May 12, 2022 Workshop



NSERC Discovery Grants & RTI

Evaluation Groups:

NIVERSITY OF

- 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





We acknowledge that we live and work on Treaty 6 Territory and the Homeland of the Métis. We IVERSITY OF SKATCHEWAN With one another.

~ Please note: this workshop is being recorded.

Schedule of events

- 1:00 1:10 PM Welcome, Introductions, and Overview of the Evaluation/Rating Process at NSERC
- 1:10 1:35 PMResearch Facilitators & Planning Officers:Tips on HQP, EDI, CCV, and Internal Review
- 1:35 2:00 PM NSERC DG Evaluation Group Members: Tips from adjudication
- 2:00 2:30 PM Q&A
- 2:30 3:00 PM Session on RTI Grants: Research Facilitators and RTI Evaluation Group Members; Q&A





Research Facilitators and EG/RTI members presenting:

 Ron Borowsky, (NSERC Lead) Professor, Psychology (Cognition and Neuroscience); A&Sc
 EG 1502 – Biological Systems & Functions - Merit & Ratings

Research Facilitators:

- Danielle Baron, Ag & Bio HQP
- Tera Ebach, WCVM EDI
- Heidi Smithson, Engineering CCV
- Manisha Jalla, RASI
 Internal Review

RTI Session:

- Heidi Smithson, Engineering
- Bruna Bonavia-Fisher, Biomedical Departments, Medicine

- Meena Sakharkar, Professor, Biochemistry, Pharmacy and Nutrition EG 1501 – Genes, Cells and Molecules
- Jaswant Singh, Professor, Veterinary Biomedical Science; WCVM, EG 1502 – Biological Systems and Functions
- Joel Lanovaz, Professor, Kinesiology, EG 1502 – Biological Systems and Functions
- Robert Scott, Professor, Chemistry; A&Sc, EG 1504 – Chemistry
- Ha Nguyen, Professor, Electrical and Computer Engineering; Engineering EG 1510 – Electrical and Computer Engineering

- Thomas Fisher, Professor, Anatomy, Physiology and Pharmacology; Medicine RTI Evaluation Group: Genes, Cells and Molecules
- *Michel Gravel, Professor, Chemistry, A&Sc RTI* Evaluation Group: Chemistry



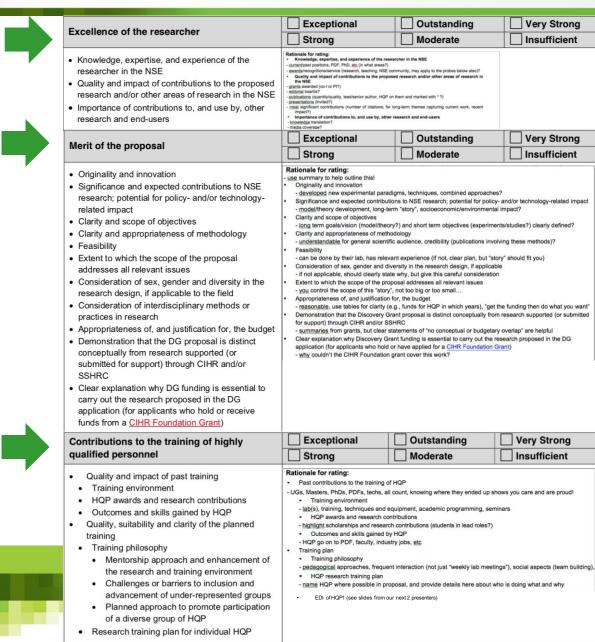
The Merit "Grid"

DISCOVERY GRANTS MERIT INDICATORS

		The Merit Indicators should be	USCOVERY GRANTS IN		how reviewers arrive at a rating.	
	EXCEPTIONAL	OUTSTANDING	VERY STRONG	STRONG	MODERATE	INSUFFICIENT
Excellence of the Researcher	Acknowledged as a leader in terms of research excellence, accomplishments, and service. Contributions presented in the application are of the highest level of quality .	Research excellence, accomplishments, and service are far superior to others. Contributions presented in the application are of high quality .	Research excellence, accomplishments, and service are superior to others. Contributions presented in the application are above average in quality .	Research excellence, accomplishments, and service are significant . Contributions presented in the application are of good quality.	Research excellence, accomplishments, and service are reasonable . Contributions presented in the application are of reasonable quality.	Research excellence, accomplishments, and service are below an acceptable level . Contributions presented in the application are limited in quality.
Exce	Impact and importance of the work is clearly evident and groundbreaking.	Impact and importance of the work is clearly evident and influential.	Impact and importance of the work is clearly evident.	Impact and importance of the work is evident.	Impact and importance of the work is somewhat evident.	Impact and importance of the work is not clearly evident.
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 .	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.	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 .	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 .	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.	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.
lerit o	The methodology is clearly defined and appropriate .	The methodology is clearly	described and appropriate.	The methodology is described and appropriate .	The methodology is partially described and/or appropriate .	The methodology is not clearly described and/or appropriate .
2	The application clearly der	nonstrates how the research activities to	be supported are distinct from those fund	ded (or applied for) by other sources.		The application does not clearly demonstrate how the research activities to be supported are distinct from those funded (or applied for) by other sources or does not clearly demonstrate a program of research in the NSE.
l ing of HOP	Past training is at the highest level in terms of the research training environment provided and HQP contributions to research.	Past training is far superior to other applicants in terms of research training environment provided and HQP contributions to research.	Past training is superior to other applicants in terms of the research training environment provided and HQP contributions to research.	Past training compares favourably with other applicants in terms of the research training environment provided and HQP contributions to research.	Past training is modest relative to other applicants in terms of the research training environment provided and HQP contributions to research.	Past training is below an acceptable level in terms of the research training environment provided and HQP contributions to research.
ersonne Past Train	Most HQP move on to highly impactful positions that require skills gained through the training received.	Most HQP move on to impactful positions that require skills gained through the training received.	HQP generally move on to impactful positions that require skills gained through the training received.	HQP generally move on to positions that require skills gained through the training received.	Some HQP move on to positions that require skills gained through the training received.	HQP rarely move on to positions that require skills gained through the training received.
ualified P	Training philosophy and research training plans are of the highest quality: highly appropriate, clearly defined and expected to produce top quality results	Training philosophy and research training plans are far superior: highly appropriate, clearly defined and expected to produce high quality	Training philosophy and research training plans are superior: highly appropriate, clearly defined and expected to produce quality results in	Training philosophy and research training plans are appropriate and clearly defined in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are partially appropriate and partially defined in terms of the overall approach and specific projects	Training philosophy and research training plans are not appropriate and not clearly defined in terms of the overall approach and specific projects for HQP.
ghly Q	in terms of the overall approach and specific projects for HQP.	results in terms of the overall approach and specific projects for HQP.	terms of the overall approach and specific projects for HQP.		for HQP.	
Training of Highly Qualified Personnel Philosophy & Research Training Plan Past Traini	challenges related to equity, diversity and	inclusion specific to the institution and	Challenges related to equity, diversity and inclusion specific to the institution and field of research are described .	Challenges related to equity, diversity and inclusion specific to the institution and/or field of research are described .	Challenges related to equity, diversity and inclusion specific to the institution and/or field of research are partially described .	Challenges related to equity, diversity and inclusion specific to the institution and/or field of research are inaccurate or not described .
Training Philos			Specific actions to support the recruitment of a diverse group of HQP and an inclusive research training environment are defined .	Specific actions to support the recruitment of a diverse group of HQP and/or an inclusive research training environment are defined .	Specific actions to support the recruitment of a diverse group of HQP and/or an inclusive research training environment are partially defined .	Specific actions to support the recruitment of a diverse group of HQP and/or an inclusive research training environment are not appropriate or not defined .



UNIVERSITY OF SASKATCHEWAN NSERC DG Rating Form – Ron Borowsky





Excellence of Researcher

EXCEPTIONAL	OUTSTANDING	VERY STRONG	STRONG	MODERATE	INSUFFICIENT
		Research excellence, accomplishments, and service are superior to others.		and service are reasonable.	Research excellence, accomplishments, and service are below an acceptable level.
Contributions presented in the application are of the highest level of quality.	application are of high quality.				Contributions presented in the application are limited in quality.
			Impact and importance of the work is evident.		Impact and importance of the work is not clearly evident.

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?



* * UNIVERSITY SASKATCHE	Y OF WAN	Aerit of	the Prop	osal	
EXCEPTIONAL	OUTSTANDING	VERY STRONG	STRONG	MODERATE	INSUFFICIENT
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.	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.	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.	Proposed research program is clearly presented, is original and innovative and is likely to have impact and/or address socio-economic or environmental needs.	Proposed research program is clearly presented, has original and innovative aspects and may have impact and/or address socio-economic or environmental needs.	Proposed research program, as presented lacks clarity, and/or is of limited originality and innovation.
Long-term vision and short-term objectives are clearly defined.	Long-term goals are clearly defined and short-term objectives are well planned.	Long-term goals are defined and short-term objectives are planned.	Long-term goals and short-term objectives are clearly described.	Long-term and short-term objectives are described.	Objectives are not clearly described and/or likely not attainable.
The methodology is clearly defined and appropriate.	The methodology is clearly	described and appropriate.	The methodology is described and appropriate.	The methodology is partially described and/or appropriate.	The methodology is not clearly described and/or appropriate.
 Rationale for rating use summary to help of Originality and inno 	outline this! vation				The application does not clearly demonstrate how the research activities to be supported are distinct from those funded (or applied for) by other sources or does not clearly demonstrate a program of research in the NSE.
 Significance and ex - model/theory development 	sperimental paradigms, spected contributions to elopment, long-term "sto	NSE research; potentia	I for policy- and/or tech	nology-related impact	
 Clarity and scope o long term goals/vis 	f objectives sion (model/theory?) an	d short term objectives	(experiments/studies?)	clearly defined?	
Clarity and appropr	iateness of methodolog r general scientific audi	у	· · · · · · · · · · · · · · · · · · ·		
Feasibility	- in the later to send a sum of a				
Consideration of se	eir lab, has relevant exp x, gender and diversity hould clearly state why	in the research design,	if applicable	you)	
	scope of the proposal a		sues		
	ope of this "story", not to , and justification for, the				
	ables for clarity (e.g., fu		ears), "get the funding th	nen do what vou want"	
 Demonstration that for support) through 	the Discovery Grant pro	oposal is distinct conce	ptually from research su	pported (or submitted	
	rants, but clear stateme	and a second show a second show a fear a second			ww.usask.ca
	why Discovery Grant fun licants who hold or have			osed in the DG	

- why couldn't the CIHR Foundation grant cover this work?

UNIVERSITY OF SASKATCHEWAN

Training of HQP

* SASKATCHE	WAIN					
EXCEPTIONAL	OUTSTANDING	VERY STRONG	STRONG	MODERATE	INSUFFICIE	NT
Past training is at the highest level in terms of the research training environment provided and HQP contributions to research.	Past training is far superior to other applicants in terms of research training environment provided and HQP contributions to research.	Past training is superior to other applicants in terms of the research training environment provided and HQP contributions to research.	other applicants in terms of the	Past training is modest relative to other applicants in terms of the research training environment provided and HQP contributions to research.	Past training is below an ac level in terms of the resear environment provided and contributions to research.	ch training
Most HQP move on to highly impactful positions that require skills gained through the training received.	Most HQP move on to impactful positions that require skills gained through the training received.	HQP generally move on to impactful positions that require skills gained through the training received.	HQP generally move on to positions that require skills gained through the training received.	Some HQP move on to positions that require skills gained through the training received.	HQP rarely move on to pos require skills gained throug 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.	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.	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.	Training philosophy and research training plans are appropriate and clearly defined in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are partially appropriate and partially defined in terms of the overall approach and specific projects for HQP.	Training philosophy and resplans are not appropriate a clearly defined in terms of approach and specific projection of the projection of	and not the overall
Challenges related to equity, diversity and field of research are clearly described .	I inclusion specific to the institution and	Challenges related to equity, diversity and inclusion specific to the institution and field of research are described .	Challenges related to equity, diversity and inclusion specific to the institution and/or field of research are described.	Challenges related to equity, diversity and inclusion specific to the institution and/or field of research are partially described.	Challenges related to equit and inclusion specific to the and/or field of research are or not described.	e institution
Specific actions to support the recruitmen inclusive research training environment an		Specific actions to support the recruitment of a diverse group of HQP and an inclusive research training environment are defined .	Specific actions to support the recruitment of a diverse group of HQP and/or an inclusive research training environment are defined.	Specific actions to support the recruitment of a diverse group of HQP and/or an inclusive research training environment are partially defined .	Specific actions to support recruitment of a diverse gro and/or an inclusive researc environment are not appro defined.	oup of HQP ch training
Rationale for rational	ng:					
Past contributio	ns to the training of H	IQP				
 Training en lab(s), training 	vironment	uipment, academic p	they ended up show	s you care and are pr rs	oud!	
- highlight schol	arships and research	contributions (studen	ts in lead roles?)			
 Outcomes 	and skills gained by I	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
 - EDI of HQP! (see slides from our next 2 presenters)



Research Facilitators

Discovery Grants:

- Danielle Baron, Ag & Bio
- Tera Ebach, WCVM
- Heidi Smithson, Engineering
- Manisha Jalla, RASI

- HQP
- EDI
- CCV
- Int. Review



Training of HQP – Danielle Baron



HQP Considerations (Appendix 5, 2021-22 Peer Review Manual)

Contributions to the training of highly qualified personnel

- Quality and impact of past training
 - Training environment
 - HQP awards and research contributions
 - Outcomes and skills gained by HQP
- Quality, suitability and clarity of the planned training
 - Training philosophy
 - Mentorship approach and enhancement of the research and training environment
 - Challenges or barriers to inclusion and advancement of under-represented groups
 - Planned approach to promote participation of a diverse group of HQP
 - Research training plan for individual HQP

Past training:

- Don't worry if you are an ECR and this is your first research program!
- Undergrads, Masters, PhD, PDFs, technicians, research assistants, summer students
- Highlight your lab facilities, specialized equipment/techniques, academic programs/training
- Discuss past awards, presentations that HQP did
- Where they are now industry, academia show that you have kept in touch!

Training of HQP



HQP Considerations (Appendix 5, 2021-22 Peer Review Manual)

Contributions to the training of highly qualified personnel

- Quality and impact of past training
 - Training environment
 - HQP awards and research contributions
 - Outcomes and skills gained by HQP
- Quality, suitability and clarity of the planned training
 - Training philosophy
 - Mentorship approach and enhancement of the research and training environment
 - Challenges or barriers to inclusion and advancement of under-represented groups
 - Planned approach to promote participation of a diverse group of HQP
 - Research training plan for individual HQP

Training plan:

1) Training philosophy



- Your approach to supervising students and mentorship
- Team building, frequent (virtual) interactions, pedagogical approaches

2) Research training plan

- Do not just list your HQP!
- Describe specifically which HQP will be responsible for which aspects of the research and WHY
- Ensure this is mirrored in your methods section in your proposal
- Can include a Gantt chart in your budget just.
- Use names where possible



EDI – Tera Ebach

Equity, Diversity and Inclusion (EDI) on Discovery Grants

- Institution or College EDI challenges
- Field of Research EDI challenges
- USask commitments for <u>EDI recruitment</u> that address Institution challenges
- Include your own specific EDI recruitment practices that address both USask and discipline EDI Challenges.
- USask resources for an <u>Inclusive research training environment</u> that address EDI challenges.
- Include your own specific training plan practices that address USask and Field EDI challenges
- Sex and Gender in research design





Top Tips for CCV

- Start Early!
- Use the NSERC CCV template (under Funded on the CV tab)
- Follow the PDF Guide provided by NSERC in the NSERC template
- Make good use of extra space
- Mark your HQP with asterisks following their surnames
- Visit the Grants Repository to see samples of CVs from past successful applications (<u>https://vpresearch.usask.ca/events/grants-calendar.php</u>)
- Contact your RF or RASI with questions or issues
- Attend the fall CCV and DG application clinic (dates and times will be announced later in the summer).





Use the NSERC CV Template

 To select the NSERC CCV template, choose 'Funded' under the CV tab, search for NSERC under funding source, then select NSERC_Researcher for CV Type.

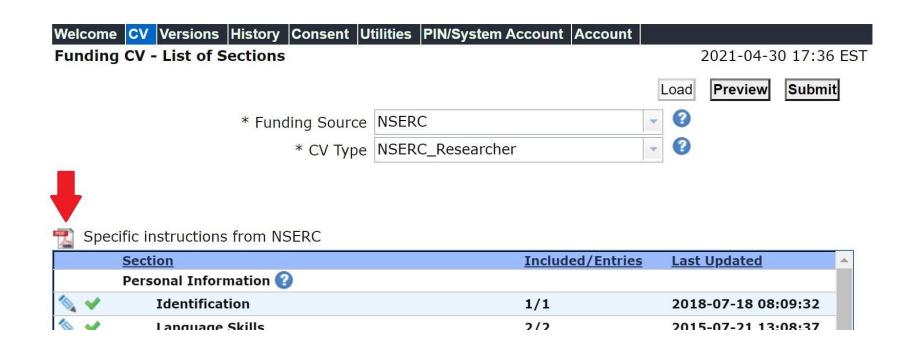
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Welcome	CV	Versions	History	Consent	Utilities	PIN/S	ystem /	Account	Account				
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Follow the PDF provided by NSERC







Make good use of extra space

Note that many of the text boxes in CCV have a lot of space. You can use this space to provide additional information about entries (e.g., award received for a paper, etc.)







Mark your HQP with asterisks following their surnames







F Internal Review – Manisha Jalla

DG-	Faculty Name	Department and College	DG- Evaluation	Faculty Name	Department And College
Evaluation Group		Department and College	Group		
1501:Genes, Cells & Molecules	Susan Detmer Troy Harkness Meena Sakharkar Julia Boughner Yan Zhou Peter Bretscher Jack Gray Mirek Cygler Patrick Krone (Em eritus Professor) Daniel MacPhee	Veterinary Pathology, WCVM BMI, College of Medicine College Pharmacy and Nutrition APP, College of Medicine VIDO BMI, College of Medicine Biology, College of Arts and Science BMI, College of Medicine Anatomy & Cell Biology, College of Medicine Veterinary Biomedical Sciences, WCVM	1502: Biological Systems and Functions	Jaswant Singh Joel Lanovaz John Howland Ron Borowsky Greg Penner Yangdou Wei Jack Gray	Veterinary Biomedical Sciences, WCVM College of Kinesiology APP, College of Medicine Psychology, College of Arts and Science Animal and Poultry Science, AgBio Biology, College of Arts and Science Biology, College of Arts and Science
1503: Evolution & Ecology	Robert Clark	Global Institute for Water Security		John P Giesy	Veterinary Biomedical Sciences, WCVM
1505: Physics	John Tse Alexander Moewes Andrei Smolyakov	Physics & Engg. Physics, Arts and Science Physics & Engg. Physics, Arts and Science Physics & Engg. Physics, Arts and Science	1504: Chemistry	David Palmer Robert Scott Adam Bourassa	Chemistry, College of Arts and Science Physics & Engg. Physics, Arts and
1507: Computer Science	Chanchal Roy Julita Vassileva Regan Mandryk Fangxiang Wu	Computer Science, Arts and Science Computer Science, Arts and Science Computer Science, Arts and Science Computer Science, Arts and Science; Mechanical Engineering, CoE	1506: Geosciences	Yuanming Pan Steven Siciliano Raymond Spiteri	Science Geological Sciences, Arts and Science Soil Sciences, AgBio
1509: Civil, Industrial & Systems	Dena McMartin	Institutional Planning and Assessment, Civil, Geological and Environmental Engg, CoE	1508: Math & Statistics	Juxin Liu	Mathematics and Statistics, Arts and Science
Engineering 1511: Materials &	Ajay Dalai	Chemical and Biological Engineering, CoE	1510: Electrical & Computer Engineering	Ha Nguyen Safa O Kasap	Electrical and Computer Engineering, CoE Electrical and Computer Engineering, CoE
Chemical Engineering			1512: Mechanical Engineering	Carey J Simonson James Johnston Xiongbiao Chen	Mechanical Engineering, CoE Mechanical Engineering, CoE Mechanical Engineering, CoE



Internal Review

RTI Evaluation Group	Faculty Name	Department and College
Genes, Cells & Molecules	Thomas Fisher Wei Xiao Patrick Krone (Emeritus Professor)	APP, College of Medicine BMI, College of Medicine Anatomy & Cell Biology, College of Medicine
Environmental Sciences	Robert Clark Christy Morrissey	Global Institute for Water Security School of Environment and Sustainability; Biology, College of Arts and Science; Toxicology Centre
Biological Systems and Functions	Jaswant Singh Valerie Thompson	Veterinary Biomedical Sciences, WCVM Psychology College of Arts and Science
Chemistry	Michel Gravel	Chemistry, College of Arts and Science
Materials & Chemical Engineering	Qiaoqin Yang	Mechanical Engineering, CoE
Engineering	Ildiko Badea	College of Pharmacy and Nutrition





List of Researchers from USask who are currently holding (or have recently held NSERC Discovery Grant)

Please refer to this list while suggesting internal reviewers, if you are participating in the USask Internal Review Program.



UNIVERSITY OF SASKATCHEWAN

Intention to apply (USask) NOI to NSERC

Draft proposal for internal review(USask)

RASI submission deadline (RTI) (ask your RF for earlier college/dept deadlines)

	NSERC Discovery Grant (DG) and Research Tools and Instruments Grant (RTI) October / November 2022 Competitions					
	Internal Review and Submission Timelines					
DG	RTI	REQUIREM ENT	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. Please put 'Lastname NSERC DG/RTI' in the subject heading.	Anytime before July 26, 2022			
x		NSERC Deadline for Submission of DG Notification of Intent (NOI) to Apply NOI must be submitted to NSERC through the <u>NSERC Research Portal</u> .	August 2, 2022			
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 9, 2022			
x	X	Applicants consult with their suggested reviewers, Research Facilitators, Associate/Vice-Deans Research, or mentorship teams to strategize and prepare their draft application.	Anytime between now and September 14 2022			
x	X	Applicants submit draft DG and/or RTI application and CCV for internal rev iew to their internal reviewers, and copy to <u>grant.review@usask.ca</u> . Please put 'Lastname NSERC DG/RTI' in the subject heading.	September 15, 2022			
x	x	Internal rev iews are returned to the applicants and copy to grant.rev iew@usask.ca, directly from internal reviewers (or from grant.rev iew@usask.ca if assistance is needed).	October 7, 2022			
x	X	Applicants consult with their suggested reviewers, Research Facilitators, Associate/Vice-Deans Research, or mentorship teams to incorporate rev iewer f eedback. Research Facilitator reads for the logistical flow and completion of the proposal.	October 7 – 14 (RTI) October 7 – 21 (DG)			
x	x	College/Unit Internal Approval Applicants must submit a full application package including CCV through Univ RS 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 Acceleration and Strategic Initiatives (RASI) Compliance Review and Approv al (RTI) College/school/unit of the applicant must review the application, decide on approv al and submit the decision in <u>University Research System (UnivRS)</u> at least 5 business days prior to the agency submission deadline. RSEO will rev iew f or eligibility, conduct a final compliance review check and prov ide Institutional approval. Applicants will have the opportunity to incorporate any required changes they wish to address or as noted by RASI. Paper applications will not be accepted.	October 18, 2022			

NSERC Discovery Grant (DG) and Research Tools and Instruments Grant (RTI)



RTI deadlines NSERC RTI Submission Deadline October 25, 2022 Final applications must be submitted by applicants to NSERC through the NSERC Research Portal, and will be forwarded by the RASI staff. Research Acceleration and Strategic Initiatives (RASI) Compliance Review October 24, 2022 **RASI** submission deadline 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 (DG) least 5 business days prior to the agency submission deadline. RSEO will review for eligibility, conduct a final compliance review check and provide (ask your RF for earlier college/dept Institutional approval. Applicants will have the opportunity to incorporate any required changes they wish to address or as noted by RASI. Paper deadlines) applications will not be accepted. DG deadline NSERC DG Submission Deadline November 1, 2022 Final applications must be submitted by applicants to NSERC through the NSERC Research Portal, and will be forwarded by the RASI staff. NSERC Discovery Grant/RTI Workshop:

W orkshop Highlights

- Specific strategies relevant to the merit indicators;
- Top tips and advice from:
 - May 12, 2022 Research Facilitators on CCV, HQP, Equity, Diversity and Time: 1:00pm - 3:00 pm Inclusivity (EDI) considerations, and Internal Review; **Experienced NSERC Evaluation Group members** • regarding successful applications;

Session focused on RTI grants

Webinars and Information Sessions Calendar				
EVENT	DATE			
DG Webinar: Submission of a Notification of Intent to Apply (English) Live Q&A	ТВА			
RTI Webinar: Submission of an Application (English)	TBA			
DG Webinar: Submission of an Application (English)	TBA			
USask Q&A session for DG and RTI Applicants including information on CCV and Full Application in Research Portal	TBA			



DG Evaluation Group Members

- Meena Sakharkar, EG 1501 Genes, Cells and Molecules
- Jaswant Singh, EG 1502 Biological Systems and Functions
- Joel Lanovaz, EG 1502 Biological Systems and Functions
- Robert Scott, EG 1504 Chemistry
- Ha Nguyen, EG 1510 Electrical and Computer Engineering



UNIVERSITY OF SASKATCHEWAN EG 1501:Genes, Cells, and Molecules, Prof. Meena Sakharkar

- It is imperative to use the **Merit Indicators grid**.
- Make sure your CV and your application are consistent in manuscripts, grants and students/HQP.
- If your lab does health science related research, please indicate the basic science component and contribution (for each article).
- Simplify as much as possible. It is your job to make ensure that the reviewers understand your grant. Reviewer's may (sometimes) not be area experts.
- Clearly indicate:
 - Long term goals and short term objectives.
 - Novelty of the proposed research.
 - Manuscripts where you are corresponding/co-corresponding/lead author.
 - Training philosophy and Training plan for each HQP.
 - Your HQP, their contributions and their current whereabouts.
 - Your EDI philosophy (do not copy from others).
 - If you hold a CIHR grant, clearly indicate the difference from the proposed NSERC grant.
- Reviewers provided by you (not over extremely critical/supportive).



The Grid is our God during the Competition week

Evaluation Group members breath-in and live by the Grid!

- R1 and R2 are your friends and advocates
 - o Help them
- *As R1, I get only 3-4 minute to present your case!

*****What rationale would you like to appear on the Evaluation Form

 \circ Fill in the form for someone from USask database (i.e., understand the Grid)

Keep the story simple

 \circ Weaving the story between different sections (=multiple iterations)

Pay attention to EDI and keep CIHR domains out

 $\circ~$ What specific EDI actions are you taking?







THE GRID IS ABSOLUTE

Pay close attention to the Merit Indicator rubric; i.e. "the grid"

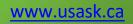
Find ways to highlight impact of your work (Most Significant Contributions section - not a just list of pubs!)

Make sure CCV matches the application; pay attention to details (e.g. Use * to highlight HQP!!)

Work to get the right balance of big picture and methodological detail (Need to show you can do it but also need to sell the innovation/impact)

Needs to read like a program of research (not a series of experiments; not just an incremental advance)

Highlight what is unique/special about the experience that HQP receive





Some of the issues I noted this past year that led to poorer outcomes:

- 1. Delays in Research: **Quantify your delays**. NSERC allows you to attach a supplementary contributions to research document. Only a minority of applicants take advantage of this.
- 2. Description of EDI challenges in both **your field of research and institution**. <u>Explicitly</u> state what these challenges are for **both**, and provide several concrete action plans.
- 3. Most Significant Contributions to Research: These should be used to describe **your expertise and the impact of your work**, and need not be publication specific (i.e. they should not be paper abstracts). **Be specific about evidence of the impact of your work**.
- 4. Collaborations: Many people collaborate, but it is incumbent to describe **your role** in all collaborations. If you publish with other co-PIs often, be explicit about what your role is on these publications.





Excellence of the Researcher: Fundings, awards, publications (credible venues, student authorship, large or small number of co-authors, explanation of collaboration in multi-authors papers), description of most significant contributions, quality and relevance of sample contributions

- **Merit of Proposal**: Topic is current/emerging, originality and innovation with respect to the state-of-the-art (references are up to date, relevant and from the mainstream journals/conferences in the field), clarity and scope of long-term/short-term objectives, clarity and appropriateness of methodology, favorable to build on results/expertise from past research, clear description of HQP roles.
- **HQP Training**: Quality and impact of past training (description of training environment, HQP awards and high-quality publications, HQP employment, HQP further studies), description of training philosophy and research training plan.



Q&A: Discovery Grants

Please either type your question into the chat, or raise your hand!





RTI: Research Facilitators

- Bruna Bonavia-Fisher, Biomedical Departments, Medicine
- Heidi Smithson, Engineering

RTI: Evaluation Group Members

- Thomas Fisher, RTI Evaluation Group: Genes, Cells and Molecules
- Michel Gravel, RTI Evaluation Group: Chemistry





UNIVERSITY OF Research Tools & Instruments (RTI) – Bruna Bonavia Fisher











Equi	ity, diversity and inclusion considerations	
	important part of the application, helps pound/fermitiate pound/for privations in the pile.	the real of
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 foster and enhance the discovery, innovation and trai university researchers in the NSE by supporting the pue equipment- 1 year; up to \$150K. Discovery Development Grant
Alliance grant
Strategic Partnerships Grant
Collaborative Research and Development grant
Industrial Research Chairs grant
Canada Research Chairs
Canada Excellence Research Chairs
Canada 150 Research Chairs

- ✓ applicants and co-applicants must <u>each hold a DG</u> or <u>one of the grants in their</u> <u>list</u>, can only submit **one application per competition**, either as an applicant or a co-applicant but not both.
- ✓ for tools and instruments that form a comprehensive system, or the purchase of new, used or refurbished equipment, for the repair, upgrade or rental of equipment, or for the fabrication of equipment that is not readily available off the shelf

✓ Success rate: 28%



SUMMARY of proposal

PROPOSAL

Free form proposal limited to four pages

- Demonstration that the **equipment is essential** for the research, and that there are no other most cost-effective ways of obtaining the results;
- o Availability of similar equipment/facilities/services in the vicinity;
- The **impact of a delay in acquisition of equipment on the research** and the pace of research progress;
- o Need to upgrade or replace obsolete or failed equipment; and
- $\circ~$ Degree of utilization of the equipment by the applicant(s) and other users
- need, urgency and suitability of equipment for the research programs (40%)
- merit of the research programs supported by the equipment and excellence of the applicant(s) (40%)

 Quality and significance of research programs, including potential for major
 - advances and impact in the discipline as a result of the equipment;
 - Feasibility of the plan to use the equipment; and
 - The excellence of the applicant(s), including scientific or engineering calibre of the applicant(s) and extent to which the applicant(s) has relevant experience and demonstrated ability to fully use the equipment.
 - Consideration of **equity**, **diversity and inclusion in the rationale of the team** composition (applicant, coapplicant(s), and major users).
- ➢ importance of the equipment for the training of HQP (20%)
- Quality and extent of **training**;
- o Opportunity for hands-on training; and
- Potential to provide **marketable skills** for students trained on the equipment.
- Consideration of equity, diversity and inclusion in the training of HQP.

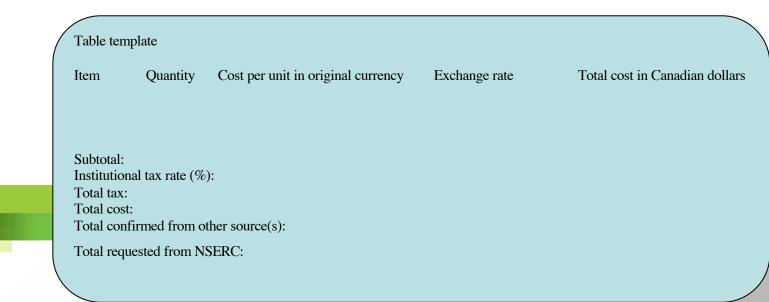


BUDGET

Budget justification limited to two pages

- 1. must contain only information pertinent to the budget and relationship to other research support.
- 2. Supported by a template table to fill
- 3. include two quotations for over \$25,000. If you cannot provide them, provide a justification under a clear heading

Budget table





 \mathbf{CCV}

applicant and each of the co- applicants must submit a CCV





Equity, diversity and inclusion considerations

Very important part of the application, helps you differentiate yourself form the rest of the applications in the pile.

Give concrete examples of the **actions** that Usask, your department and your laboratory (and co-applicants's) take **to advance underrepresented groups AND provide the best inclusive and nurturing environment to work in.**



Research Tools and Instruments (RTI)

support.

- foster and enhance the discovery, innovation and training capability of university researchers in the NSE by supporting the purchase of research equipment- 1 year; up to \$150K.
- applicants and co-applicants must each hold a DG or one of the grants in their list, can only submit one application per competition, either as an applicant or a co-applicant but not both.
- for tools and instruments that form a comprehensive system, or the purchase of new, used or refurbished equipment, for the repair, upgrade or rental of equipment, or for the fabrication of equipment that is not readily available off the shelf
- Success rate: 28%

Free form proposal limited to four pages

of highly qualified personnel (HQP) (20%)

for the research programs (40%)

1. need, urgency and suitability of equipment Budget justification limited to two pages 1. must contain only information pertinent

If you cannot provide them, provide a iustification under a clear heading CCV

applicants

must submit a CCV

applicant and each of the co-

2. merit of the research programs supported to the budget and relationship to other research by the equipment and excellence of the applicant(s) (40%)

3. importance of the equipment for the training

2. Supported by a template table to fill

3. include two quotations for over \$25,000.

Equity, diversity and inclusion considerations

Very important part of the application, helps you differentiate yourself form the rest of the applications in the pile. Give concrete examples of the actions that Usask, your department and your laboratory take to advance underrepresented groups AND provide the best inclusive and nurturing environment to work in.







NIVERSITY OF ASKATCHEWAN Research Tools and Instruments (RTI) – Heidi Smithson

Reviewed 29 RTI applications beginning from 2016/17 – 2020/21

Number of Co- Applicants	Total # application s in category	% of total applications	# of successful application s	Success rate as % of total application s	% of awarded vs. total in category	% of total successful application s
0	9	31%	0	0	0	0
1	4	14%	1	3.4%	25%	12.5%
2	9	31%	1	3.4%	11%	12.5%
3+ (usually 4+)	7	24%	6	20.6%	85%	75%



Characteristics of Successful RTIs

Characteristic	Details
Excellence of the	PI and Co-Is are highly funded; have large HQP teams and
Researcher(s)	outputs
Usage	Applications with multiple applicants show much higher usage
	rates in the proposals; successful applications provide a
	detailed usage and management plan, including time built in
	for other users (internal and external, with specific other users
	identified).
Linked to other	Successful applications emphasize a direct link between
funding success	equipment and success on other programs such as meeting
	DG objectives
Multidisciplinary/Int	Co-Is from at least other departments and usually other
erdisciplinary	colleges; wide range of research areas in a single application
Collaboration	Teams tend to have multiple co-authored publications and
History	jointly-held funding
Funds Requested	Full or close to full \$150,000 requested (vs. very low success
	rates below \$100,000)
# HQP trained	Applications with multiple applicants have significantly more
	HQP to be trained (e.g., over 20 HQP/yr vs. fewer than 10
	over 6 years)

UNIVERSITY OF SASKATCHEWAN	Characteristics of Unsuccessful RTIs
Characteristic	Details
Excellence of	Limited array of funding sources; fewer collaborations
the	
Researcher(s)	
Usage	Limited usage – likely due to single or small number of Co-Is (e.g.,
	PI will use 100% of time but only 10 hrs/month); vague reference to
	other users or possible future collaborations (all unnamed)
Links to other	Limited/lacking reference to success of other funding
funding	
success	
Multidisciplinar	Challenging to demonstrate exposure of HQP to multidisciplinary
у/	environment as a lone applicant or small team with limited
Interdisciplinar	collaboration history
у	
Collaboration	Limited/lacking collaboration history among the team members
History	
Funds	Small amount of funding requested (\$20,000 – 40,000); likely just
Requested	an indicator of other problems in the proposal
# HQP trained	Limited # of HQP to be trained; often the number of expected HQP
	doesn't align with past training numbers
Language	Significant time spent describing the research/overly technical



What does all of this mean?

- Larger teams fair better because:
 - They can demonstrate significantly more use and impact
 - They train more HQP
 - They can demonstrate more collaboration and multidisciplinarity
 - The size of the team ensures each section of the proposal is more succinct and less technical

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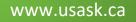
- Smaller dollar value proposals:
 - Tend to be single applicants or small teams
 - Seem to be less polished
- Excellence of the Researcher(s)
 - This does appear to have some import, but it is not the whole story as sometimes the same excellent applicants are not funded.
 - The proposal still needs to have the other qualities mentioned.





Tips

- Start working early to give yourself lots of time to put together a larger team or identify (confirm) other users
 - Work with your Research Facilitator to help identify potential collaborators in other units
- If you're a single applicant or small team, don't feel compelled to fill up all the pages. Keep the writing succinct, specific, and not overly technical.
- If you're asking for a small dollar amount, put the same effort in as you would for the full \$150,000.
- Smaller teams need to be realistic about number of HQP trained (compensate by identifying other users)
- Find and follow examples in the Grants Repository. You can adapt the qualities of a larger-team proposal to a small one.



NIVERSITY OF ASKATCHEWAN Research Tools and Instruments (RTI) – Prof. Thomas Fisher

Consider the reviewers perspective...



We are not likely to be expert in your field (I had rated my comfort level as "high" in only 4 of the 21 applications I reviewed).

We have a lot of applications to review – keep them simple and focused on the criteria.

There are different ways to argue for need, urgency, and merit - identify your strengths and state them clearly and often.

The process requires reviewers to essentially rank each application in each of the three categories - weakness in any of them can sink your chances.

Pay careful attention to HQP and EDI.



Research Tools and Instruments (RTI) – Prof. Michel Gravel

Tips for a Successful RTI Application



- Need, urgency and suitability (40%)
 - Demonstrate instrument is essential and not currently available
 - Intensive use of instrument: # of users, # hours/month
 - Shared instrument: # of applicants, # of users
- Feasibility and impact (40%)
 - Excellence of research program and of applicant
 - EDI in team composition (applicants)
- Training of HQP (20%)
 - Quality and importance of training on this instrument
 - Shared instrument: # of applicants, # of users
 - EDI in users

Assessment Notes Template: RTI



Q&A: RTI Grants

 Please either type your question into the chat, or raise your hand!



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UNIVERSITY OF Application Preparation Resources

• NSERC Resources:

- <u>NSERC Instructions http://www.nserc-crsng.gc.ca/ResearchPortal-</u> <u>PortailDeRecherche/Instructions-Instructions/DG-SD_eng.asp</u>
- NSERC Presentation Standards (fonts, margins etc.) are at: <u>http://www.nserc-crsng.gc.ca/OnlineServices-</u> <u>ServicesEnLigne/pdfatt2_eng.asp</u>
- <u>NSERC Webinars: http://www.nserc-crsng.gc.ca/ResearchPortal-</u> <u>PortailDeRecherche/RP-CCV-Webinar_eng.asp</u>
- <u>NSERC resource videos http://www.nserc-crsng.gc.ca/ResearchPortal-</u> <u>PortailDeRecherche/Resource-Informatives_eng.asp</u>

UNIVERSITY OF Application Preparation Resources

- USask Resources:
 - USask NSERC DG repository
 <u>https://share.usask.ca/go/ovpr/grants_repository/</u>
 - Videos and slides from our previous NSERC grant workshops <u>Workshops and Tipsheets - Research Acceleration and Strategic Initiatives</u> <u>- Office of the Vice-President Research - University of Saskatchewan</u> (usask.ca)
 - Comprehensive list of resources available for the EDI component of your Discovery Grant application:

https://usaskca1-

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UNIVERSITY OF SASKATCHEWAN

NSERC Research Facilitation & Planning Team

- SERC Leader: Ron Borowsky
- * Research Development Specialist, Research Acceleration and Strategic Initiatives: Manisha Jalla

Research Facilitators

- Agriculture and Bioresources: Danielle Baron
- Arts and Science: ColleenCochran
- Edwards School of Business: Joelena Leader
- Engineering: Heidi Smithson
- Johnson-Shoyama School of Public Policy: Bethany Penn
- Dentistry and School of Public Health: Janice Michael
- Kinesiology/Pharmacy and Nutrition: Gen Clark
- Medicine: Biomedical Departments (BMI, APP): Bruna Bonavia-Fisher; Department of Medicine: Ozlem Sari Department of Surgery: Karen Mosier; Department of Pediatrics: Tova Dybvig Department of Psychiatry: Mariam Alaverdashvili; Departments of Family Medicine, Medical Imaging, Obstetrics & Gynecology, Oncology, Ophthalmology, Pathology and Laboratory Medicine: Mark Milne
- Western College of Veterinary Medicine: Tera Ebach
- School of Environment and Sustainability: Graham Fairhurst
- Research Acceleration and Strategic Initiatives (Large Scale Grants) : James Dobson

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Research Support Specialists, Research Acceleration and Strategic Initiatives

Colleges / Schools	Name
Arts and Science	Nicole Benning
Education	
Edwards School of Business	
School of Public Policy	
Law	
Library	Laurie Schimpf
Centre for Forensic Behavioural Science and Justice Studies	· ·
Centre for the Study of Co-operatives Community-University Institute	
for Social Research (CUISR)	
Agriculture and Bioresources	Brenda Meyer-Burt
Engineering	
Global Institute for Food Security	
Global Institute for Water Security	
School of Environment and Sustainability	
Toxicology Centre	
Vaccine & Infectious Disease Organization	
Western College of Veterinary Medicine	
Medicine	Cameron Berg
Pharmacy and Nutrition	
Nursing; Dentistry	
Kinesiology	
School of Public Health	Ronda Appell
Saskatchewan Population Health and Evaluation Research Unit	
(SPHERU) Canadian Centre for Health and Safety in	
Agriculture (CCHSA)	
Indigenous Peoples' Health Research Centre	