



2013 Competition Statistics Discovery Grants (DG) and Research Tools and Instruments (RTI) Programs

This report includes tables and figures that provide summary information on the 2013 Discovery Grants and Research Tool and Instruments Competitions. More detailed statistics are also included in this document.

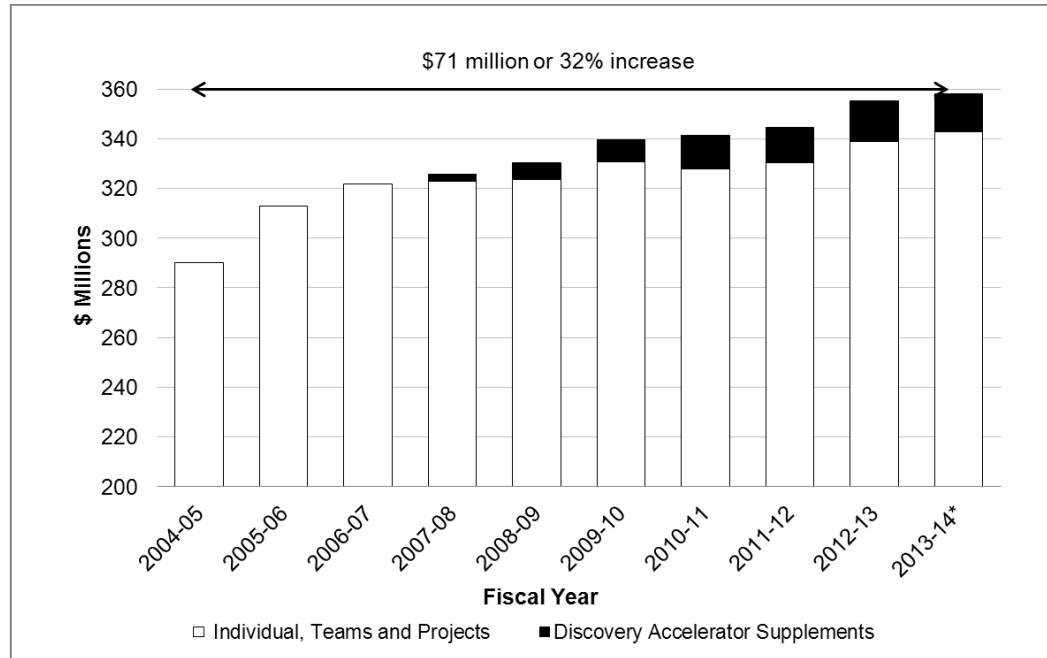
SECTION 1 – FISCAL YEAR STATISTICS	3
<i>Figure 1 Expenditures in the Discovery Grants Program Elements, 2004-05 to 2013-14*</i>	3
<i>Figure 2 Number of Grants Funded through Individual and Team Discovery Grants (including those in Subatomic Physics) and Subatomic Physics Projects, 2004-05 to 2013-14*</i>	3
<i>Figure 3 Average Grant for Individual and Team Discovery Grants (including those in Subatomic Physics) and Subatomic Physics Projects, 2004-05 to 2013-14*</i>	4
SECTION 2 – COMPETITION STATISTICS	5
<i>Table 1 Overall Comparative Statistics 2013 Discovery Grants Competition¹</i>	5
<i>Figure 4 Distribution of Grant Levels to Successful Applicants, 2013 Competition</i>	6
<i>Figure 5 Change in Grant Level, 2013 Competition</i>	6
<i>Figure 6 Percentage Change in Grant Level for Established Researchers Renewing a Grant, 2013 Competition</i>	7
<i>Figure 7 Success Rate¹ by Category of Individual Applicants, Competition Years 2004-2013</i>	7
<i>Table 2 Number of Applications and Awards by Category of Applicants, 2004-13</i>	8
<i>Table 3 Discovery Grants¹ Competition Results by University, 2013 Competition</i>	9
<i>Table 4 Statistics by University Size, 2013 Competition</i>	10
<i>Table 5 Success Rate by Category of Applicants and University Size, 2009-13</i>	10
<i>Figure 8 Distribution of Applications¹ by Quality Bin</i>	11
<i>Table 6 Number of applications¹ by Quality Bins by University Size, 2013 Competition</i>	11
<i>Figure 9 Percentage of Occurrences of Various Combinations of Ratings¹ in Bin K by University Size</i>	12
SECTION 3 – STATISTICS BY EVALUATION GROUP.....	13
<i>Table 7 Success Rate, Average Grant and Total Amount Awarded by Category of Applicant for Each Evaluation Group, 2013 Competition</i>	13
<i>Figure 10 Distribution of the Fraction of Applications by Quality Bin for Each Evaluation Group, 2013 Competition</i>	15
SECTION 4 – STATISTICS BY GENDER	21
<i>Table 8 Proportion of Applicants by Gender and Career Stage, 2010-13 Competitions</i>	21

<i>Figure 11</i>	<i>Discovery Grant Success Rate and Average Awarded Amount by Career Stage and Gender, 2010-13 Competitions</i>	<i>22</i>
<i>Figure 12</i>	<i>Discovery Grant Success Rate and Average Grant by Applicant Status and Gender, 2010-13 Competitions.....</i>	<i>22</i>
<i>Figure 13</i>	<i>Discovery Grant Success Rate by Gender and Evaluation Group, 2010-13 Competitions .</i>	<i>23</i>
SECTION 5 – RESEARCH TOOLS AND INSTRUMENTS.....		24
<i>Table 9</i>	<i>Overall Comparative Statistics, 2013 Research Tools and Instruments Competition.....</i>	<i>24</i>

SECTION 1 – FISCAL YEAR STATISTICS

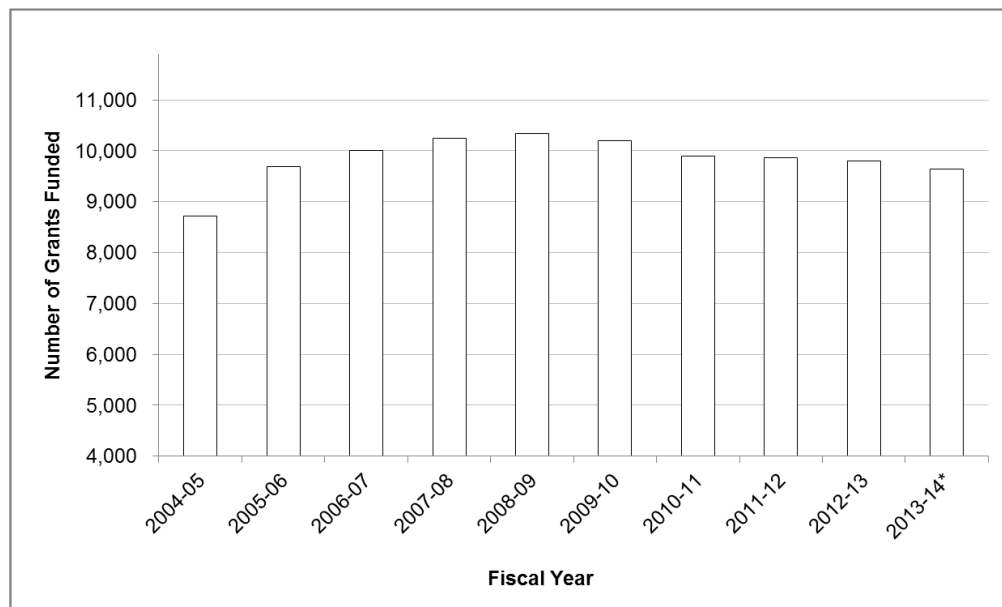
This section presents data on a fiscal year basis and is inclusive of ongoing installments.

Figure 1 Expenditures in the Discovery Grants Program Elements, 2004-05 to 2013-14*



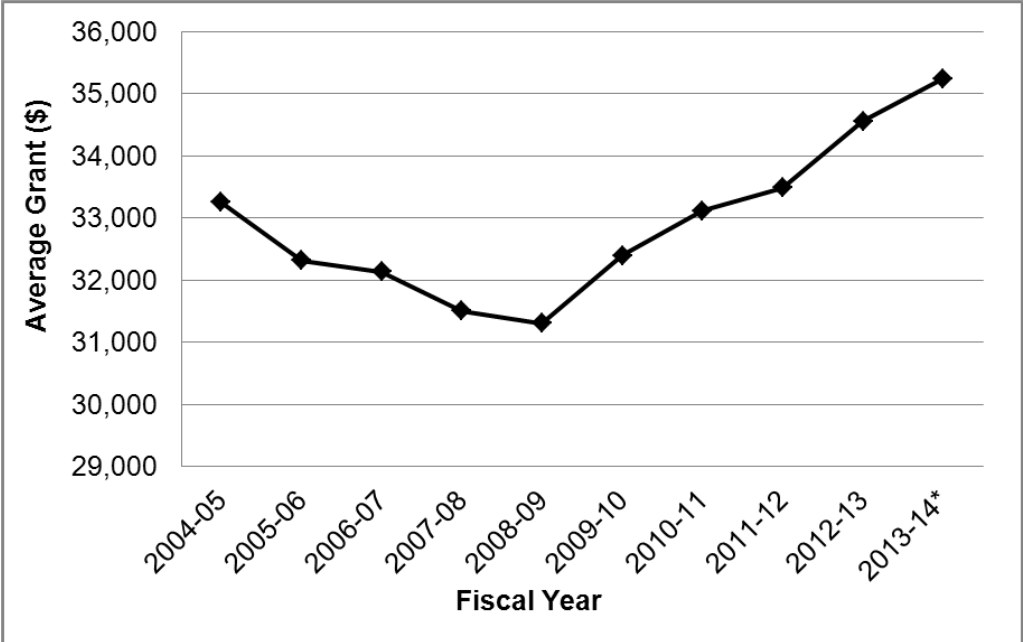
*Projected Expenditures for 2013-14

Figure 2 Number of Grants Funded through Individual and Team Discovery Grants (including those in Subatomic Physics) and Subatomic Physics Projects, 2004-05 to 2013-14*



*Projected Numbers of Grants for 2013-14

Figure 3 Average Grant for Individual and Team Discovery Grants (including those in Subatomic Physics) and Subatomic Physics Projects, 2004-05 to 2013-14*



*Projected Average for 2013-14

SECTION 2 – COMPETITION STATISTICS

The total awarded amount for the 2013 DG competition was \$67.8 million. The number of DG applications in 2013 was 3,455. Going into the competition, there were 1,853 renewal applicants who held grants of, on average, \$30,596; after the competition, there are 2,026 funded researchers, at an average grant level of \$33,472.

NSERC continued to put a strong emphasis on giving early career researchers (ECR) a chance to demonstrate their potential and exceeded the minimum target success rate of 50 percent recommended in the [International Review](#) of the DG Program. In *Budget 2011*, NSERC was allocated additional funding "to support outstanding research in the natural sciences and engineering fields, such as the Strategy for Partnerships and Innovation (SPI)." NSERC is devoting half of this money to enhance the DGs of ECRs in the form of supplements to their grants. These supplements, of a value of up to \$5,000 per year, are included in the awarded amount and reflected in the following statistics.

Table 1 Overall Comparative Statistics 2013 Discovery Grants Competition¹

Data¹	Success Rate	Average Grant
Early Career Researchers (ECR)	60%	\$27,659
Established Researchers (ER)		
Renewing their grant (ER-R)	76%	\$36,062
Not Holding a Grant ² (ER-NHG)	30%	\$27,597

1. Includes Discovery and Subatomic Physics (Individual and Team) Grants, but excludes the Subatomic Physics Projects. It cannot therefore be compared with data presented in Figure 3.

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

Figure 4 Distribution of Grant Levels to Successful Applicants, 2013 Competition

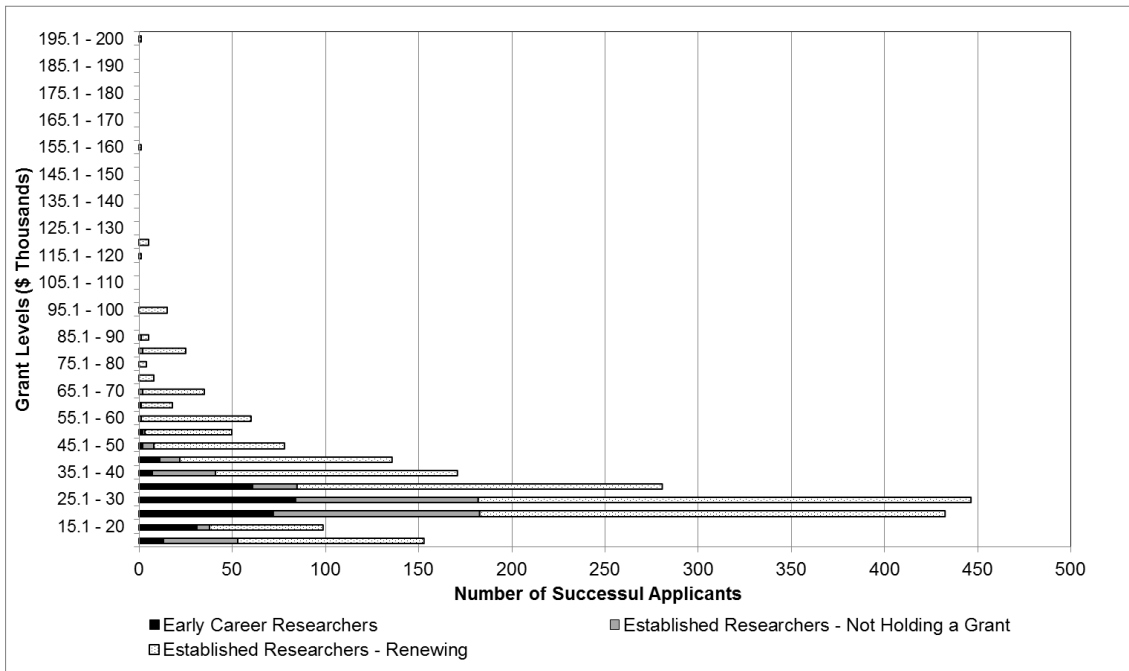


Figure 5 Change in Grant Level, 2013 Competition

a) All Established Researchers

b) Established Researchers – First Renewal

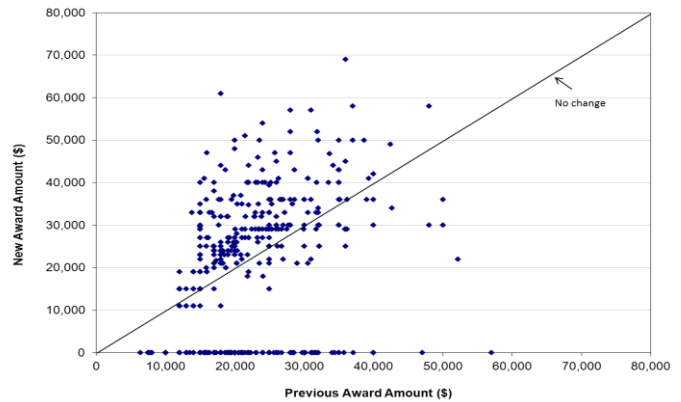
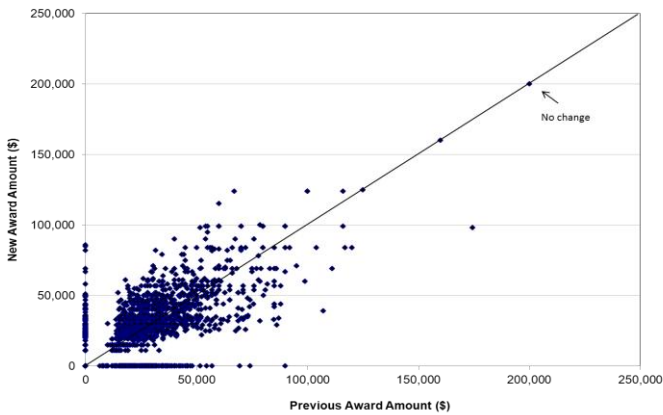


Figure 6 Percentage Change in Grant Level for Established Researchers Renewing a Grant, 2013 Competition

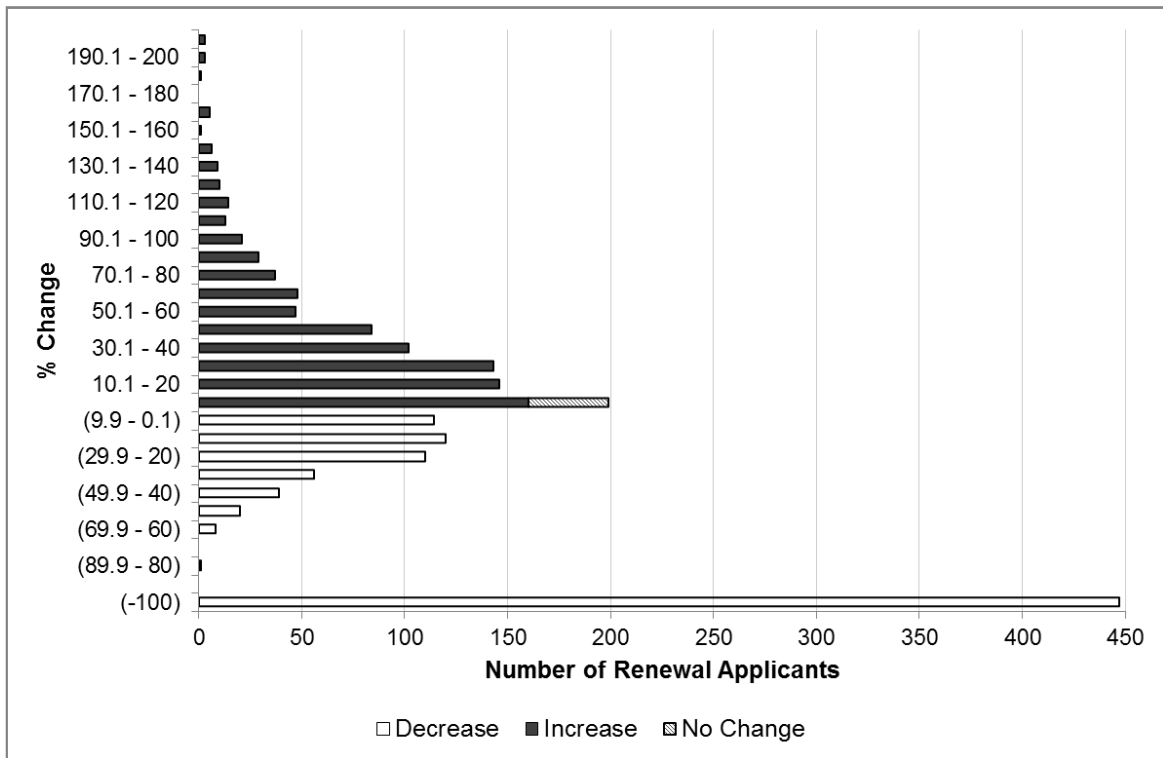
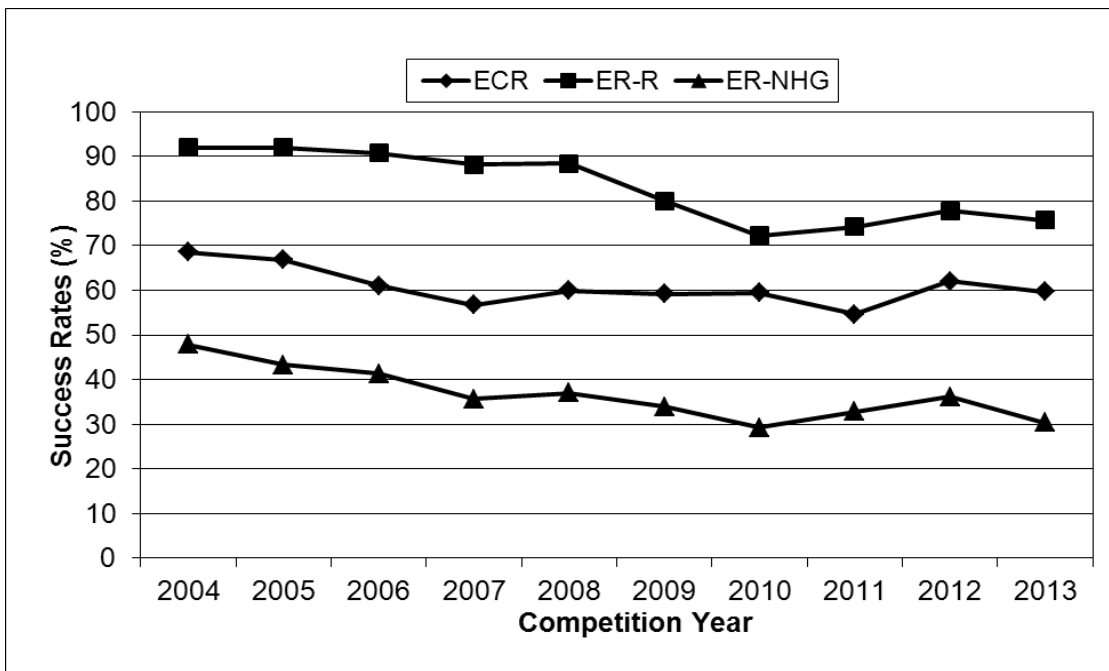


Figure 7 Success Rate¹ by Category of Individual Applicants, Competition Years 2004-2013



¹ Only includes Discovery Grant Individual

Table 2 Number of Applications and Awards by Category of Applicants, 2004-13

Competition Year	Number of Applications¹			Number of Awards¹		
	<i>ECR</i>	<i>ER-R</i>	<i>ER- NHG</i>	<i>ECR</i>	<i>ER-R</i>	<i>ER-NHG</i>
2004	677	1,557	716	464	1,432	343
2005	683	1,731	713	457	1,592	309
2006	672	1,805	703	410	1,638	291
2007	768	2,053	699	436	1,810	249
2008	710	1,944	680	426	1,718	252
2009	503	1,850	819	298	1,481	278
2010	513	1,864	902	305	1,348	264
2011	457	1,835	1,137	250	1,363	373
2012	480	1,848	1,102	298	1,438	399
2013	471	1,825	1,102	281	1,382	334

¹ Only includes Discovery Grant Individual

Table 3 Discovery Grants¹ Competition Results by University, 2013 Competition

Universities	Early Career Researchers			Established Researchers - Renewing			Established Researchers - Not Holding a Grant		
	Success Rate (%)	Total Awarded (\$)	Average Grant	Success Rate (%)	Total Awarded (\$)	Average Grant	Success Rate (%)	Total Awarded (\$)	Average Grant
Acadia University	N/A	N/A	N/A	75%	130,000	21,667	*	*	*
University of Alberta	76%	566,362	25,744	93%	3,808,000	38,465	34%	497,766	31,110
Algoma University	*	*	*	N/A	N/A	N/A	*	*	*
Athabasca University	N/A	N/A	N/A	*	*	*	*	*	*
British Columbia Institute of Technology	*	*	*	*	*	*	*	*	*
Bishop's University	N/A	N/A	N/A	*	*	*	N/A	N/A	N/A
Brandon University	N/A	N/A	N/A	*	*	*	N/A	N/A	N/A
The University of British Columbia	73%	446,000	27,875	86%	4,705,450	44,391	47%	900,432	33,349
Brock University				88%	231,693	33,099	31%	114,000	28,500
University of Calgary	71%	307,000	30,700	85%	2,629,444	38,108	20%	294,000	29,400
Cape Breton University	N/A	N/A	N/A	N/A	N/A	N/A	*	*	*
Carleton University	80%	96,000	24,000	56%	786,000	35,727	38%	285,000	23,750
Concordia University	91%	256,000	25,600	77%	754,000	27,926	26%	162,000	23,143
Dalhousie University	55%	171,000	28,500	71%	1,114,000	37,133	25%	193,000	24,125
École de technologie supérieure	*	*	*	50%	200,000	28,571	*	*	*
École Polytechnique de Montréal	44%	218,000	27,250	89%	584,000	34,353	31%	90,000	22,500
University of the Fraser Valley	N/A	N/A	N/A	*	*	*	*	*	*
University Guelph	46%	190,000	31,667	60%	995,000	34,310	25%	195,000	27,857
HEC Montréal	*	*	*	*	*	*	*	*	*
Institut national de recherche scientifique	*	*	*	89%	500,000	31,250	43%	107,000	35,667
The King's University College	*	*	*	N/A	N/A	N/A	N/A	N/A	N/A
Lakehead University	14%	22,000	22,000	67%	204,000	34,000	16%	66,000	22,000
Laurentian University	*	*	*	30%	95,000	31,667	25%	91,000	30,333
Université Laval	39%	251,000	27,889	69%	1,345,000	32,024	30%	361,000	30,083
University of Lethbridge	*	*	*	67%	428,000	35,667	17%	27,000	27,000
University of Manitoba	76%	360,000	27,692	74%	987,700	31,861	24%	242,000	30,250
McGill University	65%	357,000	32,455	83%	3,419,050	39,756	48%	795,000	31,800
McMaster University	69%	226,000	25,111	74%	2,035,000	37,000	38%	254,000	28,222
Memorial University of Newfoundland	33%	105,000	26,250	63%	774,000	35,182	12%	96,000	24,000
Université de Moncton	*	*	*	*	*	*	9%	15,000	15,000
Université de Montréal	67%	498,939	31,184	80%	1,635,614	40,890	42%	375,728	26,838
Mount Allison University	*	*	*	63%	175,861	35,172	*	*	*
Mount Royal University	*	*	*	N/A	N/A	N/A	*	*	*
Mount Saint Vincent University	*	*	*	N/A	N/A	N/A	*	*	*
University of New Brunswick	20%	25,000	25,000	63%	568,240	28,412	25%	80,000	20,000
Nipissing University	*	*	*	*	*	*	*	*	*
University of Northern British Columbia	N/A	N/A	N/A	40%	64,000	32,000	38%	81,000	27,000
University of Ontario Institute of Technology	*	*	*	40%	110,000	18,333	22%	45,000	22,500
University of Ottawa	60%	240,000	26,667	74%	1,657,035	39,453	38%	189,000	21,000
University of Prince Edward Island	N/A	N/A	N/A	20%	11,000	11,000	25%	54,000	27,000
Université du Québec à Chicoutimi	*	*	*	57%	157,000	39,250	*	*	*
Université du Québec à Montréal	44%	99,000	24,750	84%	957,000	35,444	29%	149,000	29,800
Université du Québec à Rimouski	*	*	*	*	*	*	*	*	*
Université du Québec à Trois-Rivières	57%	117,000	29,250	60%	59,000	19,667	30%	60,000	20,000
Université du Québec en Abitibi-Témiscamingue	N/A	N/A	N/A	*	*	*	*	*	*
Université du Québec en Outaouais	40%	52,640	26,320	*	*	*	*	*	*
Queen's University	*	*	*	88%	2,017,500	38,798	27%	155,000	25,833
Redeemer University College	N/A	N/A	N/A	*	*	*	N/A	N/A	N/A
University of Regina	*	*	*	71%	301,000	25,083	17%	53,000	26,500
Royal Military College of Canada	*	*	*	50%	105,000	35,000	20%	44,000	22,000
Ryerson University	63%	113,000	22,600	64%	354,000	25,286	20%	142,000	23,667
Saint Mary's University	N/A	N/A	N/A	29%	47,000	23,500	*	*	*
University of Saskatchewan	56%	240,000	26,667	66%	1,135,400	32,440	29%	259,000	25,900
Université de Sherbrooke	67%	205,000	25,625	85%	975,000	33,621	34%	285,000	28,500
Simon Fraser University	67%	148,000	24,667	66%	934,000	37,360	64%	403,000	25,188
St. Francis Xavier University	*	*	*	*	*	*	*	*	*
TÉLUQ	*	*	*	N/A	N/A	N/A	N/A	N/A	N/A
Thompson Rivers University	*	*	*	*	*	*	*	*	*
University of Toronto	62%	721,000	31,348	82%	4,564,000	40,389	38%	723,800	27,838
Trent University	N/A	N/A	N/A	86%	401,000	33,417	40%	60,000	30,000
Trinity Western University	*	*	*	*	*	*	*	*	*
TRIUMF	N/A	N/A	N/A	*	*	*	*	*	*
Vancouver Island University	*	*	*	N/A	N/A	N/A	*	*	*
University of Victoria	*	*	*	76%	1,259,000	34,027	33%	165,000	27,500
University of Waterloo	70%	545,200	28,695	86%	2,851,300	33,545	31%	356,000	35,600
The University of Western Ontario	67%	301,000	30,100	76%	2,141,000	35,098	23%	291,000	26,455
Wilfrid Laurier University	*	*	*	50%	128,000	25,600	50%	118,000	19,667
University of Windsor	*	*	*	61%	611,000	35,941	44%	190,000	23,750
The University of Winnipeg	33%	47,000	23,500	33%	87,000	43,500	14%	21,000	21,000
York University	80%	230,000	28,750	82%	1,092,000	30,333	17%	88,000	29,333
Grand Total	60%	7,855,141	27,659	76%	50,631,287	36,062	30%	9,327,726	27,597

¹ Includes Discovery and Subatomic Physics Individuals and Team Grants but, excludes Subatomic Physics Projects

* Less than five applications

Table 4 Statistics by University Size, 2013 Competition

Category of Applicants	Data	University Size		
		Large	Medium	Small
Early Career Researchers	Success Rate	64%	58%	43%
	Total Amount	\$6,122,501	\$1,002,000	\$730,640
	Average Grant	\$28,477	\$25,692	\$24,355
Established Researchers - Renewing	Success Rate	80%	69%	57%
	Total Amount	\$40,792,493	\$6,645,240	\$3,193,554
	Average Grant	\$37,666	\$31,644	\$28,771
Established Researchers - Not Holding a Grant	Success Rate	34%	24%	21%
	Total Amount	\$7,024,726	\$1,299,000	\$1,004,000
	Average Grant	\$28,790	\$24,981	\$23,905

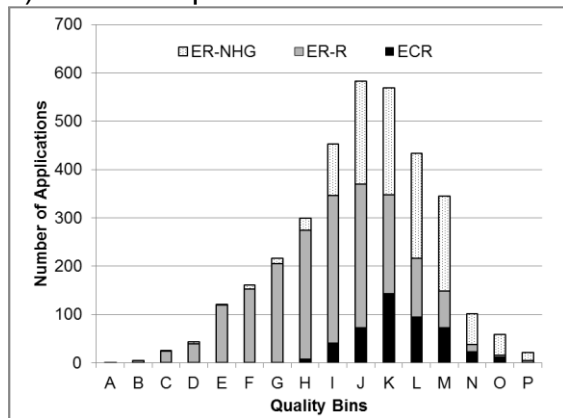
Table 5 Success Rate by Category of Applicants and University Size, 2009-13

	Large					Medium					Small				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Early Career Researchers	62%	61%	59%	66%	64%	57%	57%	57%	64%	58%	42%	42%	34%	48%	43%
Established Researchers - Renewing	83%	76%	78%	81%	80%	69%	69%	52%	72%	69%	65%	65%	55%	63%	57%
Established Researchers - Not Holding a Grant	37%	35%	38%	42%	34%	36%	36%	36%	33%	24%	18%	18%	19%	19%	21%

As a result of peer review, applications are placed in 16 “quality bins” based on their merit against the three selection criteria using a [six point scale](#) – Excellence of Researcher (EoR), Merit of Proposal (MoP), and Contribution to the Training of High Quality Personnel (HQP). Figure 8 shows the distribution of applications for Early Career Researchers (ECR), Established Researchers Renewing their grant (ER-R), and Established Researchers Not Holding a Grant (ER-NHG) at the time of application between 2009 and 2012, and the same distribution for the 2013 competition. Budget permitting, NSERC aims to support Established Researchers to Bin J (which corresponds to ratings of Strong on three criteria or equivalent) and ECR to Bin K or Bin L.

Figure 8 Distribution of Applications¹ by Quality Bin

a) 2013 Competition



¹Does not include results for Subatomic Physics

b) 2009-2012 Competitions

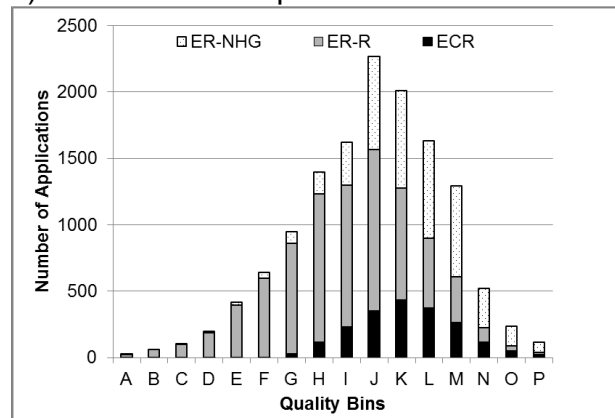


Table 6 Number of applications¹ by Quality Bins by University Size, 2013 Competition

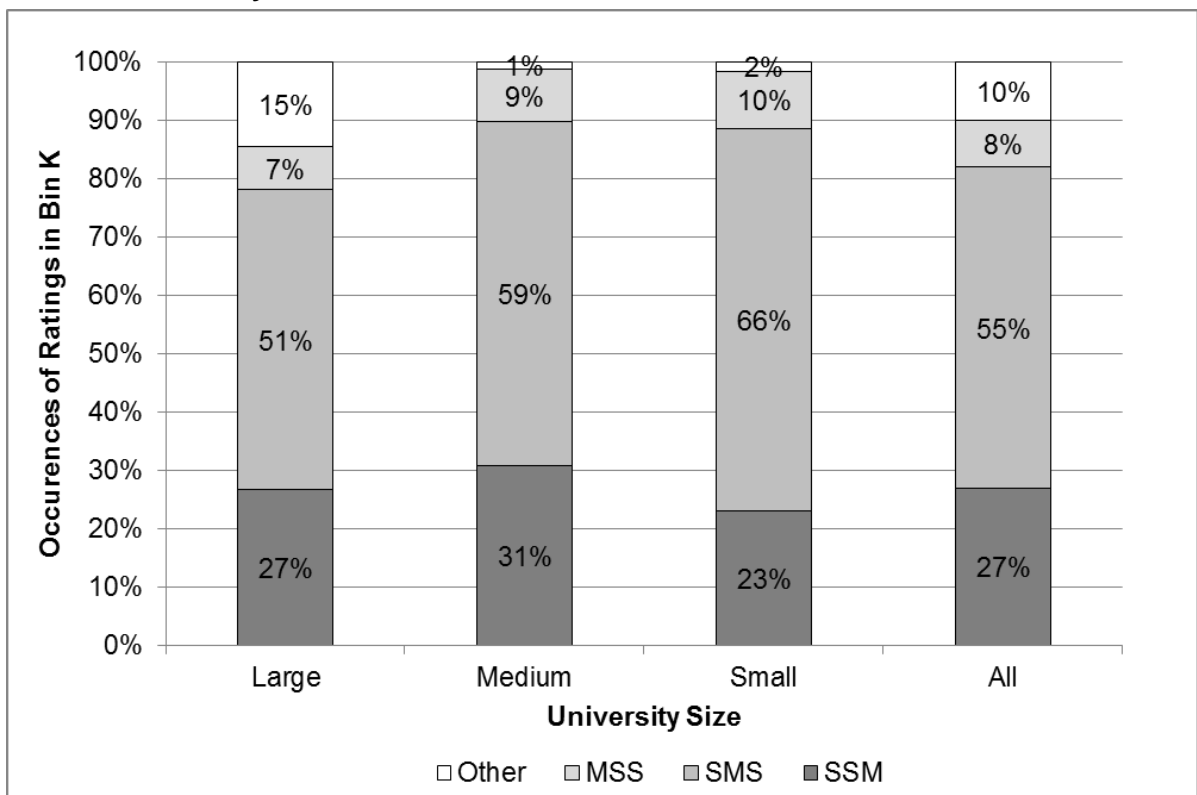
Bin	University Size					
	Large		Medium		Small	
	Number	Percentage	Number	Percentage	Number	Percentage
A	2	0.1%		0.0%		0.0%
B	4	0.2%		0.0%		0.0%
C	25	1.0%		0.0%		0.0%
D	40	1.7%	3	0.5%		0.0%
E	103	4.3%	12	2.1%	5	1.1%
F	135	5.6%	20	3.5%	6	1.3%
G	179	7.5%	26	4.5%	11	2.4%
H	239	10.0%	39	6.8%	21	4.5%
I	339	14.2%	74	12.8%	40	8.6%
J	391	16.4%	109	18.9%	82	17.6%
K	378	15.8%	100	17.3%	90	19.4%
L	259	10.8%	80	13.9%	94	20.2%
M	209	8.7%	69	12.0%	67	14.4%
N	52	2.2%	23	4.0%	26	5.6%
O	29	1.2%	15	2.6%	15	3.2%
P	6	0.3%	7	1.2%	8	1.7%
Total	2390	100.0%	577	100.0%	465	100.0%

¹Does not include results from Subatomic Physics

The rating pattern of applications in Bin K, which usually is the first bin not funded for Established Researchers is presented in Figure 9. Bin K generally corresponds to receiving two ratings of Strong and one Moderate. Other combinations – such as a Very Strong, a Strong, and an Insufficient; or two Moderate and a Very Strong – make up the rest of the cases.

For all university sizes, the most frequent rating combination was SMS (i.e. Strong for EoR, Moderate for MoP, Strong for Contribution to Training of HQP). Half of the applications land in Bin K due to a lower rating on the MoP criterion.

Figure 9 Percentage of Occurrences of Various Combinations of Ratings¹ in Bin K by University Size



¹MSS: Moderate for EoR, Strong for MoP, Strong for HQP
 SMS: Strong for EoR, Moderate for MoP, Strong for HQP
 SSM: Strong for EoR, Strong for MoP, Moderate for HQP

SECTION 3 – STATISTICS BY EVALUATION GROUP

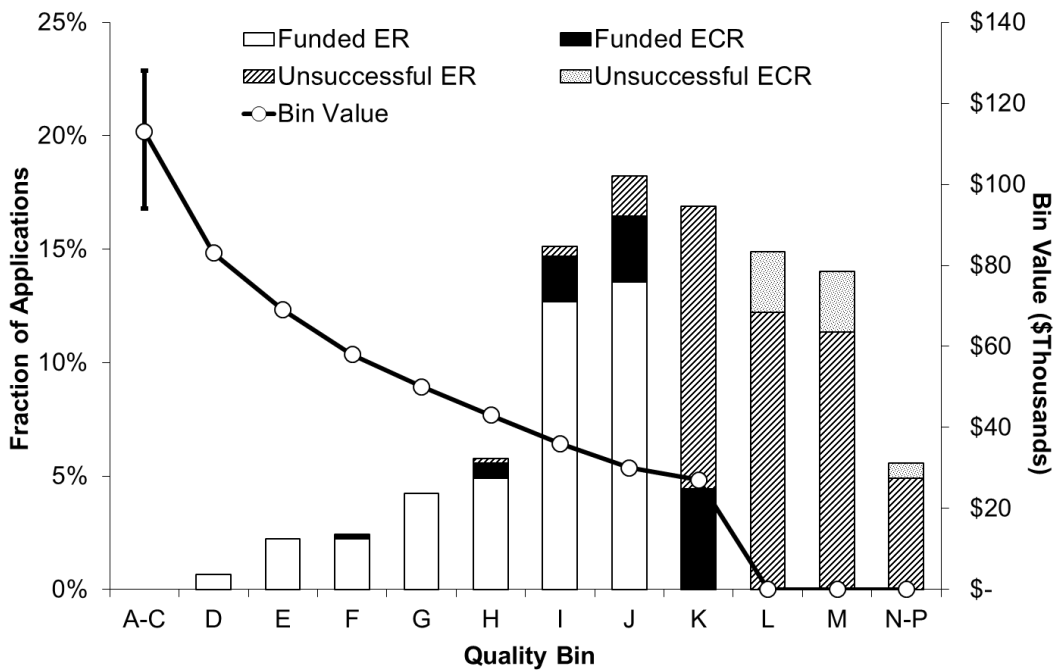
Table 7 Success Rate, Average Grant and Total Amount Awarded by Category of Applicant for Each Evaluation Group, 2013 Competition

1501 - Genes, Cells and Molecules	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	63%	66%	35%
Average Grant	\$36,303	\$43,275	\$35,607
Total Amount Awarded	\$1,669,939	\$4,587,193	\$2,706,098
1502 - Biological Systems and Functions	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	53%	75%	32%
Average Grant	\$30,083	\$37,622	\$28,956
Total Amount Awarded	\$1,323,640	\$7,373,961	\$1,476,766
1503 - Evolution and Ecology	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	60%	76%	30%
Average Grant	\$28,810	\$34,381	\$24,333
Total Amount Awarded	\$605,000	\$3,781,950	\$365,000
1504 - Chemistry	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	50%	81%	18%
Average Grant	\$33,000	\$66,554	\$36,271
Total Amount Awarded	\$330,000	\$6,721,949	\$544,062
1505 - Physics*	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	71%	90%	43%
Average Grant	\$29,128	\$38,785	\$26,750
Total Amount Awarded	\$728,200	\$4,964,500	\$856,000
*Includes Subatomic Physics Discovery Individual and Group, but not Projects			
1506 - Geosciences	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	41%	63%	30%
Average Grant	\$29,143	\$39,613	\$30,832
Total Amount Awarded	\$408,000	\$3,802,840	\$770,800
1507 - Computer Science	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	76%	81%	29%
Average Grant	\$20,800	\$27,566	\$19,636
Total Amount Awarded	\$520,000	\$3,942,000	\$432,000

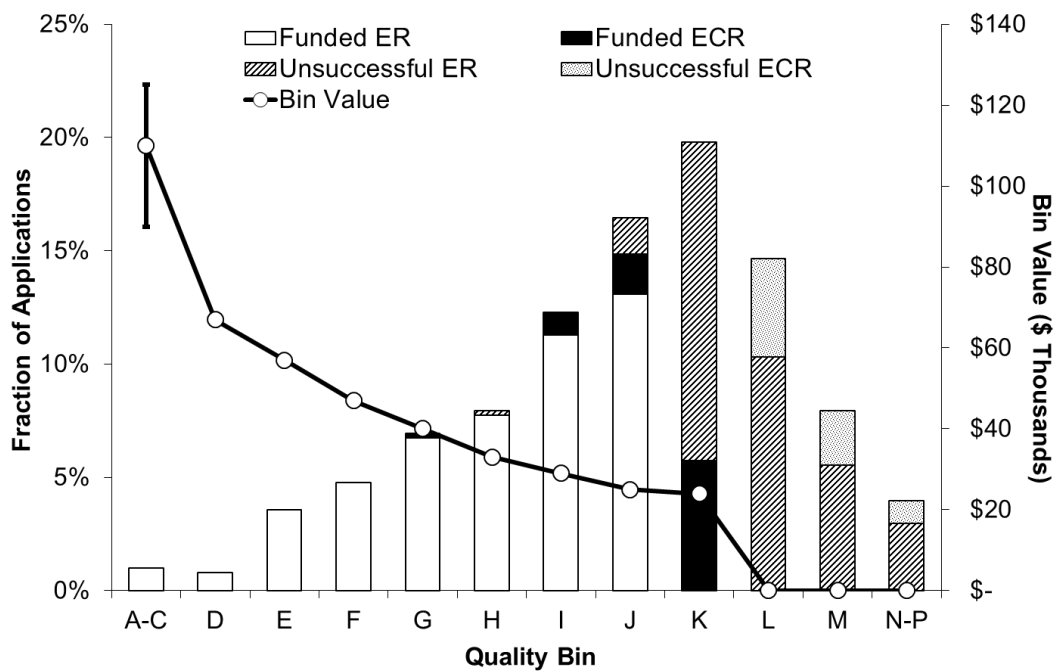
1508 - Mathematics and Statistics	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	63%	79%	44%
Average Grant	\$16,374	\$20,660	\$14,000
Total Amount Awarded	\$409,362	\$2,871,750	\$434,000
1509 - Civil, industrial and Systems Engineering	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	63%	76%	28%
Average Grant	\$23,963	\$28,331	\$23,154
Total Amount Awarded	\$647,000	\$3,173,100	\$602,000
1510 - Electrical and Computer Engineering	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	65%	74%	22%
Average Grant	\$25,727	\$37,313	\$28,444
Total Amount Awarded	\$283,000	\$3,731,300	\$512,000
1511 - Materials and Chemical Engineering	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	52%	79%	21%
Average Grant	\$26,063	\$33,066	\$23,333
Total Amount Awarded	\$417,000	\$2,876,744	\$350,000
1512 - Mechanical Engineering	Early Career Researchers	Established Researchers	
		Renewing	Not Holding a Grant
Success Rate	67%	70%	18%
Average Grant	\$25,700	\$32,605	\$23,250
Total Amount Awarded	\$514,000	\$2,804,000	\$279,000

The distribution of applications by quality bins is presented in Figure 9 for each Evaluation Group (EG). The bin value illustrated represents the value of the bin for the normal cost of research. For EGs marked with a star (*), a differential for the cost of research was used and, as a result, individual grant values within a bin may be lower or higher than indicated.

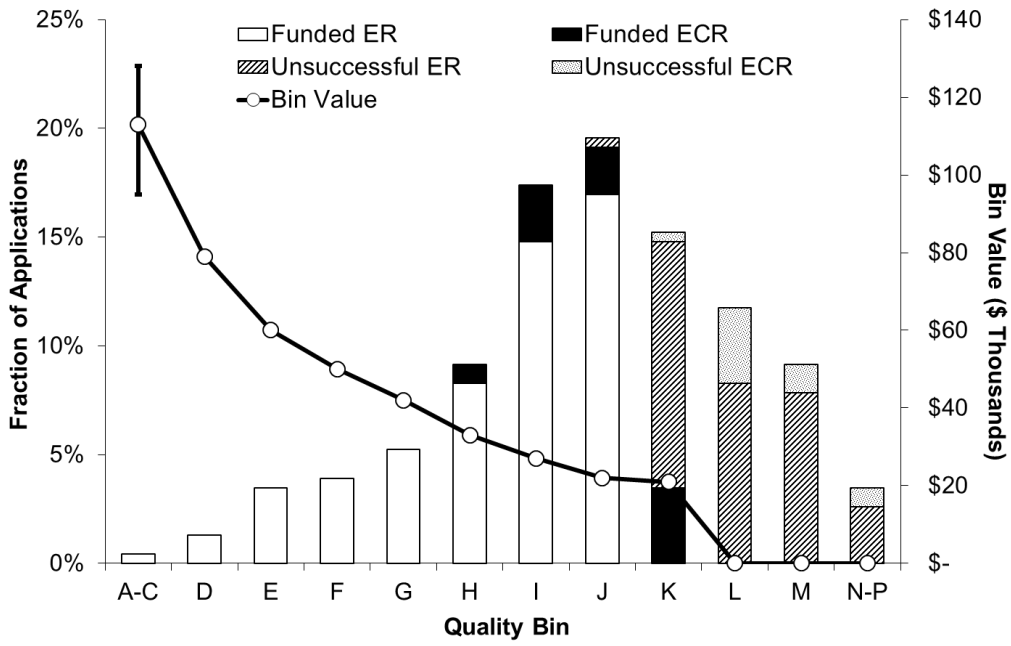
Figure 10 Distribution of the Fraction of Applications by Quality Bin for Each Evaluation Group, 2013 Competition
Gene, Cells and Molecules*



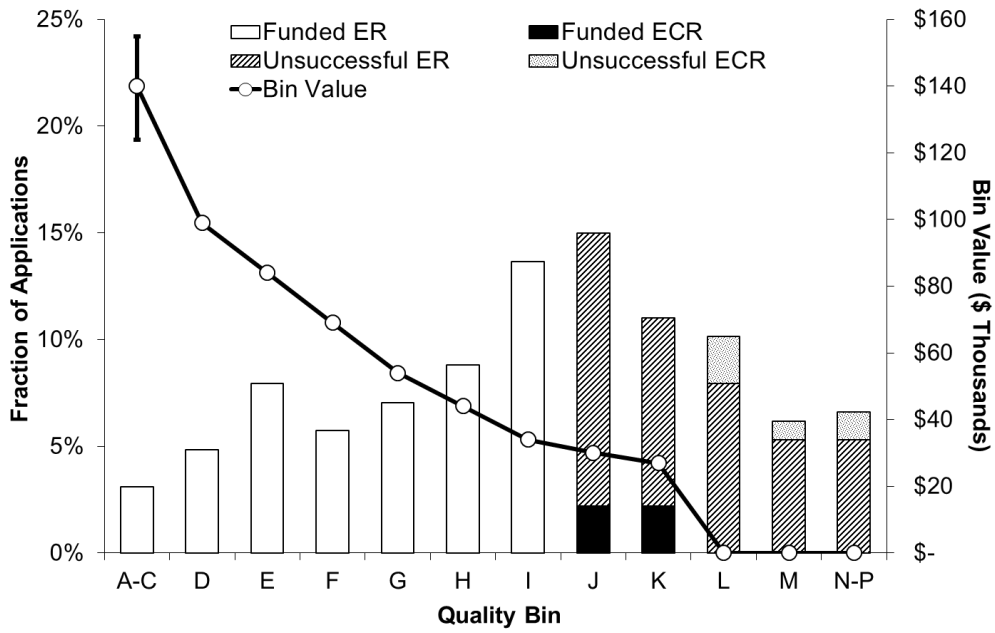
Biological Systems and Functions*



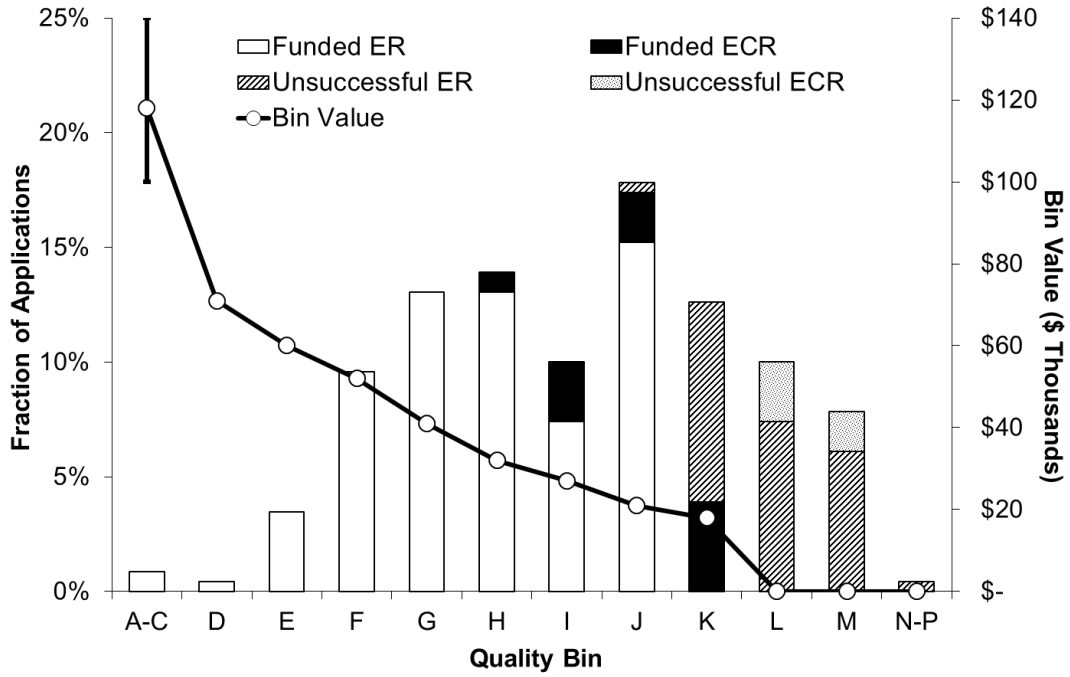
Evolution and Ecology*



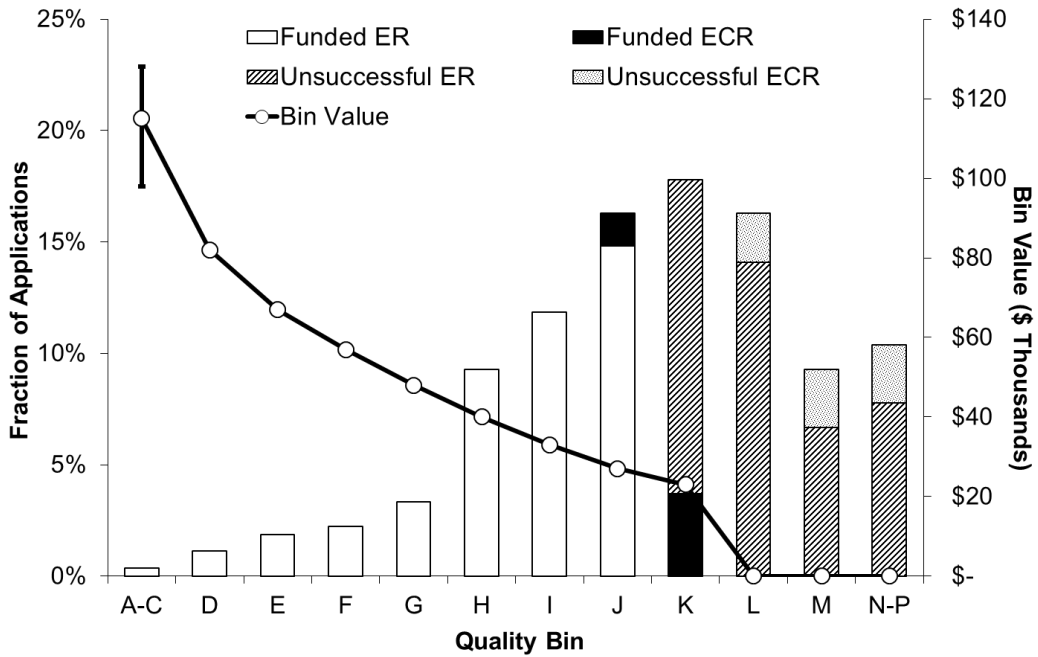
Chemistry



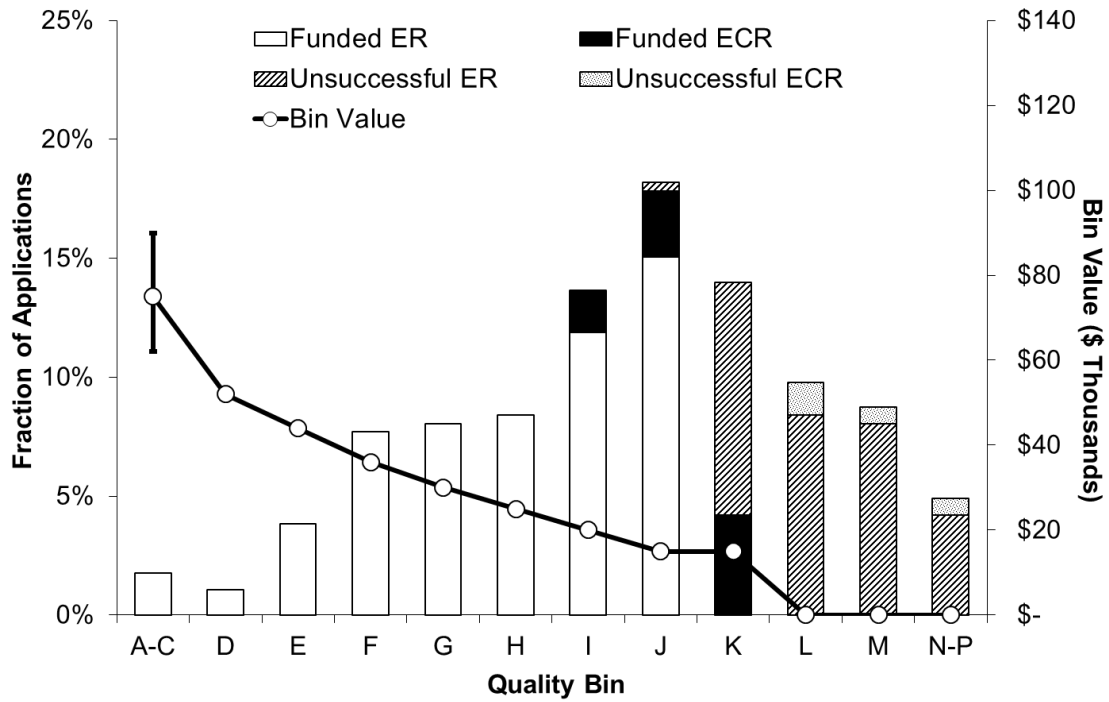
Physics* (excluding Subatomic Physics)



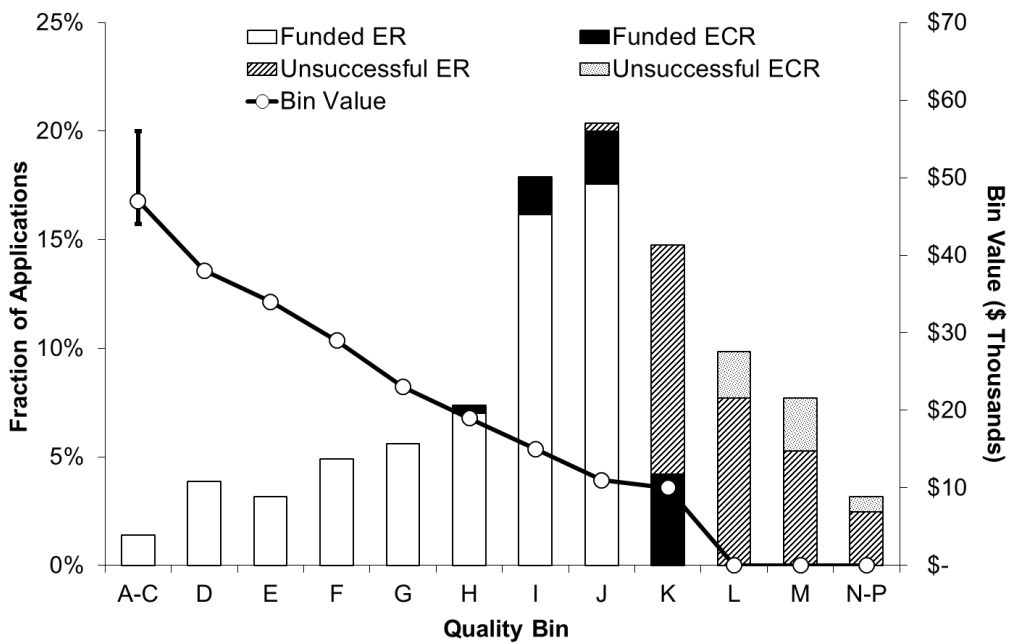
Geoscience*



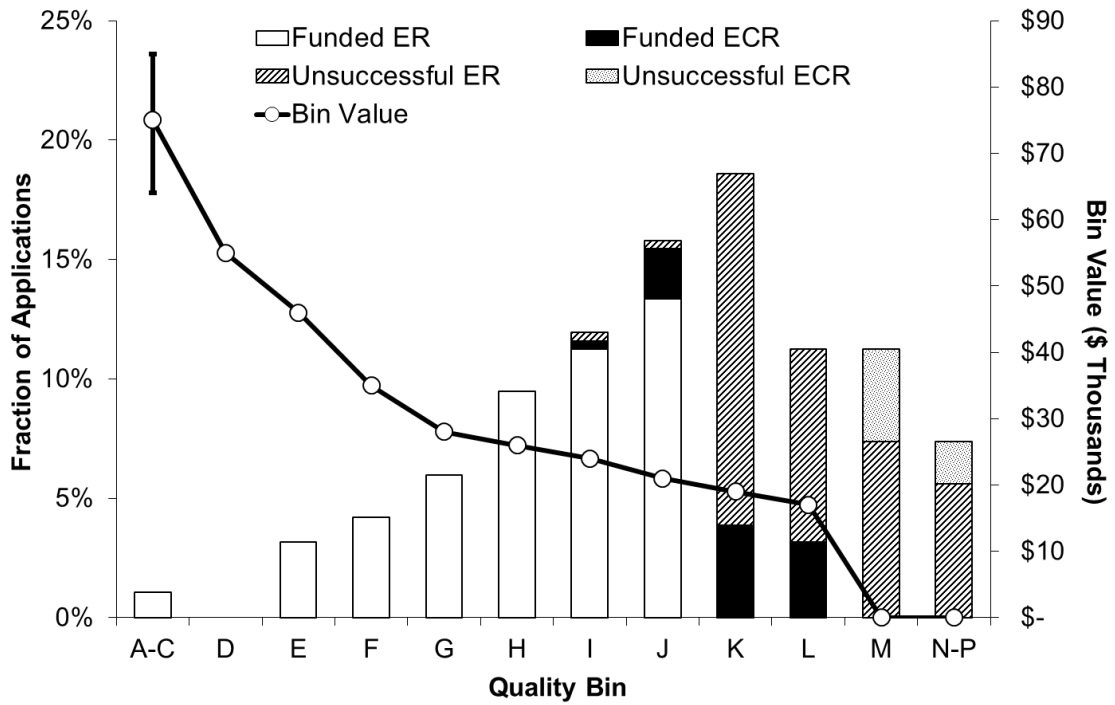
Computer Science



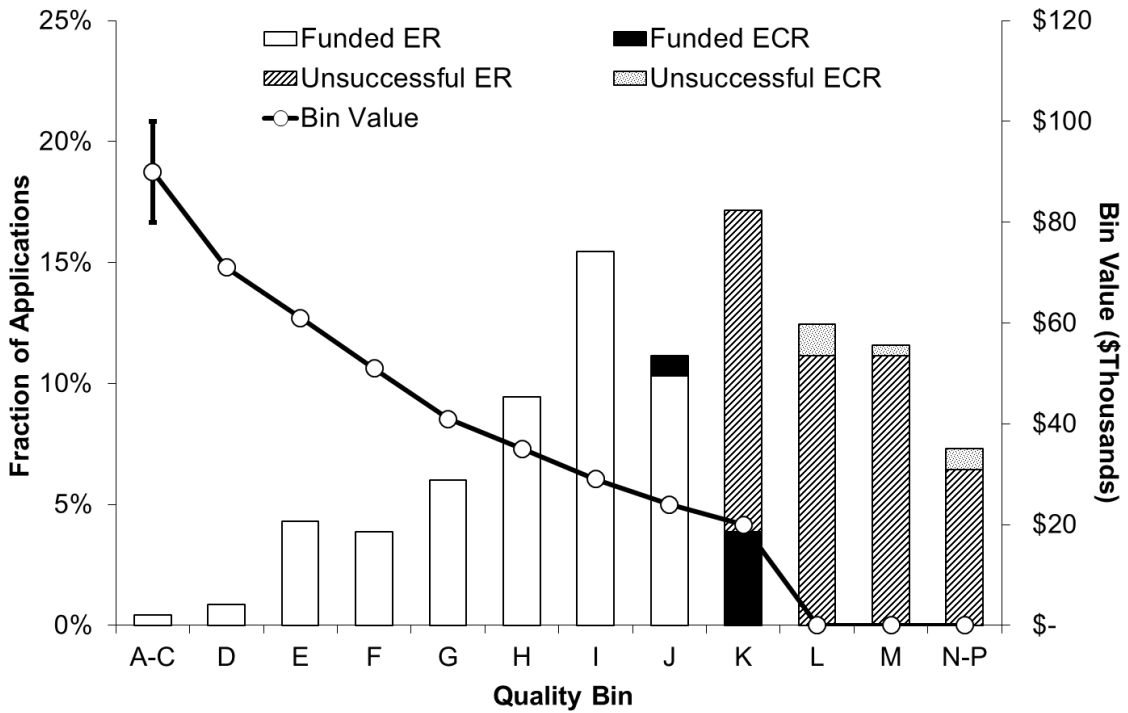
Mathematics and Statistics



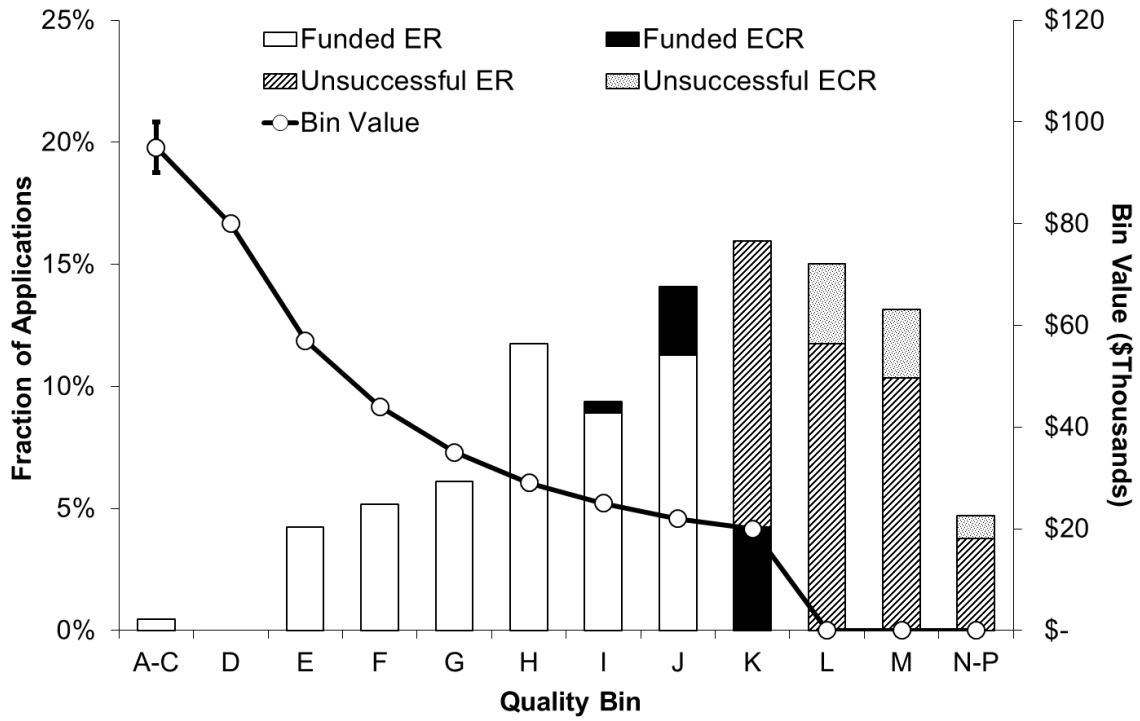
Civil, Industrial and Systems Engineering*



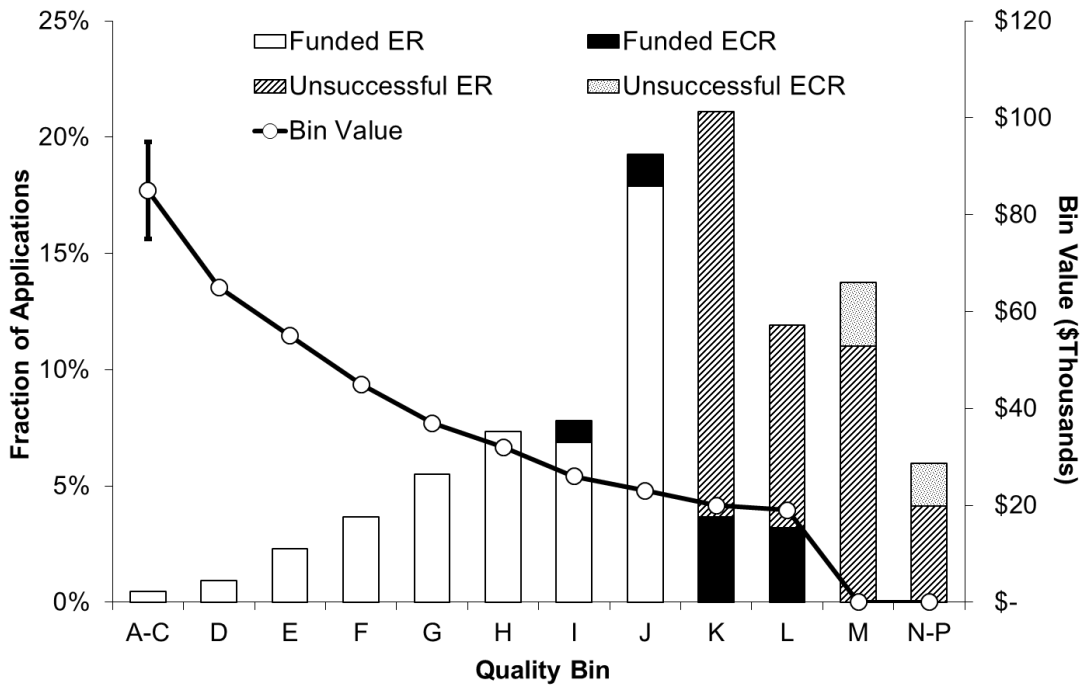
Electrical and Computer Engineering



Materials and Chemical Engineering*



Mechanical Engineering



SECTION 4 – STATISTICS BY GENDER

As part of NSERC's commitment to gender equality, processes and competitions are monitored to ensure that no potential bias affects the evaluation of any submission. Data has been pooled over four competitions to ensure sufficient numbers in each category. Regular analysis of the outcomes of the Discovery Grants competitions reveals that male and female applicants have similar success rates (60 percent for males, 57 percent for females); and average grants (\$32,915 for males; \$31,110 for females). The difference in average grant is largely attributable to the career stage of applicants, with a larger proportion of female applicants who are assistant or associate professors as compared to male applicants (Table 8).

Table 8 **Proportion of Applicants by Gender and Career Stage, 2010-13 Competitions**

	Gender	
	Male	Female
Assistant Professor	22%	36%
Associate Professor	29%	33%
Professor	39%	25%
Adjunct, Emeriti & Other	10%	6%

Similar results are observed for both males and females for applicants at equivalent career stages (Figure 11) and of the same applicant status (Figure 12). Success rates vary between the disciplines (Figure 13).

Figure 11 Discovery Grant Success Rate and Average Awarded Amount by Career Stage and Gender, 2010-13 Competitions

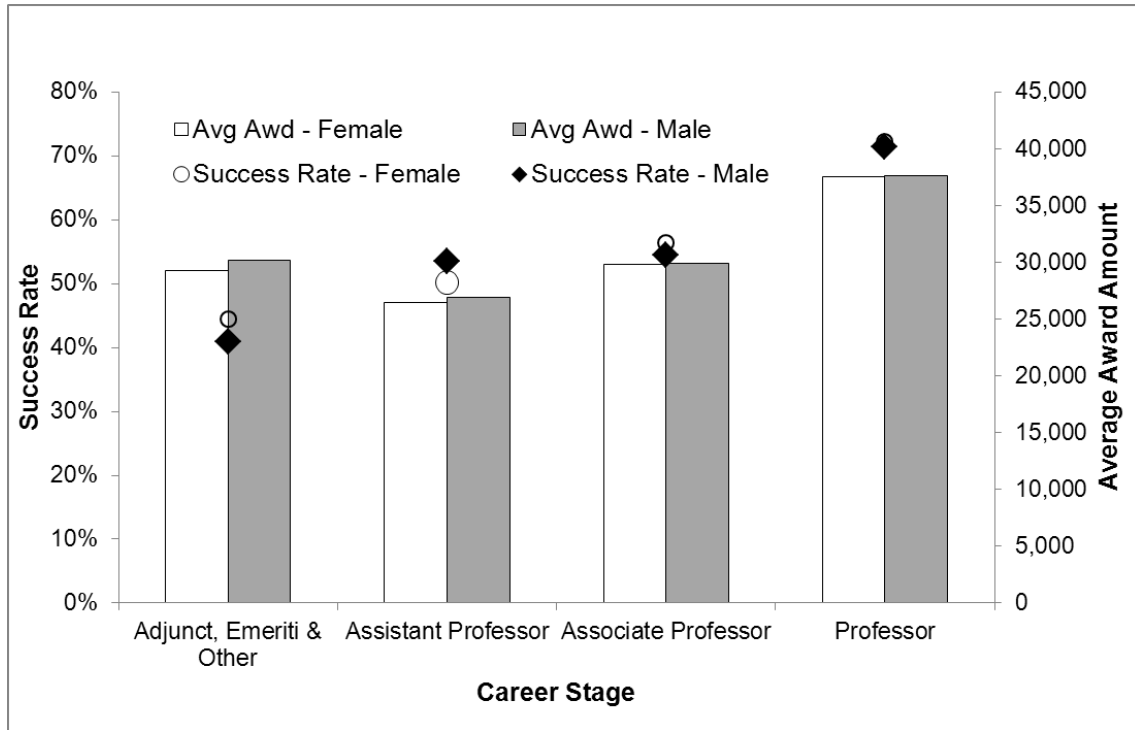


Figure 12 Discovery Grant Success Rate and Average Grant by Applicant Status and Gender, 2010-13 Competitions

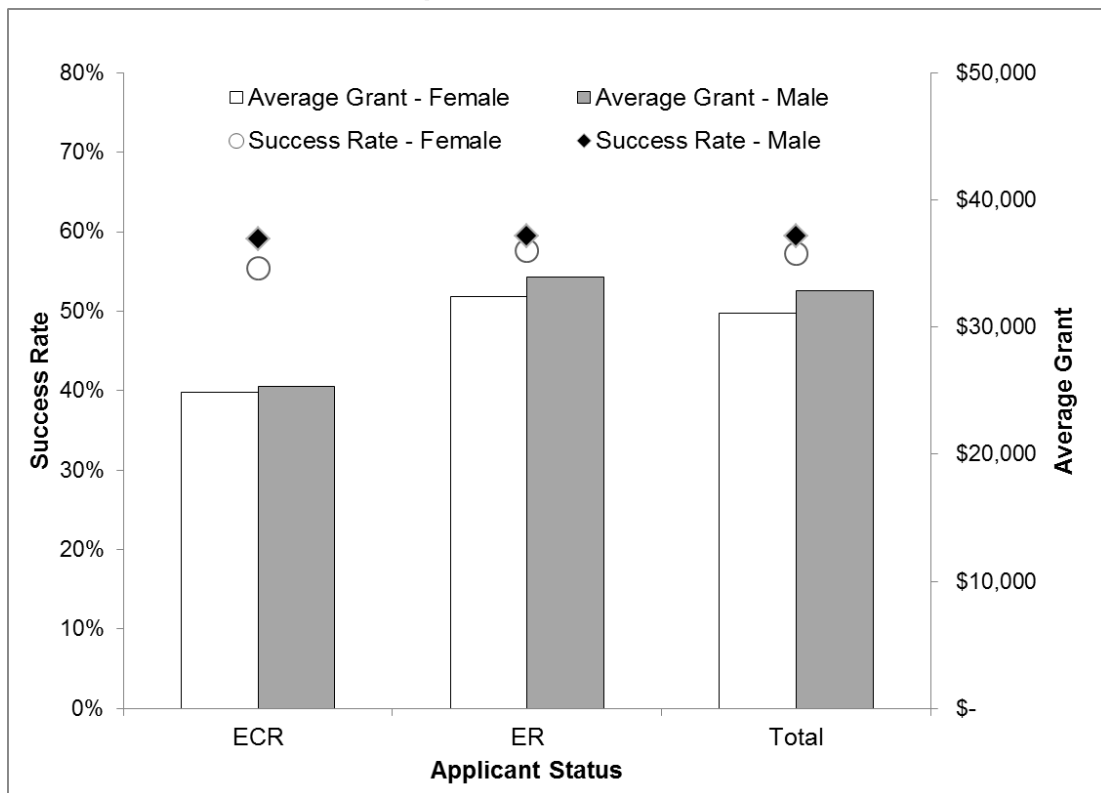
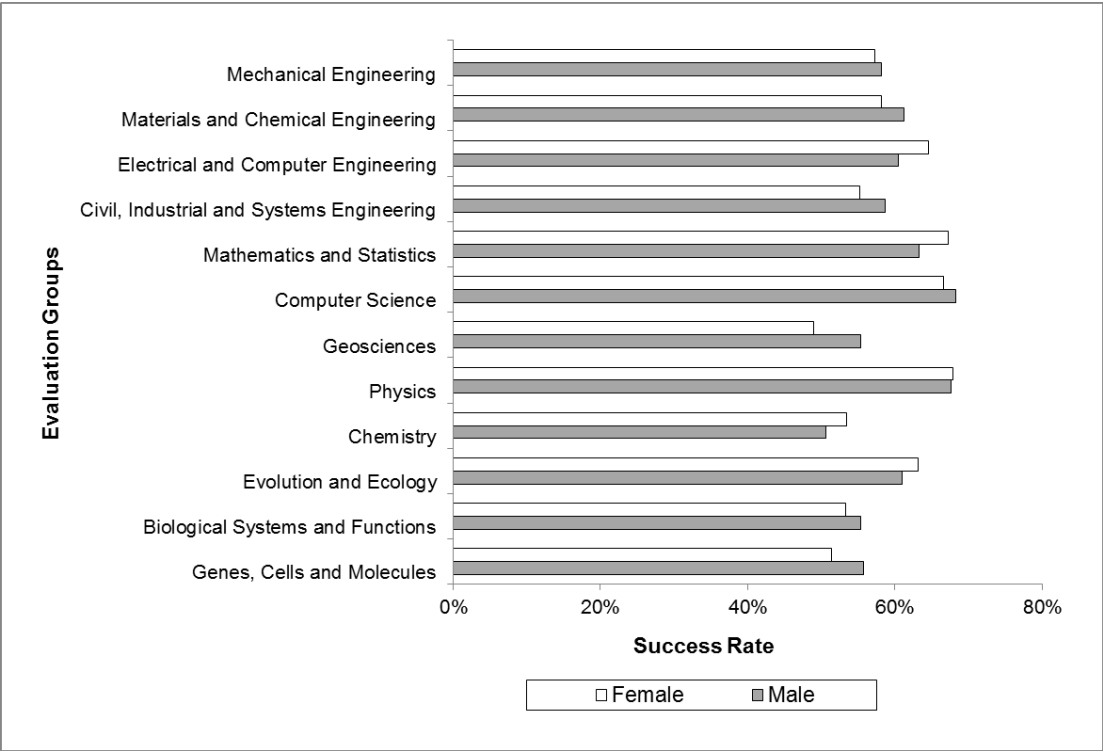


Figure 13 Discovery Grant Success Rate by Gender and Evaluation Group, 2010-13 Competitions



SECTION 5 – RESEARCH TOOLS AND INSTRUMENTS

Table 9 Overall Comparative Statistics, 2013 Research Tools and Instruments Competition

Requested Amount	\$101,958,582
Awarded Amount	\$24,343,810
Funding Rate	24%
Number of Applications	1,262
Number of Awarded Applications	295
Success Rate	23%