NSERC Discovery Grants & RTI

UofS

Ron Borowsky, NSERC Lead UofS, EG 1502 Member/Chair (2010-14, 2017-21)
Danielle Baron, Research Facilitator, College of Agriculture and Bioresources
Lisa Jategaonkar, Associate Director, Strategic Research Initiatives

NSERC

Danièle Leroux, Engineering and Life Sciences Program Officer, 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***

- **Troy Harkness**, Professor of Biochemistry, Microbiology and Immunology, College of Medicine
  *Current member 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***

- **Alex Moewes**, Professor of Physics and Engineering Physics and Canada Research Chair for Materials Science using Synchrotron Radiation, College of Arts and Science
  *Current member of **EG 1505 – Physics***

- **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***

- **Jaswant Singh**, Professor of Veterinary Biomedical Sciences, Western College of Veterinary Medicine
  *Current member of **RTI Biological Systems and Functions***

NSERC Research Facilitators & Planning Officers

- **Agriculture and Bioresources**: Danielle Baron
- **Arts and Science**: Anne Ballantyne and Darcy Overland
- **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:** Bethany Penn
- **Dentistry and School of Public Health:** Janice Michael
- **Kinesiology and School of Rehabilitation Science**: Lori Ebbesen
- **Medicine** (college): Bruna Bonavia-Fisher
  - **Department of Medicine**: Ozlem Sari
  - **Department of Surgery**: Karen Mosier
  - **Department of Pediatrics**: Tova Dybvig
  - **Department of Psychiatry:** Mariam Alaverdashvili
- **Pharmacy and Nutrition**: Gen Clark
- **Western College of Veterinary Medicine**: Lianne McLeod
- **School of Environment and Sustainability:** *TBD*

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 – 2:30 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
(NSERC Research Portal is now **open**)

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)
November 2019 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 15, 2019**
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, 2019**
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, 2019**
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 15 – September 13**
X	X	Applicants submit **draft DG and/or RTI 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 16, 2019**
X	X	Completed **DG internal reviews** are returned to the applicants.	**October 7, 2019**
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 7 – 17 (RTI)** **October 7 – 24 (DG)**
X	X	**College/Unit Internal Approval** Applicants must submit **a full application package including CCV** through UnivRS for Department and College academic approval. Applicants comply with college/unit-specific internal approval processes and deadlines.	Please check with your Research Facilitator or Associate/Vice Dean Research/Director
	X	**Research Services and Ethics Office Compliance Review and Approval (RTI)** College/school/unit of the applicant must review the application, decide on approval and submit the decision in University Research System (UnivRS) at least **5 business days** prior to the agency submission deadline. RSEO will review for eligibility, conduct a final compliance review check and provide Institutional approval. Applicants will have the opportunity to incorporate any required changes they wish to address or as noted by the Research Services and Ethics Office. Paper applications will not be accepted.	**October 18, 2019**
	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, 2019**

UNIVERSITY OF SASKATCHEWAN

DG deadlines

RSEO submission deadline

(ask your RF for earlier college/dept deadlines)

X		**Research Services and Ethics Office Compliance Review and Approval (DG)** College/school/unit of the applicant must review the application, decide on approval and submit the decision in University Research System (UnivRS) at least **5 business days** prior to the agency submission deadline. RSEO will review for eligibility, conduct a final compliance review check and provide Institutional approval. Applicants will have the opportunity to incorporate any required changes they wish to address or as noted by the Research Services and Ethics Office. Paper applications will not be accepted.	**October 25, 2019**
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, 2019**

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 21, 2019**
X		**DG Webinar: Submission of a Notification of Intent to Apply (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**May 22, 2019 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/	**June 4, 2019 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/	**June 19, 2019 11:00 am – 1:00 pm (SK)**
	X	**RTI Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/presenter-une-demande/	**August 13, 2019 11:00 am – 1:00 pm (SK)**
	X	**RTI Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/presenter-une-demande/	**August 20, 2019 11:00 am – 1:00 pm (SK)**
X		**DG Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**August 27, 2019 11:00 am – 1:00 pm (SK)**
X	X	**CCV and Full Application Research Portal Computer Lab Workshops for DG and RTI Applicants (2 sessions with the same information presented)** For more information, please contact grants.workshop@usask.ca.	**Session 1: Early September (TBD) Session 2: Late September (TBD)**
X		**DG Webinar: Submission of an Application (English)** To participate, visit http://nsercofcanada.adobeconnect.com/complete-application/	**September 24, 2019 11:00 am – 1:00 pm (SK)**

USask NSERC Grants Repository: https://share.usask.ca/go/ovpr/grants_repository/Pages/NSERC-examples.aspx

USask Internal Review Process Information (Timelines /Forms): https://vpresearch.usask.ca/researchers/internal-review-process.php

NSERC DG Program Information: http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DGIGP-PSIGP_eng.asp

NSERC RTI Program Information: http://www.nserc-crsng.gc.ca/Professors-Professeurs/RTII-OIRI/RTI-OIR_eng.asp

NSERC Grant Update

- **2018: UofS submitted 98 NSERC Discovery Grant applications, Overall success rate = 60% (63% if internal review); Overall value = $10.7M** (incl. 1 DAS and 10 ECR Launch sup)
  - **Early Career Researcher rate = 59% (69%|internal rev)**
  - **Established Researcher rate = 78%**
  - **Established Researcher Not Holding Grant rate = 34% (53%|internal review)**
  - **21 NSERC RTI Grant applications, 4 awarded (19%, $319,001)**

NSERC DG Rating Form

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 • Consideration of sex, gender and diversity in the research design , if applicable • 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

DISCOVERY GRANTS MERIT INDICATORS[1]

	Exceptional	Outstanding	Very Strong	Strong	Moderate	Insufficient
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.	The accomplishments presented in the application were deemed to be of **reasonable** quality, impact and/or importance.	The accomplishments presented in the application were deemed to be **below an acceptable level** of 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.	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.
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 **of 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.	Past training is **modest** relative to other applicants in terms of the research training environment provided and HQP contributions to research. **Some** HQP move on to positions that require skills gained through the training received. Training philosophy and research training plans are **partially appropriate** and **partially defined** in terms of the overall approach and specific projects for HQP.	Past training is **below an acceptable level** in terms of the research training environment provided and HQP contributions to research. HQP **rarely** move on to positions that require skills gained through the training received. Training philosophy and research training plans are **not appropriate** and **not clearly defined** in terms of the overall approach and specific projects for HQP.

[1]The Discovery Grants Merit Indicators should be used in conjunction with the Peer Review Manual which outlines how reviewers arrive at a rating.

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

Contributions to training of highly qualified personnel	☐ **Exceptional** 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 **of 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.	☐ **Outstanding** 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.	☐ **Very Strong** 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.
	☐ **Strong** 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.	☐ **Moderate** Past training is **modest** relative to other applicants in terms of the research training environment provided and HQP contributions to research. **Some** HQP move on to positions that require skills gained through the training received. Training philosophy and research training plans are **partially appropriate** and **partially defined** in terms of the overall approach and specific projects for HQP.	☐ **Insufficient** Past training is **below an acceptable level** in terms of the research training environment provided and HQP contributions to research. HQP **rarely** move on to positions that require skills gained through the training received. Training philosophy and research training plans are **not appropriate** and **not clearly defined** in terms of the overall approach and specific projects for HQP.

Rationale for rating:

- Past contributions to the training of HQP

- UGs, Masters, PhDs, PDFs, techs, all count, knowing where they ended up shows you care and are proud!

  - Training environment

  - lab(s), training, techniques and equipment, academic programming, seminars

  - HQP awards and research contributions

  - highlight scholarships and research contributions (students in lead roles?)

  - Outcomes and skills gained by HQP

  - HQP go on to PDF, faculty, industry jobs, etc

- Training plan

  - Training philosophy

  - pedagogical approaches, frequent interaction (not just "weekly lab meetings"), social aspects (team building),

  - HQP research training plan

  - name HQP where possible in proposal, and provide details here about who is doing what and why

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

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Publications

-Sasha Koustov, Department of Physics and Engineering Physics

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-Sasha Koustov, Department of Physics and Engineering Physics

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[illegible]n (poster or oral) and contributed to five of my p[illegible]h 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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- 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

Excellence of Researcher

Excellence of researcher	☐ **Exceptional** 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.**	☐ **Outstanding** The accomplishments presented in the application were deemed to be **far superior** in quality, impact and/or importance to a **broad community**.	☐ **Very Strong** The accomplishments presented in the application were deemed to be of **superior** quality, impact and/or importance.
	☐ **Strong** The accomplishments presented in the application were deemed to be **solid** in their quality, impact and/or importance.	☐ **Moderate** The accomplishments presented in the application were deemed to be of **reasonable** quality, impact and/or importance.	☐ **Insufficient** The accomplishments presented in the application were deemed to be **below an acceptable level** of quality, impact and/or importance.

Rationale for rating:

- **Knowledge, expertise, and experience of the researcher in the NSE**

- current/past positions, PDF, PhD, etc (in what areas?)
- awards/recognitions/service (research, teaching, NSE community, may apply to the probes below also)?

- **Quality and impact of contributions to the proposed research and/or other areas of research in the NSE**

- grants awarded (co-I or PI?)
- editorial boards?
- publications (quantity/quality, lead/senior author, HQP on them and marked with * ?)
- presentations (invited?)
- most significant contributions (number of citations; for long-term themes capturing current work, recent impact?)

- **Importance of contributions to, and use by, other research and end-users**

- knowledge translation?
- media coverage?

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

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

Describe what was done

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 involves 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/p erty relationships of these materials. Such bimetallic NPs are interesting as they can be used to deve highly selective bimetallic catalysts which can be guided by theoretical models and ultra ience studies. In particular, we have shown that catalytic activity is influenced n mpositions, 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). […]

Describe what was done

-Rob Scott, Dept. Chemistry

Most Significant Contribution example

Describe what was found

1) Catalytic and Chemical Activity of Metallic and Bi[illegible]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 parti[illegible]ive spectroscopy (EDS) mapping, and x-ray absorption spectroscopy (EXAFS an[illegible]at the Canadian Light Source (#26). Catalytic measurements are also [illegible]ture/property relationships of these materials. Such bimetallic NPs are interesting as [illegible]can be used to develop highly selective bimetallic catalysts which can be guided by theoretical model[illegible] 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).**

Describe what was found

[…]

-Rob Scott, Dept. Chemistry

Most Significant Contribution example

[…]
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 spe M and single particle X-ray energy dispersive spectroscopy (EDS) mapping, and x-ray roscopy (EXAFS and XANES) experiments at the Canadian Light Source (#26). Catalytic measu ments 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 als bimetallic NPs (for example, core-shell vs. alloy vs. cluster-in-cluster); alco elerated over Au@Pd core@shell NPs compared to their alloy counterparts (#17). I hav given two invited keynote addresses on this work at the 21st Canadian Catalysis Symposium in 2010 a the 60th Canadian Chemical Engineering Conference in 2010. In addition, this work **has recently also led to a NSERC Strategic Collaboration with Name/Name2 groups at the University of [Name] and [Company] to examine supported-bimetallic PdM (M=Pt, Ru, Ni, etc.) NP catalysts for water tolerant methane oxidation.**

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)

University of Saskatchewan

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

Merit of the proposal	☐ **Exceptional** 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 socioeconomic 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.	☐ **Outstanding** 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 socioeconomic 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 and complement those funded (or applied for) by other sources.	☐ **Very Strong** 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
	☐ **Strong** 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.	☐ **Moderate** 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.	☐ **Insufficient** 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

Rationale for rating:

- use summary to help outline this!

- Originality and innovation
  - developed new experimental paradigms, techniques, combined approaches?
- Significance and expected contributions to NSE research; potential for policy- and/or technology-related impact
  - model/theory development, long-term "story", socioeconomic/environmental impact?
- Clarity and scope of objectives
  - long term goals/vision (model/theory?) and short term objectives (experiments/studies?) clearly defined?
- Clarity and appropriateness of methodology
  - understandable for general scientific audience, credibility (publications involving these methods)?
- Feasibility
  - can be done by their lab, has relevant experience (if not, clear plan, but "story" should fit you)
- Consideration of sex, gender and diversity in the research design, if applicable
  - if not applicable, should clearly state why, but give this careful consideration
- Extent to which the scope of the proposal addresses all relevant issues
  - you control the scope of this "story", not too big or too small…
- Appropriateness of, and justification for, the budget
  - reasonable, use tables for clarity (e.g., funds for HQP in which years), "get the funding then do what you want"
- Demonstration that the Discovery Grant proposal is distinct conceptually from research supported (or submitted for support) through CIHR and/or SSHRC
  - summaries from grants, but clear statements of "no conceptual or budgetary overlap" are helpful
- 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)
  - why couldn't the CIHR Foundation grant cover this work?

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

Objectives (example)

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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

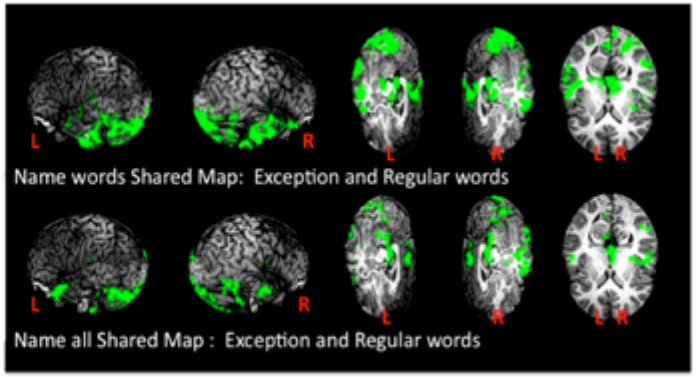
Proposal (continued)

- **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)

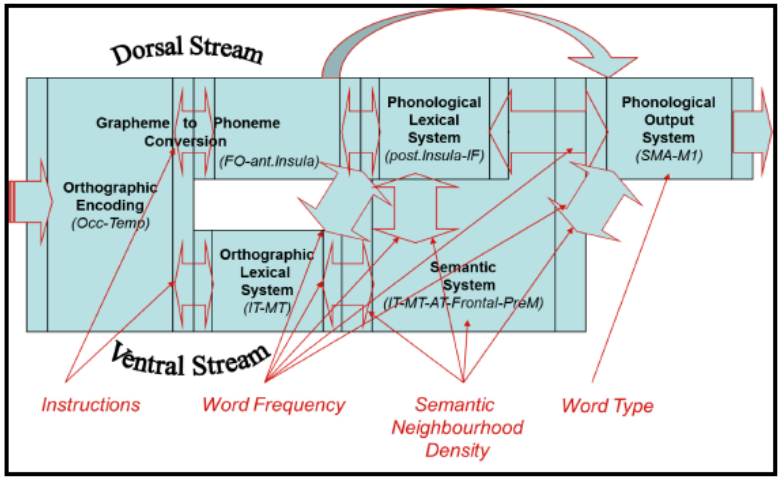
- Use figures when relevant! ("a picture *can* be worth a thousand words") -RB

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)

- **<u>Significance and expected contributions to NSE… potential for IMPACT</u>**
  - 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

Proposal (Research Impact example)

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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. Jaswant Singh

Professor of Veterinary Biomedical Sciences,
Western College of Veterinary Medicine

Current member of RTI Biological Systems and Functions

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 Procedure

- Committee members follow the the **RTI Peer Review Manual**
- Up to **five** members assigned to each RTI application
  - NOTE that these are not EG members
- Committee members' **evaluations made in isolation** and not discussed with other members
- Occasional teleconference may be scheduled for flagged applications

Selection Criteria

- Applications assessed on the basis of **five evaluating criteria**
- Each member evaluated 30 to 35 applications and scores from 1-10. No forced ranking anymore
- Members provide **one score** . No specified weighing criteria
- No written report
- Scores from all members entered into a spreadsheet and applications ranked based on the average score

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*"

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): $

This form is for use by committee members.
Not returned to NSERC

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

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

Application Preparation 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
- 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

Strategic Research Initiatives (SRI)

Lisa Jategaonkar, Associate Director

Collaborative and Partnered Grants

Lisa Jategaonkar

Associate Director

Strategic Research Initiatives

Strategic Research Initiatives

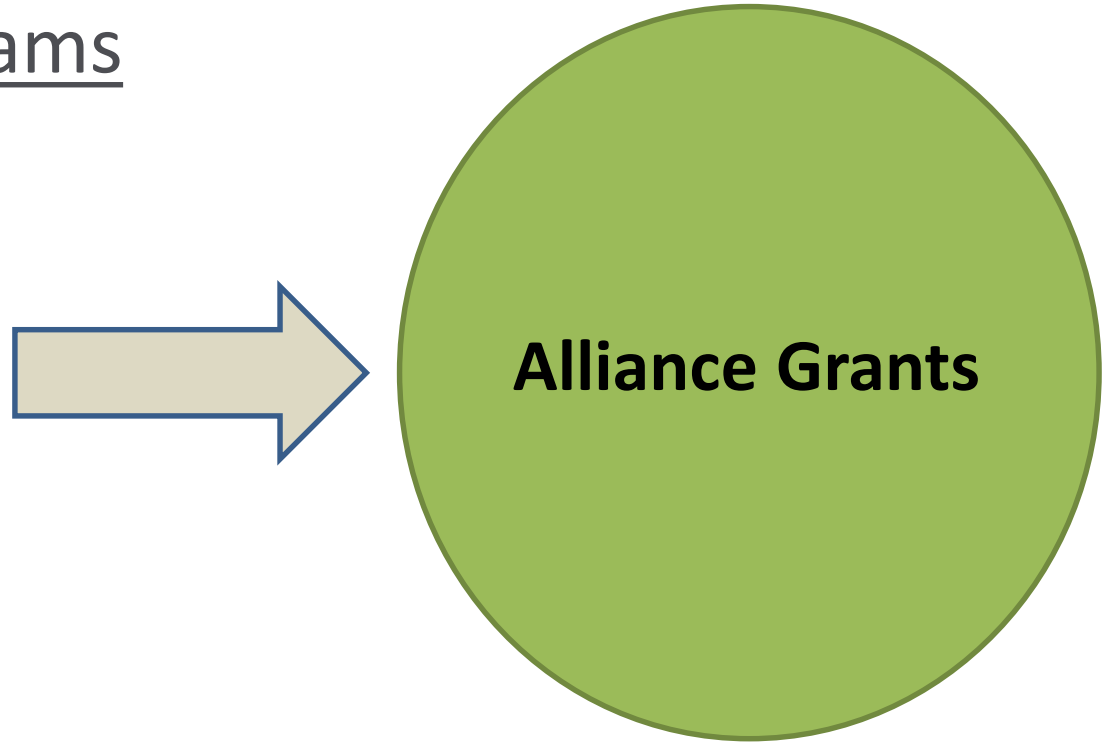
Mission:

- 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**
  - **NSERC Alliance**
  - **NSERC CREATE**

NSERC Alliance

Prior Research Partnership programs

- Engage Grants
- Industrial Research Chairs
- Strategic Partnership Grants for Networks and Projects
- Collaborative Research and Development Grants



Alliance Grants

- One program
- More flexible
- Scalable
- Simpler process
- No application deadlines
- Faster decision times
- Fewer restrictions on research topics within NSE.

Alliance Grants

- Who?
  - University researcher(s) collaborating with private-sector, public-sector or not-for-profit organizations
- How much?
  - $20,000 to $1 million per year
- How long?
  - 1 to 5 years

Alliance Grants

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  - University researcher(s) collaborating with **private-sector, public-sector or not-for-profit organizations**
- How much?
  - $20,000 to $1 million per year
- How long?
  - 1 to 5 years

Alliance Grants – Cost Sharing

As of May 21st, Option 1 will be open for applications requesting $150,000 or more annually from NSERC.

OPTION 1		OPTION 2
50% 1:1 leverage ratio	66% 2:1 leverage ratio	90 to 100% of the shareable costs
Large partner organizations only	Small & medium sized partner organizations - Large organizations with SMEs (value chain) - Multi-sectoral partnership (private, public, not-for-profit)	100%: Public & not-for-profit 90%: Private sector - Limit of 2 applications per partner organization and per applicant per 12 months period - Grants limited to $200k/year

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Partners

Private - Public - Not for Profit

At least one partner organization must demonstrate ability to exploit research results

- **Other partners may be chosen for their ability to generate and mobilize knowledge**

Every partner organization must do at least one of:

- **Play an active role in research activities**
- **Utilize the research results and achieve desired outcomes**
- **Play an active role in mobilizing knowledge**

Partner organizations must collectively support the project through cash and/or in-kind contributions

Partners

Partners - Private sector	
Recognized Cash contributions	**Not recognized**
•Canadian private companies •Multinationals with a presence in Canada •Foreign companies (but not as the sole partner organization)	•Venture capital / Angel investors / Seed companies •Holding companies •Companies with less than two full-time employees

Partners

Partners - Canadian public sector

Recognized Cash contributions	Not recognized
•Municipalities and local or regional governments •Provincial/territorial government departments •Federal government department •Indigenous organizations •Public utilities •Crown corporations	•Funding organizations whose primary mission is to fund R&D •Organizations whose primary mission is to perform R&D and are funded or controlled primarily by government •Foreign governments If the cash contribution from any Canadian public source is from a grants and contributions program it will not be recognized for cost sharing.

Partners

Partners - Canadian not-for-profit

Recognized Cash contributions	Not recognized
•Producer groups •Industrial associations •Registered charities that have a mandate to carry out and apply research (within natural sciences and engineering) •Organizations whose primary mission is to maintain collections (e.g., historical, scientific, artistic, or cultural) for the public good, such as libraries, museums, zoos or aquariums •Community organizations	•Not-for-profit organizations whose primary mission is to fund R&D and are funded or controlled primarily by government •Post-secondary institutions •Incubators and accelerators •Other registered charities •Hospitals and medical/clinical research institutes •Philanthropic organizations •Consortia with the majority of their funding originating from government sources •Foreign not-for-profit organizations •Individuals

Application

- Dedicated online application system
- Streamlined proposal format
- Simple and direct participation of partners in the proposal
- CCV as the source of contributions

Proposal template

- Background and expected outcomes
  - Goals, outcomes, impacts
  - Importance, benefit to Canada
  - New concepts, directions, knowledge gaps, relation to other research efforts
  - Partner organization investments
- Partnership
  - List of partner organizations
  - Core activities; experience and alignment
  - Partner involvement
  - Strategy and capacity to translate the research results

Proposal template (continued)

- Proposal
  - Research objectives, resources, activities, anticipated results
  - Timelines, milestones, deliverables
  - Equity, diversity, inclusion
  - Indicators and methods to monitor progress
- Team
  - Applicant, co-applicant, partner staff
  - Expertise, role of all team members (inc partner staff)
  - Equity, diversity and inclusion in team composition
  - Governance, Project manager role (for large)
- Training plan
  - Knowledge/experience gained by trainees and partners staff and its relevance
  - Enriched training experiences
  - Equity, diversity and inclusion

Evaluation Criteria

- Relevance and outcomes
- Partnership
- Quality of the Proposal
- Training

NSERC CREATE

Value-added training program
$1.65M over 6 years

Overview

- Training targeted to graduate students
- Must foster:
  - Professional skills development
  - Improve job-readiness
- Encourage:
  - Student mobility
  - Interdisciplinary research (focus within NSE)
  - Increased collaboration between industry and academia

NSERC CREATE

How it works

- >80% : Trainee stipends
- <20% : Training program structure
  Trainee travel
  Dissemination of training materials and research results
  Services - networking
- *Not eligible*: Other salaries, travel costs of the team, field work, research materials or supplies, relocation costs, college or high school student salaries.

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

SRI Support

- Best practices for drafting, editing key sections
  - Equity, 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/requirements for partners participation
  - Forms, administrative requirements
  - Letters of support

Thank you!

More information about Alliance grants:
http://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/index_eng.asp

More information NSERC CREATE:

http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/CREATE-FONCER_eng.asp

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