

Information Session Simon Fraser University

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Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

Canada

Discovery Grants Program Overview



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Notification of Intent to Apply (NOI)

Overview

- **Deadline:** August 1st - **Mandatory**
- **Main components:**
 - Research topics, keywords, title
 - Summary of proposal
 - Suggested external reviewers
 - Canadian Common CV (CCV)
- **Submission:**
 - Research Portal



Notification of Intent to Apply

Tips

- **Select appropriate research topics**
 - First selected must be from suggested EG
 - Helps identify potential joint reviews
- **Submit a detailed summary**
 - Helps internal reviewers select appropriate external reviewers
 - Helps identify potential joint reviews
- **Select appropriate suggested external reviewers**
 - Be mindful of conflicts and expertise



Notification of Intent to Apply

Joint Reviews - Evaluation Groups

- Genes, Cells and Molecules (1501)
- Biological Systems and Functions (1502)
- Evolution and Ecology (1503)
- Chemistry (1504)
- Physics (1505)
- Geosciences (1506)
- Computer Science (1507)
- Mathematics and Statistics (1508)
- Civil, Industrial and Systems Engineering (1509)
- Electrical and Computer Engineering (1510)
- Materials and Chemical Engineering (1511)
- Mechanical Engineering (1512)



Submission of Full Application

Overview

- **Deadline:** November 1st – [Check Internal deadlines](#)
- **Main components:**
 - Application for a grant
 - Research proposal
 - Samples of research contributions
 - Budget and justification
 - Canadian Common CV (CCV)
- **Submission:**
 - Research Portal



Grants Competition

Review Process

Step 1: Merit Assessment

- **Three equally weighted criteria:**
 - Excellence of the Researcher
 - Merit of the Proposal
 - Contribution to Training of Highly Qualified Personnel (HQP)
- **Uses six-point scale**
 - From exceptional to insufficient



Grants Competition Review Process

■ Merit Indicators “Grid”

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 proposal and budget clearly demonstrate how the research activities to be supported are distinct from and complement those funded 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 proposal and budget clearly demonstrate how the research activities to be supported are distinct from and complement those funded 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 proposal and budget demonstrate how the research activities to be supported are distinct from and complement those funded 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 proposal and budget demonstrate how the research activities to be supported are distinct from and complement those funded 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 proposal and budget demonstrate how the research activities to be supported are distinct from and complement those funded 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 proposal and budget do not clearly demonstrate how the research activities to be supported are distinct from and complement those funded by other sources.
Training of HQP	Training record is at the highest level , with HQP contributing to top quality research . Most HQP move on to positions that require highly desired skills , obtained through training received. Research plans for trainees are appropriate and clearly defined . HQP success highly likely .	Training record is far superior to other applicants, with HQP contributing to high-quality research . Most HQP move on to positions that require highly desired skills , obtained through training received. Research plans for trainees are appropriate and clearly defined . HQP success highly likely .	Training record is superior to other applicants, with HQP contributing to quality, original research . Many HQP move on to appropriate positions that require desired skills , obtained through training received. Research plans for trainees are appropriate and clearly described . HQP success is likely .	Training record compares favourably with other applicants. HQP generally move on to positions that require desired skills , obtained through training received. Research plans for trainees are appropriate and described . HQP success is likely .	Training record is acceptable but may be modest relative to other applicants. Some HQP move on to programs or positions that require desired skills , obtained through training received. Plans for trainees are described and should contribute to HQP success.	Training record is below an acceptable level relative to other applicants. HQP do not, in general, move on to positions that require skills obtained through training received. Plans for trainees are not appropriate or are not described with enough information to predict likelihood of HQP success.

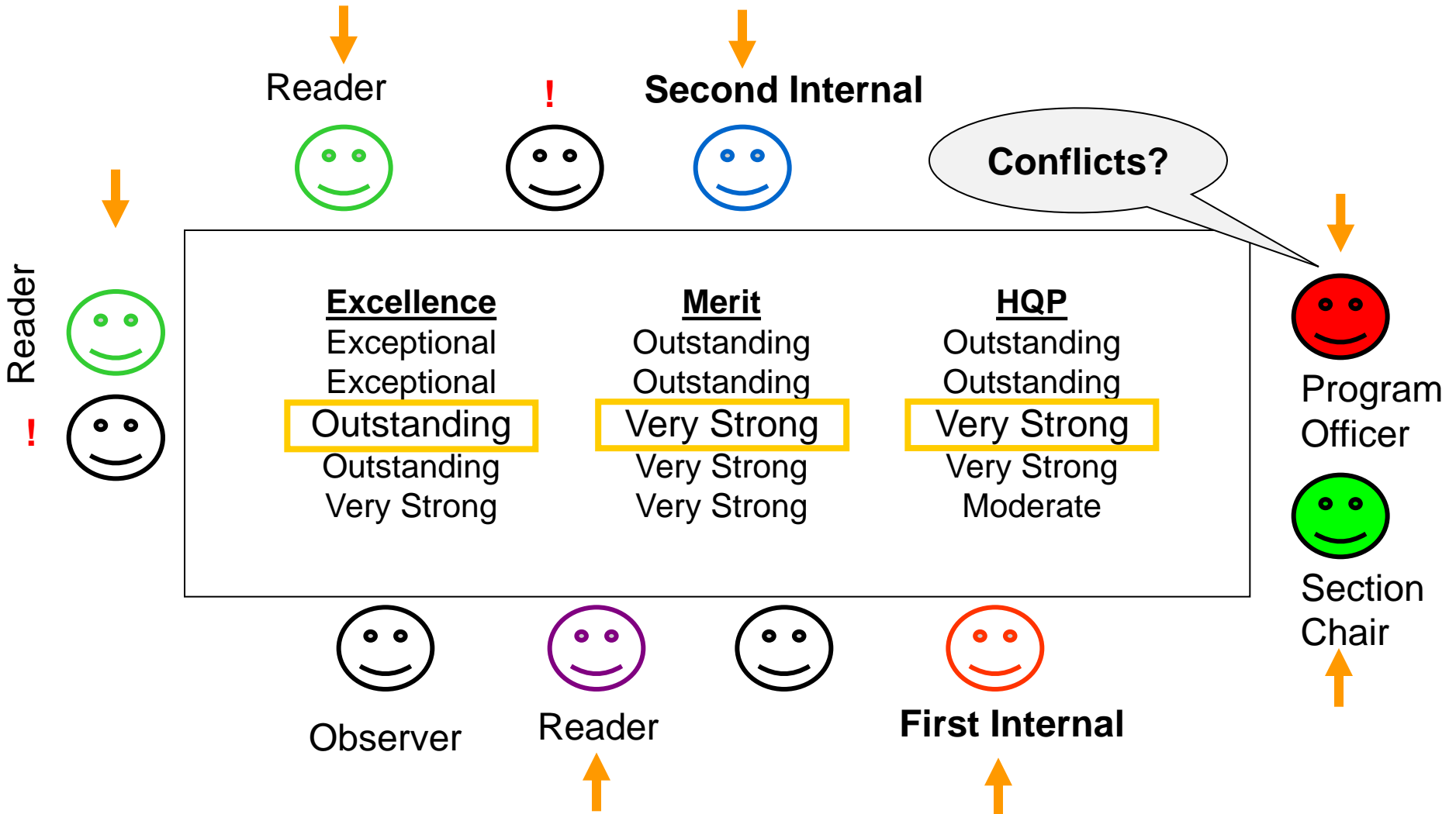
¹The Discovery Grants Merit Indicators should be used in conjunction with the Peer Review Manual (Chapter 6) which outlines how reviewers arrive at a rating.

Cost of research	High	Normal	Low
	Majority of justified expenses represent costs higher than the norm for the research area.	Majority of justified expenses are within the norm for the research area.	Majority of justified expenses are lower than the norm for the research area.

² Possible examples include: Cost of training of HQP; Equipment intensive research and/or high users fees; particularly expensive or frequent consumables; Travel (for collaborations, field work, access to facilities, conferences, ...)



Grants Competition Conference Model



Grants Competition

Review Process

Step 2: Funding Recommendations

- Applications grouped into 'bins' of comparable merit
- Similar overall ratings within an EG receive comparable funding



Grants Competition

Review Process

Step 1: Merit assessment

	Exceptional	Outstanding	Very Strong	Strong	Moderate	Insufficient
Excellence of the researcher	X X	X X	X			
Merit of the proposal		X X	X X X			
Contribution to the training of HQP		X X	X X		X	



Outstanding – Very Strong – Very Strong

Step 2: Funding Recommendation

Funding Bin	A	B	C	D	E	F	G	H	I	J	K	...	P
Value	...\$...\$...\$...\$...\$...\$...\$...\$...\$...\$...\$...\$...\$



Discovery Grant Application

Subject Matter Eligibility

- NSERC supports research whose major challenges lie in the natural sciences and engineering (NSE), other than the health sciences
- The intended objective(s) of the research must primarily be to advance knowledge in one or more of the NSE disciplines
- Applicants should refer to:
 - [Selecting the Appropriate Federal Granting Agency](#)
 - [Addendum to the Guidelines for the Eligibility of Applications Related to Health.](#)
 - The Addendum provides examples that illustrate the eligibility of applications related to human health



Discovery Grant Application

Subject Matter Eligibility - Addendum

Examples found in the addendum under the second theme

NSERC Eligible	NSERC Ineligible
Development of novel biological sources rich in a desired nutraceutical or pharmaceutical ingredient or of a precursor aimed at production	Screening of compounds for bioactivity, including high throughput assays, building of compound libraries for screening purposes, testing of drug candidates for efficacy or determination of pharmacological parameters
Development of novel nutraceutical ingredients or processes leading to products containing desired nutraceutical ingredients, including the determination of digestibility and availability of the ingredient	Gathering of information about active pharmaceutical ingredients (APIs) or nutraceutical ingredient for regulatory or marketing purposes
Elucidation of the mechanism of action of a nutraceutical on a specific physiological function	Determination or validation of the direct or suspected effects on health of a candidate nutraceutical ingredient or combination
Development of new technology allowing the production of vaccines	Development of a vaccine for a specific use or of new delivery methods for vaccines



Discovery Grant Updates

Relations to other sources of support – Literature Change

****NEW ****

- The Discovery Grants Program does not support research ideas/objectives that are already funded (or to be funded) by CIHR and/or SSHRC.
- CIHR Foundation Grant Holders or Applicants must explain why support from DG is essential to complete the work proposed.



How to prepare a Discovery Grant Application

Dr. Michael Silverman, SFU
Section Chair for Gene, Cells and Molecules
Evaluation Group (1501)



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Discovery Grant Application

Evaluation Criteria

- Excellence of Researcher (EoR)
- Merit of Proposal (MoP)
- Training of Highly Qualified Personnel (HQP)



Discovery Grant Application

Excellence of the Researcher

Assessment based on achievements demonstrated over the past **six** years.

- Knowledge, expertise, and experience
- Quality and impact of contributions to NSE research
- Importance of contributions to researchers and end-users



Discovery Grant Application

Excellence of the Researcher

Members will assess this using information from:

- **Most significant contributions**
 - Highlighted quality and impact
- **Samples of research contributions**
 - Up to 4 attached with application
- **CCV contributions, recognitions, activities**
 - Additional information on contributions in application



Discovery Grant Application

Excellence of the Researcher

- Describe up to four most significant research contributions and highlight quality & impact
- List all types of research contributions (**from 2011-2017**)
- Explain your role in collaborative research activities
- List all sources of support
- Give other evidence of impact
- Explain delays in research activity (See Peer Review Manual)



Discovery Grant Application

Excellence of the Researcher (Information Location)

- In **CCV**
 - Recognitions (honors, prizes and awards, etc.)
 - Activities (international collaborations, event administration, editorial activities, organizational review, knowledge and technology transfers, etc.)
 - Memberships (service on committees)
 - Contributions (publications, books, patents, etc.)
- In **Application**
 - Most Significant Contributions (discusses most significant contributions)
 - Additional Information on Contributions (discusses choice of venues, order of authors, etc.)



Discovery Grant Application

Merit of the Proposal

Members will assess this using information from:

- **Research proposal (5 pages)**
 - List of references (2 pages)
- **Proposed expenditures and budget justification**
- **Relationship to other research support**
 - CIHR and/or SSHRC summary and budget pages
 - CCV research funding history



Discovery Grant Application

Merit of the Proposal

- Originality and innovation
- Significance and expected contributions to research; potential for impact
 - Must describe a **program** of research that will advance knowledge in the Natural Sciences and Engineering
- Clarity and scope of objectives
- Clarity and appropriateness of methodology
- Feasibility of program
- Extent to which the scope of the proposal addresses all relevant issues
- Appropriateness of budget
 - Relationship to other sources of funds must be clearly explained



Discovery Grant Application

Merit of the Proposal

- Write summary in plain language
- Keep in mind that two audiences read your application: expert and non-expert
- Can provide a progress report on related research
- Position the research within the field and state-of-the-art
- Clearly articulate short- and long-term objectives
- Provide a detailed methodology and realistic budget
- Consider comments/recommendations you may have received for previous applications
- Integrate HQP into the proposal



Discovery Grant Application

Relationship to Other Research Support

****NEW****

- Clarified instructions for the applicant and for committee members (Instructions to Applicants, Peer Review Manual).
 - **Expenses proposed in the DG application must not be supported by other sources**
 - **The Discovery Grants Program does not support research ideas/objectives that are already funded (or to be funded) by CIHR and/or SSHRC**
- CIHR Foundation Grant Holders or Applicants must clearly explain why support from DG is essential for the work proposed



Discovery Grant Application

Contributions to the training of HQP

Assessment is based on both:

- the **past contributions to training**; and
- the **future plans for training**

Quality research training at all levels are valued, including:

- Undergraduate students involved in research;
- Graduate students and postdoctoral fellows;
- Technicians and research associates; and
- Other trainees from non-academic sectors i.e. government, or industry.



Discovery Grant Application

Contributions to the training of HQP

Past contributions to the training of HQP

Assessment based on training over the past **six** years

****NEW Instructions****

Include three components:

1. Training environment
2. HQP awards and research contributions
3. Outcomes and skills gained by HQP



Discovery Grant Application

Contributions to the training of HQP

Past contributions to the training of HQP

Other items to consider:

- Explain the level, context, and role in supervision and co-supervision;
- Note delays in training (those taken by the applicant or HQP)
- Focus on quality and impact of training

Early Career Researchers (ECRs) should not be rated *insufficient* **solely** due to a poor past record of contributions to the training of HQP



Discovery Grant Application

Contributions to the training of HQP

Future plans for training

****NEW Instructions****

Include two components:

1. Training Philosophy
2. Research Training Plan



Discovery Grant Application

Contributions to the training of HQP

Evaluation Group will assess HQP using information from:

- **Application:**

- Past contributions to HQP training
- HQP training plan

- **CCV**

- Supervisory activities and contributions
- Trained HQP who co-authored should be identified with an asterisk “*”
- Do not use “academic advisor”



Discovery Grant Application

Contributions to the training of HQP

- Describe your involvement and interaction with HQP
- Describe the nature (PhD, master's, undergraduate), length of time (summer project vs. thesis) and type of training (course-related or thesis)
- Fully describe the nature of co-supervision
- Include present position for past HQP
- Include all levels of HQP, including undergraduates
- Make sure projects are appropriate for level of HQP proposed



Discovery Grant Application

Additional Recommendations

- **Read other successful applications**
- **Ask colleagues and/or your RGO for comments on your application**
 - Ask both experts in your field and non-experts to review
- **Plan ahead and check institutional deadlines**
- **Use the resources available**



Discovery Grant Application

Available Resources

- **Discovery Grants Information Centre**
- **Resource Videos**
- **Peer Review Manual**
 - Includes information on each of the three criteria and the merit indicators
- **HQP FAQ Document**
- **Webinars on how to apply**
 - NOI and full application stages (French and English)



Discovery Grants Competition Results 2017



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2017 Competition Results

Peer Review – Thank You!

- 3200+ Discovery Grants Applications =
 - 400+ Evaluation Group Members
 - 16 000+ reviews by EG members
 - 8000+ External Reviewers Reports

“

A big thank you from NSERC!

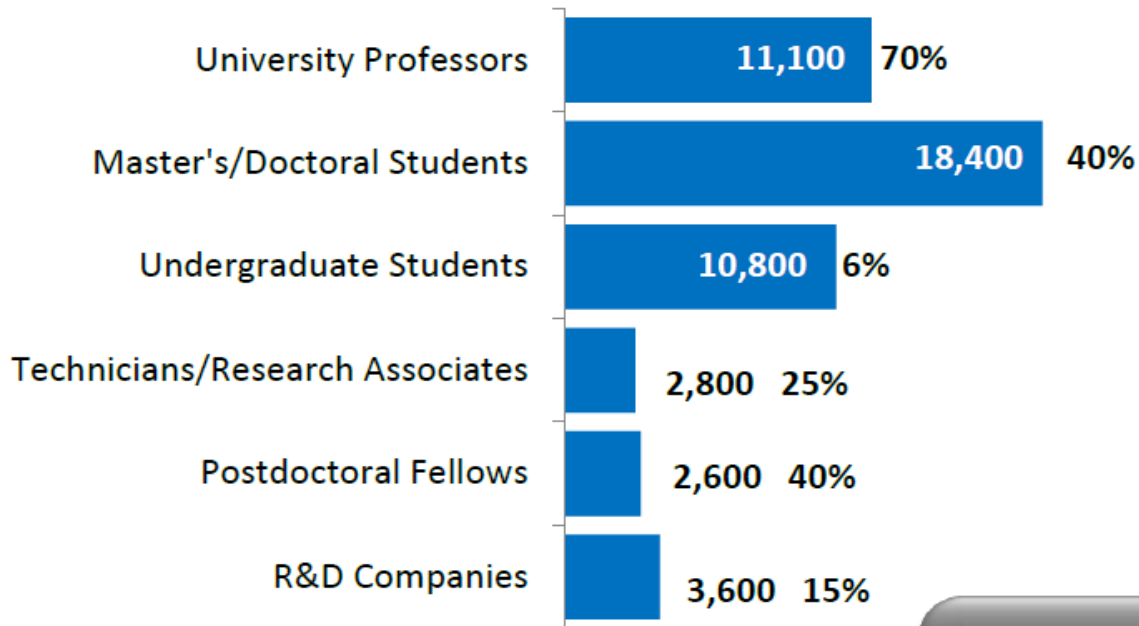
Your insight, excellence and informed feedback are essential to ensure quality in Canada's research endeavour.

B. MARIO PINTO
NSERC PRESIDENT



NSERC Overview

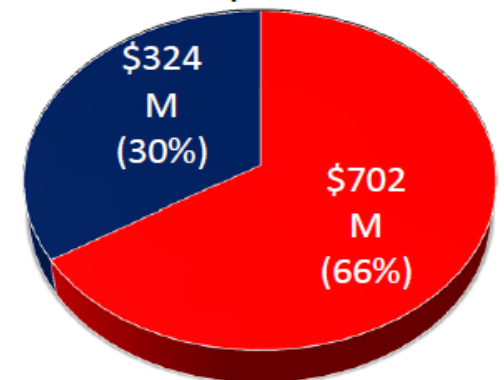
Clients and Partners



% indicates share of eligible population supported directly and indirectly.

NSERC Budget 2015-16

Total: \$1.1 billion

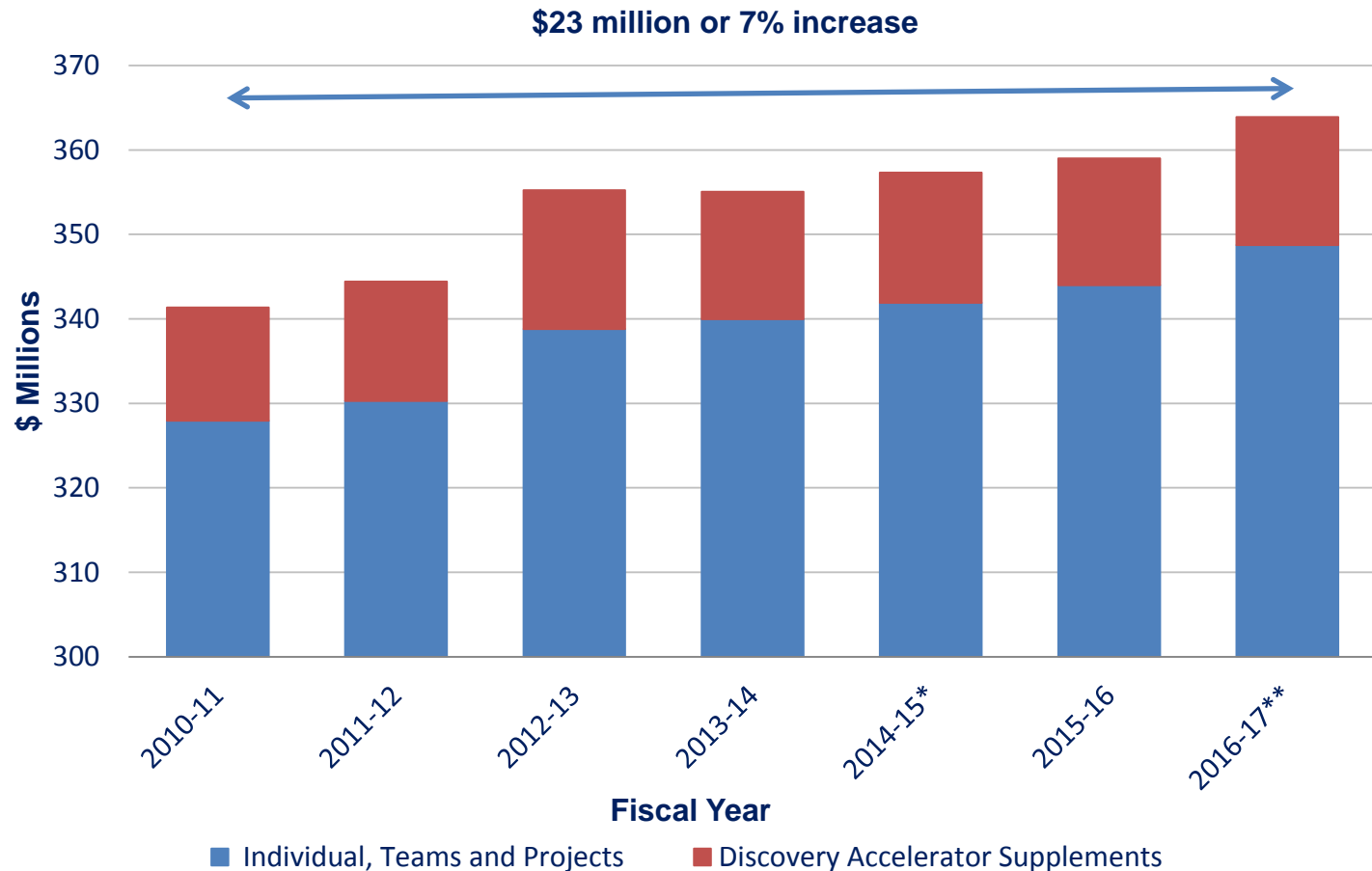


- Discovery (includes Scholarships & Fellowships)
- Innovation

Colleges & Polytechnics

- 80% of eligible institutions have received College and Community Innovation grants

N SERC Discovery Grants Funding



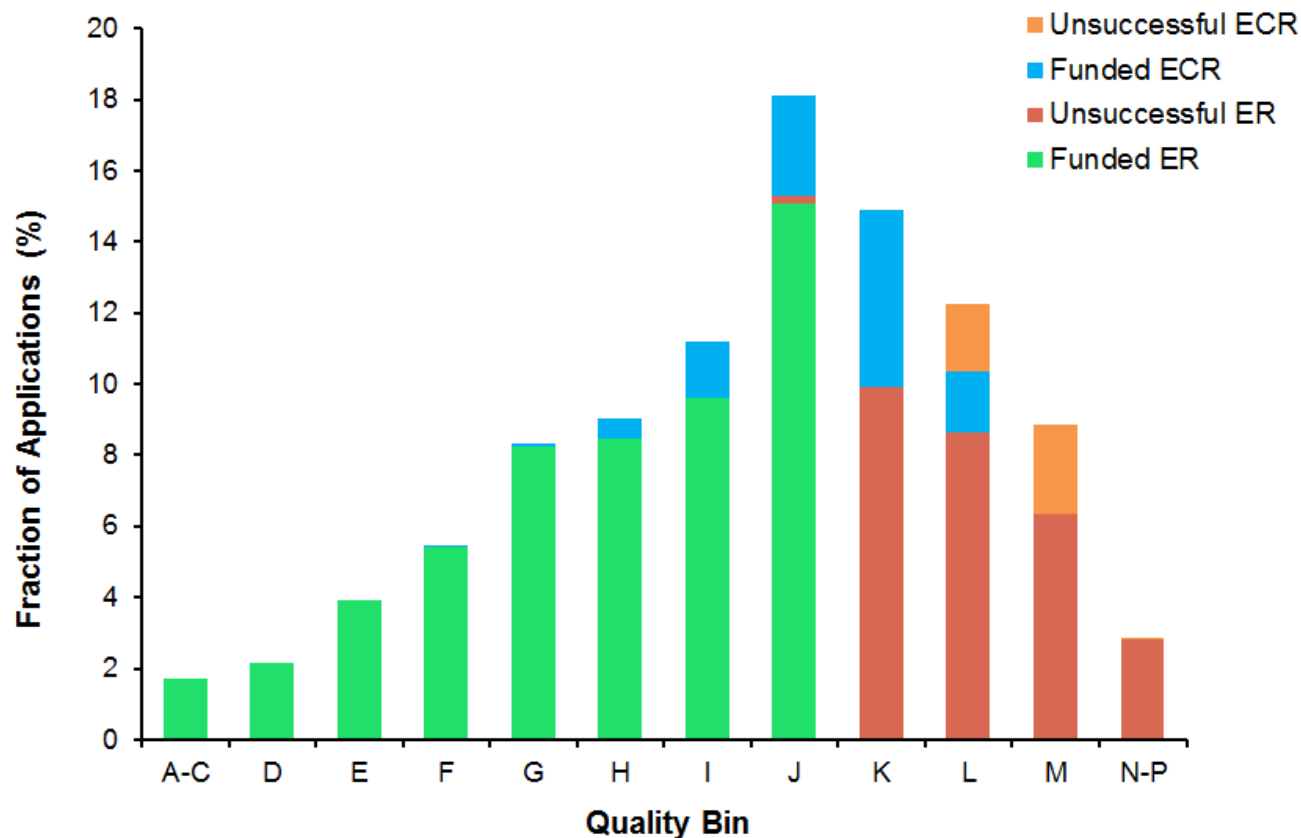
* Includes additional funding received resulting from Federal Budget 2014

** Projected expenditures for 2016-2017

2017 Competition Results

Overall Results

	Early Career Researchers	Established Researchers
\$ awarded	\$9,782,303	\$61,822,721
Success rate	69%	66%
Average Grant	\$25,409	\$34,948



Competition Results

Overall Results 2013-2017

	2013	2014	2015	2016	2017
Early career Researchers (ECR)	60% \$27,438	70% \$27,237	65% \$26,120	75% \$28,771	69% \$25,409
Established Researchers (ER)	59% \$34,323	64% \$35,477	65% \$32,903	65% \$37,138	66% \$34,948



Other Programs Results 2017



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2017 Competition Results

Discovery Development Grants (DDG) Pilot

- Promote a diversified base of high-quality research in small universities
- Foster a stimulating environment for research training in small universities
- Award valued at \$10K /year for 2 years

Results

- 2017, 54 awards offered
- 2016, 43 awards offered
- 2015, 57 awards offered



2017 Competition Results

Research Tools and Instruments (RTI)

RTI grants foster and enhance the discovery, innovation and training capability of university researchers in the NSE by supporting the purchase of research equipment.

	2015	2016	2017
Budget	\$25M	\$26M	\$30.5M
# Appl.	666	657	748
# Funded	218	215	241
Success Rate	33%	33%	32%

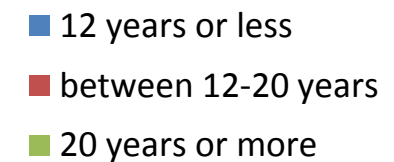
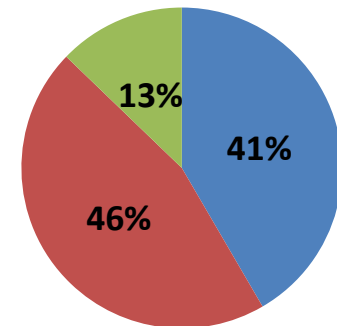


2017 Competition Results

Discovery Accelerator Supplements

Evaluation Group	Awards
Genes, Cells and Molecules (1501)	12
Biological Systems and Functions (1502)	11
Evolution and Ecology (1503)	9
Chemistry (1504)	6
Physics (1505)	6
Geosciences (1506)	11
Computer Science (1507)	19
Mathematics and Statistics (1508)	6
Civil, Industrial and Systems Engineering (1509)	11
Electrical and Computer Engineering (1510)	13
Materials and Chemical Engineering (1511)	10
Mechanical Engineering (1512)	10
Subatomic Physics (19)	1
Total	125

2017 DAS recipients
years from PhD



2017 Competition Results

Collaborative Research and Training Experience Program (CREATE)

	2014	2015	2016	2017
LOIs received:	120	125	114	109
Candidates invited:	48	48	52	53
Applications received:	47	45	52	51
Grants awarded:	15	17	13	18



Discovery Grant Updates

Leave Policies

Primary Caregiver Policy (Discovery Grants)

- Effective March 1, 2016
- *eligible for, but don't take, extended maternity /parental or adoption leave*
- Existing policy for those taking leave still applies

Reminder - NSERC Policy on Paid Maternity / Parental Leave for Students and Postdoctoral Fellows paid from Grants

- Students and Postdoctoral fellows supported by NSERC grants and are eligible may receive up to 6 months of paid maternity / parental leave.
- The leave supplement will be paid by NSERC.



Other Updates: **Data Management**

- Based on research community feedback, the *Tri-Agency Statement of Principles on Digital Data Management* was released in June 2016.

http://www.science.gc.ca/eic/site/063.nsf/eng/h_83F7624E.html?OpenDocument

- Over the coming months, NSERC, SSHRC and CIHR will be seeking input from the research community on draft policy text and how best to realize the principles presented in the Statement.
- **Online consultation in the coming months– visit NSERC’s website for news**
<http://www.nserc-crsng.gc.ca>

NSERC Contacts

NSERC Staff	
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Deadlines, acknowledgement of applications and results	Your university RGO
Your account, Grants in Aid of Research Statement of Account (Form 300)	Your university Business Officer (BO)
NSERC Web site	www.nserc-crsng.gc.ca
Discovery Grants Program (including eligibility)	E-mail: resgrant@nserc-crsng.gc.ca Tel.: (613) 995-5829
Use of Grant Funds	E-mail: awdad@nserc-crsng.gc.ca
On-line Services Helpdesk	E-mail: webapp@nserc-crsng.gc.ca

Over to you

- Questions?
- Comments?
- Advice?

Please feel free to ask your questions in the official language of your choice



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