University of British Columbia

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Natural Sciences and Engineering Research Council of Canada
Conseil de recherches en sciences naturelles et en génie du Canada
Canada

Presentation Overview

- NSERC Updates
- Program Updates
  - Discovery Grants
  - Other programs
- How to prepare a grant application
- Questions

NSERC Updates

Natural Sciences and Engineering Research Council of Canada

Conseil de recherches en sciences naturelles et en génie du Canada

Canada

2017 Federal Budget

New investments in federal science in areas such as clean technology, energy and agricultural science

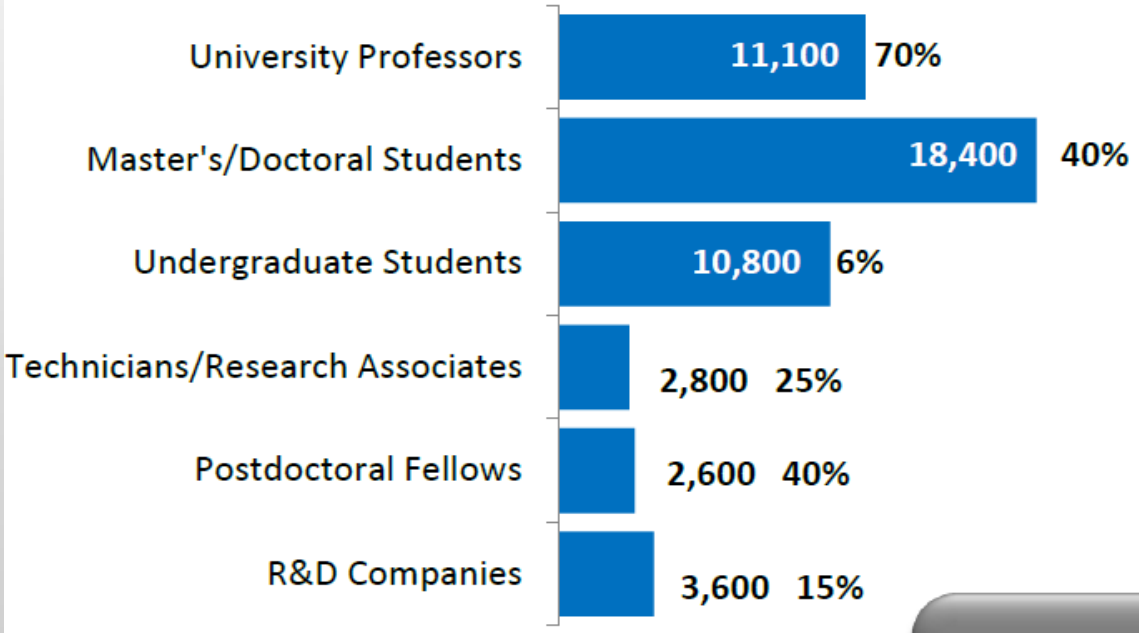
- Chief Science Advisor
- PromoScience Program
- Canada 150 Research Chairs
- Accelerating innovation through Superclusters
- Investing in R&D for Clean Energy and Transportation
- Advancing Agricultural Science and Innovation
- Investing in Artificial Intelligence
- Review of the National Research Council

2017 Federal Science Review

- The Advisory Panel on Federal Support for Fundamental Science presented its report on April 10, 2017
- Recommendations include:
  - increased investment in independent investigator-led research
  - increased coordination among the granting councils and CFI
  - new oversight body for the federal research and innovation ecosystem

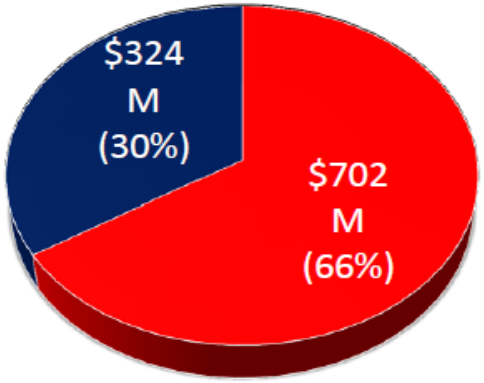
NSERC Overview

Clients and Partners



% indicates share of eligible population supported directly and indirectly.

NSERC Budget 2015-16
Total: $1.1 billion

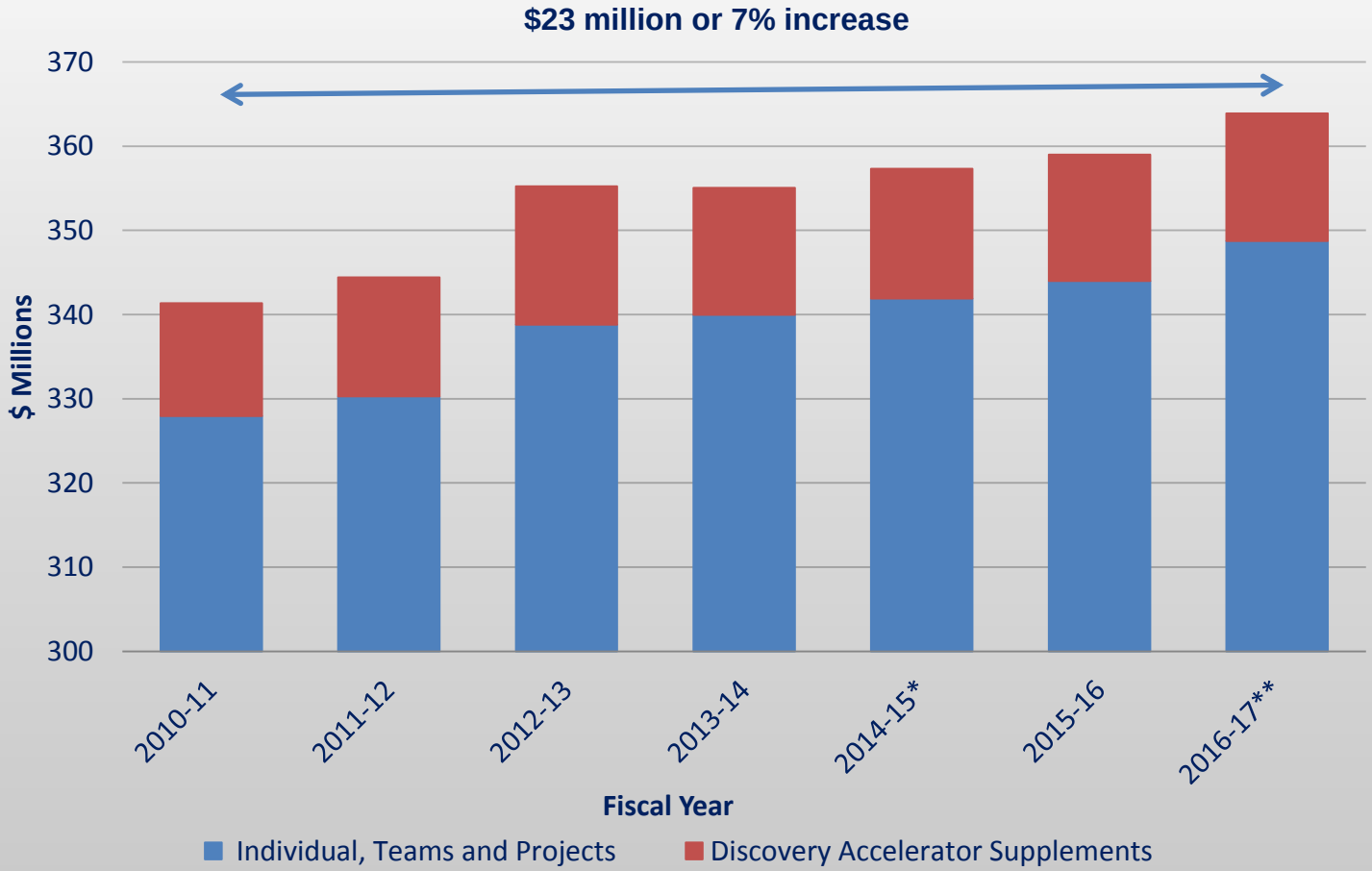


- Discovery (includes Scholarships & Fellowships)
- Innovation

Colleges & Polytechnics

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

NSERC Discovery Grants Funding



* Includes additional funding received resulting from Federal Budget 2014

** Projected expenditures for 2016-2017

NSERC 2020

Goals:

- Fostering a science and engineering culture in Canada
- Launching the new generation
- Building a diversified and competitive research base
- Strengthening discovery-innovation dynamic
- Going global

Program Updates

Discovery Grant Updates

Early Career Researcher - New DG definition

- Early Career Researchers (ECR) are researchers who are **within three years of the start date** of an NSERC eligible position, and who have no academic or non-academic independent research experience prior to the three-year window at the time of submitting the Notification of Intent to Apply for a Discovery Grant (NOI).

- For example, for the 2018 competition, to be classified as an ECR, a researcher submitting an NOI in August 2017 would have been hired on or after **July 2014**.

Discovery Grant Updates
ECR extension option with funds

- ECRs re-applying for the first time will now have the option of **extending their DG by one year with funds**

- **Goal:** Allow early stage researchers additional time to better establish themselves and their research program before re-applying to the Discovery Grant program as established researchers

Discovery Grant Updates

Highly Qualified Personnel – Literature Change

****NEW Instructions****

- Rewording of current HQP criterion
  - Instructions to Applicants
  - Peer Review Manual

Objective:

- Applicants – better description of what is expected
- Members – clearer information for review

Discovery Grant Updates

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 (or submitted for support) by other sources; and**
  - **The Discovery Grants Program does not support research ideas/objectives that are already funded (or submitted for funding) by CIHR and/or SSHRC.**
- CIHR Foundation Grant Holders or Applicants must explain why support from DG is essential to carry out the work proposed.

Discovery Grant Updates

DND/NSERC Discovery Grant supplement

- Supporting discovery-based research
- 20 supplements at $40,000 per year for 3 years
- Eligibility
  - Researchers applying to current DG competition
  - Proposed research must fit within DND defence and security target areas
- Internal DND committee will select recipients
- Results will be announced in the spring
- Contact: dndsuppmdn@nserc-crsng.gc.ca

Discovery Grant Updates

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

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

*** Results presented are not official**

Discovery Grant Updates

Primary Caregiver Policy / Parental Leave

NSERC Policy for New Primary Caregivers (Pilot)

- In place as of March 1, 2016
- Researchers who become primary caregivers following the birth or adoption of a child and who are eligible for maternity or parental leave but decline the leave, may be eligible to receive a one-year grant extension with funds

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

- Students and Postdoctoral fellows who are 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 Program Updates

RTI Program Update

- University quotas to be removed for the 2018 competition
  - Competition open to all eligible Canadian university researchers
  - Researchers will be able to participate on one application per competition, either as an applicant or a co-applicant, but not both
- Research Portal open in August

Open Access

Tri-Agency Open Access Policy on Publications

http://www.science.gc.ca/eic/site/063.nsf/eng/h_F6765465.html

- Researchers must make articles freely available online within 12 months of publication
- Applies to all grants awarded May 1, 2015 and onward
- How to comply:
  - Deposit final, full-text, peer-reviewed manuscript in a repository; and/or
  - Submit final, peer-reviewed manuscript to journal that offers open access within 12 months
- Contact: openaccess@nserc-crsng.gc.ca

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** during **summer 2017 – visit NSERC's website** over the next few months **for news**

  http://www.nserc-crsng.gc.ca

Upcoming Deadlines for 2017

Notification/Letter of Intent Deadlines

- CREATE - (**May 1st**)
- Discovery Grants - (**August 1st**)
- Subatomic Physics Major Resources Support Program (**August 1st**)
- Subatomic Physics – RTI (Category 2 & 3) (**August 1st**)

Upcoming Deadlines for 2017

Application Deadlines

- E.W.R. Steacie Memorial Fellowships (**June 7th**)
- Science Promotion (**September 1st**)
- Ship Time Program (**September 1st**)
- Research Tools & Instruments and Subatomic Physics Category 1 (**October 25th**)
- PromoSience (**September 15th**)
- Discovery Grants - (**November 1st**)
- Northern Research Supplements Program (**November 1st**)

How to prepare a Discovery Grant Application

Tiffany Lancaster, NSERC

Greg Dipple, member, Geosciences EG

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Life Cycle of a Discovery Grant Application

August

Submission of notification of intent to apply (**due Aug. 1**)

September

Internal assignment to EG

October

Selection of **external reviewers** and preliminary **joint review** discussions

November

Submission of application

(**due Nov. 1**)

December

Members **receive applications** and **begin reviewing**

January

Members **review applications** and **external reviewer reports** are received

February

Grants **competition**

March/April

Announcement of results

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

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
Purpose

- **Facilitates preliminary assignments:**
  - to an Evaluation Group;
  - of internal reviewers; and
  - of external reviewers

- **First indication of joint review**
  - Informed by research topics, keywords, and proposal summary

- **First review of subject matter eligibility**

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)

Notification of Intent to Apply
Joint Reviews - Conference Model in Action

Reviewing (Home) Evaluation Group	Participating (Visiting) Evaluation Group												
	GCM	BSF	EE	Chem	Phys	Geo	CS	MS	CISE	ECE	MCE	ME	Total
GCM		61	10	5	6	0	3	5	0	0	6	2	98
BSF	40		15	8	2	1	6	2	3	1	4	7	89
EE	18	23		1	0	26	3	10	0	0	0	0	81
Chem	13	1	1		5	2	0	0	2	0	5	0	29
Phys	1	1	0	9		4	4	9	0	8	3	2	41
Geo	0	2	15	2	6		3	3	11	4	1	0	47
CS	5	3	0	0	1	1		18	3	8	1	2	42
MS	7	0	2	0	8	0	11		4	4	1	5	42
CISE	0	5	0	0	0	7	5	3		5	5	4	34
ECE	1	6	0	1	10	2	14	2	1		4	4	45
MCE	8	2	0	8	3	1	0	4	8	5		6	45
ME	1	2	0	0	1	1	2	0	3	7	15		32
Total	94	106	43	34	42	45	51	56	35	42	45	32	625

Notes:
Applications involving members from more than one other EG (i.e. more than 2 EGs participating in the review) appear more than once.
Joint reviews involving more than one member from the same EG appear only once.
Reviews involving different streams of the same EG, without participation from other EGs, do not appear.

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

Discovery Grant Application
Overview

- **Deadline:** November 1st - internal deadlines are earlier
- **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 somewhat **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**.

[1] The 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
- Possible adjustment related to the cost of research

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
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
Merit of the Proposal

Assessment based on the following elements:

- Originality and innovation
- Significance and expected contributions to research
- Clarity, scope of objectives, and appropriateness of methodology
- Feasibility
- Appropriateness and justification for the budget
- Relationship to other research support

Discovery Grant Application:
Merit of the Proposal

Relationship to other research support:

- Budget requested in DG is for different expenses than the ones supported (or to be supported) by other sources.
- The DG proposal is distinct conceptually from research supported (or to be supported) by CIHR and/or SSHRC.
- *NEW* For CIHR Foundation Grant holders or applicants only: convincing evidence that support from DG is essential to carry out the work proposed.

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
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:
  - *Updated* Selecting the Appropriate Federal Granting Agency
  - *New* 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
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
Tips

- **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)

NSERC Contacts

EG Program Officer	first.lastname@nserc-crsng.gc.ca
EG Program Assistant	first.lastname@nserc-crsng.gc.ca
NSERC Web site	www.nserc-crsng
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)
Discovery Grants Program (including eligibility)	E-mail: grantsadministration@nserc-crsng.gc.ca Tel.: 613-995-5829
Use of Grant Funds	E-mail: usegrantfunds@nserc-crsng.gc.ca
On-line Services Helpdesk	E-mail: webapp@nserc-crsng.gc.ca