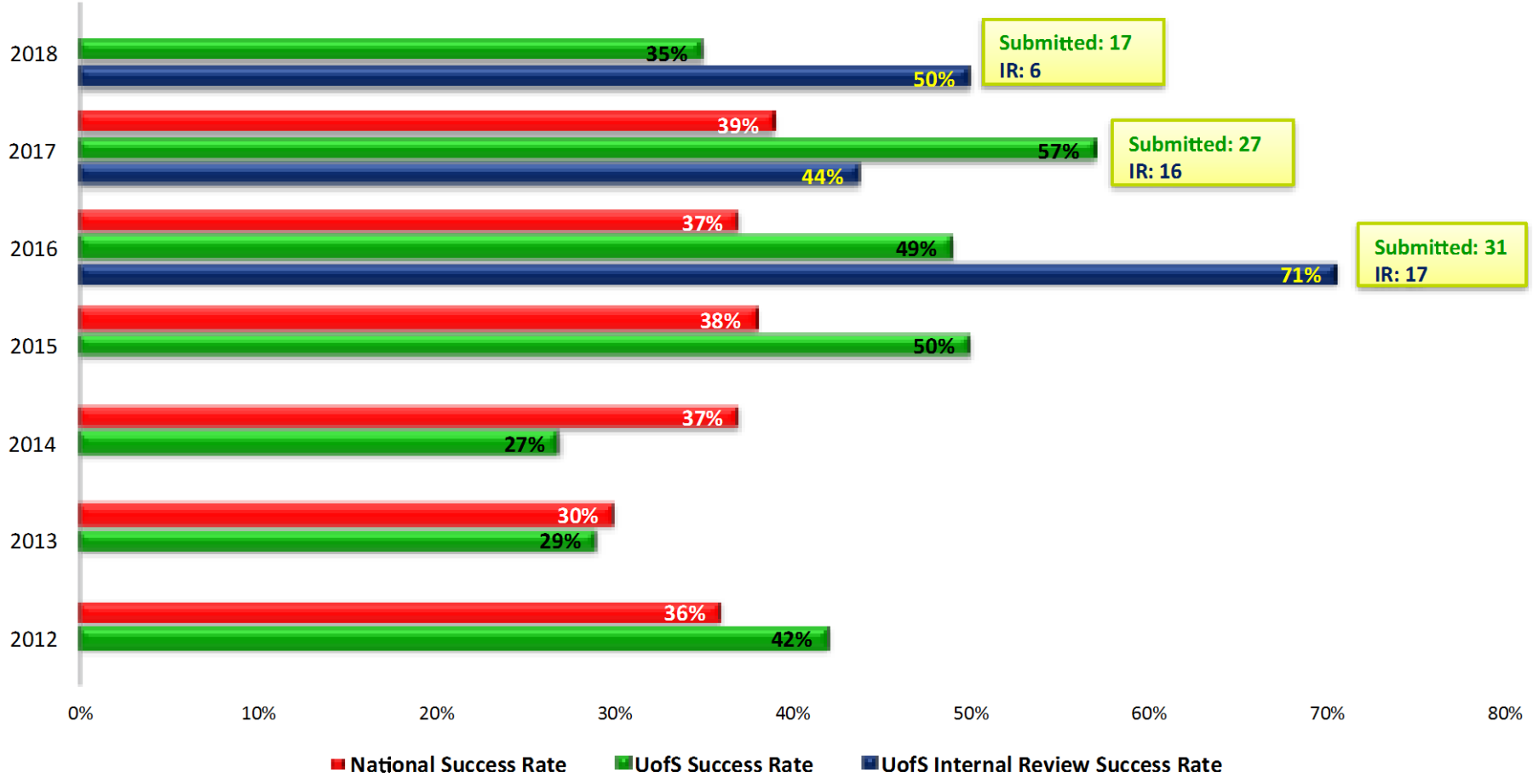
NSERC Discovery Grant Success Rates for Early Career Researchers (National vs. USask 2012-2018)

NSERC Discovery Grant Success Rates for Established Researchers Renewing A Grant (National vs. USask 2012-2018)



NSERC Discovery Grant Success Rates for Established Researchers Not Holding a Grant (National vs. USask 2012-2018)



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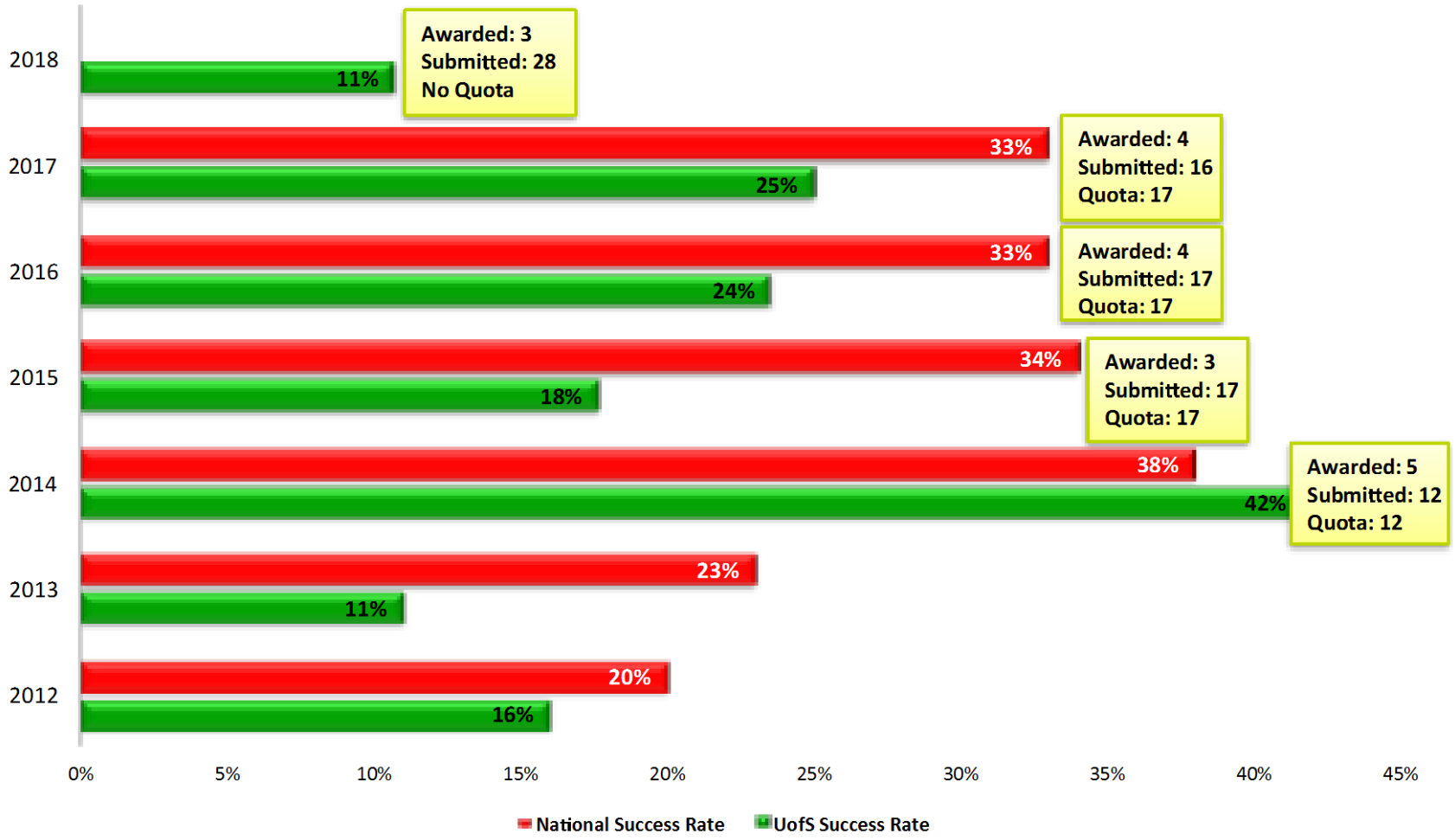
NSERC RTI Grant Success Rates (National vs. USask 2012-2018)



Excellence of the researcher	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**
• Knowledge, expertise, and experience of the researcher in the NSE • Quality and impact of contributions to the proposed research and/or other areas of research in the NSE • Importance of contributions to, and use by, other research and end-users	**Rationale for rating:**		
Merit of the proposal	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**
• Originality and innovation • Significance and expected contributions to NSE research; potential for policy- and/or technology-related impact • Clarity and scope of objectives • Clarity and appropriateness of methodology • Feasibility • Extent to which the scope of the proposal addresses all relevant issues • Appropriateness of, and justification for, the budget • Demonstration that the Discovery Grant proposal is distinct conceptually from research supported (or submitted for support) through CIHR and/or SSHRC • Clear explanation why Discovery Grant funding is essential to carry out the research proposed in the DG application (for applicants who hold or have applied for a CIHR Foundation Grant)	**Rationale for rating:**		
Contributions to the training of highly qualified personnel	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**

• Past contributions to the training of HQP
  • Training environment
  • HQP awards and research contributions
  • Outcomes and skills gained by HQP
• Training plan
  • Training philosophy
  • HQP research training plan
	Rationale for rating:		

Merit indicators

	Exceptional	Outstanding	Very Strong	Strong
Excellence of the Researcher	Acknowledged as a **leader** who has continued to make, over the last six years, **influential accomplishments** at the highest level of quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be **far superior** in quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be of **superior** quality, impact and/or importance.	The accomplishments presented in the application were deemed to be **solid** in their quality, impact and/or importance.
Merit of the Proposal	Proposed research program is clearly presented, is **extremely original and innovative** and is **likely to have impact by leading to groundbreaking advances** in the area and/or **leading to a technology or policy** that addresses socio-economic or environmental needs. **Long-term vision** and **short-term objectives** are **clearly defined**. The methodology is **clearly defined and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **highly original and innovative** and is **likely to have impact by contributing to groundbreaking advances** in the area, and/or **leading to a technology or policy** that addresses socio-economic or environmental needs. **Long-term goals are clearly defined and short-term objectives are well planned**. The methodology is **clearly described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **original and innovative and is likely to have impact by leading to advancements** and/or addressing socio-economic or environmental needs. **Long- term goals are defined and short-term objectives are planned**. The methodology is **clearly described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **original and innovative and is likely to have impact** and/or address socio-economic or environmental needs. **Long-term goals and short-term objectives are clearly described**. The methodology is **described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.
Training of HQP	Past training is **at the highest level** in terms of the research training environment provided and HQP contributions to research. **Most** HQP move on to **highly impactful** positions that require skills gained through the training received. Training philosophy and research training plans are **at the highest quality**: **highly appropriate, clearly defined** and expected to produce **top quality** results in terms of the overall approach and specific projects for HQP.	Past training is **far superior** to other applicants in terms of research training environment provided and HQP contributions to research. **Most HQP** move on to **impactful** positions that require skills gained through the training received. Training philosophy and research training plans are **far superior**: **highly appropriate, clearly defined** and expected to produce **high quality** results in terms of the overall approach and specific projects for HQP.	Past training is **superior** to other applicants in terms of the research training environment provided and HQP contributions to research. HQP **generally** move on to **impactful positions** that require skills gained through the training received. Training philosophy and research training plans are **superior**: **highly appropriate, clearly defined** and expected to produce **quality** results in terms of the overall approach and specific projects for HQP.	Past training compares **favourably** with other applicants in terms of the research training environment provided and HQP contributions to research. HQP **generally** move on to positions that require skills gained through the training received. Training philosophy and research training plans are **appropriate and clearly defined** in terms of the overall approach and specific projects for HQP.

DG Proposal Sections

- Public Summary
- Budget
- Relationship to Other Research Support
- **HQP Training Plan**
- **Past Contributions to HQP Training**
- **Most Significant contributions**
- Additional Information on Contributions
- **Proposal (5 pages)**
- **Budget Justification**
- References
- Attachments
- CCV

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Training of HQP

	Exceptional	Outstanding	V. Strong	Strong
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Contributions to the training of highly qualified personnel	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**

• Past contributions to the training of HQP
  • Training environment
  • HQP awards and research contributions
  • Outcomes and skills gained by HQP
• Training plan
  • Training philosophy
  • HQP research training plan
	Rationale for rating:		

HQP Training Plan

- Describe exactly what your students will do – be explicit - **plan**
- Relate it to specific research objectives and your **training philosophy**
- The *level* of research: Why is a PhD needed to tackle Objective 1, instead of a MSc?
- Describe *what* your students will learn: special skills, career training, etc.
- Include that students will publish and present at conferences – be specific
- Value-added: access special facilities, College poster/research days, specialized workshops, industrial collaborations?
- Don't forget about the undergrads, Research techs, summer students, Honours students
- Emphasis is on benefits to the student; plan should describe an excellent experience and environment

Examples

(for more examples of successful DG applications please visit the USask **Grant Repository**)

https://share.usask.ca/go/ovpr/grants_repository/Pages/default.aspx

HQP tables (include in budget just.)

Provided by Jack Gray, Dept. Biology

Program years	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Shaded cells indicate years of requested funds	MSc 1 = H1A & B				
	MSc 2 = H2A		MSc 3 = H2B		
		PhD 1 = H3A & B			
	T1 = H1-H3				
	UG (x2)	UG (x2)	UG (x2)	UG (x2)	UG (x2)

Student	Objectives/ Student project	Year 1	Year 2	Year 3	Year 4	Year 5
Name 1(MSc.)	1	x	x			
TBD1 (MSc.)	2			x	x	
TBD2 (MSc.)	3				x	x
Name 2 (PhD)	1	x	x	x		
TBD3 (PhD)	2/3			x	x	x

HQP: Describe what your students will do

"Two MSc students will be involved with Objective 2 (metabolic disruption arising from dietary Se exposures). A recently recruited MSc student (Name) will be conducting experiments in early life stage zebrafish exposed in ovo to SeMet. He will determine a variety of parameters associated with metabolic capacity, including respirometry, energy stores, and whole transcriptome gene expression using RNA-seq. A new MSc student will be recruited in 2019 (Year 4) to conduct complementary experiments in juvenile rainbow trout exposed to dietary SeMet. Two BSc Honours students will be recruited to conduct experiments in zebrafish and/or rainbow trout in years 3-5 of the proposed research. An additional 2 BSc summer research assistants will be recruited in 2016 and 2017 to assist Connor Pettem with Objective 2 and will have defined projects."

- David Janz, Department of Veterinary Biomedical Sciences

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Relates HQP work to ST objectives

- David Janz, Department of Veterinary Biomedical Sciences

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Indicates what students will do / accomplish

- David Janz, Department of Veterinary Biomedical Sciences

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Remember undergrads

- David Janz, Department of Veterinary Biomedical Sciences

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Past Contributions to HQP

- What important, challenging **skills** have your students learned?
- How did your lab's **training environment** help them in their *impactful positions* (both academic and non-academic careers, but highlight the NSE aspects)? How did you interact with students? Show *pride* in your HQP training!
- **Outcomes**: Have your students **published papers**/presented at conferences/won **awards**?
- Don't forget your undergraduate students (all HQP 'count')!

Past HQP example

"My MSc students also contributed to my research in a significant way; everyone is co-author or even a lead author (Name1, Name2) of one or more refereed publications (paper with recent MSc, graduate, [Name3], was just accepted). Over the last six years my graduate students made ten conference presentations in person (poster or oral) and contributed to five of my presentations. My lab provides a high level of training on software development, data visualization, physical concept testing and networking with others. These skills allow my students to be successful in their further careers. [Name] (PhD, 2011) is now a Research Scientist with NRCan Geomagnetic Laboratory in Ottawa where she leads several key projects based on her training in Space Weather. Name3 is now a research assistant in ([Prof]'s group (Canadian Light Source Synchrotron Facility) helping on the software side. Over my career, I am proud to state that all 5PhD students that I supervised are professional researchers in the field of training in permanent positions and, among them, two are tenured Associate professors (USA and China)."

-Sasha Koustov, Department of Physics and Engineering Physics

Past HQP example

"**My MSc students also contributed to my research in a significant way; everyone is co-author or even a lead author ([Name1], [Name2]) of one or more refereed publications (paper with recent MSc, graduate, [Name3], was just accepted). Over the last six years my graduate students made ten conference presentations in person (poster or oral) and contributed to five of my presentations**. My lab provides a high level of training on software development, data visualization, physical concept testing and networking with others. These skills allow my students to be successful in their further careers. [Name] (PhD, 2011) is now a Rese[illegible]with NRCan Geomagnetic Laboratory in Ottawa where she leads several key projects based on her training in Space Weather. [Name3] is now a research assistant in ([Prof]'s group (Canadian Light Source Synchrotron Facility) helping on the software side. Over my career, I am proud to state that all 5PhD students that I supervised are professional researchers in the field of training in permanent positions and, among them, two are tenured Associate professors (USA and China)."

Publications

-Sasha Koustov, Department of Physics and Engineering Physics

Past HQP example

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Skills

Past HQP example

"My MSc. Students also contributed to my research in a significant way; everyone is co-author or even a lead author (Name1, Name2) of one or more refereed publications (paper with recent MSc, graduate, [Name3], was just accepted). Over the last six years my graduate students made t n (poster or oral) and contributed to five of my p n level of training on software development, data visualization, physical concept testing and networking with others. **These skills allow my students to be successful in their future careers. [Name] (PhD, 2011) is now a Research Scientist with the NRCan Geomagnetic Laboratory in Ottawa where she leads several key projects based on her training in Space Weather. Name3 is now a research assistant in ([Prof]'s group (Canadian Light Source Synchrotron Facility) helping on the software side. Over my career, I am proud to state that all 5PhD students that I supervised are professional researchers in the field of training in permanent positions and, among them, two are tenured Associate professors (USA and China)."** -Sasha Koustov, Department of Physics and Engineering Physics

Careers (show your pride!)

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Excellence of Researcher

	Exceptional	Outstanding	Very Strong	Strong
Excellence of the Researcher	Acknowledged as a **leader** who has continued to make, over the last six years, **influential accomplishments** at the highest level of quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be **far superior** in quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be of **superior** quality, impact and/or importance.	The accomplishments presented in the application were deemed to be **solid** in their quality, impact and/or importance.

Excellence of the researcher	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**
• Knowledge, expertise, and experience of the researcher in the NSE • Quality and impact of contributions to the proposed research and/or other areas of research in the NSE • Importance of contributions to, and use by, other research and end-users	**Rationale for rating:**		

Most Significant Contributions

- Can cluster papers together into 'Programs of Research' for each Contribution.
- Clustering papers/outputs allows you to refer to the long-term program and mention how some of the older research is now being cited
- For each cluster:
  - Identify it with a title, describe what was found, link it to CV items, and demonstrate **quality** of accomplishments (e.g., journal venues).
  - Describe what was done and the implications/**impact** (e.g., citations).
  - To whom is the work important (e.g., **broad community**)?
  - Describe the novelty in your approach.

Most Significant Contribution example

1) Catalytic and Chemical Activity of Metallic and Bimetallic Nanoparticles (cv pubs #30, 26, 19, 17, 10, 6), invited keynote presentations (cv # 19, 15)

This work involved the development and characterization of metallic and bimetallic nanoparticles (NPs) using macromolecular stabilizers for both quasi-homogeneous catalysis (e.g. NPs dispersed in solvents) and heterogeneous catalysis. We have shown that the templating approach is an excellent route to the synthesis of chemically and structurally well-defined PdAu and PdAg catalytic NPs in the 1-5 nm size range. Characterization of such NPs involve using multiple techniques such as UV-Vis spectroscopy, HRTEM and single particle X-ray energy dispersive spectroscopy (EDS) mapping, and x-ray absorption spectroscopy (EXAFS and XANES) experiments at the Canadian Light Source (#26). Catalytic measurements are also used to study the structure/property relationships of these materials. Such bimetallic NPs are interesting as they can be used to develop highly selective bimetallic catalysts which can be guided by theoretical models and ultrahigh vacuum surface science studies. In particular, we have shown that catalytic activity is influenced not only by bimetallic compositions, but also the structures of the bimetallic NPs (for example, core-shell vs. alloy vs. cluster-in-cluster); alcohol oxidations are accelerated over Au@Pd core@shell NPs compared to their alloy counterparts (#17). […]

-Rob Scott, Dept. Chemistry

Most Significant Contribution example

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Clustered papers and talks

-Rob Scott, Dept. Chemistry

Most Significant Contribution example

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Describe what was done

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Most Significant Contribution example

Describe what was found

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Describe what was found

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-Rob Scott, Dept. Chemistry

Most Significant Contribution example

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Implications

Refers to specific users

-Rob Scott, Dept. Chemistry

Take a look at the **Most Significant Contributions Template** for some wording suggestions (prepared by Gen Clark and Jon Watts)

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PHRASE BANK: SIGNIFICANT CONTRIBUTIONS

Theses generic phrases can be used as is, modified, or used for inspiration to underline the significance of scholarly contributions.

Knowledge, expertise, and experience

My expertize was *recognized by*
This led to an *invited review/presentation*
Committee membership on
Funded by
Lead, pioneered, spearheaded, chaired

Impact on Research

I. Novelty and Innovation

This established for the *first time*
Our team made the *unique* observation
My team was the *first to demonstrate*
This led to the *discovery* of
This is the first use of [*new methodology*] in [field]

II. Advancement of knowledge

Our work has provided a *better understanding* of [new theory/hypothesis]

Quality of contributions

This resulted in publications in [journals]
A *top journal in* [field]
A journal ranked [x] of [y] in [field]
This is now well *accepted in the literature*
This was *highlighted/featured* in a recent [editorial, letters, pre-publication, media coverage]
Most downloaded/accessed
Received *media interest* from
This body of work has been *cited/used* in [policy, reports, by user groups]
The article has been *cited* [quantity]
The article has been for *cited for* [quality/impact indicator]

Importance to end users

Results have *important implications* for

DG Proposal Sections

- Public Summary
- Budget
- Relationship to Other Research Support
- HQP Training Plan
- Past Contributions to HQP Training
- Most Significant Contributions
- Additional Information on Contributions
- **Proposal (5 pages)**
- Budget Justification
- References
- Attachments
- CCV

Merit of the Proposal

	Exceptional	Outstanding	V. Strong	Strong	Moderate	Insuff.
Merit of the Proposal	Proposed research program is clearly presented, is **extremely original and innovative** and is **likely to have impact by leading to groundbreaking advances** in the area and/or **leading to a technology or policy** that addresses socio-economic or environmental needs. **Long-term vision** and **short-term objectives** are **clearly defined**. The methodology is **clearly defined and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **highly original and innovative** and is **likely to have impact by contributing to groundbreaking advances** in the area, and/or **leading to a technology or policy** that addresses socio-economic or environmental needs. **Long-term goals are clearly defined and short-term objectives are well planned**. The methodology is **clearly described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **original and innovative** and is **likely to have impact by leading to advancements** and/or addressing socio-economic or environmental needs. **Long- term goals are defined and short-term objectives are planned**. The methodology is **clearly described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, is **original and innovative** and is **likely to have impact** and/or address socio-economic or environmental needs. **Long-term goals and short-term objectives are clearly described**. The methodology is **described and appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program is clearly presented, has **original and innovative aspects** and **may have impact** and/or address socio-economic or environmental needs. **Long-term and short- term objectives are described**. The methodology is **partially described and/or appropriate**. The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.	Proposed research program, as presented **lacks clarity**, and/or is of **limited originality and innovation**. **Objectives are not clearly described** and/or likely not attainable. Methodology is **not clearly described and/or appropriate**. The application **does not clearly demonstrate** how the research activities to be supported are distinct from those funded (or applied for) by other sources.

Merit of the proposal	☐ **Exceptional**	☐ **Outstanding**	☐ **Very Strong**
	☐ **Strong**	☐ **Moderate**	☐ **Insufficient**

- Originality and innovation
- Significance and expected contributions to NSE research; potential for policy- and/or technology-related impact
- Clarity and scope of objectives
- Clarity and appropriateness of methodology
- Feasibility
- Extent to which the scope of the proposal addresses all relevant issues
- Appropriateness of, and justification for, the budget
- Demonstration that the Discovery Grant proposal is distinct conceptually from research supported (or submitted for support) through CIHR and/or SSHRC
- Clear explanation why Discovery Grant funding is essential to carry out the research proposed in the DG application (for applicants who hold or

Rationale for rating:

Proposal

- Use indicated topics as subtitles: **Recent Progress, ST and LT Objectives, Literature Review, Methodology, Impact** (can be combined, for example "**Literature Review and Recent Progress**")

- Ensure that your ***LT goals*** *(Model, Theory)* ***ST objectives*** *(experiments, studies), and* ***Methodology*** are **clear**, appropriate in **scope**, and well-planned. They should be easy to find and well defined!

- Be specific and use direct sentences. Connect **LT goals** to **ST objectives**. Highlight the originality and innovation! If there are different options for methodology, *justify* your choice. Identify potential pitfalls and *describe contingencies*.

- Establish the *context of your work* in your field, *identify knowledge gaps* that your work will help address. Justify your LT and ST objectives! Address the **contributions to NSE** and **potential for impact**.

- Tell a story that makes sense given your CV (**feasibility & credibility** with **methodology**). Once funded, NSERC allows you the freedom to explore new questions in your field.

- **Address all relevant issues** and confront potential **perceived overlap with CIHR and SSHRC** head on! Focus on basic NSE aspects (e.g., develop theory/model of the mechanisms involved).

Objectives (example)

The **Long-Term Goals** of my research program are to understand the molecular mechanisms underlying plant-pathogen interactions. **Short Term Goals** of this NSERC DG-funded research in the next 5 years are to explore critical components involved in cell wall appositions (CWAs) at the pathogen penetration site with 3 specific objectives: **Objective I**: to elucidate molecular and cellular pathways that contribute to CWAs. **Objective II**: to understand cellular trafficking mechanisms that coordinate deposition of cell wall materials to the pathogen penetration site, and **Objective III**: to uncover molecular components that are involved in the regulation of actin cytoskeleton rearrangement which contributes to CWAs and cellular trafficking at the pathogen penetration site. We will apply molecular biology, cell biology, biochemistry, genetics, and genomics approaches along with high throughput and classical plant pathology techniques to achieve these objectives.

-Yangdou Wei, Department of Biology

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Relates to research program

-Yangdou Wei, Department of Biology

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Broken into specific objectives

-Yangdou Wei, Department of Biology

Objectives (example)

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-Yangdou Wei, Department of Biology

Brief intro of methodology

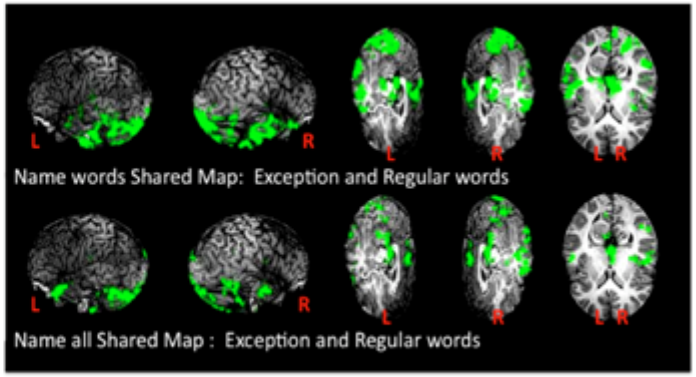
Proposal (continued)

- **Recent Progress** - Cite your own work
- **Lit. Review** - include recent research; be explicit if there has been a lag in the field and explain. Lit Rev. provides context and justification of your program and objectives.
- **Methodology and Feasibility** – provide enough details to judge feasibility. Explain your rationale. Include possible challenges and alternate approaches that show you have thought through your methodology and experiments (i.e., if the results come out differently, then what?)

Proposal (continued)

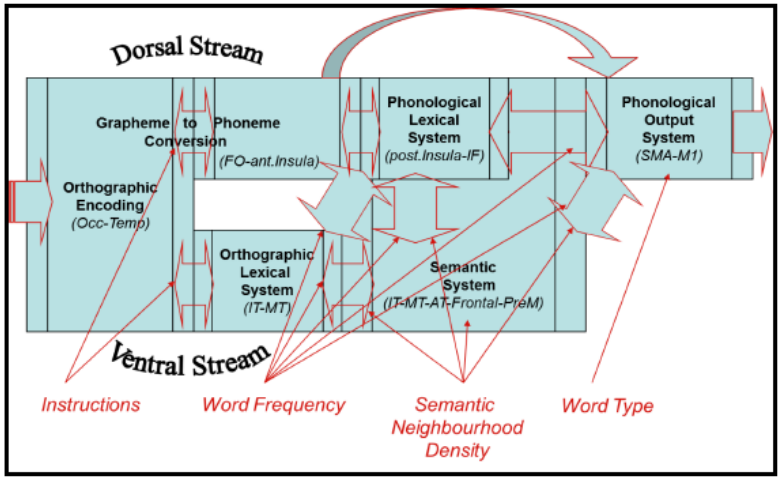
- Use figures when relevant! ("a picture *can* be worth a thousand words") -RB

Esopenko et al. (2008, 2012) have also guided the spatial localization of several of the subsystems of basic reading and language processes. For example, in some of our most recent fMRI work (Cummine et al., 2012), we demonstrated that instructing participants to name only stimuli that spell real words (and not name the nonwords) increased reliance on the ventral-lexical stream, as participants must first access their lexical system and verify the word's orthographic lexical status before producing an overt response, relative to instructions to name all words and nonwords (see figure above). As for impact, we



Objectives: Short-term Goals - Extending the Model:

i) Relationship Between Orthographic Lexical (whole-word) and Object/Picture/Symbol/Number Processing. Masters (soon to be PhD) student Layla Gould, and future students, will be doing research on how the whole-word processing along the ventral orthographic lexical pathway may have shared and/or unique activation loci relative to picture versions of the same referents, first by taking a behavioural/temporal approach using AFM, and then the spatial localization approach using fMRI. Recent debates between Price (2012) and Dehaene and Cohen (2011) have focused on whether the same system subserves both word and picture processing, but have not controlled for the degree of lexical reliance in



Proposal (continued)

- **Significance and expected contributions to NSE… potential for IMPACT**
  - Impact on NSE, impact on technology, impact on society
  - Are there controversial or emerging areas of science that your work will influence?
  - Who will use your information and why?
  - Refer to the Phrase Bank for wording options.
  - Connect with the public summary.

Proposal (Research Impact example)

"The research directions outlined in this proposal involve not only advancing our knowledge of 2D Dirac materials and their band-structure engineering but also promoting basic research to develop practical electronics and photovoltaic devices. Technologies based on graphene and other Dirac materials has evolved to a very competitive field of worldwide research and development (R&D) in both academia and industry because R&D in these areas is essential to come with a solution to current issues in conventional CMOS technology and high efficiency photovoltaics, and attain further progress. Therefore, this research program is timely and has great potential to make a profound impact on information and communications technologies (ICT) and energy technologies which are two areas of Canada's R&D priorities [45]. In addition to R&D outcomes, HQP will be trained in the fields of electronic device fabrication, advanced functional materials, and spectroscopic characterization, and become future employees in allied industries."

-Gap Soo Chang, Department of Physics and Engineering Physics

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Notes impact on basic research as well as technologies

-Gap Soo Chang, Department of Physics and Engineering Physics

Proposal (Research Impact example)

Specific benefits described

"The research directions outlined in this proposal involve not only advancing knowledge of 2D Dirac materials and their band-structure engineering but also pro basic research to develop practical electronics and photovoltaic devices. **Technologies based on graphene and other Dirac materials has evolved to a very competitive field of worldwide research and development (R&D) in both academia and industry because in R&D in these areas it is essential to have a solution to current issues in conventional CMOS technology and high efficiency photovoltaics, and attain further progress. Therefore, this research program is timely and has great potential to make a profound impact on information and communications technologies (ICT) and energy technologies which are two areas of Canada's R&D priorities [45].** In addition to R&D outcomes, HQP will be trained in the fields of electronic device fabrication, advanced functional materials, and spectroscopic characterization, and become future employees in allied industries."

Evidence of impact

-Gap Soo Chang, Department of Physics and Engineering Physics

Research Tools and Instruments

Dr. Patrick Krone,
College of Medicine,
Dept. of Anatomy and Cell Biology

Rating Form
Research Tools and Instruments Grant Application

Applicant	Department/University	First-time Applicant ☐

Title of Proposal	Amount Requested
	Number of Users

EVALUATION CRITERIA (See Section 7 of Peer Review Manual)	Provide comments on each criteria
Excellence and experience of researcher(s)	
Caliber of applicant/users	
Relevant experience to use the equipment	
Demonstrated ability to fully use the equipment	
Merit of programs to be supported	
Quality of research program(s) of proposed users	
Recent track record	
Potential for major advances in the discipline	
Need and urgency	
Impact of delay in the acquisition of the equipment	
Impact of equipment on program(s) and areas of research (e.g. launch of new directions; draw backs…)	
Accessibility of equipment to users	
Need for dedicated equipment	
Availability of similar equipment in the vicinity	
Institutional infrastructure limitations	
Need to upgrade or replace obsolete or failed equipment	
Suitability for proposed research	
Probability of utilization or accessibility of outside users	
Capability of applicant(s) to utilize equipment	
Accessibility of equipment (location & availability of technical support)	
Impact on HQP training	
Importance of the equipment for training	
Quality and extent of training	
Training received could be a marketable skill for HQP	
Opportunities for hands-on training	

Other comments (e.g., special circumstances):

Overall Impression/Priority:	Rating:

Recommendation (explain and describe item(s) if a partial award is recommended): $

NSERC RTI grants (from the NSERC website)

NSERC will only accept requests:

- For tools and instruments that form a comprehensive system intended to support NSERC funded research in the natural sciences and engineering (bundling of unrelated tools and instruments, will not be accepted).
- For the purchase of new, used or refurbished equipment, or for the repair or upgrade of equipment, or for the fabrication of equipment that is not readily available off the shelf.
- For equipment that is purchased after the application deadline.

Review Procedures and Selection Criteria

Applications for RTI grants submitted to NSERC are reviewed by experts on a competitive basis. Experts on NSERC RTI Selection Committees follow the guidelines in the Research Tools and Instruments Peer Review Manual.

From the RTI Peer Review Manual:

"Up to *five (committee) members* will be assigned to each RTI application" *(NOTE that these are not EG members)*

"*Committee members' evaluations should be made in isolation* and should not be discussed with other members
of the committee, except during any teleconference scheduled for flagged applications"

"Applications are assessed on the basis of five evaluating criteria. Members score each application from 1-10 (with 10 being the highest score), *ensuring a forced distribution*"

"Members provide an overall score for each application based on all five criteria*; there is no specified weighing of criteria*"

"Once NSERC receives the scores for all members, they will be entered into a spreadsheet and *the applications will be ranked based on the average score*"

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additional quotes taken from RTI Peer Review Manual

"impact of new equipment on the pace of progress for existing or proposed research"

Rating Form
Research Tools and Instruments Grant Application

Applicant	Department/University	First-time Applicant ☐

Title of Proposal	Amount Requested
	Number of Users

EVALUATION CRITERIA (See Section 7 of Peer Review Manual)	Provide comments on each criteria
Excellence and experience of researcher(s)	
Caliber of applicant/users	
Relevant experience to use the equipment	
Demonstrated ability to fully use the equipment	
Merit of programs to be supported	
Quality of research program(s) of proposed users	
Recent track record	
Potential for major advances in the discipline	
Need and urgency	
Impact of delay in the acquisition of the equipment	
Impact of equipment on program(s) and areas of research (e.g. launch of new directions; draw backs…)	
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Importance of the equipment for training	
Quality and extent of training	
Training received could be a marketable skill for HQP	
Opportunities for hands-on training	
Other comments (e.g., special circumstances):	

Overall Impression/Priority:	Rating:

Recommendation (explain and describe item(s) if a partial award is recommended): $

"for multi-user applications, demonstration that the proposed equipment is suitable for a multi-user facility and for the desired applications"

"demonstration that the equipment is essential to do the work, and that there are no more cost effective ways of obtaining the results"

Resources

- NSERC Instructions http://www.nserc-crsng.gc.ca/ResearchPortal-PortailDeRecherche/Instructions-Instructions/DG-SD_eng.asp
- NSERC Presentation Standards (fonts, margins etc.) are at: http://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/pdfatt2_eng.asp
- NSERC Webinars: http://www.nserc-crsng.gc.ca/ResearchPortal-PortailDeRecherche/RP-CCV-Webinar_eng.asp
  - Listed on timeline page 2
- UofS NSERC DG repository https://share.usask.ca/go/ovpr/grants_repository/
- 5 min NSERC videos http://www.nserc-crsng.gc.ca/ResearchPortal-PortailDeRecherche/Resource-Informatives_eng.asp
- Archived presentations and documents: http://research.usask.ca/research-process/index.php
- UnivRS workshops and resources: https://wiki.usask.ca/display/itsproject217/UnivRS+-+Resources+for+Colleges%20

NSERC Discovery Grants Evaluation Groups

1501 – Genes, Cells and Molecules

1502 – Biological Systems and Functions

1503 – Evolution and Ecology

1504 – Chemistry

1505 – Physics

1506 – Geosciences

1507 – Computer Science

1508 – Mathematics and Statistics

1509 – Civil, Industrial and Systems Engineering

1510 – Electrical and Computer Engineering

1511 – Materials and Chemical Engineering

1512 – Mechanical Engineering

SAP – Sub-atomic Physics

My spin on how to produce successful RTI applications.

J-P St.-Maurice
Physics and Engineering Physics
The University of Saskatchewan

May 14, 2018

Pay close attention to NSERC's requests but beware of the nature of the competition

- All the criteria matter. Make sure you cover all of them as well as you can.
- The above being noted, beware that NSERC will typically fund only 10 to 20% of applicants. The proposals are ranked by filling 10 bins of equal size. That means no more than 3 per bin if we process 30 proposals. So, even great proposals are not necessarily going to cut it.
    - Look at the criteria with the above in mind: from what I have seen, excellence of applicants and merits of proposed research programs is quite high for the majority of applicants. Given the diversity of sub-fields covered, it's not easy to distinguish based on these two criteria. In other words, typically, the excellence and merit criteria are not typically going to be what will affect the final rankings.

What might well decide the fate of the application.

Distinguishible features leading to funding an RTI application will usually depend on criteria having to do with need/urgency, suitability, great instrument utilization and HQP.

- Under urgency: do not forget to discuss various sources of funding that could come across as viable alternatives. If the reader sees that you have all kinds of financing, tell him/her why there is actually not enough money available to buy the equipment or instrument being requested but that with the RTI, things could work out.
- Under suitability: multi-user is a big plus. The users could come in part from another group at your institution or even in the same city. Still, remember that this is for *Research* tools and instruments.
- Pay attention to cost effectiveness.
- HQP could have a big impact on the results, all other things being equal. Additional HQP could come from other groups or you could regroup and sell the tool as being multi-faceted and useful for several units.

Bad things to avoid.

Here's a list of things that I have come across that greatly hurt some applications.

- You have to be clear. Avoid jargon. Remember that your are talking to people outside your immediate sphere of research. Example: I had to look at medical physics, quantum computers, space and astronomy, nanophysics, plasma physics and more... I could not possibly be an expert on all these subjects. This means that lack of clarity to people outside your immediate sphere of research is the kiss of death.
- Not being clear about funding sources: this is part of the urgency, as discussed in the previous slide. The more well-funded you are, the more this matters.
- Not doing your homework on quotes. You must have 2 vendors at least and you must explain the plusses and minusses of all of them. I had two groups asking for the exact same thing, sole vendors, and yet tens of K difference between the two. So, do your homework!

More bad things to avoid.

- Going in with the attitude that you are a guru and that you are God's gift to your field, so that we owe you and you should have this RTI grant. With that attitude you won't bother explaining yourself, since it is obvious to you and the whole world why you deserve this thing.
- This is not an operating grant. You want tools or instruments. You only need to descripe your project or program for context and tell us how useful the tool will be to reach fruition.
- Still, don't stay away from the scientific justification. For example, if I wanted to build an antenna for my space research projects and I asked for fancy receivers, I should justify the scientific need and usefulness. Just saying I need some electronics for the antenna will not fly.
- Don't insult the intelligence of the reader by using long cut-and paste extracts in different sections. Use the space to perfect your proposal and argue your case. Don't fill space for the purpose of filling space. Blank spaces, from that point of view, will have more impact than needless repetitions.

Things that help your case

- If possible show us how the instrument will make a difference for Canadian research by putting Canada on the map if you get the requested instrument or tool. Justify this point if you want to make it. This requires painting your field of research as important and exciting. The greater the potential for research and applications, the better.
- The above means that you should show and convey enthusiasm for what the tool you want to acquire will do. In other words, good selling skills will be needed.
- Conversely, do not tell us 'We'll see what happens after we get the instrument'. This is not a good selling point. You had better have a clear idea of where this instrument will take you and Canada and the rest of the world!

Final thoughts

- Do not hesitate to apply if you have the need or a good idea for something.
- Applying will be good for your field if nothing else
- Remember that it's a bit of crapshoot even if you have an excellent case. The results will depend in part on who else is applying and who reads your proposal. So, *just re-apply if you have been turned down*. Just make sure you review the material and find ways to make the case stronger.

NSERC CRSNG

University of Saskatchewan

Strategic Research Initiatives (SRI)

Lisa Jategaonkar, Associate Director

Collaborative and Partnered Grants

Lisa Jategaonkar

Associate Director

Strategic Research Initiatives

Strategic Research Initiatives

Mission:

- Facilitation for **national and international faculty awards**
- Promote high-quality **research experiences for undergraduate students**
- Customized support for incubation and development of **large-scale, strategic grant proposals**

2018 updates to NSERC programs

The Federal Budget proposed that Engage Grants, Industrial Research Chairs, Connect Grants, Strategic Partnership Grants for Networks and Projects, Experience Awards Grants, and the existing Collaborative Research and Development Grants **be consolidated into a single grant program.**

NSERC CREATE

Value-added training program
$1.65M over 6 years

Overview

- Training targeted to graduate students
- Must improve job readiness:
  - Demonstrate future career possibilities
  - Professional skills development
- Enhanced training:
  - Interdisciplinary research (focus within NSE)
  - Student mobility
  - Increased collaboration between industry and academia

NSERC CREATE

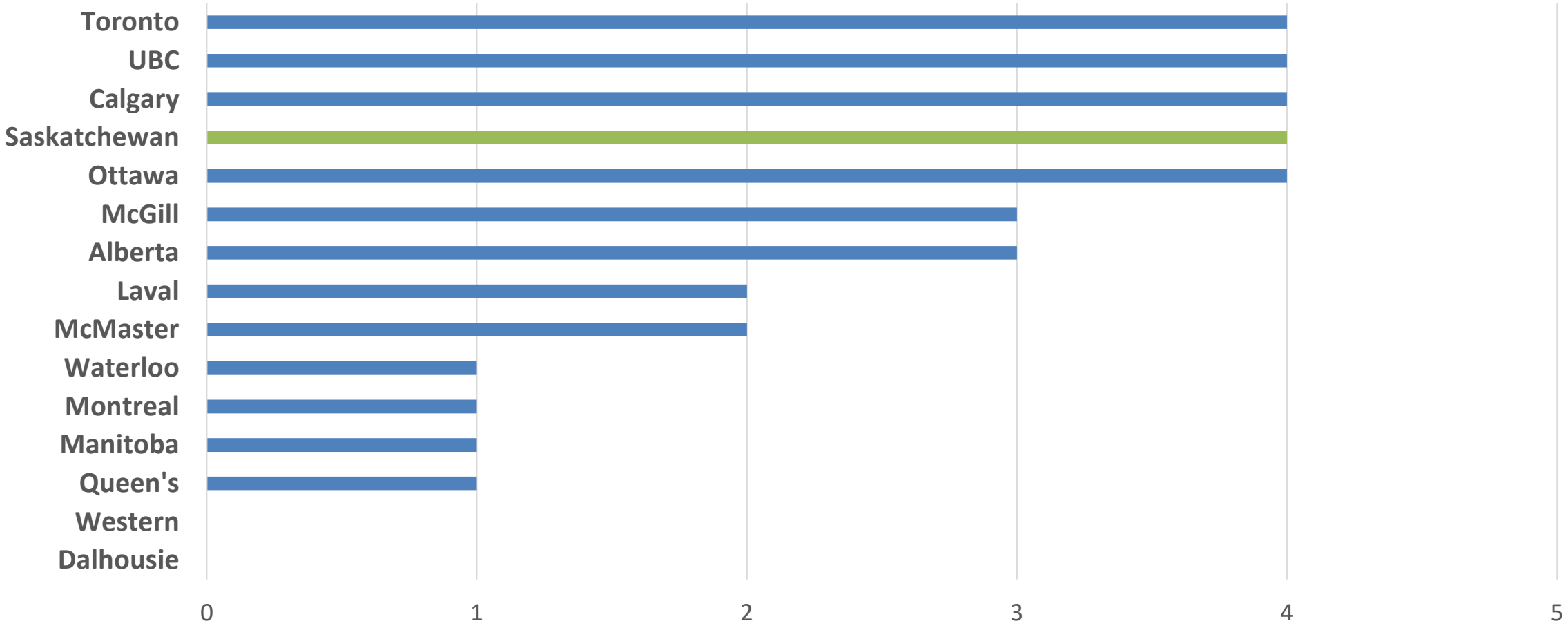
How it works

- >80% trainee stipends
- <20% : Trainee travel, training materials, administration, professional skills
- *Not eligible*: Travel costs of the research team, research materials or supplies

NSERC CREATE

Examples at the U of S	
Regan Mandryk Computer Science	SWaGUR: Saskatchewan-Waterloo Games User Research
Kathryn McWilliams Physics and Engineering Physics	International Space Mission Training Program
Steven Siciliano Soil Sciences	Sustainable Applied Fertilizer Environment Remediation (SAFER)
Cherie Westbrook Geography and Planning	NSERC CREATE for Water Security

Total NSERC CREATES awarded since 2015



Strategic Partnership Grants for Networks (SPG-N)

Large, multidisciplinary research network
$5.5M/5 years (new network)
3:1 (previously funded network)

Overview

- Multidisciplinary research that requires a network approach
- Target areas:
  - Advanced Manufacturing
  - Environment and Agriculture
  - ICT
  - Natural Resources and Energy
- Research results translate to economic or policy benefits for Canadians and partners
- Partners must contribute in-kind and/or cash

Strategic Partnership Grants for Networks (SPG-N)

Photo courtesy of CPARN. Agronomists discuss agricultural ecology.

How it works

- Min. 5 academic researchers from 3 depts/institutions
- Av.: 9 institutions, 20 co-applicants, and 18 partners
- Fully developed multidisciplinary research program
- Value-added opportunities for trainees
- International strategy
- Knowledge translation strategy

Strategic Partnership Grants for Networks (SPG-N)

Canadian Prairie Agroecosystem Resilience Network

A Prairie University initiative to compare different farming practices and their effect on (1) agricultural production (2) an ecosystem's resilience,

- $10M
- Target areas topic: Sustainable agricultural landscapes
- Includes natural sciences research program as well as economics/policy (<30%)
- 7 Universities, 29 Co-applicants (14 UofS)
- 33 Canadian partner organizations: provincial and federal government, producer and commodity groups, environmental organizations and a First Nations community
- 9 International organizations
- 18 PhD, 16 MSc, 5 PDFs, 3 Technicians and 68 undergraduate students

Strategic Partnership Grants for Networks (SPG-N)

- Nationally, about a 15% success rate over the last 5 years
- Some of the active networks are shown here:

  - NSERC Canadian Field Robotics Network
  - NSERC Canadian FloodNet
  - NSERC Canadian Lake Pulse Network
  - NSERC Canadian Network for Aquatic Ecosystem Services
  - NSERC Canadian Network for Research and Innovation in Machining Technology – Phase 2: CANRIMT2
  - NSERC Energy Storage Technology Network
  - NSERC Green Surface Engineering for Advanced Manufacturing (Green-SEAM) Network
  - NSERC Industrial Biocatalysis Network
  - NSERC Network for Holistic Innovation in Additive Manufacturing (HI-AM)
  - NSERC's Toward Environmentally Responsible Resource Extraction Network (TERRE-NET)
  - NSERC TRIA Network: Turning Risk Into Action for the Mountain Pine Beetle Epidemic
  - RES'EAU-WaterNET

NSERC Industrial Research Chairs (IRC)

Photo courtesy of Matt Lindsay, IRC Mine Closure Geochemistry. Students Mattea Cowell and Colton Vessey collect soil samples.

Chair

1:1 NSERC and industry (Cash)

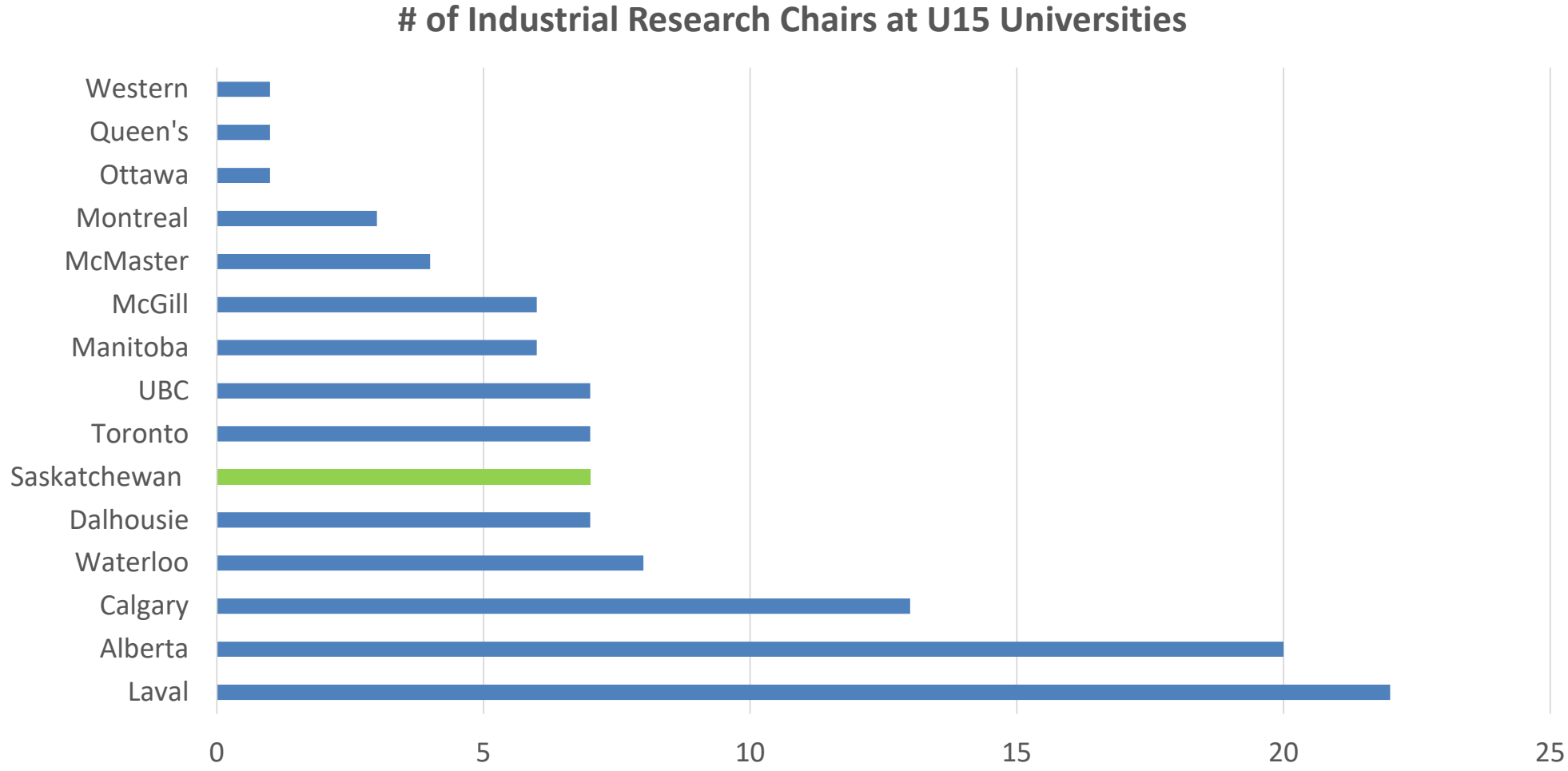
Typical: ~$2M/5 years

- Pursue **industrially relevant research**
- Build on existing research strengths
- Senior (Full Professor) or Associate (Assoc. or Assist Prof <12 yrs PhD)
- Funds:
  - Chair salary
  - Research program costs
  - HQP
- Internal and external candidates.
  - Incrementality requirement:For each internal candidate, the university must create a new tenured or tenure-track faculty position(s) in the research area of the Chair program, or in one closely related and complementary to it.

Recent IRCs at UofS

Chairholder	Type	Industry Partner and Research Area
Lee Barbour Civil and Geological Engineering	Senior	Syncrude Canada Ltd. Hydrogeological Characterization of Oil Sands Mine Closure Landforms
Tony Chung Electrical and Computer Engineering	Senior	SaskPower Smart Grid Technologies
Jim Hendry Geological Sciences	Senior	Cameco; Potash Corporation Environmental and Aqueous Geochemistry
Matt Lindsay Geological Sciences	Associate	Syncrude Canada Ltd. Mine Closure Geochemistry
Yolande Seddon Large Animal Clinical Sciences	Associate	Pork Producers and Processors (14) Swine Welfare
Steven Siciliano Soil Science	Senior	Federated Co-operatives Limited. In Situ Remediation and Risk Assessment
Bert Vandenberg Plant Sciences	Senior	Saskatchewan Pulse Growers Genetic Improvement of Lentil

NSERC Industrial Research Chairs



Collaborative Research and Development Grants (CRD)

Variable $/ 1-5 years
Industry partnered, projects
NSERC matches 1:1 Partner Cash + In-kind (up to total of cash)

- Focused projects
  - Short to medium term objectives or
  - Discrete phases in a longer program of research
  - Clear approaches, milestones, budget, deliverables
- Partners
  - Contribute to direct project costs
  - Collaborate at all stages
  - Intention and ability to exploit research results
- Benefits to Canada

SRI Support

- Best practices for drafting, editing key sections
  - Equity section, Institutional strengths, Governance
- High quality formal and informal feedback
  - Peer review, Test-your-concept, Workshops, Liaise with Tri-Agency
- Reduce time burden for faculty
  - CV review, Metrics, Portal support and trouble-shooting
- Budget development
- Reduce barriers for partner participation
  - Mechanisms for partners participation
  - Forms, administrative requirements
  - Letters of support
  - Value in-kind participation

Thank you!

Contact:
Lisa Jategaonkar
Strategic Research Initiatives
lisa.j@usask.ca

May 14, 2018

NSERC News & Discovery Grants Results

Marie Claude Caron, Team Leader, Discovery Grants

Guillaume Romain, Program Officer, Discovery Grants

Natural Sciences and Engineering Research Council of Canada

Conseil de recherches en sciences naturelles et en génie du Canada

Canada

2018 Peer Review – Thank You!

More than 3000 Discovery Grant Applications annually

- **16,000** reviews by more than **400** Evaluation Group Members, and **8000+** External Reviews

Recent Updates to Instructions and Peer Review Manuals

Discovery Grants Instructions and Peer Review Manual:

- HQP criterion
- Relationship to Other Research Support Applied or Held (CIHR, SSHRC, CIHR Foundation Grants, other funding sources)
- Equity, Diversity, Integration

Research Tools and Instruments Peer Review Manual:

- Revisions to the criteria planned for the upcoming 2019 competition

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  - Public Communications
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Selecting the Appropriate Federal Granting Agency

- Introduction
- General Guidelines for Submitting and Accepting Applications
- General Guidelines for the Eligibility of Subject Matter
  - SSHRC
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  - CIHR
- Guidelines for the Eligibility of Applications Related to Health
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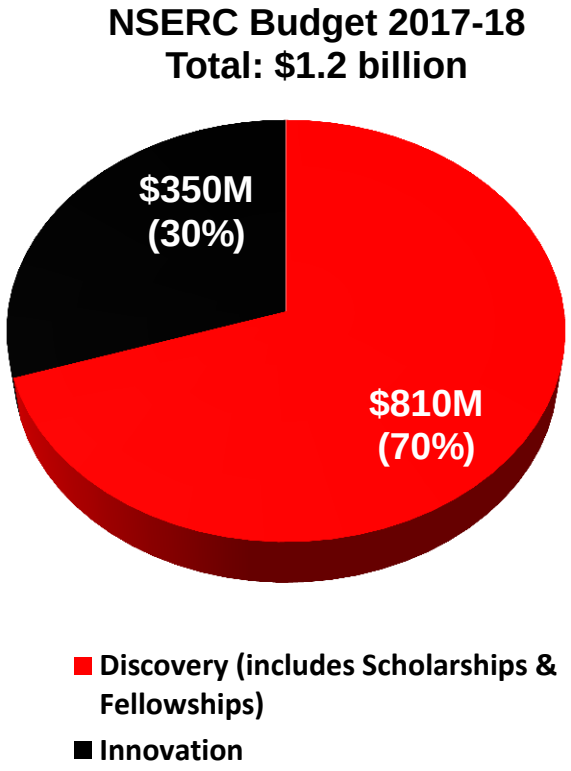
Addendum to the guidelines for the eligibility of applications related to health

Overview

NSERC Overview

NSERC's vision is to make Canada a country of discoverers and innovators for the benefit of all Canadians.

- Supports more than **33,000** students and postdoctoral fellows.
- Funds more than **11,300** professors for their research programs.
- Supports university and college-industry research partnerships with over **3,600** Canadian companies.
- Business invests more than $**220 million** in university and college researchers.



Excludes administration, 4% of total budget.

Federal Budget 2018

Investing in Canadian Scientists and Researchers

Agency	Programs	Over five years	Ongoing/year
NSERC		$354.7 million	$90.1 million
CIHR		$354.7 million	$90.1 million
SSHRC		$215.5 million	$54.8 million
Tri-councils	New EDI initiatives	$21 million	--
Tri-councils	New research fund	$275 million	$65 million
Tri-councils	Colleges (CCI)	$140 million	--
Tri-councils	CRC (early career)	$210 million	$50 million
Tri-councils	Research support fund	$231.3 million	$58.8 million

Discovery Grants

Competition Results 2018

OVERALL

	Early Career Researchers	Established Researchers		Total
		Returning	Not Holding a Grant	
# of applications	677	1635	901	3213
# of awards	433	1366	326	2125
Success Rate	64%	84%	36%	66%

**Not official results*

Early Career Researchers (ECRs)

Enhanced Support through Discovery Grants

- ECRs typically receive award top-up
- Success rate is always >50%

Competition Year	2013	2014	2015	2016	2017	2018
Success Rate for ECRs	60%	70%	65%	75%	69%	64%

432 new Discovery Grants to ECRs in 2018

Discovery Development Grants (DDG)

A 5 year Pilot

- Promote a diversified base of high-quality research in small universities
- Foster a stimulating environment for research training in small universities
- Facilitate recipients' access to additional funding from other sources
- Award valued at $10K /year for 2 years
- Was first launched in 2015 competition cycle

DDG Competition Results

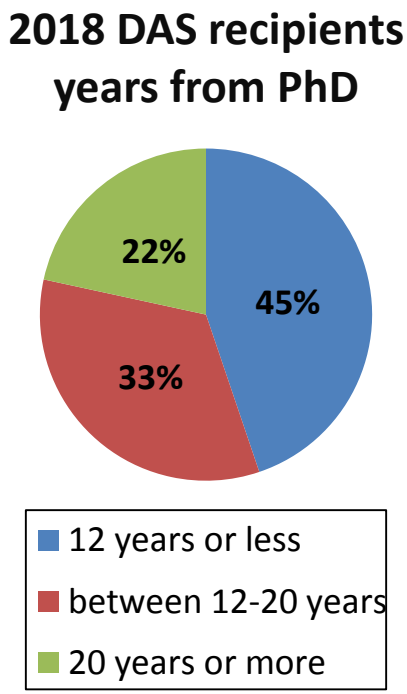
- **2015, 57 awards**
- **2016, 43 awards**
- **2017, 54 awards**
- **2018, 34 awards***

**Not official results*

Discovery Accelerator Supplements (DAS)

Competition Results 2018

Evaluation Group	Awards
Genes, Cells and Molecules (1501)	**13**
Biological Systems and Functions (1502)	**17**
Evolution and Ecology (1503)	**8**
Chemistry (1504)	**7**
Physics (1505)	**8**
Geosciences (1506)	**9**
Computer Science (1507)	**16**
Mathematics and Statistics (1508)	**10**
Civil, Industrial and Systems Engineering (1509)	**10**
Electrical and Computer Engineering (1510)	**10**
Materials and Chemical Engineering (1511)	**7**
Mechanical Engineering (1512)	**9**
Subatomic Physics (19)	**1**
Total	**125**



**Not official results*

Research Tools and Instruments (RTI)

Competition Results 2018

	2016	2017	2018*
Budget	$26.1M	$30.5M	$25.1M
Applications	657	748	1043
Awards	215	241	208
Funding Rate	33%	33%	21%

**Not official results*

Family and Medical Leave

Grantees

Grant holders who plan to take family-related leave or medical leave may be eligible for a grant extension with funds for up to two years.

Primary Caregiver Policy

- Discovery Grant holders who decline taking extended maternity, parental or adoptive leave through their institution may be eligible to receive a one-year grant extension with funds.

Family and Medical Leave

Students & Fellows

- Paid Parental Leave for scholarship & fellowship holders for **up to 6 months**

- For students and fellows paid from NSERC grants, parental leave supplement also ***paid by NSERC***

NEW-- NSERC scholarship or fellowship holders who are eligible for employment insurance or other parental leave supplements from other sources now qualify for NSERC parental leave supplements.