

NSERC Update



October 18, 2016

Dave Bowen – Team Leader NSERC

Elizabeth Boston – Director NSERC

Tiffany Lancaster – Program Officer NSERC

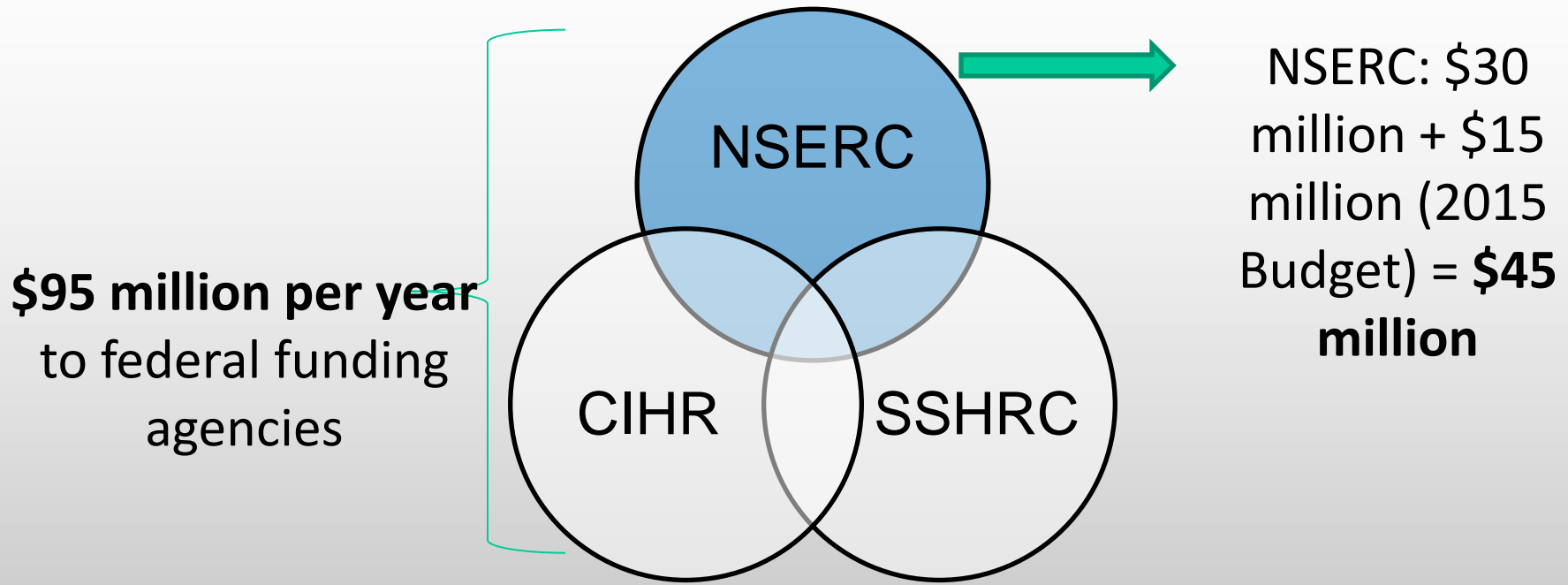
Kenn Rankine – Program Officer NSERC



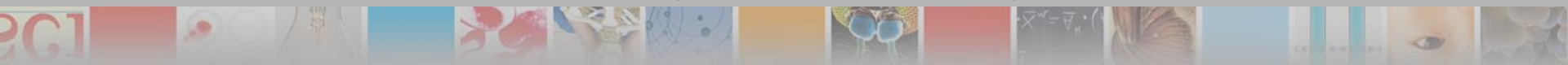
2016 NSERC NEWS



Highlights of 2016 Federal Budget

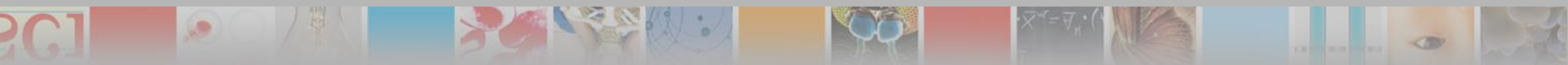


- “Minister of Science will undertake a comprehensive review of all elements of federal support for fundamental science over the coming year”
- Government developing Innovation Agenda



Towards NSERC 2020

- 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

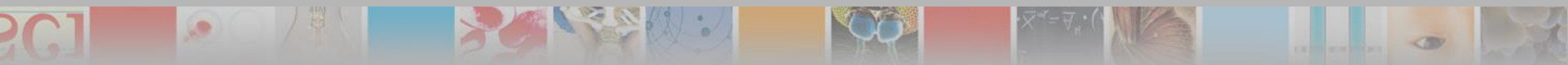


Funding Opportunity Updates



Engage Grant Updates

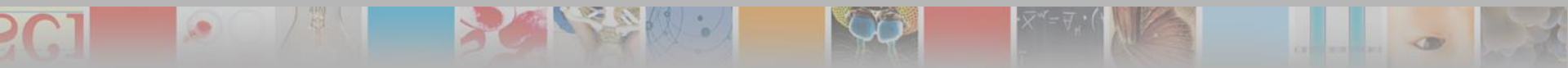
- **Reason for changes: enhance the quality of applications received, and reduce the number of proposals submitted.**
 - Engage Grants applicants at universities are now limited to one new award per fiscal year: + peer review support through NSERC required
 - Industrial partners limited to 2 Engage grants per year, (including university and college-based projects) & minimum size : 2 employees + 2 years in business.



Name Change IUSRA Now known as Experience

- **Motivation**

- Confusion between IUSRA and USRA
- Allows it to be identified correctly as Co-op placements in Canadian companies



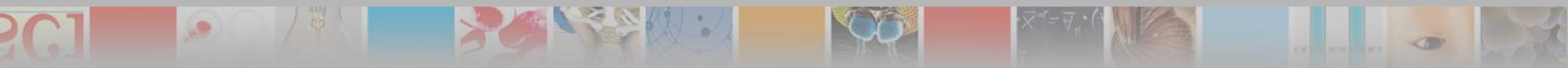
Discovery Updates

Discovery Grants Program

Support to Early Career Researchers:

- NSERC implements two measures to ensure support:
 - A different quality cut-off for funding (Bin L for 1506)
 - Additional funds in the form of a \$5k top up
- ECR renewing for the first time will have the option of extending their DG by one year with funds

NEW

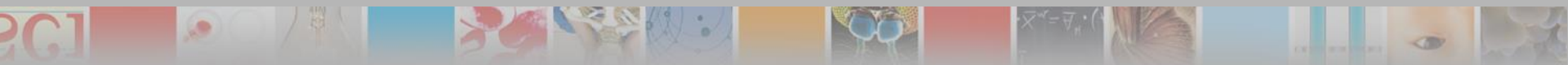


Discovery Updates

Discovery Grants Program

Department of National Defence (DND)/NSERC Discovery Grant supplement

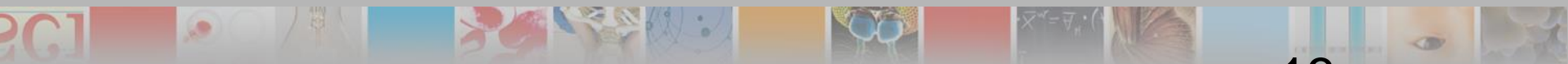
- Supporting discovery-based research
- 20 supplements at \$40,000 per year for 3 years
- Eligibility
 - Researchers applying to current competition
 - Proposed research must fit within DND defence and security target areas
- Internal DND committee will select recipients
- Contact: dndsuppmdn@nserc-crsng.gc.ca



Discovery Updates

Research Tools and Instruments

- **Application process**
 - Applications now submitted via Research Portal
 - Program using CCV for all applicants
- **Competition 2017**
 - Increase in quota from 700 to **800**
 - Expecting a proportional increase in Environmental Sciences applications



Discovery Updates

Operations and Maintenance Program

- **Objective**

- supports the use of regional and national research facilities in Canada by Canadian university researchers in the NSE
- provides assistance in covering operations and maintenance costs.

Highlights

- A component of RTI program
- Budget: around \$2M; a total of 10 to 20 awards
- Peer reviewed by multi-disciplinary committee
- Up to \$150k/year for 1 or 2 years
- Application deadline: **October 25, 2016**

Discovery Updates

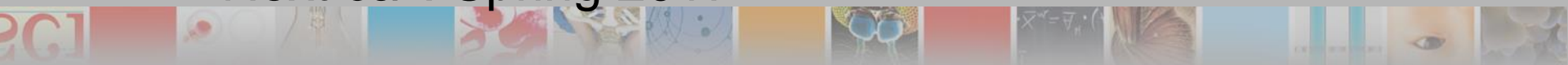
Discovery Frontiers Grants

- **Discovery Frontiers - 2015**

- New award in **New Materials for Clean Energy and Energy Efficiency** announced January 2016
- Dr. Gregory Jerkiewicz, Queen's University, “Engineered Nickel Catalysts for Electrochemical Clean Energy (Ni Electro Can)”

- **Discovery Frontiers - 2017**

- Process to determine next priority area started Summer 2016
- Consultation process for research theme ongoing
- Next call: Spring 2017.



Policy Updates



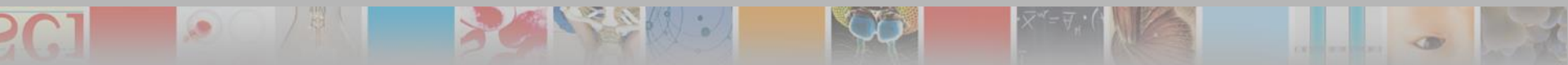
Discovery Grants Budget Allocation

▪ **Advisory Committee**

- NSERC reviewing approach to allocating DG funding across the NSE disciplines
- International Advisory Committee formed
- Advise on principles in guiding allocation decisions
- Expert panel met in May 2016

Additional information:

http://www.nserc-crsng.gc.ca/_doc/Professors-Professeurs/MembershipAdvisoryCommittee_e.pdf



Policy Updates

Gender Equity

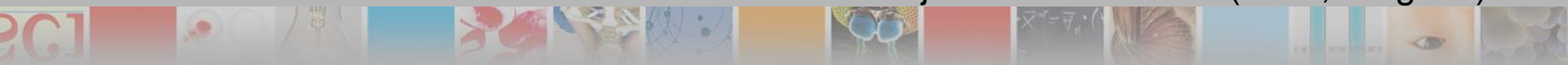
NSERC is increasing its institutional commitments and actions to complement current initiatives to increase gender equity in its policies, programs and initiatives and SGBA in research:

- Policy Statement on Gender Equality adopted
- Tri-Agency and NSERC specific working groups
- Tri-Agency and NSERC Frameworks on Gender Equity
- NSERC 2020: A Strategic Plan
- SWC GBA+ Departmental Action Plan signatory

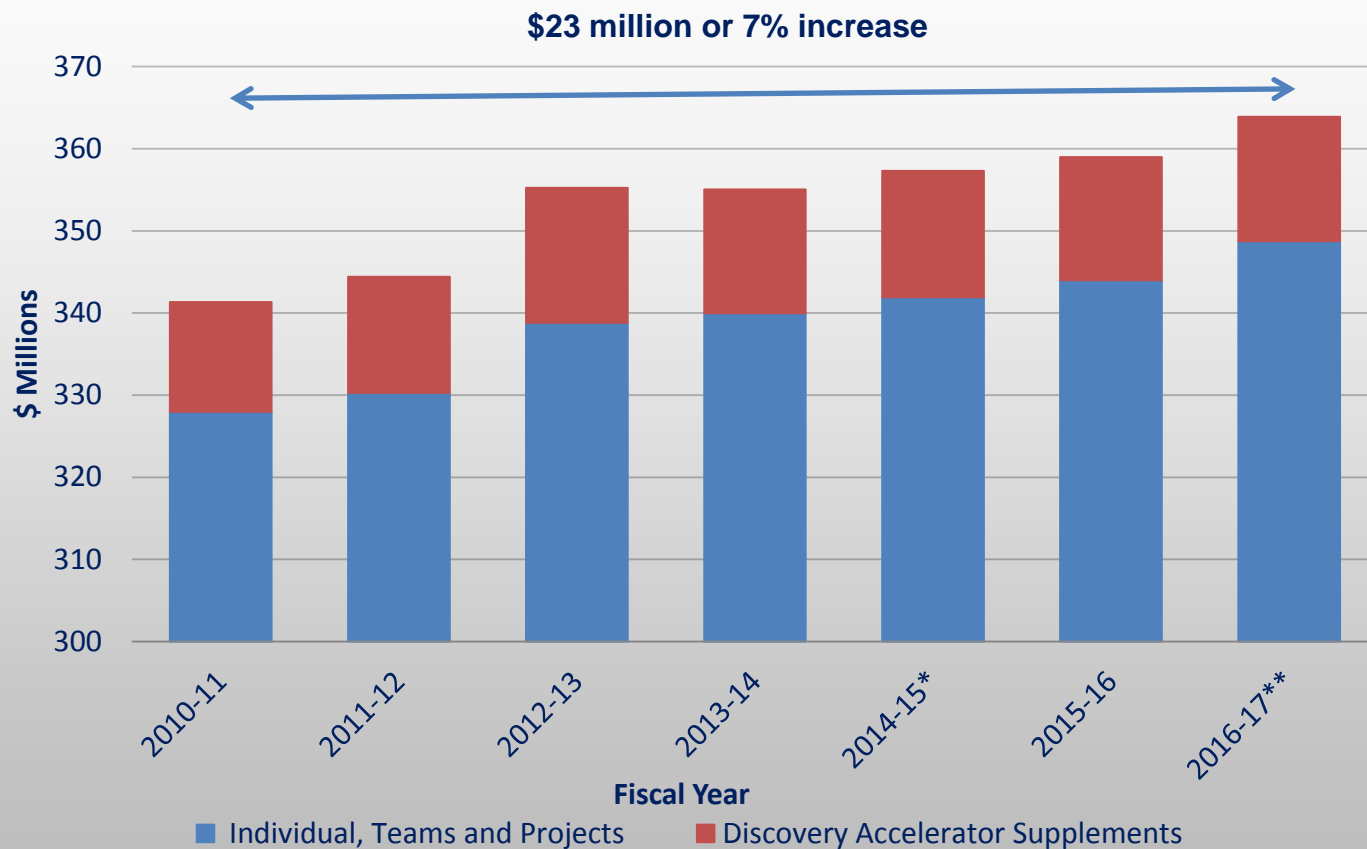
2017 Evaluation Group Members

Group Chair – Diana Allen (Simon Fraser)

- Monique Bernier (INRS)
- Mark Brandon (The Open University, U.K)
- Brian Branfireun (Western Ontario)
- Thomas Bruulsema (International Plant Nutrition Institute)
- John Clague (Simon Fraser)
- Keith Dewing (NRCAN)
- Gregory Dipple (UBC)
- Philip Fralick (Lakehead)
- Nicholas Fraser (National Museum of Scotland, Edinburgh)
- Yves G elinas (Concordia)
- John Hanchar (MUN)
- Jacob Hanley (Saint Mary's)
- Kurt Konhauser (Alberta)
- Shawn Marshall (Calgary)
- James Mungall (Toronto)
- Glenn Milne (Ottawa)
- Mladen Nedimovic (Dalhousie)
- John Percival (NRCAN)
- Steven Siciliano (Saskatchewan)
- John Stix (McGill)
- Maria Strack (Waterloo)
- Kimberly Strong (Toronto)
- Laxmi Sushama (UQAM)
- Bruce Sutherland (Alberta)
- Valerie Trouet (Arizona)
- Freek van der Meer (Twente, Netherlands)
- Thijs Vandenbroucke (Gent, Belgium)



NSERC Discovery Grants Funding (millions of dollars)



* Includes additional funding received resulting from Federal Budget 2014

** Projected expenditures for 2016-2017

Discovery Grants Overall Results – 2016 Competition

Data¹	Success Rate	Average Grant
Early Career Researchers (ECR)	75%	\$26,741
Established Researchers (ER)		
Renewing their grant (ER-R)	82%	\$36,471
Not Holding a Grant ² (ER-NHG)	37%	\$27,814

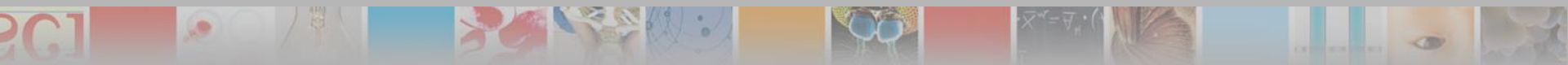
1. Includes Discovery and Subatomic Physics (Individual and Team) Grants, but excludes the Subatomic Physics Projects.

2. Includes returning established unfunded applicants and experienced researchers submitting a first application.

Geosciences DG Results

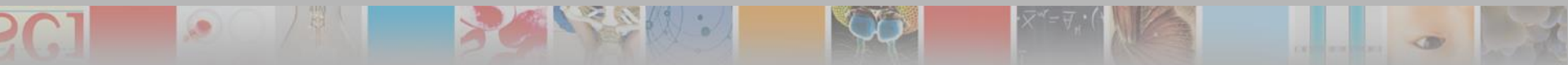
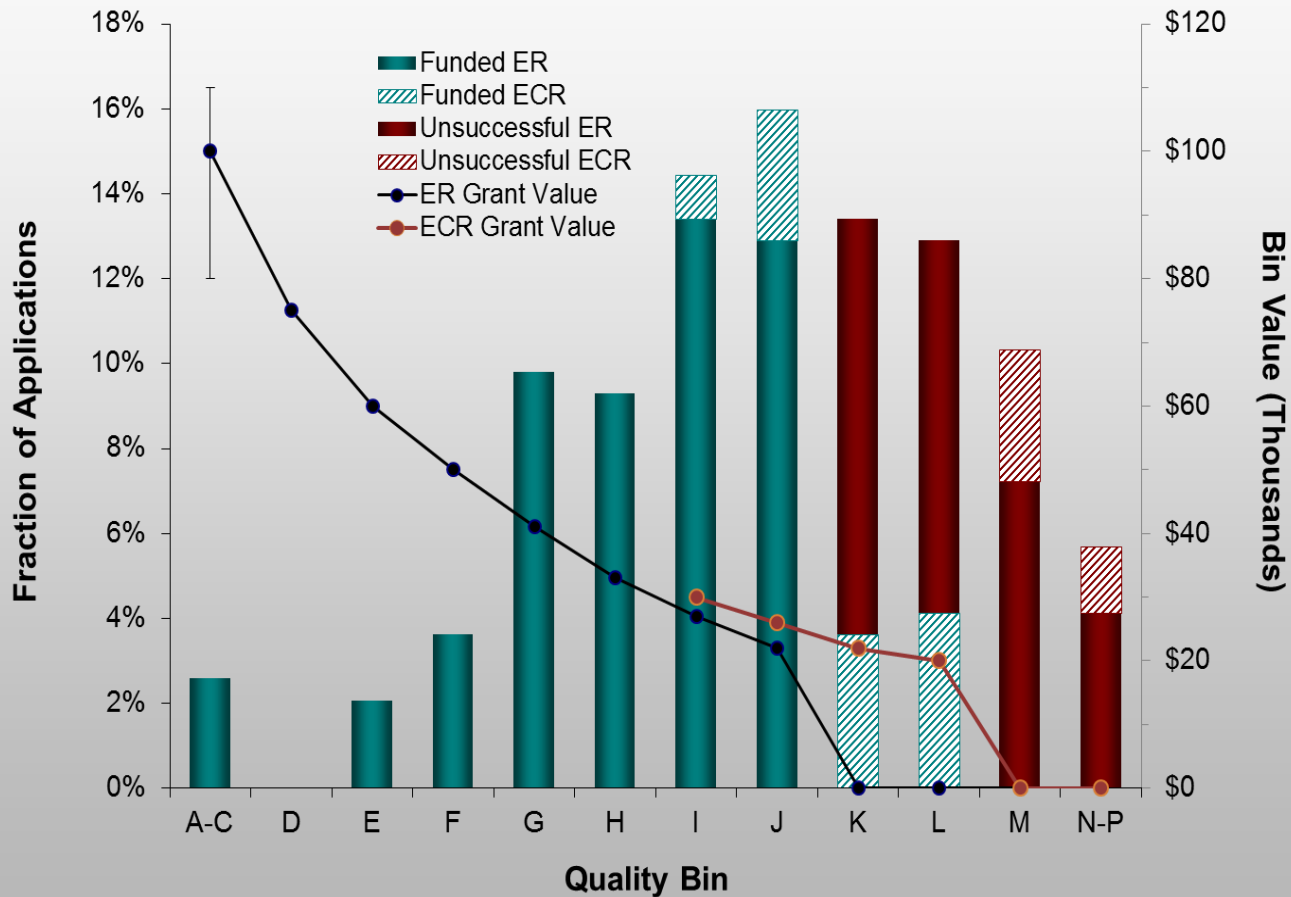
Competition 2016

Geosciences (EG 1506)	Early Career Researchers	Established Researcher		Overall
		Renewals	Not Holding a Grant	
# of Applications	32	87	75	194
# of Awards	23	72	32	127
\$ Awarded	\$351K	\$2,500K	\$770K	\$3,802K
Success Rate	72%	83%	43%	65%
Average Grant	\$23,100	\$34,735	\$24,063	\$29,939



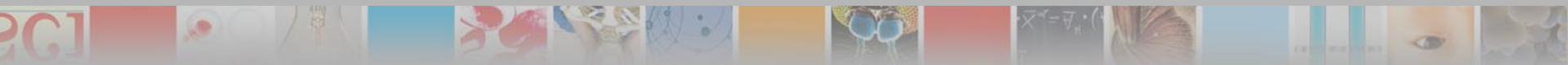
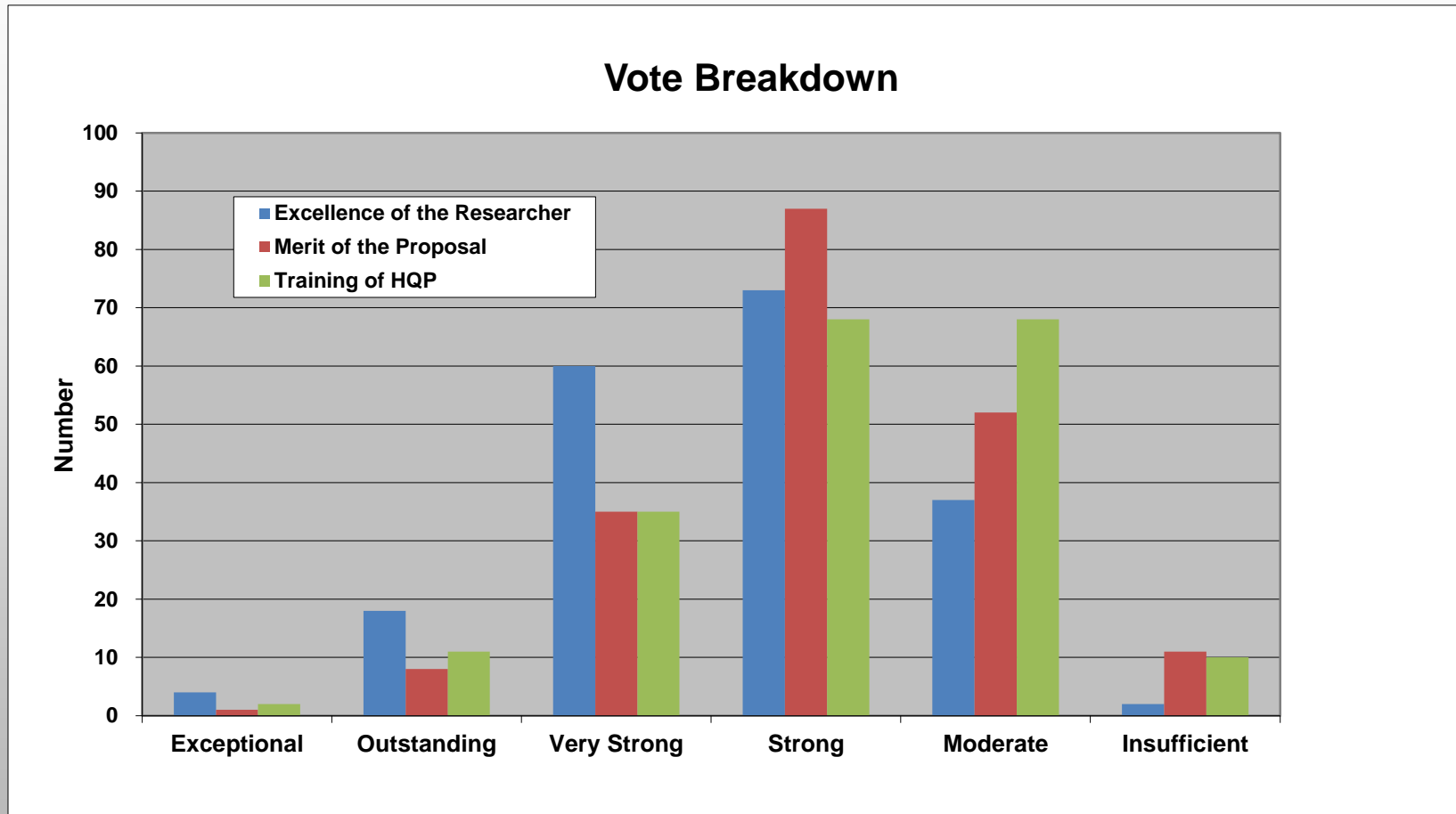
Results and Statistics – Geosciences

2016 Discovery Grants Competition



Results and Statistics – Geosciences

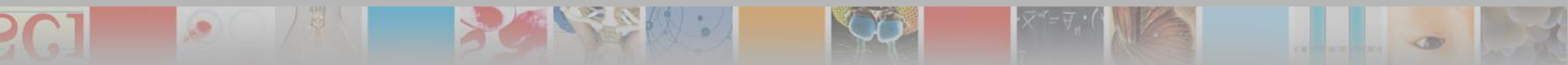
2016 DG Competition



Discovery Development Grants (DDG)

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

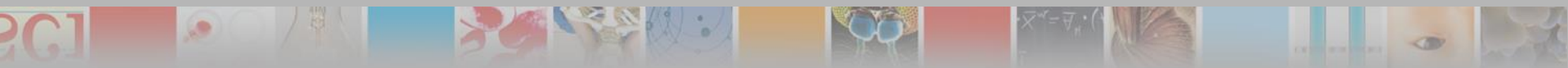
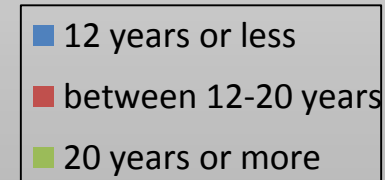
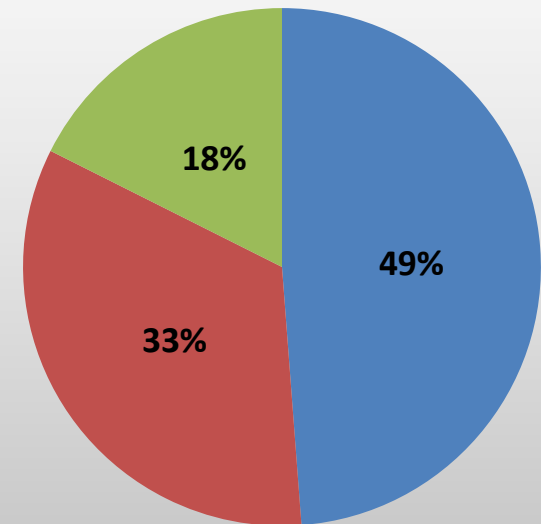
- \$10,000 a year for 2 years
- Unfunded DG applicants from Small Universities in bins K or higher
 - Small universities: \$4 million or less in NSERC funding on an annual basis
 - http://www.nserc-crsng.gc.ca/_doc/Professors-Professeurs/EligUniv_e.PDF
- Must provide letter of support from university
- May not concurrently hold a DDG and a DG
- 2016: 4 DDG for Geosciences



Discovery Accelerator Supplements 2016 Competition Results

Evaluation Group	Awards
Genes, Cells and Molecules (1501)	11
Biological Systems and Functions (1502)	11
Evolution and Ecology (1503)	9
Chemistry (1504)	8
Physics (1505)	7
Geosciences (1506)	10
Computer Science (1507)	18
Mathematics and Statistics (1508)	7
Civil, Industrial and Systems Engineering (1509)	13
Electrical and Computer Engineering (1510)	9
Materials and Chemical Engineering (1511)	9
Mechanical Engineering (1512)	12
Subatomic Physics (19)	1
Total	125

2016 DAS recipients
years from PhD



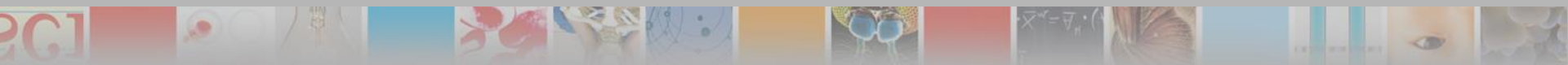
Research Tools and Instruments

2016 Competition Results

	2016	2015	2014
Budget	\$26M	\$25M	\$19.5M
# Appl.	657	666	468
# Funded	215	218	176
Success Rate	33%	33%	38%
Funding Rate	33%	34%	38%

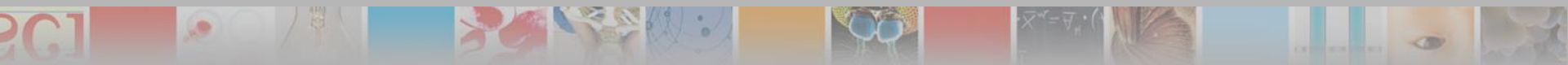
Research Tools and Instruments (RTI) 2016 Competition – Environmental Sciences

Research Tools & Instruments (Category 1)	2016 Environmental Sciences Statistics
Number of Applications	82
Average Amount Requested	\$108,515
Number of Awards	28
Success Rate	34.2%
Amount Requested	\$8,889,201
Amount Awarded	\$3,032,482
Funding Rate	34.1%



Northern Research Supplements (NRS)

- To augment and promote university-based research & training by providing extra logistical support to DG-holders conducting research in Canada's North
- To recognize added logistical costs unique to conducting research in the Canadian North
- To support & promote outreach & communication initiatives in the North and to encourage interactions with Northerners
- About 130 Northern researchers currently supported with supplements to their DG, ranging from \$10k to \$25k per year: Annual budget is \$2.1 million in 2016
- Upper value awards recognize researchers with programs that have higher logistical costs (e.g. working in the High Arctic) **and** those who make outstanding contributions to outreach with Northerners (e.g. well-justified **and** clearly budgeted outreach initiatives that engage Northerners)



Northern Research Supplements (NRS)

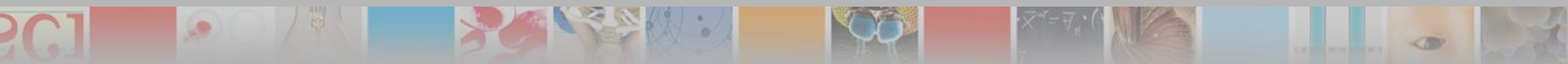
Competition Year	# of Applications Received ^A	\$ Requested (overall) ^B	Success Rate (overall)	Funding Rate (overall)	# of Applications Reviewed ^C	# of Applications funded	Success Rate (Comp.) ^D	\$ Awarded
2016	36	\$ 747,829	50.0%	39.4%	28	18	64.3%	\$295,000
2015	41	\$ 877,995	65.9%	48.6%	34	27	79.4%	\$426,300
2014	48	\$ 767,051	56.3%	55.5%	36	27	75.0%	\$425,820
2013	55	\$ 1,154,406	56.4%	46.7%	39	31	79.5%	\$539,500
2012	44	\$ 901,473	63.6%	52.1%	36	28	77.8%	\$469,500
2011	35	\$ 364,437	57.1%	84.0%	20	20	100.0%	\$306,270
Average	43.2	\$ 802,199	58.2%	54.4%	32.2	25.2	79.3%	\$410,398

A - represents the total number of eligible applications received on Nov. 1

B - represents the total amount requested by all eligible applicants per Year

C - represents the number of applicants reviewed by the cttee., after those not holding a DG were removed

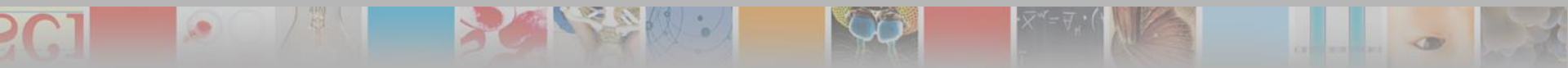
D - represents the actual success rate of those applicants reviewed by the cttee.



Ship Time Program

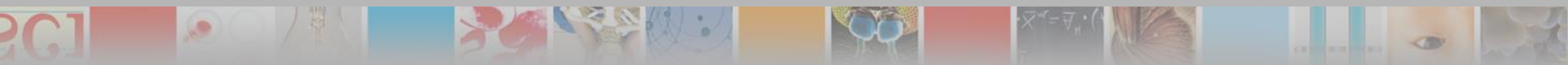
- Allows those holding a Discovery Grant to apply for additional funds to access vessels in support of their research programs
- Recognizes the high costs associated with chartering research vessels in Canada and abroad
- Applies to Department of Fisheries and Oceans (DFO)
 - Canada Coast Guard vessels, remotely-operated undersea vehicles (like ROPOS) or any other other Canadian or foreign vessels crewed in conformance with the *Canada Shipping Act*
- All applications must be submitted September 1st

www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/ST-TN_eng.asp



Ship Time Program

Competition Year	# of applics reviewed	# of applics awarded	Success rate	Funding rate	Total Requested in Competition	Total Amount Awarded
2016	11	8	72.7%	72.9%	\$ 1,359,841	\$ 991,279
2015	10	6	60.0%	65.4%	\$ 1,643,194	\$ 1,075,433
2014	9	8	88.9%	67.7%	\$ 1,034,292	\$ 700,378
2013	13	10	76.9%	49.4%	\$ 2,024,427	\$ 1,000,000
2012	8	6	75.0%	70.1%	\$ 738,548	\$ 517,688
2011	13	11	84.6%	75.0%	\$ 1,098,163	\$ 824,169
Average	10.7	8.2	76.4%	66.8%	\$ 1,316,411	\$ 851,491

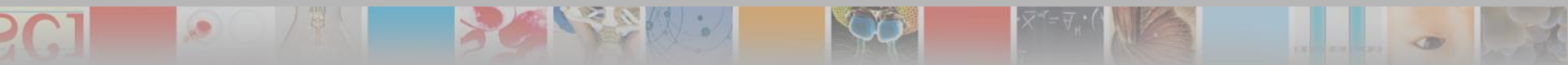


Evaluation Process Overview

- Two-step process separates merit assessment from funding recommendations.
- Merit assessment uses six-point scale to evaluate:
 - Excellence of the researcher;
 - Merit of the proposal; and
 - Contributions to the training of HQP.
- Applications grouped in “bins” of comparable merit.
- Funding recommendations: similar overall ratings within an Evaluation Group (EG) receive comparable funding, with possible modulation related to the cost of research.

Demystifying the review process for NSERC Discovery Grants

www.nserc-crsng.gc.ca/Professors-Professeurs/Videos-Videos/DG_eng.asp



Two-Step Review Process

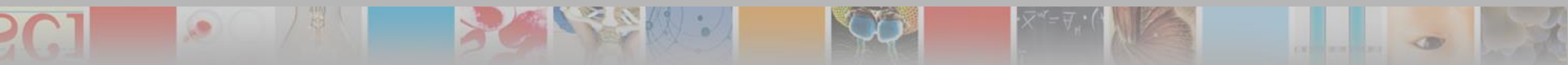
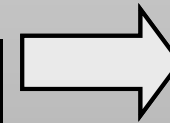
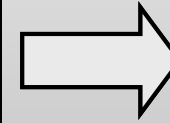
Merit assessment

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

Cost of research	High	Normal	Low
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Funding recommendation

Funding "Bins"
A (L, N, H)
B (L, N, H)
C (L, N, H)
D (L, N, H)
.
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N
O
P



Possible Combination of Rating Indicators for Funding Bins

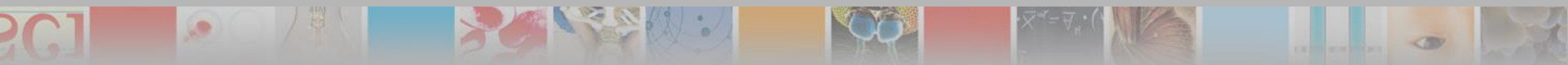
Indicator Combinations			Bin
Exceptional	Exceptional	Exceptional	A
Outstanding	Exceptional	Exceptional	B
Very Strong	Exceptional	Exceptional	C
Outstanding	Outstanding	Exceptional	
Strong	Exceptional	Exceptional	D
Very Strong	Outstanding	Exceptional	
Outstanding	Outstanding	Outstanding	
Moderate	Exceptional	Exceptional	E
Strong	Outstanding	Exceptional	
Very Strong	Very Strong	Exceptional	
Very Strong	Outstanding	Outstanding	
Moderate	Outstanding	Exceptional	F
Strong	Very Strong	Exceptional	
Strong	Outstanding	Outstanding	
Very Strong	Very Strong	Outstanding	
Exceptional	Exceptional	Insufficient	G
Strong	Strong	Exceptional	
Moderate	Very Strong	Exceptional	
Moderate	Outstanding	Outstanding	
Strong	Very Strong	Outstanding	
Very Strong	Very Strong	Very Strong	
Outstanding	Exceptional	Insufficient	
Moderate	Strong	Exceptional	H
Strong	Strong	Outstanding	
Moderate	Very Strong	Outstanding	
Strong	Very Strong	Very Strong	
Very Strong	Exceptional	Insufficient	
Outstanding	Outstanding	Insufficient	

Indicator Combinations			Bin
Moderate	Moderate	Exceptional	I
Moderate	Strong	Outstanding	
Strong	Strong	Very Strong	
Moderate	Very Strong	Very Strong	
Strong	Exceptional	Insufficient	
Very Strong	Outstanding	Insufficient	
Moderate	Moderate	Outstanding	J
Moderate	Strong	Very Strong	
Strong	Strong	Strong	
Moderate	Exceptional	Insufficient	
Strong	Outstanding	Insufficient	
Very Strong	Very Strong	Insufficient	
Insufficient	Insufficient	Exceptional	K
Moderate	Moderate	Very Strong	
Moderate	Strong	Strong	
Moderate	Outstanding	Insufficient	
Strong	Very Strong	Insufficient	
Insufficient	Insufficient	Outstanding	
Moderate	Moderate	Strong	L
Strong	Strong	Insufficient	
Moderate	Very Strong	Insufficient	
Insufficient	Insufficient	Very Strong	M
Moderate	Moderate	Moderate	
Moderate	Strong	Insufficient	
Insufficient	Insufficient	Strong	N
Moderate	Moderate	Insufficient	
Insufficient	Insufficient	Moderate	O
Insufficient	Insufficient	Insufficient	P

Fatal Flaws: A rating of Insufficient on any criteria
 Moderate on EoR for an establish researcher

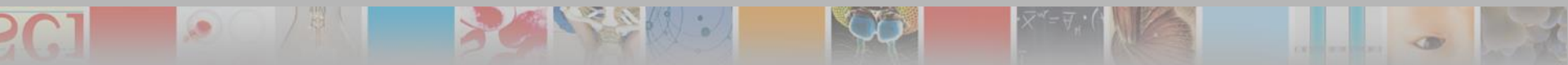
EG1506 Research Topics

- **GS01 - Petrology & Mineralogy**
- **GS02 - Sedimentology & Stratigraphy**
- **GS03 - Paleontology & Paleobiology**
- **GS04 - Geophysics**
- **GS05 - Economic Geology**
- **GS06 - Tectonics & Structural Geology**
- **GS07 - Geochemistry & Geochronology**
- **GS08 - Volcanology**
- **GS09 - Planetary Sciences**
- **GS10 - Surface Processes**
- **GS11 - Paleo-environmental Sciences**
- **GS12 - Biogeosciences**
- **GS13 - Global Geological Processes**
- **GS14 - Atmospheric Sciences**
- **GS15 - Hydrology**
- **GS16 - Oceanography**
- **GS17 - Soil Sciences**
- **GS18 - Geomatics & Earth Systems Observations**
- **GS19 - Cryology**



Joint Reviews

- Applications that cross boundaries of Evaluation Groups (multidisciplinary, interdisciplinary) are reviewed by a combination of members with pertinent expertise from relevant groups.
- EG suggested by applicant usually the closest EG related to the research area (primary). Reviewers from other EGs are added as necessary based on expertise.
 - JRs can involve one or more visiting reviewers from one or more different EGs.
 - As for all other applications, normally 5 reviewers per applications with equal vote, regardless of number of EGs participating.
- For any application, decision to hold JR informed by:
 - Content of NOI
 - Consultation with EGs
 - Content of full application



Conference Model in Action

Joint Reviews in 2016 Competition

		Participating (Visiting) Evaluation Group												Total
		GCM	BSF	EE	Chem	Phys	Geo	CS	MS	CISE	ECE	MCE	ME	
Reviewing (Home) Evaluation Group	GCM		33	8	12	7	1	9	10	0	1	12	3	96
	BSF	50		7	2	5	0	2	3	1	4	2	5	81
	EE	16	17		1	0	21	1	8	2	0	0	0	66
	Chem	6	0	0		2	4	0	0	1	1	4	1	19
	Phys	1	1	0	1		2	4	3	0	4	4	0	20
	Geo	0	4	9	3	4		2	2	13	0	2	2	41
	CS	4	2	2	1	3	0		12	4	3	0	1	32
	MS	5	4	5	0	6	1	9		3	2	2	3	40
	CISE	0	3	3	3	2	24	6	4		8	11	20	84
	ECE	0	5	0	2	9	0	13	1	3		8	9	50
	MCE	3	2	1	13	2	3	0	2	8	4		7	45
ME	2	3	0	1	4	1	1	1	7	7	13		40	
Total	87	74	35	39	44	57	47	46	42	34	58	51	614	

Notes:

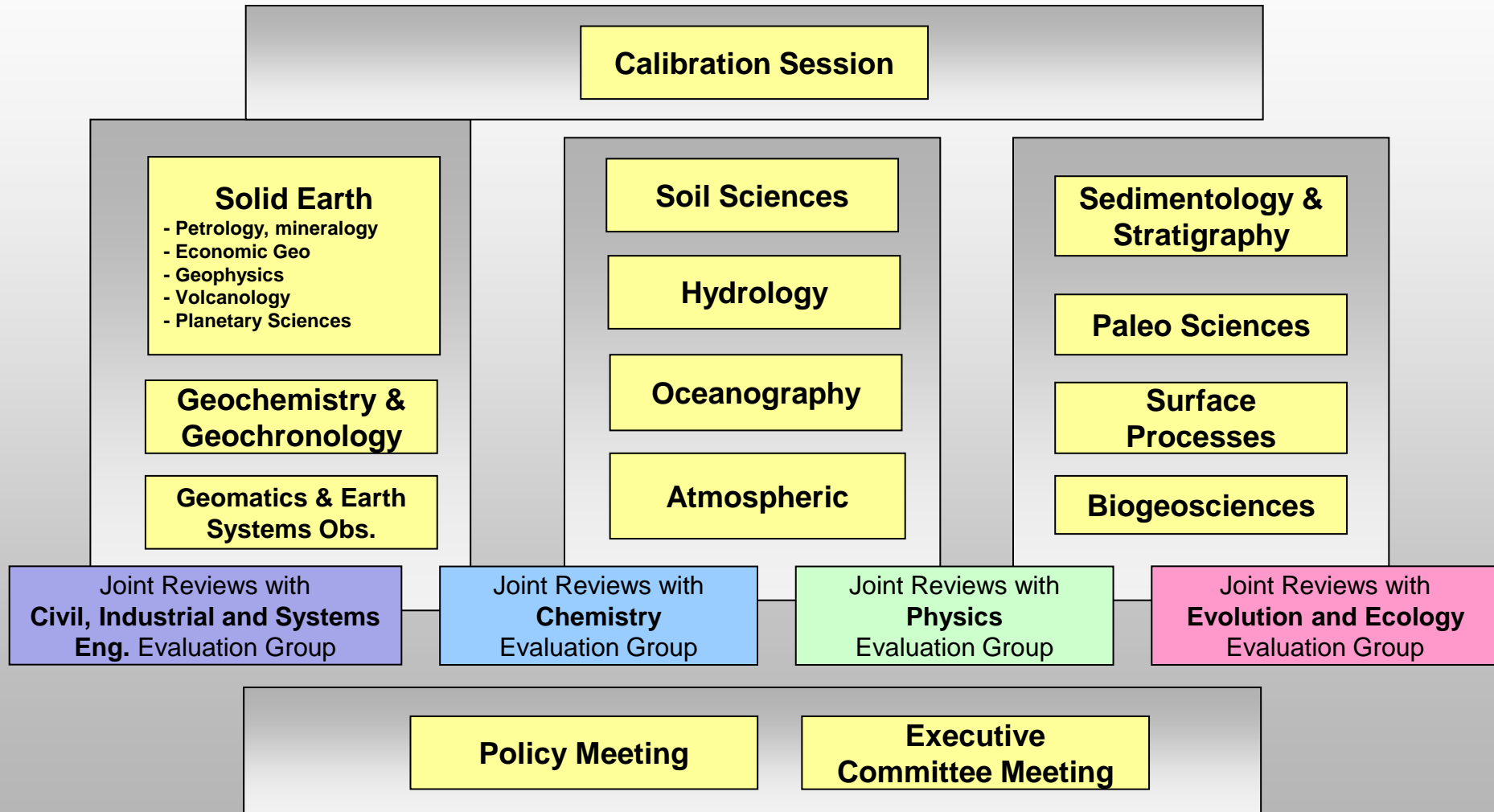
Applications involving members from more than one other EG (i.e. more than 2 EGs participating in the review) appear more than once.

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.

2016 Geosciences Discovery Grants

Conference Model in Action



Schematic (simplified) representation of the Stream organization

N SERC Contacts

Geosciences EG Program Officer	tiffany.lancaster@nserc-crsng.gc.ca
Geosciences EG Program Assistant	sue.doyle@nserc-crsng.gc.ca
N SERC 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: 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

