Equity and Working Climate Initiatives and Outcomes Pertaining to Tenure-Track Faculty at UBC Science: 2007–2010

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Introduction

In 2005, a UBC Science advisory committee was struck to examine the working climate for UBC Science's faculty members. Designed to better understand the concerns of women faculty, the committee examined numerous areas of faculty life, such as recruitment and hiring, promotion and tenure, retention, mentoring, salaries, merit awards, and work-life balance. In 2007, the advisory committee published *An Assessment of the Working Climate for Science Faculty at the University of British Columbia.*[A] A CCWESTT paper (2007), "Improving the Working Climate in the Faculty of Science at UBC," summarized the key findings of the working climate assessment (WCA) and described policy recommendations for improving gender diversity.[B] The main recommendations resulting from the 2007 WCA report[C] are given in the conclusion of this article.

A key component of the WCA's recommendations called for the collection of data to measure the effects of proposed diversity policy initiatives targeted toward tenure-track faculty in UBC Science.[1] Over the course of the following three academic years[2]—2007/08, 2008/09 and 2009/10—data were collected on recruitment and hiring, partner accommodation, promotion and tenure, leadership appointments, merit and retention cases, academic awards, and work-life balance. (While UBC Science is dedicated to tracking the status of other underrepresented groups such as visible minorities, Aboriginal peoples, and people with disabilities, we do not report on these groups in this paper due to confidentiality concerns.)

This paper highlights and summarizes the findings of this data collection and analyses. While the period studied is relatively brief and the data are therefore limited, these statistics provide new information on the status of women at UBC Science beyond that presented in the 2007 WCA report. As such they can be useful as a baseline for gauging progress and for comparison with other institutions.

[1] In the remainder of this report "Science faculty" refers to tenure-track/tenured faculty members at UBC Science.
[2] We use the July 1 – June 30 academic (if not otherwise indicated) because typical recruiting searches start and end between these dates; July 1 is a typical start and/or promotion date for a faculty position.

Summary of Findings

An executive summary of data from 2007 to 2010 on the status of women faculty at UBC Science is provided here and, when possible, a comparison is made with data from 2007.

Between 2007 and 2010, tenured and tenure-track women faculty increased from 70 to 83, which increased women faculty's representation at UBC Science from 19.1% to 22.1%; the breakdown by rank in 2007 and 2010 is provided in Table 1.

Faculty at UBC Science	2007/08			2010/11		
	Women		Total	Women		Total
	number	percent		number	percent	
Assistant Professors	16	21.6%	74	10	30.3%	33
Associate Professors	27	28.7%	94	23	22.3%	103
Full Professors	12	7.5%	160	26	13.9%	187
Instructors	15	38.5%	39	24	46.2%	52
Total	**70**	**19.1%**	**367**	**83**	**22.1%**	**375**

Table 1. Representation of women faculty appointed at UBC Science in tenured/tenure-track positions by rank in 2007/08 and 2010/11. Source: UBC Equity Office, 31-May-2008 and 31-Oct-2010

Forty-two percent of all new hires in the period were women. Partner accommodation cases were successfully negotiated for 12 cases over the period (58% of all requests).

Of the 95 cases that came before promotion and tenure committees, 24 were for women (25%). Of those 24, twenty-three (96%) were granted promotion and/or tenure, which equalled the rate at which men attained promotion and/or tenure. Between 2007 and 2010, women lagged men by an average of 1.5 years between date of hire and tenure.

From 2003 to 2007, there were no women in senior leadership positions in UBC Science, but in 2007-10, five of 13 senior faculty members appointed to such positions were women (38%). Until 2007, no women were appointed department head, associate head, associate dean or dean. By 2010, one associate dean and two department heads were women. An additional female department head will start her term in July 2011; the interim head for this department in 2010/11 was a woman.

Between 2007 and 2010, women and men were receiving merit pay in proportion to their representation on the faculty. In the same period, 31% of retention cases were women, who received 38% of the total of retention funding.

In 2007-2010, twenty-nine of 140 science-wide awards honouring research and teaching (tracked at UBC Science) were granted to women faculty (21%). Three of the seven new Canada Research Chairs appointed at UBC Science in the past three years were awarded to women (43%).

Recruitment and Hiring

Over the period 2007-10, UBC Science drafted, refined and implemented recruitment guidelines for department heads and committees engaged in candidate searches.[3] The new guidelines emphasize the importance of being pro-active in reaching out to prospective candidates, particularly women. Throughout the period, the dean or associate dean met with department heads and search committee chairs to discuss the guidelines and review the search progress and process.

In the three-year period in question, 16 of 38 new hires to UBC Science were women (42%) and 22 were men. Of these 16 women, nine were hired as instructors, six were hired as assistant professors, and one was hired as a full professor. Of the 22 men, six were hired as instructors, 12 were hired as assistant professors, one was hired as an associate professor, and three were hired as full professors. See Table 2 for gender breakdown by rank.

	Assistant Professors		Associate Professors		Full Professors		Instructors		Total
	number	percent	number	percent	number	percent	number	percent	
Women	6	33%	0	0%	1	25%	9	60%	16
Men	12	67%	1	100%	3	75%	6	40%	22
Total	**18**	100%	**1**	100%	**4**	100%	**15**	100%	**38**

Table 2. New hires of tenure-track/tenured faculty to UBC Science, 2007–2010, by rank and gender.

With a total of 38 new hires, the three years of 2007 to 2010 were a relatively modest hiring period that included a high proportion of instructor hires (40%), in comparison to roughly twice as many faculty appointments in the previous three-year period (including about 10% instructor hires). In 2004 to 2007, 13% percent of all new faculty to UBC Science were women. In 2007 to 2010, 30% of new faculty in the professorial ranks were women.

Partner Accommodation

The ability to identify positions for dual-career couples is widely understood as an important component to successfully recruit and retain excellent faculty and staff. UBC Science recognizes that supporting partner accommodation is critical to increasing the representation of women in the faculty body of Science, both as recruits and as partners. If partners have strong academic qualifications and are a good fit with department and faculty needs, UBC Science strives to accommodate them at UBC. Funding arrangements for these cases involved contributions from the departments of the partners, the Dean's office and, in some cases, the Provost's office. In cases where the partner has been hired into a tenure-track position, an upcoming faculty retirement slot is identified to provide the long-term funding for the position.

Between 2007 and 2010, UBC Science initiated partner accommodation cases for a total of 21 couples. Of these cases, 12 (57%) partners were successfully accommodated in addition to their partner's recruitment or retention. Ten people (out of 42) who were part of a couple or were

[3] UBC Science recruitment guidelines – www.science.ubc.ca/faculty

the partner of a faculty member already at UBC were hired into the professorial ranks in the three-year period. Of these 10, three were women hired as assistant professors in UBC Science. Within the total of seven women hired into the professorial ranks in Science in 2007-10, 43% had a partner who was already at UBC or was recruited to UBC in the 2007-10 period. Of the 16 men in total who were hired into the professorial ranks in Science in 2007-10, two (13%) were part of a couple hired.

Career Success and Recognition

Promotion and Tenure

Between 2007 and 2010, twenty-four women (25%) out of 95 cases came before promotion and tenure committees in UBC Science. [4] Of those 24, twenty-three (96%) were granted promotion and/or tenure. Of the 23 women, eight were promoted to associate professor, 13 to full professor and two to senior instructor. Seventy-one cases for men came before promotion/tenure committees. Of these, one case was withdrawn and 68 men (96%) attained promotion and/or tenure. Of the 68 men, 39 were promoted to associate professor, 25 to full professor and four to senior instructor (see Table 3).

Rank of Promotion Considered	Associate Professor	Full Professor	Senior Instructor	Total
Women	8	13	2	23
Men	39	25	4	68
Total	**47**	**38**	**6**	**91**

Table 3. Successful promotion and tenure cases at UBC Science, 2007–2010, by gender and rank.

In 2007, of UBC Science's 160 full professors, 148 (92.5%) were men and 12 (7.5%) were women. In October 2010, of UBC Science's 187 full professors, 161 (86.1%) were men and 26 (13.9%) were women, a discernible increase (see Table 1).

Between 2007 and 2010, it took women an average of 1.5 years longer (from the date of hire) to get tenure (and promotion to associate professor). In the same period women assistant professors took an average of 4.8 months of maternity/parental leave and women associate professors took an average of 3.8 months of maternity/parental leave, while men assistant professors took an average of 0.5 months of maternity/parental leave and men associate professors took an average of 1.1 months of maternity/parental leave. For 2007-10, women assistant professors had no months of sabbatical/study leave, while men assistant professors took an average of 0.3 months of such leave. Women associate professors took an average of 6.5 months of sabbatical/study leave and men associate professors took an average of 5.8 months of such leave. (Note that some professors take other types of leave that we do not report here.)

On average in the period, women assistant professors reached tenure and promotion to associate professor 9.7 years after attaining their PhD, women associate professors reached promotion to full professor 17.8 years after their PhD, and women instructors reached tenure as

[4] These data do not capture untenured faculty who left UBC prior to the tenure decision.

senior instructors 15.5 years after receiving their PhD. In the same period, it took men assistant professors 9.0 years from PhD to tenure and promotion, men associate professors 15.4 years to full professors, and men instructors 13.5 years from Ph.D. to senior instructors.

Leadership Appointments

Following Maria Klawe's departure as Dean of Science in 2002, and until 2007, no women served as department head, associate dean or dean in UBC Science. The data from 2007 to 2010 show a welcome difference. During the period, five of 13 senior faculty members appointed to senior leadership positions were women (38%), a relatively large percentage given that 21% of the total faculty and just 14% of the full professors are women. The five appointments comprise a UBC Science associate dean, two directors of research centres affiliated with UBC Science, and two heads of UBC Science's nine departments. (In addition, a third woman has been appointed as department head, her tenure starting July 2011.)

Merit Cases

Between 2007 and 2009, 519 faculty members—103 women (73% of all women faculty) and 416 men (74% of all men faculty)—received merit awards. Women received 19.5% of the total monetary value of the awards and men received 80.5%. In general, women and men shared equally in the distribution of merit and received merit in proportion to their representation on the faculty, suggesting no gender disparity (see Table 4). In 2009/10, no merit awards were granted due to ongoing negotiations between UBC and the UBC Faculty Association.

	Merit Award Recipients	**Proportion of Total Monetary Value**
Women	19.8%	19.5%
Men	80.2%	80.5%
Total	100.0% (519)	100.0%

Table 4. Merit cases and monetary value distribution in UBC Science, 2007–2009, by gender.

Retention Cases

According to the WCA report (2007), a total of 108 faculty members—12 women (11%) and 98 men—received retention funding during the period 1998-2005. On average, of those receiving retention funding, women received $2,975 less than men.

The period 2007-10 showed a much different situation. Thirty-six retention award recommendations—11 for women (31%) and 25 for men faculty—were submitted to and approved by the Provost's Office. With 38% of the total retention funding granted to women faculty, women received a larger than proportionate share of retention funding in that period. On average, of those receiving retention funding, women received $3,971 more than men.

Between 2007 and 2010, groups that include the highest percentage of women (instructors and senior instructors) did not receive retention funding at the same levels as those groups with fewer women (full, associate and assistant professors). During this period 15 full professors, 17 associate professors and five assistant professors received retention funding, while only one senior instructor, a woman, received retention funding. In general, stronger retention pressures come from the professoriate than from instructors.

Academic Awards and Canada Research Chairs

The WCA reports that between 1996 and 2006, no women and six men won the Distinguished University Scholar award (UBC no longer grants this award). Seven percent of the UBC Killam Research Fellowships and Research Prizes went to women, and 16% of the UBC Killam Teaching Prize recipients were women.[5] Since 2007, data on a larger number of awards (including UBC and internationally recognized awards) have been tracked and paint a more encouraging picture on the status of women and awards at UBC Science.

In 2007-10, of 140 tracked awards honouring research and teaching accomplished by UBC Science faculty, 29 were granted to women faculty (21%), which is in proportion to their representation on the faculty. Of the 18 teaching awards granted during that time period, eight went to women (44%), and of the 122 research awards granted, 21 went to women (17%). UBC awarded 49 of the 140 recognitions during the period; women won 16 of those awards (33%), see Table 5. In particular, 32% of the UBC Killam Research Fellowships and Research Prizes went to women faculty, and 38% of the UBC Killam Teaching Prize recipients were women. For a list of science-wide academic recognitions granted (and tracked) during the report period, see the Appendix.

In 2007, there were 40 Canada Research Chairs (CRCs) appointed at UBC Science, four of whom were women (10%). In 2010, there were 46 CRCs, of whom seven were women (15%). (One CRC left and is to be replaced). Three of the seven new CRCs between 2007 and 2010 were women (43%).

Recognition/Award	**Women**		**Men**		**Total**
	number	percent	number	percent	
Research Awards	21	17%	101	83%	122
Teaching Awards	8	44%	10	66%	18
Total Awards	**29**	**21%**	**111**	**79%**	**140**
UBC-granted Awards	16	33%	33	67%	49
CRC Residents in 2007	4	10%	36	90%	40
CRC Residents in 2010	7	15%	39	85%	46

Table 5. Research, teaching, and Canada Research Chair (CRC) awards received by UBC Science faculty members, 2007–2010, by gender.

[5] The Killam Research Fellowships and Research Prizes are among UBC's most prestigious research prizes for full-time, tenured or tenure-track faculty members at UBC.

Work-Life Balance and Collegial Culture

A number of policy changes and initiatives were adopted or undertaken in 2007-2010 to address issues of work-life balance and collegial culture for UBC Science's faculty members.

To address issues governing parental/maternal leave, all nine departments in the faculty drafted and adopted a set of departmental policies. Now, faculty who take parental leave can apply for funds to help maintain research momentum, to partly fund a post-doctoral fellow, or to fund the cost of collaborators visiting UBC during the period when the parent has less travel flexibility.

Six of nine departments finalized and adopted departmental policies on teaching reductions, with the remaining three departments currently working on draft policies.

Five departments have finalized their own written policy on mentoring and three others are currently developing one.

These policies were guided by UBC Science-wide principles that had been developed collaboratively in a cross-departmental process. UBC Science has provided links to these principles and other resources, such as information on child care.[6]

In addition, the dean and associate dean continue to support the significant efforts of numerous UBC entities on other work-life balance issues. As examples, in 2009, the Work-Life and Relocation Services Centre opened on the UBC campus, which assists with relocation, child care, and other family issues. UBC has also committed capital funds to expand its existing child care program and to renovate an on-campus building so as to expand child care offerings for toddlers and three-to-five-year-old children. A new housing financial assistance program for faculty and senior management staff is also now available.

Conclusion

The 2007 Working Climate Assessment (WCA) provided valuable information on actions that UBC Science needed to take in order to advance the representation and success of tenure-track women in the Faculty. The main recommendations of the assessment included: (i) develop transparent and equitable procedures and/or policies for hiring, promotion, retention, awards and merit reviews, (ii) promote effective leadership and establish effective mentoring programs to maximize faculty potential, (iii) review resource distribution in UBC Science and make this knowledge available to faculty members, and (iv) work closely with the UBC administration to promote a more supportive environment for work-life balance, including a focus on child care facilities and financial assistance for rising housing costs.

The dean of science, in leadership with key faculty and staff, has successfully acted on most of the recommendations of the WCA. In particular, since 2007 UBC Science has made progress in significantly increasing the rate at which women faculty are hired and promoted. It has seriously committed to honouring partner accommodation requests whenever possible. It has supported an environment for appointing women to leadership and CRC positions. Women are awarded merit and retention funding at or above their level of representation on the faculty.

[6] UBC Science faculty pages – www.science.ubc.ca/faculty

These are important steps that have led to greater equity and balance at UBC Science. In addition, they may serve as inspiration to other departments and faculties that seek to undertake similar initiatives.

However, much work remains to be done in the years ahead. Smit Quosai *et al.* reported that 33% of Canadian full-time faculty in science and engineering fields in 2005/06 were women[D], a figure that is significantly higher than UBC Science's current 22.1%. Of particular concern is the low representation of women assistant professors: even though 33% of assistant professors recruited in 2007-2010 were women, and about 30% of assistant professors at UBC Science currently appointed are women (November 2010), women continue to be significantly underrepresented at the assistant professor level relative to their representation in the pool of available workforce. According to Canadian workforce data[E], close to 40% of available university professors are women, and, according to the National Science Foundation (US)[F], 39% of PhD recipients in the natural sciences are women. In the biological sciences in particular, over 50% of PhD recipients currently are women. The work that UBC Science has committed to undertaking is a necessary and valuable step to redress these imbalances.

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[A] Assessment of the Working Climate for Science Faculty at UBC – Main Findings (May 2007): http://science.ubc.ca/sites/science.ubc.ca/files/faculty/diversity/awcmainfindings.pdf
Assessment of the Working Climate for Science Faculty at UBC – Full report (Dec 2007): http://science.ubc.ca/sites/science.ubc.ca/files/faculty/diversity/awcubcsciencefullreport.pdf

[B] Rachel Kuske, Carola Hibsch-Jetter, Simon Peacock and Anne Condon. Improving the Working Climate in the Faculty of Science at UBC. Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) Conference Proceedings, 2008: http://science.ubc.ca/sites/science.ubc.ca/files/faculty/diversity/CCWESTT.pdf

[C] Assessment of the Working Climate for Science Faculty at UBC – Executive Summary (May 2007): http://science.ubc.ca/sites/science.ubc.ca/files/faculty/diversity/awcexecsumm.pdf

[D] Trudy Smit Quosai, Valerie Davidson, Nadia Ghazzali, Cecilia Moloney and Julita Vassileva. Defining Equity Indicators for Benchmarking Women's Participation in Science and Engineering Faculties across Canada. Women in Engineering and Technology Research, PROMETEA International Conference Proceedings, 2009.

[E] 2006 Employment Equity Data Report, Statistics Canada, 2009: www.rhdcc-hrsdc.gc.ca/eng/labour/publications/equality/eedr/2006/docs/table05.pdf
These availability data do not provide a breakdown by field of expertise. While further research is being undertaken to determine the representation of university professors in the life and physical sciences, preliminary findings suggest that women are more highly represented in life sciences, particularly, in biological sciences.

[F] National Science Foundation. Women, Minorities, and Persons with Disabilities in Science and Engineering, 2011: www.nsf.gov/statistics/wmpd/tables.cfm

Appendix

Research and Teaching Awards Received by Tenure-Track Faculty at UBC Science, 2007-2010*

Research Awards

A.P. Sloan Research Fellowship
Gerhard Herzberg Canada Gold Medal for Science and Engineering
Royal Society of Canada Fellow
Killam Research Fellowship (Canada Council for the Arts)
E.W.R. Steacie Memorial Fellowship (NSERC)
Steacie Prize (E.W.R. Steacie Memorial Foundation)
Canadian Institute for Advanced Research Fellowship
UBC Killam Research Fellowship
UBC Killam Research Prize
UBC Charles A. McDowell Award

Teaching Awards

UBC Killam Teaching Award

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*The statistics reported in this article are based on these science-wide and other (not listed) prestigious teaching and discipline-specific research recognitions awarded during the period. Awarding organizations included among others:

Canadian
Canada Council for the Arts
Canadian Association of Physicists
Canadian Institute for Advanced Research
Canadian Mathematical Society
Canadian Society for Chemistry
Canadian Society for Microbiologists
Canadian Society of Plant Physiologists
Canadian Society of Zoologists
Centre de Recherches Mathématiques
Geological Association of Canada
E.W.R. Steacie Memorial Foundation/ National Research Council
Natural Sciences and Engineering Research Council of Canada (NSERC)
Royal Society of Canada

International
National Academy of Education (US)
Alfred P. Sloan Foundation
American Geophysical Union
American Physiological Society
Association of Computing Machinery
Botanical Society of America
International Ecology Institute
International Foundation for Research in Paraplegia
Phytochemical Society of North America
Royal Society of Chemistry
Society for Industrial and Applied Mathematics
Society for Experimental Biology