NSERC Update

2020 Canadian Association of Physicists Congress
June 8, 2020

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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 News
- Competition Results – 2020
- Programs and Policy Updates
  - Alliance Grants
  - EDI
- COVID-19 Information
- Questions

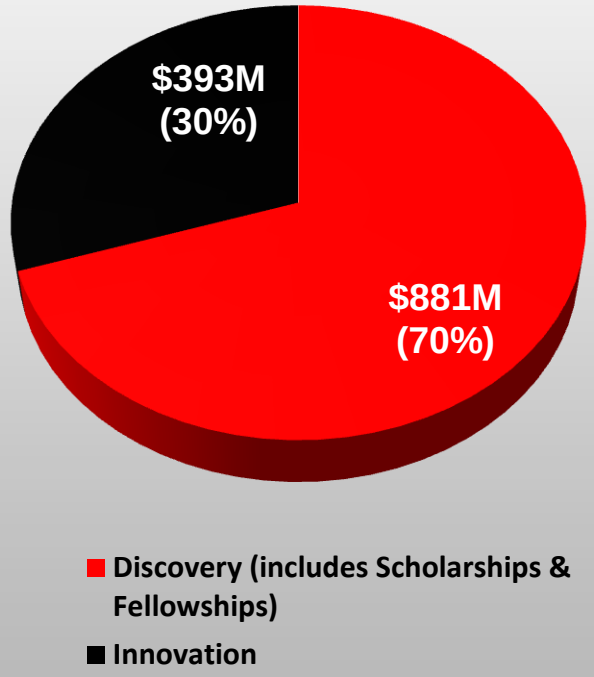
NSERC News

Overview

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

- Supports nearly **37,700** students and postdoctoral fellows.
- Funds more than **12,400** researchers for their research programs.
- Supports university and college-industry research partnerships with nearly **3,800** Canadian companies.
- Business invests $**269 million** in university and college researchers.

NSERC Expenditures 2019-2020
Total: $1.27 billion



Excludes administration, 4% of total budget.

NSERC News: Change in NSERC Leadership

Dr. Alejandro Adem

- Joined NSERC in October 2019 as new President of NSERC.
- Highly accomplished researcher in the field of mathematics and a faculty member at the University of British Columbia
- Formerly the Chief Executive Officer and Scientific Director of Mitacs.
- Also held director and deputy director position within the Pacific Institute for the Mathematical Sciences.

2020 Competition Results

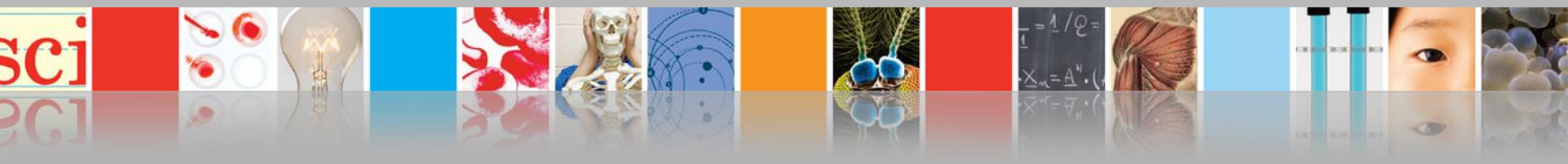
2020 Competition Results

Peer Review – Thank you

- 3,372 Discovery Grants Applications =
  - 440+ Evaluation Group Members
  - 16,500+ Reviews by EG members
  - 9,400+ External Reviewer Reports

"NSERC is extremely grateful for your significant contribution of time and effort in this process. We would not be able to operate the Discovery Grants Program – our flagship program – without your dedicated efforts. Your insights and informed feedback are essential to ensure quality in Canada's discovery research enterprise."

Danika L. Goosney, Vice-President, Research Grants and Scholarships



2020 Competition Results

Peer Review – Thank You!

Special thanks to the EG1505 and SAPES Chairs and Members!

Group Chair: **Sara Ellison**

Section Chairs:

- **Catherine Coolens, Viqar Husain, Alan McConnachie (Astronomy), Kristin Poduska and François Schiettekatte for EG 1505.**
- **Thomas Grégoire and David Hornidge for Subatomic Physics**

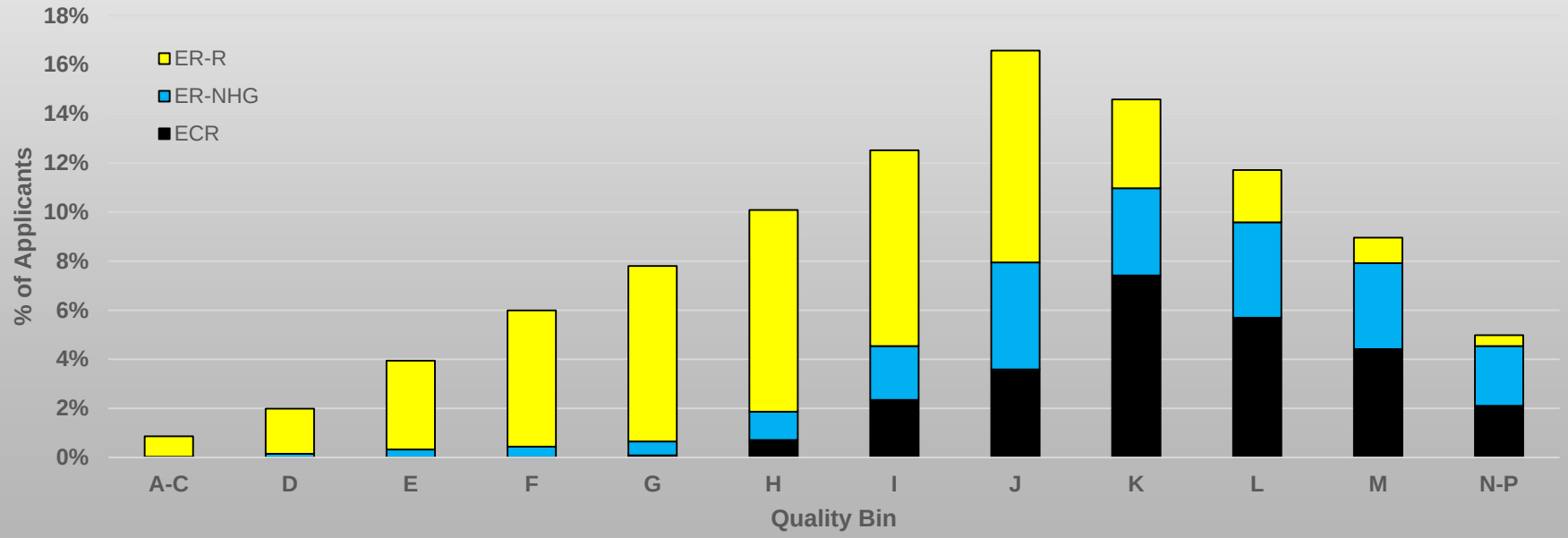
Members:
1505: http://www.nserc-crsng.gc.ca/NSERC-CRSNG/committees-comites/Physics-Physique_eng.asp
SAPES: http://www.nserc-crsng.gc.ca/NSERC-CRSNG/committees-comites/SubatomicPhysics-PhysiqueSubatomique_eng.asp

2020 Competition Results

Overall – Discovery Grants

Note: Non-official results

	Early Career Researchers	Established Researchers		Established Researchers	Total
		Returning	Not Holding a Grant		
# of applications	889	1721	762	2483	3372
# of awards	543	1387	279	1666	2209
Success Rate	61%	81%	37%	67%	66%
Average Grant (yearly)	$29,007	$42,317	$34,640	$41,032	$38,076

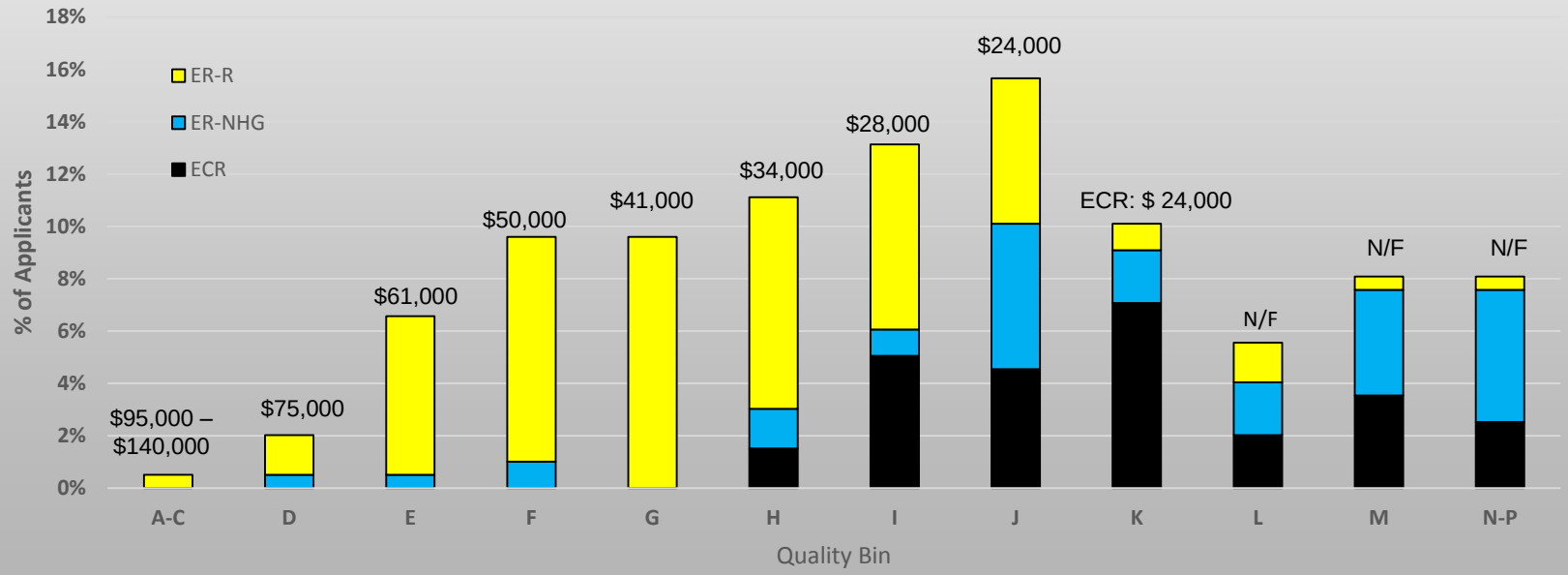


2020 Competition Results

1505– Discovery Grants

Note: Non-official results

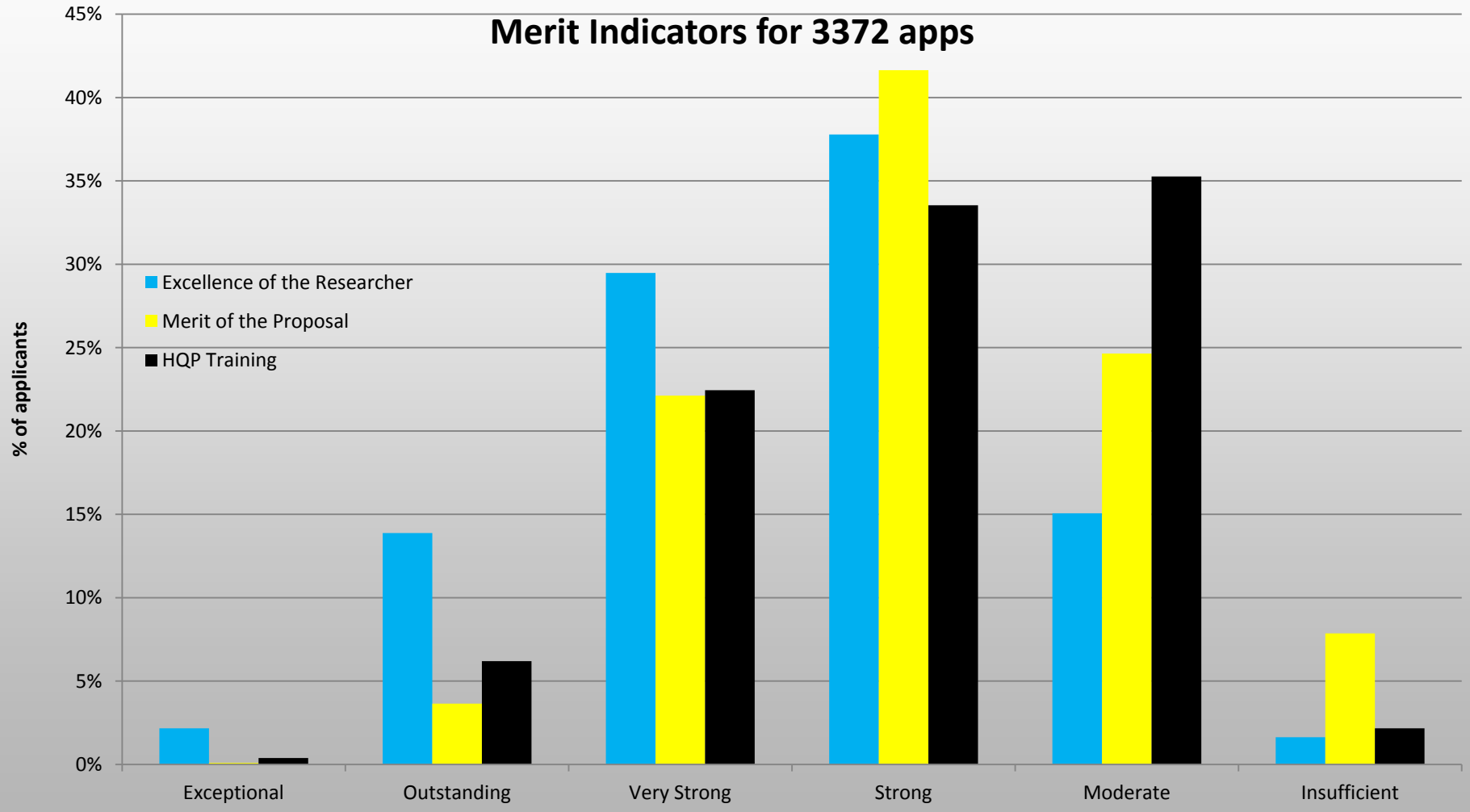
Early Career Researchers	Established Researchers		Established Researchers	Total
	Returning	Not Holding a Grant		
52	100	46	146	198
36	93	20	113	149
69%	93%	43%	77%	75%
$29,000	$41,731	$32,900	$40,168	$37,470



2020 Competition Results

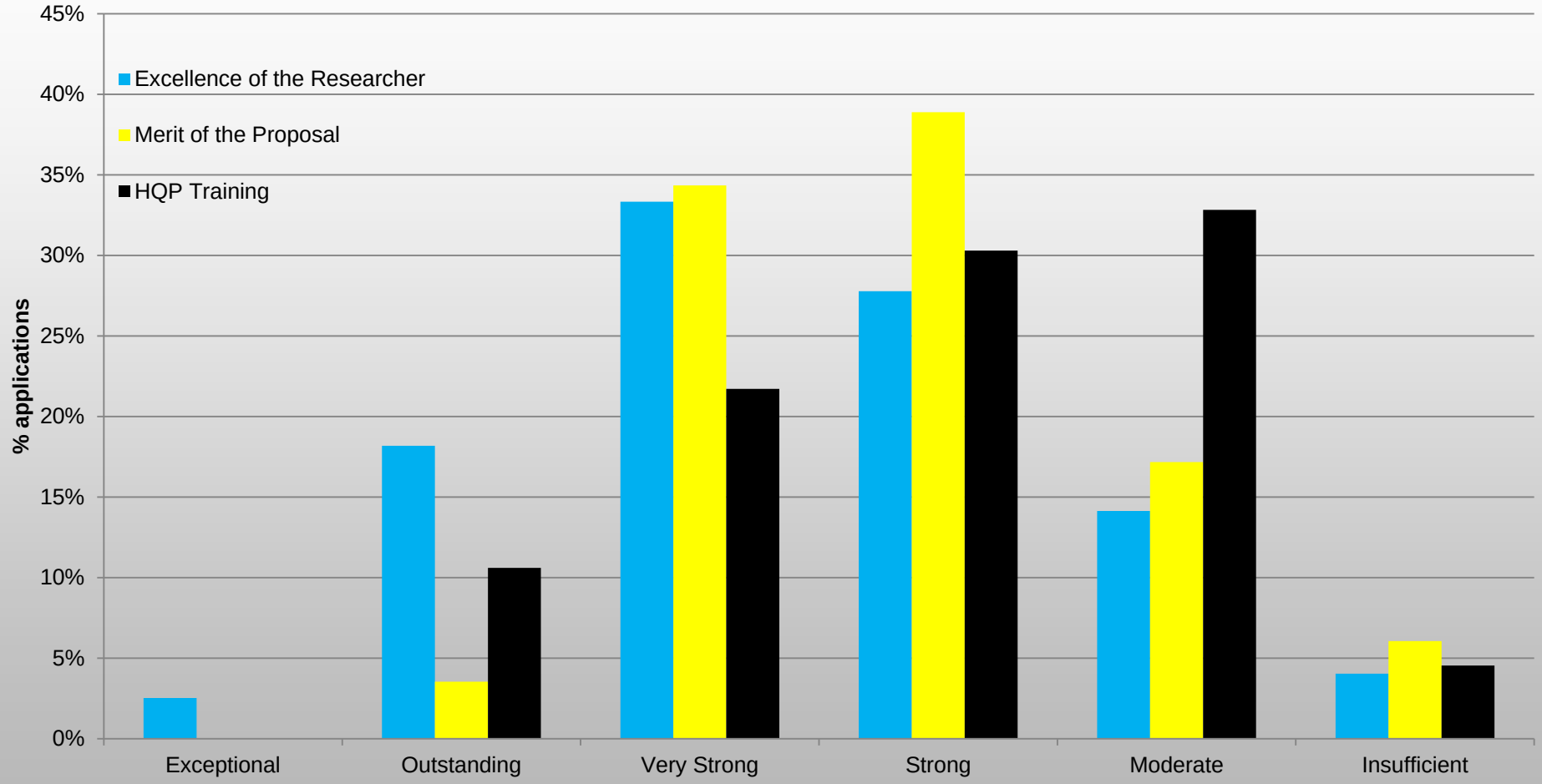
Note: Non-official results

Overall – Distribution of merit indicator ratings



2020 Competition Results EG1505

Distribution of Merit Indicators – 198 apps

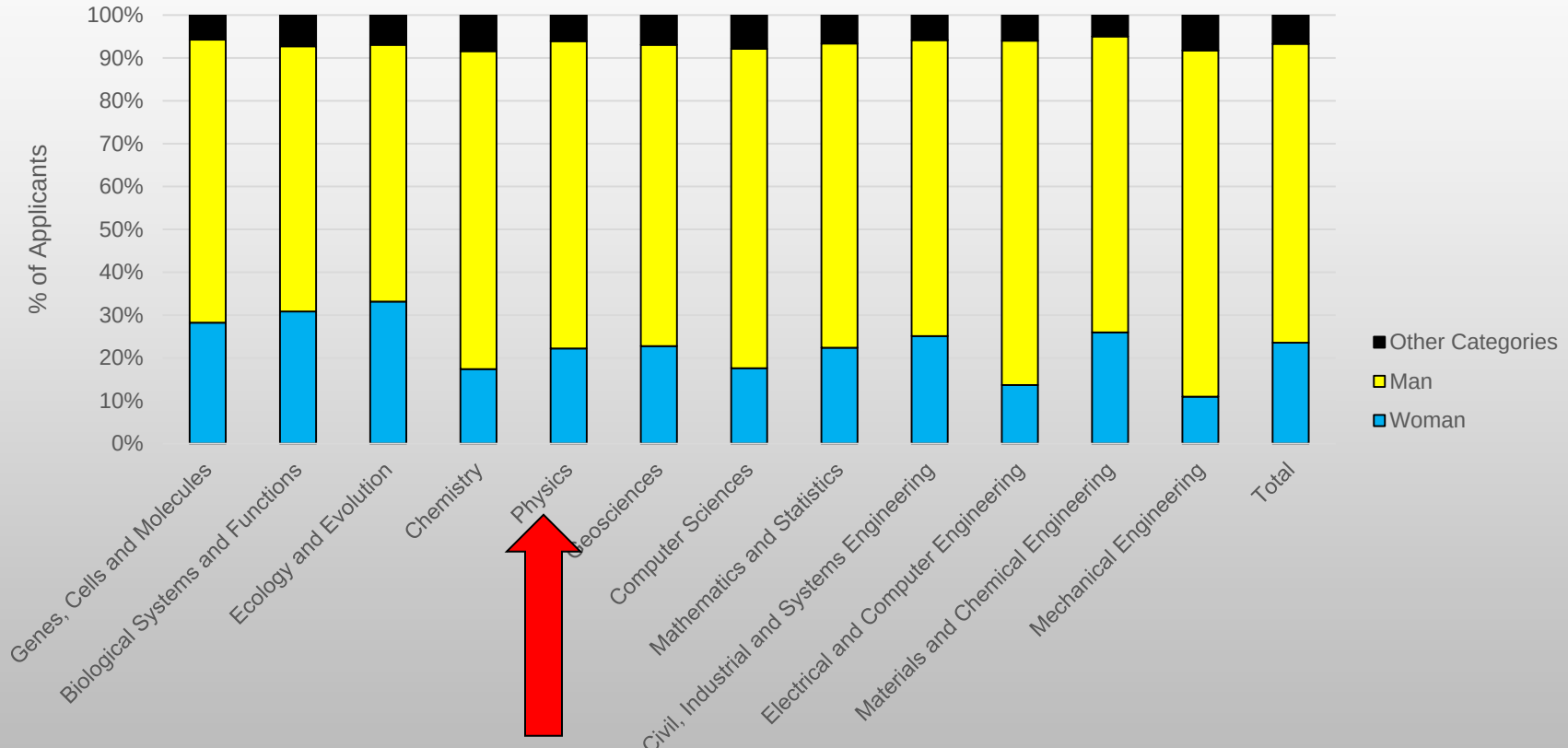


Note: Non-official results

2020 Competition Results

Equity, Diversity and Inclusion (EDI)

% of applicants by gender



Note: Non-official results

2020 Competition Results

Equity, Diversity and Inclusion (EDI)

		Women	Men	Other Categories
Early Career Researchers (ECR)	Number of awards	189	339	15
	Success rate	61%	62%	52%
Established Researchers (ER)	Number of awards	339	1185	142
	Success rate	70%	66%	72%

Note: Non-official results

2020 Competition Results

Discovery Grants: Results by Gender, 1505

	W	M	O	Overall
Success Rate	86%	72%	75%	75%
Average Grant	$37,395	$37,451	$38,000	$37,470

M: Man W: Woman O: Other Categories*

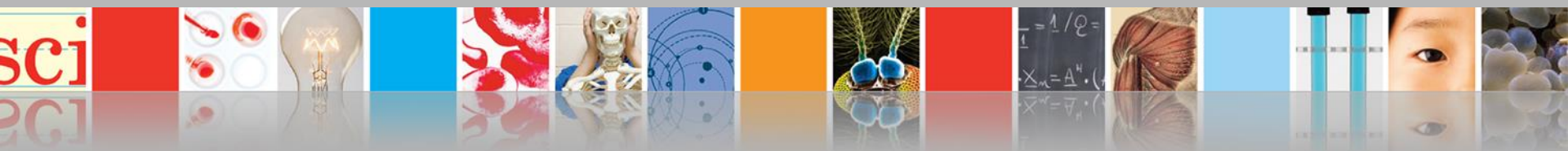
* Other Categories is an aggregation of the responses 'Gender-fluid, non-binary, and/or Two-Spirit' and 'I Prefer Not To Respond '

Note: Non-official results

Research Tools and Instruments (RTI) Statistics from 2014 to 2020

		2014	2015	2016	2017	2018	2019	2020
Budget		$19.5M	$25M	$26M	$30.5M	$25.1M	$25.2M	$30.7M
Number of Applications	Overall	468	666	657	748	1043	1005	893
	Physics	46	59	56	60	72	67	73
Number of Funded Applications	Overall	176	218	214	241	208	210	248
	Physics	13	21	19	18	14	14	22
Success Rate		38%	33%	33%	32%	20%	21%	28%

Note: Non-official results



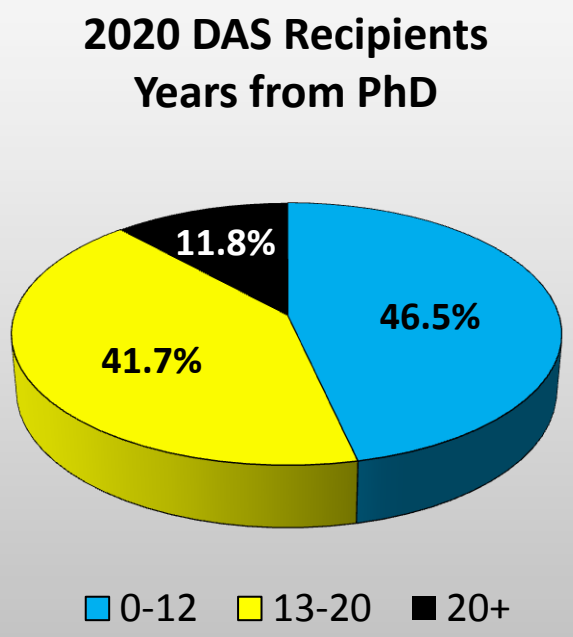
2020 Competition Results
Discovery Accelerator Supplements

- DAS provides resources to researchers who:
  - *Have highly original and innovative research programs*
  - *Show strong potential to become international leaders within their field*
- $120,000 - over three years
- Up to 130 Supplements per year
- Each EG will receive a quota of DAS nominations to recommend
- EG members nominate candidates and members vote during competition. Executive Committee makes the final recommendation to NSERC

2020 Competition Results

Discovery Accelerator Supplements

Evaluation Group	Awards
Genes, Cells and Molecules (1501)	18
Biological Systems and Functions (1502)	20
Evolution and Ecology (1503)	7
Chemistry (1504)	8
Physics (1505)	10
Geosciences (1506)	7
Computer Science (1507)	17
Mathematics and Statistics (1508)	9
Civil, Industrial and Systems Engineering (1509)	7
Electrical and Computer Engineering (1510)	9
Materials and Chemical Engineering (1511)	6
Mechanical Engineering (1512)	8
Subatomic Physics (19)	1
Total	**127**



Note: non-official results

2020 Competition Results

Discovery Development Grants (DDG)

Description:

- No separate application is required – offered according to DG results
- Provide resources to established researchers from small universities whose DG applications were deemed to be of appropriate quality to merit research support, but were not funded in the DG Competition.
- Value: $15K/year for 2 years
- **New Eligibility since Competition 2020:** may hold twice throughout career.

Objectives:

- To promote a diversified base of high-quality research in small universities
- To foster a stimulating environment for research training in small universities

2020 Competition Results

Discovery Development Grants (DDG)

Results:

	2015	2016	2017	2018	2019	2020
Awarded	57	43	54	34	24	47
Accepted	54	42	46	28	20	44
Declined	3	1	8	6	4	3

Note: Non-official results

Programs and Policy Updates

RGS Program Updates

Evaluation of Discovery Research Program

- Evaluation main conclusions about the Discovery Research Program:
  - Central component of Canada's research funding ecosystem
  - Provides the opportunity to undertake curiosity-driven, long-term research programs with the required flexibility to pursue promising research avenues
- The following recommendations are detailed in the report:
  1. Maintain the Discovery Research Program
  2. Explain the rationale for DG funding differences across disciplines
  3. Clarify the objectives with respect to the nature and level of support provided for research tools and instruments (RTI)
  4. Consider separating the management of funding for individual DGs in math and statistics from the management of funding for institutes in this field
  5. Clarify NSERC intentions for ongoing support to research institutes
  6. Pursue the implementation of equity, diversity and inclusion (EDI) principles
- Management actions and program refinements are in development as described in the Management Action Plan (MAP).
- NSERC would like to extend its thanks to the research community for its valuable participation!

Other Updates

San Francisco Declaration on Research Assessment (DORA)

The tri-agencies (NSERC, CIHR and SSHRC) as well as CFI and Genome Canada joined over 1600 organizations worldwide by signing on to DORA.

Recommendations for Funding Agencies

- Do not use journal-based metrics (Journal Impact Factor) as a surrogate measure of the quality of research
- Be explicit about the criteria used in evaluation of applicants
- Clearly highlight importance of scientific content of a paper vs. publication metrics or journal identity
- Consider the value and impact of all research outputs (including datasets and software) in research assessment

NSERC's commitment

- A number of tri-agency initiatives already support research excellence and align with the recommendations in DORA
- Ensure excellence in research funding and assess a wide range of research results and outcomes as part of the review process
- Update NSERC policies and processes to incorporate DORA recommendations in a more consistent manner across NSERC

https://www.nserc-crsng.gc.ca/NSERC-CRSNG/policies-politiques/DORA-DORA_eng.asp

RGS Program Updates

Support for Early Career Researchers

- Early Career Researchers are applicants who have held an independent academic position for 5 years or less.
  - Five year window adjusted for any eligible delay in research
  - All eligible leaves taken (e.g. parental, bereavement, illness of applicant or family) will now be credited as **twice** the amount of time taken *(New!)*
- NSERC devotes additional funds to support ECRs through
  - Increases to Discovery Grants
  - Discovery Launch Supplement
- ECRs re-applying for the first time have the option of extending their DG by one year with funds

RGS Program Updates

RTI Program Update

- Application deadline date is **October 25;** Research Portal opens in August
- Still 3 weighted RTI selection criteria
- Clarified instructions in Budget Justification section and added a template budget table applicants are to use to show tax and currency exchange rates and totals
- Confirmation of Financial Contribution documents are no longer required and should not be submitted

Alliance Grants

NSERC News

Alliance grants: Objectives

- Replace prior university partnerships programs.
- Support research in the natural sciences and engineering (NSE) led by strong, complementary, collaborative teams.
- Enable collaborations with a broader set of partner organizations.
  - private, public, not-for-profit sectors
- Remove barriers and provide more flexibility in building partnerships that will effectively generate new knowledge and accelerate the application of research results for the benefit of Canadians.

Enable researchers, through such partnerships, to go beyond what would have been possible for them to accomplish using our prior programs.

NSERC News

Alliance grants: Options

- One funding opportunity, two options (1 and 2)
  - The 2 options have the same
    - objectives
    - evaluation criteria
    - peer review process for overall merit assessment
    - academic community and types of partner organizations served
    - requirements for the recognition of partner organizations

NSERC News

Alliance option 1

- Funding: $20,000 to $1M per year; from 1 to 5 years
  - The limits of the funding range are not yearly averages
- Cost-sharing: 50% to 66.7% from NSERC
  - Determined by type of partnership and global size of the partner organization(s) recognized for cost-sharing
- Partner organizations
  - Can be from private, public or not-for-profit sector
  - At least 1 must be recognized for cost-sharing and must make a cash contribution commensurate with applicable cost-sharing ratio
  - Each must be involved in the project and contribute to its success
  - At least 1 must have the ability to exploit the research results and to achieve the desired outcomes

NSERC News

Alliance option 1

- Cost-sharing: 50% from NSERC (1:1 ratio)
  - large organizations (≥ 500 employees globally) as a sole partner organization or in partnership exclusively with other large organizations within the same sector (private, public or not-for-profit)
- Cost-sharing: 66.7% from NSERC (2:1 ratio)
  - large organizations (≥ 500 employees globally) in partnership with other large organizations from a different sector or in partnership with small and medium-sized organizations from any sector
  - small and medium-sized organizations from any sector as a sole partner organization or in partnership with organizations of any size from any sector

The cost-sharing is calculated based on the sum of cash contributions from all recognized partner organizations

NSERC News

Alliance option 2

- 3 specific characteristics - societal impact, making connections, and broad outcomes
- up to 90% to 100% funding from NSERC, if the characteristics are met and depending on the type of partner organizations

at least 1 partner organization whose contributions would normally be recognized for cost-sharing must be involved (even if NSERC is providing 100% of the funding)

- additional section in the application template
- 3-stage assessment process

During initial launch phase

- **funding: more than $30,000 up to $100,000 per year; 1 to 5 years**
- **1 application per applicant (PI or co-PI) per 12 months**
- **2 applications per partner organization per 12 months**

NSERC News

Alliance option 2 – Characteristics

When to consider option 2

- challenge in the NSE
- important unmet societal need
- expected societal impact
- barriers preventing the research from happening
- financial support scarce or not available

AND

- A viable solution can be envisioned to significantly contribute to long-term societal benefits
- Higher NSERC support is key to enabling these advances.

NSERC News

Alliance grants – Yours to actively use!

- Alliance grants provide you with flexibility in building partnerships that will effectively generate new knowledge and accelerate the application of research results for the benefit of Canadians.

- We invite you to make Alliance your partnerships program and to actively use it to go beyond what would have been possible to accomplish using our prior programs, and to have an impact on the economic prosperity, environmental quality and social well-being of Canadians.

- More detailed presentation is available on our website:

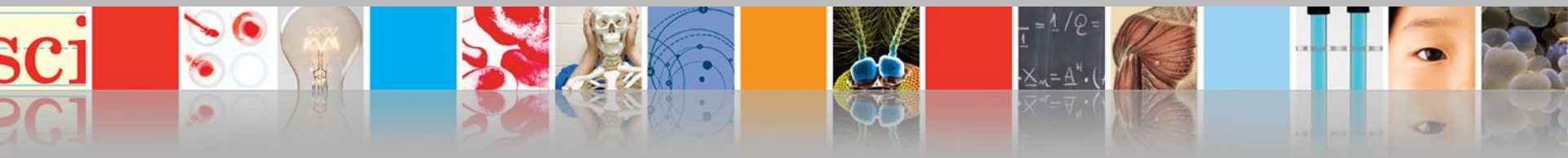
  Preparing an Alliance application in the Alliance webpage

NSERC News

Alliance-Useful links

- Alliance grants website
- Alliance research topics
- Role of partner organizations
- Funding and cost-sharing
- Instructions for completing an Alliance grant application
- Alliance proposal template
- Review mechanisms and evaluation criteria
- Merit indicators
- Alliance resources
- Alliance FAQ
- Use of grant funds
- Preparing an Alliance application

Equity, Diversity and Inclusion



NSERC News

Collection of Self-Identification Data

What questions are included in the mandatory self-identification form?

The granting agencies ask for the following information:

1. Age - What is your date of birth?
2. Gender – Select the option that you identify with, i.e. Woman; Man; or Gender-fluid, non-binary; and/or Two-Spirit
3. Indigenous Identity – Do you identify as Indigenous - that is First Nations (North American Indian), Métis, or Inuit?
4. Person with a disability – are you person with a disability?
5. Visible Minority - Do you identify as a member of a visible minority in Canada?

Completing the self-identification form is mandatory, but for each category there is an option for "I prefer not to answer."

NSERC News

Collection of Self-Identification Data

Progress to date:

- Summer 2018: An open letter from Tri-Agency Presidents to the research community
- CY2019: Collection of self-identification information from **applicants and co-applicants.**
  - NSERC: Over 10,000 forms collected over this period
  - High response rates (over 90%, *all fields combined*)
- CY2020: Collection of self-identification information from **applicants, co-applicants** and **peer review committee members**
  - Discovery Grants: Over 3,000 forms collected from applicants
  - High response rates (again over 90%, *all fields combined**)

Upcoming data collection:

- Extending data collection to external reviewers and including governance committee members in data collection;
- Revision of the self-identification questionnaire.

NSERC News
Dimensions

Equity, diversity, and inclusion (EDI) in Canada
NSERC, on behalf of the three federal granting agencies, administers the new Dimensions program, which aims to increase EDI and help drive deeper cultural change within the research ecosystem

- Dimensions includes, but is not limited to, five underrepresented groups across all disciplines – women, Indigenous Peoples, persons with disabilities, members of visible minority/racialized groups, and members of LGBTQ2+ communities

NSERC News

Dimensions

17 colleges and universities from coast to coast are participating in a **pilot program** to be recognized for their EDI work

1-in-3 Canadian post-secondary institutions have endorsed the **Dimensions charter** so far

RGS Program Updates

Equity, Diversity and Inclusion (EDI) Institutional Capacity-Building Grant

Created in 2018 - $10 million over 5 years

Objectives

- To foster EDI in the Canadian post-secondary research enterprise
- Funds will allow institutions to undertake activities to advance their own EDI objectives

Value	Up to $200,000 per year, for up to two years, non-renewable		
Eligible institutions	• Canadian universities with Canada Research Chairs (CRC) program quota of 1 to 10 • Canadian colleges that received between a total of $100K and $4M in tri-agency funding		
Selection Criteria	• Motivation	• Merit of Proposed Project	• Institutional Commitment
Evaluation	Reviewed by a Committee constituted of researchers, administrators with expertise in EDI.		

RGS Program Updates

Chairs for Women in Science and Engineering (CWSE)

- To increase the participation of women in science and engineering, and to provide role models for women active in, and considering, careers in these fields.
- 1 Chair for each region: Atlantic, Quebec, Ontario, Prairies, BC/Yukon.
- Chairs are approved for a five-year term and are renewable for an additional term of three to five years.
- New Prairies and Ontario Chairs to be announced in 2020.
- A new competition will be launched this year for the British Columbia / Yukon region.

contact: cwse-cfsg@nserc-crsng.gc.ca

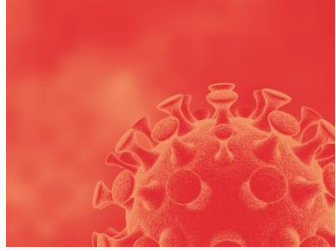
Program Updates in relation to COVID-19

- **Funding Opportunities – COVID-19 Research**
- **Grant Extensions (with and without funds) / Support for Students & Fellows**
- **Deadline Extensions**
- **Costs of Research**
- **Reporting**
- **Other Program Updates**

Details: https://www.nserc-crsng.gc.ca/Media-Media/NewsDetail-DetailNouvelles_eng.asp?ID=1139

COVID-19 Response

Program Updates



- **NSERC continues to monitor and make adjustments to program application deadlines and the reporting of due dates as necessary**

- **See website for regular updates:**
  - https://www.nserc-crsng.gc.ca/Media-Media/ProgramNewsDetails-NouvellesDesProgrammesDetails_eng.asp?ID=1139

RGS Program Updates

Upcoming Deadlines for 2020

Grant Application Deadlines

- Discovery Grants Appeals Process – **June 30th** (Updated)
- NOI Discovery Grants - **August 4th**
- Subatomic Physics Major Resources Support Program - **August 4th**
- Subatomic Physics – RTI (Category 2 & 3) - **August 4th**
- Ship Time Program - **September 1st**
- Subatomic Physics – Project (Applications requesting $500,000 or more per year) - **October 1st**
- Research Tools & Instruments (and Subatomic Physics Category 1) - **October 25th**
- Northern Research Supplements Program - **November 2nd**
- Full Application Discovery Grants - **November 2nd**

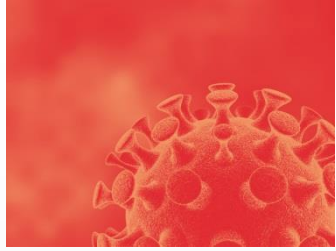
RGS Program Updates
Upcoming Deadlines for 2020

Others application deadlines

- Undergraduate Student Research Award (USRA) – **accepting past May 1st** (Updated)
- CREATE Letter of Intent – **June 1st** (Updated)
- Canada-UK projects on quantum technologies (QT) – **June 8th** (NEW)
- E.W.R. Steacie Memorial Fellowships - **July 7th** (Updated)
- Canada Graduate and Postgraduate Scholarships (Doctoral) – **October 17th**
- Canada Graduate Scholarships (Masters) – **December 1st**

COVID-19 Response

Program Updates



Discovery Grants one-year extension with funds

- All **active Discovery Grants** can elect to receive a one-year extension with funds at their current funding level.
- Eligible programs: Discovery Grants, Discovery Grants – Subatomic Physics (Individual, Project and Major Resources), Discovery Grants – Northern Research Supplements and Discovery Development Grants.
- **FAQ available** here: https://www.nserc-crsng.gc.ca/Professors-Professeurs/FAQ-FAQ/DG-SD_eng.asp
- **Contact:** resgrant@nserc-crsng.gc.ca

COVID-19 Response

Program Updates

NSERC / SSHRC Grants one-year extensions in time

- Academic institutions can immediately approve extensions requests up to 12 months for Agency grants with an end date between February 1, 2020 and March 31, 2021 inclusively
- Applies to all grants, regardless of whether they have received a previous time extension of any length for any reason
- Allows grantees to continue spending grant funds, and institutions to delay the processing of residual grant funds

COVID-19 Response
Program Updates

Undergraduate Student Research Award (USRA)

Changes to USRA for Summer 2020:

- In the event that a university remains closed for part of the summer, NSERC will honour the full value ($4,500) of the USRA award, regardless of the length of the work term. Universities must still contribute a minimum of 25%, and supervisors are encouraged to contribute the full agreed-upon top-up

- Work terms will not have to be a minimum of 12 weeks, provided the university remains closed

- NSERC encourages remote work: proposed projects that cannot be carried out remotely can be amended. Supervision is expected to occur through frequent video or telephone calls, and by e-mail

COVID-19 Response
Program Updates

Unpaid interruptions and Deferments

- Training award recipients (master's, doctoral, and postdoctoral) may defer the start date of their award, or request an unpaid interruption of up to four-months for reasons related to the COVID-19 situation.
- For master’s and doctoral award holders, this can be adjusted to align with the next available start date (May 1, 2020; September 1, 2020; or January 1, 2021).

COVID-19 Response
Program Updates

Part-time Studies

- The agencies will continue to support training award holders who, given the challenges posed by the COVID-19 situation, can only devote part-time hours to their research.
- They may continue to hold their awards and will be paid at the full amount. The amount will not be prorated, and the end date of the award will remain unchanged.

COVID-19 Response
Program Updates

Michael Smith Foreign Study Supplement (MSFSS)

Those individuals who receive a MSFSS can now travel up to a year after being awarded and they do not need to have an active CGS at the time of travel. Students must still be registered at their Canadian university during the research travel period.

- **New applicants:**
  - Students who have a current CGS ending before October 2020 should apply to the program as normal.
  - Students with an active CGS with an end date later than October 2020 will be encouraged to apply to the October 2020 competition or later.
- **Current award holders:**
  - If the research study period was affected, students should contact NSERC.
  - Potential for additional funds to support return travel to complete the research, for which the supplement was awarded.

COVID-19 Response

Program Updates

Research Partnership: COVID-19

Alliance COVID-19 grants

NSERC is leveraging the expertise of researchers in natural science and engineering and their partners across Canada to address this unprecedented crisis.

- Funding: up to $50,000 for a one year project
- Budget: $15 million
- Deadline: 2020-06-01
- Simplified application

College and Community Innovation Program – Applied Research Rapid Response to COVID-19 (approx. $3M)

Leverage the expertise and infrastructure in these post-secondary institutions to rapidly mobilize support and expertise related to the COVID-19 outbreak

- Deadline: 2020-06-01
- Funding: up to $75,000 for a one year project
- Limit of 4 applications per college

COVID-19 Response
Program Updates

Federal support for students and new graduates

- $291.6 million in federal funding to the federal granting councils to extend expiring federal graduate research scholarships and postdoctoral fellowships, and supplement existing federal research grants, to support students and post-doctoral fellows.
- Part of this investment will be used to support trainees paid directly through scholarships and fellowships, as well as those supported indirectly through grants awarded to their supervisors.
- https://pm.gc.ca/en/news/news-releases/2020/04/22/support-students-and-new-grads-affected-covid-19

COVID-19 Response

Program Updates

Direct Support (Announced May 29, 2020)

- For eligible students and postdoctoral researchers whose research scholarship or fellowship ends between March and August 2020, support will be extended for an additional four (4) months and fully funded.

Indirect Support (Announced June 4, 2020)

- Additional funding will be provided to research grant holders to continue supporting trainee and research support personnel
- The value of the supplement will be commensurate with the average level of support provided to trainees and research support personnel over a three-month period.

- Grant and award holders will be contacted in the coming weeks and funding will be provided before September 30

COVID-19 Response
Program Updates

Federal support for research staff

- **$450 million** in federal funding announced to help Canada's academic research community during the pandemic
  - Provide wage support to universities and health research institutes
  - Maintain essential research-related activities
  - Ramp back up to full research operations once physical distancing measures are lifted

- Universities will receive funding as block grants through NSERC, CIHR and SSHRC

- https://www.canada.ca/en/research-coordinating-committee/news/2020/05/new-temporary-program-announced-to-support-research-staff-in-canada.html

COVID-19 Response

Questions

1. What are the most significant immediate challenges that your community is facing despite existing support?

2. Some groups are experiencing more significant negative impacts to their research and careers. These could vary by institution, region, research area, and the researcher's personal context.
   - How are these impacts varying within your community?
   - How can we ensure that COVID-19 related impacts are appropriately taken into account within our peer review processes?

3. What have been the impacts on support for the research community and HQP of the new measures taken by NSERC and the tri-agencies?

4. What further measures could NSERC consider over the coming year to support the research community and HQP in the short, medium and long-term?

Thank you

www.nserc-crsng.gc.ca