



DIVERSITY AND EQUITY IN UBC SCIENCE Tenure-stream Faculty – Progress Report 2019

Preamble

It is foundational to our values that fairness for all in the faculty, irrespective of race, sex, ability, sexual orientation and gender identity, and any other ground for potential discrimination¹, is a basic human right and is consistent with optimal progress in UBC Science. Our goal for achieving equity and inclusion is through a shift in working culture firmly built on robust processes and policies. Efforts of the last few years have shown positive outcomes in diverse and equitable faculty hiring and career progress. Looking ahead, we intend to embrace an intersectional lens on equity issues and have formed an Inclusion, Diversity and Equity Advisory (IDEA) group to help shape and expand EDI efforts across students, staff and faculty. We will also direct efforts at following the UBC Inclusion Action Plan and the UBC Indigenous Strategic Plan (ISP).² Current efforts in Indigenizing our curriculum and other goals in the ISP are being assessed and prioritized for the coming year.

Diversity in tenure-stream faculty

Representation of designated employment equity groups

In 2019, the Faculty of Science (FoS) had 417 tenure-stream faculty members including 28% women, as compared to 15% and 21% women in 2000 and 2009, respectively. Science faculty responding to the 2019 UBC Employment Equity (EE) survey identified as follows.³

Table 1

Employment equity group	Representation
Racialized persons	16.7%
Indigenous peoples (NA ^m)	<1%
Persons with disabilities	1.6%
2SLGBTQ+ persons	7.7%
Women	27.6%

¹ See [Human Rights Code Act of British Columbia](#) [version referenced: as of 10-June-2020]

² [UBC Inclusion Action Plan](#); [Indigenous Strategic Plan](#)

³ 311 (74%) out of total Science faculty members (tenure-stream) responded to the [UBC Employment Equity Survey](#).

Term “racialized persons” used in this report replaces “visible minority” (from Canada’s [Employment Equity Act](#) (EEA), 1995).

Term “Indigenous peoples” from North America (NA^m) replaces EEA’s “Aboriginal” peoples.

Representation of women determined for 100% tenure-stream faculty in FoS (source: Human Resources Management System (HRMS), UBC, snapshot as of 1-Nov-2019).

Representation of racialized faculty

Racialized faculty: Current representation in UBC Science by rank/stream⁴

In 2019, 52 (16.7%) tenure-stream faculty self-identified as members of a visible minority (racialized faculty) out of 311 Employment Equity survey respondents.⁵

Table 2

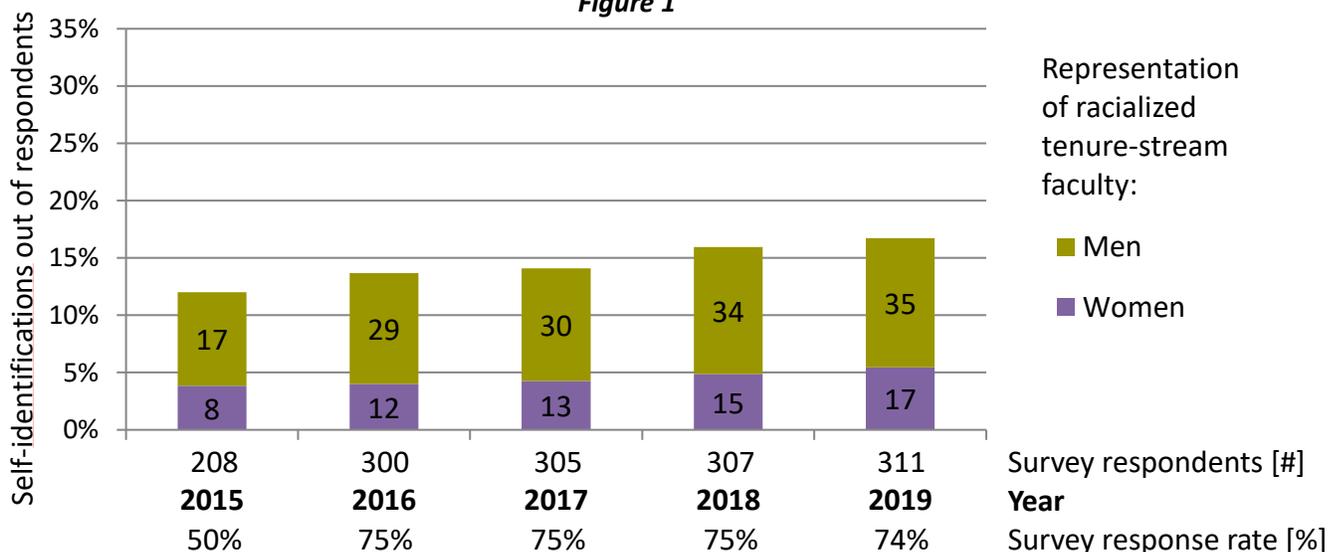
Rank (faculty 2019)	Racialized	Total	% Racialized
Assistant Professor	11	42	26%
Associate Professor	n.s.	52	n.s.
Professor	27	169	16%
Assistant Professor of Teaching	n.s.	4	n.s.
Associate Professor of Teaching	7	32	22%
Professor of Teaching	n.s.	12	n.s.
Grand total	52	311	17%
<i>Research stream</i>	<i>[n.s.]</i>	<i>263</i>	<i>16%</i>
<i>Educational-leadership (EL) stream</i>	<i>11</i>	<i>48</i>	<i>23%</i>

For reference, the candidate pools of past UBC Science faculty searches (9-year-average) included 29% racialized candidates in research-stream and 40% in EL-stream searches (see Table 3).

Racialized faculty: Trend 2015-2019⁶

While the representation of racialized faculty has slowly increased over the past decade and reached general Canadian Labour Market Availability (see page 9), there remains a significant gap when compared to post-doctoral fellow and Science faculty candidate pools, most pronounced for senior research-stream professors. A higher representation among junior (assistant) professors may reflect the impact of a culture shift and new, equity-seeking recruiting practices in most recent hiring seasons.

Figure 1



⁴ Sources: UBC EE survey, 1-Nov-2019 snapshot (UBC Science faculty respondents); NSF, 2017 (PDF pool); average results of 112 diversity surveys conducted by UBC Science for tenure-stream faculty candidates in nine hiring seasons (2010/2011-2018/2019). n.s.: number suppressed if 1-3, for reasons of privacy

⁵ 311 (74%) out of 418 Science faculty members (tenure-stream) responded to the UBC EE Survey.

⁶ Source: UBC EE survey, annual snapshots 2015-2019 as of November 1

Racialized faculty: Current representation by department

In 2019, the representation of racialized tenure-stream faculty varies slightly between nine departments (Table 3), and is lower than in the available pools for five departments. In four departments and the three research institutes, the representation of racialized tenure-stream faculty does not differ from their respective pools. The NSF post-doctoral fellow (PDF) pool data were not used for benchmarking (Figure 2) since US definition of visible minorities does not align with that in Canada. Relevant Canadian PDF demographics are not available. Hence, the most proximate relevant data consistent with the Employment Equity Act (UBC Science, average applicant pool representations) were used.

Table 3

Unit	Representation of Racialized faculty ⁷								
	Tenure-stream faculty	Educational leadership	Research stream				Pool		
	Total	Total	Total	Asst. Prof.	Assoc. Prof.	Full Prof.	PDF	Candidates	
								Re-search	Edu Lead
FoS	17% (52/311)	23% (11/48)	16% (41/263)	26%	n.s.	16%	32%	29% (2138/ 7490)	40% (517/ 1288)
EOAS	0%	0%	0%	0%	0%	0%	23%	23%	42%
Chem	20%	n.s.	17%	0%	0%	25%	35%	32%	45%
PhAs	n.s.	0%	n.s.	n.s.	0%	0%	28%	22%	32%
Bota	20%	n.s.	17%	n.s.	n.s.	0%	41%	23%	48%
Milm	n.s.	0%	n.s.	0%	0%	n.s.	33%	32%	47%
Zool	21%	n.s.	19%	n.s.	0%	n.s.	36%	19%	42%
CpSc	19%	n.s.	21%	n.s.	n.s.	26%	35%	38%	46%
Math	21%	n.s.	19%	n.s.	0%	19%	21%	27%	37%
Stat	31%	n.s.	n.s.	0%	0%	n.s.	38%	35%	29%
IOF	n.s.	--	n.s.	0%	0%	n.s.	32%	36%	--
IRES	40%	--	40%	n.s.	n.s.	n.s.	32%	20%	--
MSL	n.s.	n.s.	n.s.	--	0%	n.s.	39%	39%	--

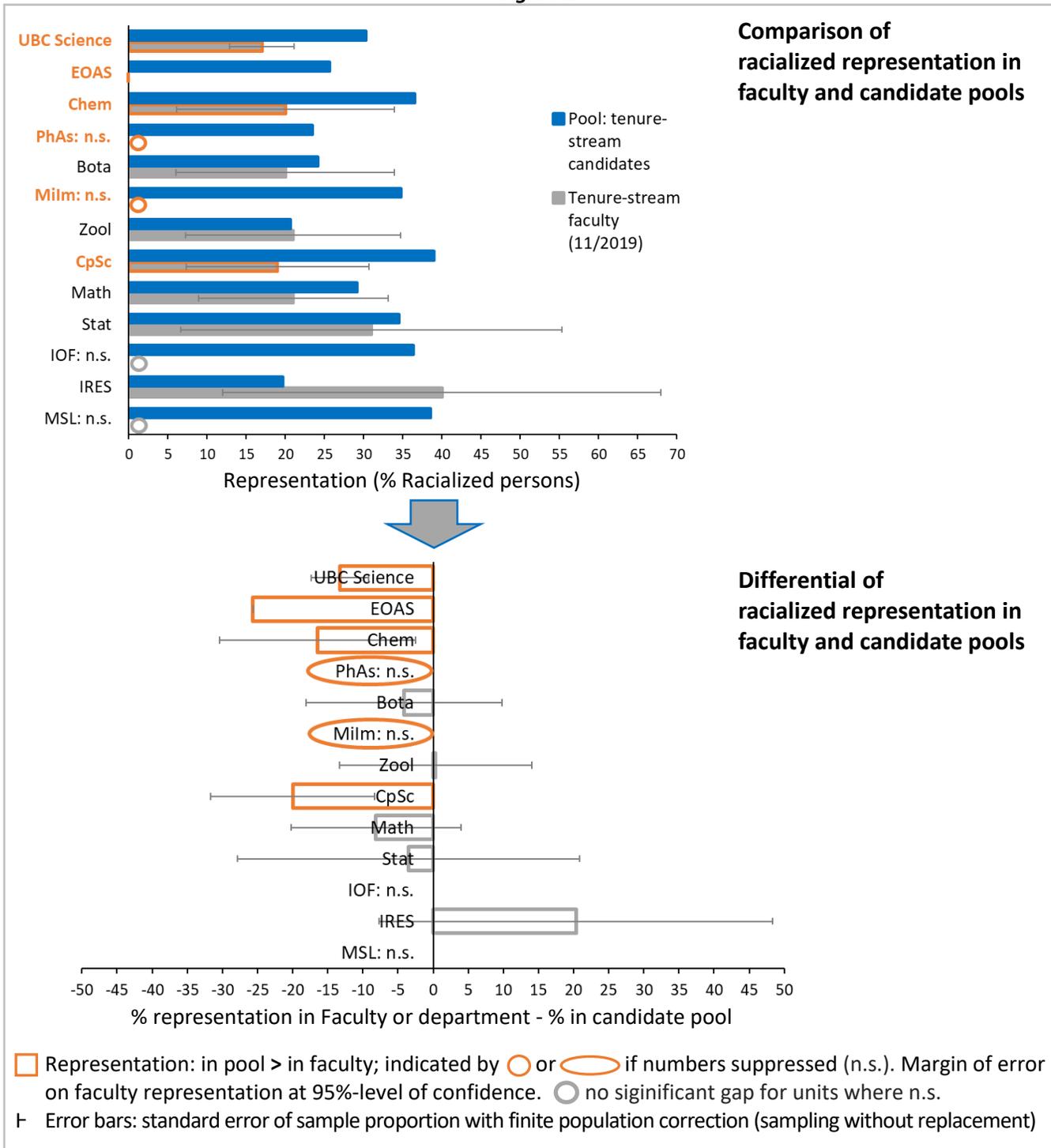
⁷ Sources: Faculty: UBC EE Survey, 1-Nov-2019 snapshot of UBC Science faculty respondents; Pool – PDF: NSF, 2017; Pool – Candidates: 112 candidate diversity surveys conducted by UBC Science in nine hiring seasons (2010/11-2018/19) - 90 surveys for Research stream, 22 for EduLead. Unit: 9 departments (Bota: Botany, Chem: Chemistry, CpSc: Computer Science, EOAS: Earth, Ocean & Atmosphere Sciences, Math: Mathematics, Milm: Microbiology & Immunology, PhAs: Physics & Astronomy, Stat: Statistics, Zool: Zoology) and 3 research institutes (IOF: Institute for Oceans & Fisheries, IRES: Institute of Resources, Environment & Sustainability, MSL: Michael Smith Laboratories). Science PDF pool adopted for interdisciplinary units IOF and IRES. -- no educational-leadership faculty appointed. n.s.: numbers suppressed if 1-3, for reasons of privacy.

Racialized faculty: Gap analysis⁸

Representation of racialized people in current tenure-stream faculty (UBC EE survey respondents) was benchmarked against multi-year average of faculty candidate pools (by unit).

In five out of twelve units, there is a statistically significant representation gap between current tenure-stream faculty and the candidate pool for members of racialized groups.

Figure 2



⁸ Sources: Faculty: UBC EE Survey, 1-Nov-2019 snapshot of faculty respondents, with numbers suppressed if 1-3, for reasons of privacy; Pool – Candidates: 112 candidate diversity surveys conducted by UBC Science in nine hiring seasons (2010/11-2018/19).

Representation of women faculty

Women faculty: Current representation in UBC Science by rank/stream⁹

Table 4

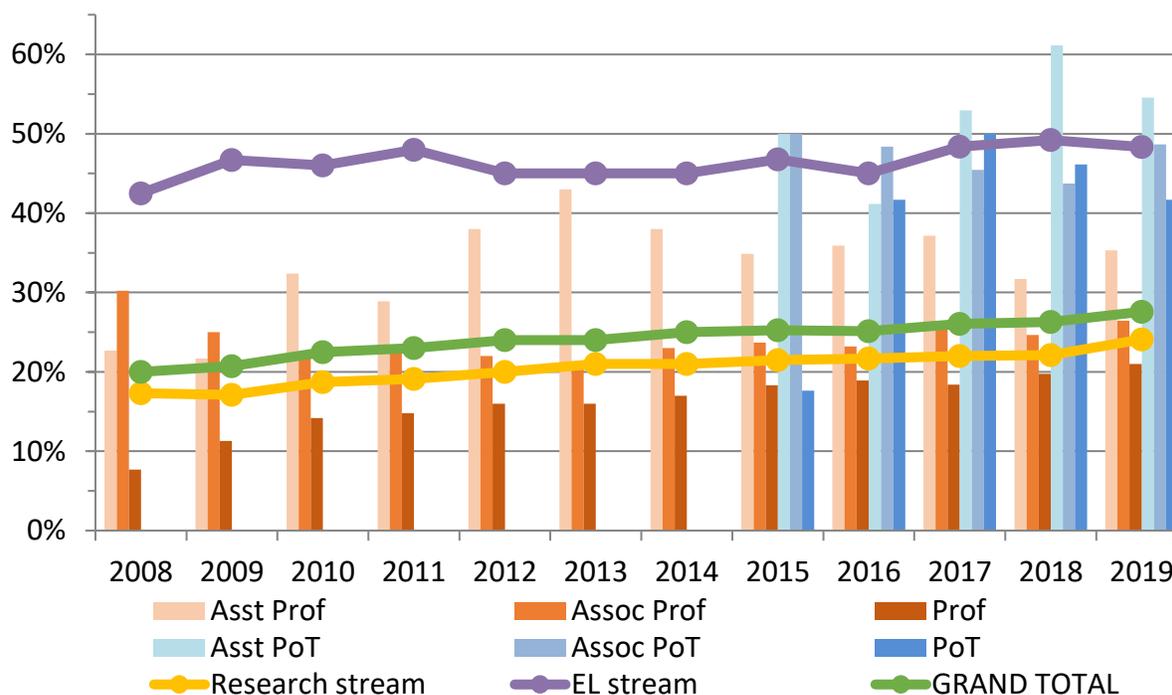
Rank (faculty 2019)	Women	Men	Total	%Women
Assistant Professor (Asst. Prof.)	18	33	51	35%
Associate Professor (Assoc. Prof.)	18	50	68	26%
Professor (Prof.)	50	188	238	21%
Asst. Prof. of Teaching	6	5	11	55%
Assoc. Prof. of Teaching	18	19	37	49%
Prof. of Teaching (PoT)	5	7	12	42%
GRAND TOTAL	115	302	417	28%
<i>Research stream</i>	<i>86</i>	<i>271</i>	<i>357</i>	<i>24%</i>
<i>Educational leadership (EL) stream</i>	<i>29</i>	<i>31</i>	<i>60</i>	<i>48%</i>

For reference, the PDF pool included 38% women; the faculty candidate pools (9-year- average) included 23% women in research-stream and 29% women in EL-stream searches (see Table 5).

Women faculty: Trend 2008-2019, by rank and stream¹⁰

Since 2008, the Faculty of Science has seen a slow but steady increase in the percentage of women faculty in the research stream while the educational-leadership stream has been and remained constant at a high level around an average of 45%. The representation of women among full professors (research stream) has increased substantially from 3% in 2000 to 8% in 2008 to 21% in 2019.

Figure 3



⁹ Research stream: Asst. Prof., Assoc. Prof., Prof.; EL stream: Asst. PoT, Assoc PoT, PoT; Sources: Faculty: UBC HRMS, 1-Nov-2019 (faculty demographics); PDF pool: National Science Foundation (NSF, USA), 2017; FoS candidate pool: 112 candidate diversity surveys conducted by UBC Science in nine hiring seasons (2010/11-2018/19) - 90 surveys for Research stream, 22 for EduLead.

¹⁰ Source: UBC HRMS, annual reports as of Nov. 1

Women faculty: Current representation by department

In 2019, the representation of women varied widely between fields of research, in part correlating with variations in the available pools. In three of the twelve units, the representation of women tenure-stream faculty is lower than in the available post-doctoral fellow (PDF) pools. The NSF PDF data were used for the available pool since this representation is most consistent with the Employment Equity Act (relevant Canadian PDF demographics not available).

Table 5

Representation of Women ¹¹									
UBC Science faculty							Pool		
	Tenure-stream faculty	Educational leadership		Research stream			PDF	Candidates	
Unit	Total	Total	Total	Asst. Prof.	Assoc. Prof.	Full Prof.		Re-search	Edu Lead
FoS	28% (115/417)	48% (29/60)	24% (86/357)	35% (18/51)	26% (18/68)	21% (50/238)	38%	23%	29%
EOAS	29%	60%	25%	17%	60%	20%	38%	31%	30%
Chem	22%	50%	14%	0%	11%	17%	26%	21%	36%
PhAs	17%	0%	19%	40%	29%	13%	20%	16%	17%
Bota	47%	75%	38%	50%	60%	23%	42%	32%	38%
Milm	38%	50%	35%	100%	0%	25%	48%	26%	44%
Zool	47%	67%	40%	38%	33%	42%	45%	36%	51%
CpSc	23%	36%	20%	0%	8%	30%	21%	20%	28%
Math	16%	29%	15%	13%	25%	14%	23%	16%	23%
Stat	42%	67%	38%	60%	67%	13%	24%	34%	25%
IOF	13%	--	13%	--	0%	14%	38%	38%	--
IRES	60%	--	60%	100%	50%	57%	38%	25%	--
MSL	13%	50%	8%	--	0%	9%	37%	20%	--

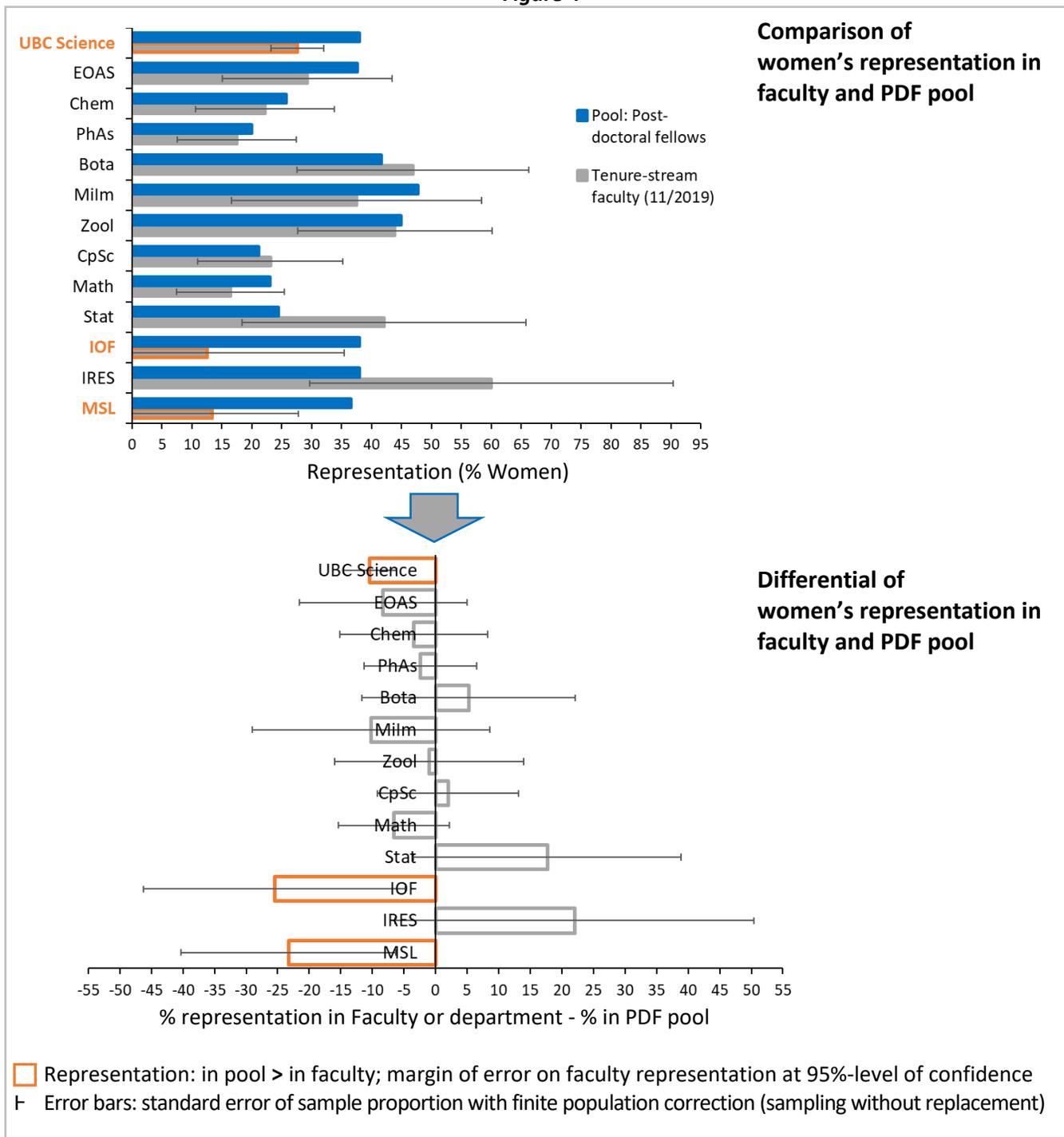
¹¹ Sources: Faculty: UBC HRMS, 1-Nov-2019; Pool – PDF: NSF, 2017; Pool – Candidates: 112 candidate diversity surveys conducted by UBC Science in nine hiring seasons (2010/11-2018/19) - 90 surveys for Research stream, 22 for EduLead. Unit: 9 departments (Bota: Botany, Chem: Chemistry, CpSc: Computer Science, EOAS: Earth, Ocean & Atmosphere Sciences, Math: Mathematics, Milm: Microbiology & Immunology, PhAs: Physics & Astronomy, Stat: Statistics, Zool: Zoology) and 3 research institutes (IOF: Institute for Oceans & Fisheries, IRES: Institute of Resources, Environment & Sustainability, MSL: Michael Smith Laboratories). Science PDF pool adopted for interdisciplinary units IOF and IRES. -- no educational-leadership faculty appointed.

Women faculty: Gap analysis¹²

Representation of women in current tenure-stream faculty was benchmarked against Post-doctoral Fellow (PDF) pool (by unit and field of research, respectively).

In two out of twelve units, the representation of women in current tenure-stream faculty lags behind the available PDF pool. Comparison of research-stream faculty with PDF pool shows one more unit (Chemistry) with a statistically significant gap.

Figure 4



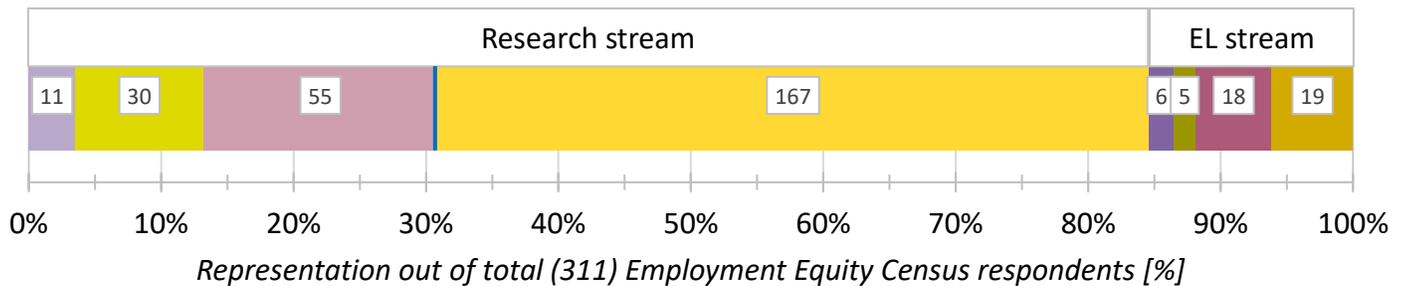
¹² Sources: Faculty: Human Resources Management System (HRMS), UBC, snapshot as of 1-Nov-2019.; PDF Pool: NSF, 2017 (response rate: 97%).

Intersectional diversity of faculty

Current racialized and white tenure-stream faculty (2019) by sex

Intersectionality refers to the overlap of a person’s (or a group’s) social and ethnic identities in two or more equity groups.¹³ The two largest under-represented equity groups in Science are women and racialized faculty. The intersectional group of racialized women faculty includes 5% of tenure-stream faculty (among 311 UBC EE survey respondents).

Figure 5



■ R(VM) Women Research ■ R(VM) Men Research ■ White Women Research ■ White Men Research ■ R(VM) Women EduLead ■ R(VM) Men EduLead ■ White Women EduLead ■ White Men EduLead ■ Aboriginal faculty (n.s.)

R(VM): Racialized (Visible Minority) faculty – Research: faculty in research stream – EduLead: faculty in educational-leadership stream – n.s.: number suppressed if 1-3, for reasons of privacy – Aboriginal faculty: self-identification as Aboriginal in the UBC Employment Equity Survey included treaty, status/non-status, registered/non-registered North American Indians and/or members of First Nations, Métis or Inuit. The blue bar indicates that a suppressed number of faculty members self-identified as Aboriginal, but it does not represent their actual proportion.

¹³ Term “intersectionality” initially coined by Kimberlé Crenshaw (1989): *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*. In: University of Chicago Legal Forum: Vol. 1989: Iss. 1, Article 8; available at: <http://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8>

Leadership and intersectional diversity¹⁴

Over past twenty years, white women served 20% person years (PY) as Dean, 24% as Associate Dean and 11% as department Head or Director. To date, no racialized woman has been appointed in one of these leadership positions; racialized men served 3% PY as Assoc. Dean 3%, and 4% PY as Head or Director.¹⁵

Figure 6

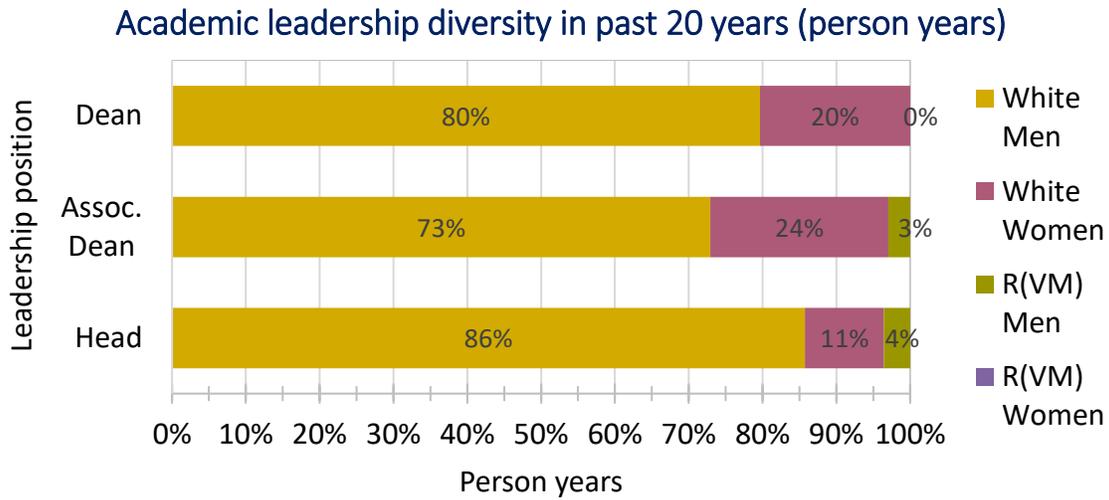
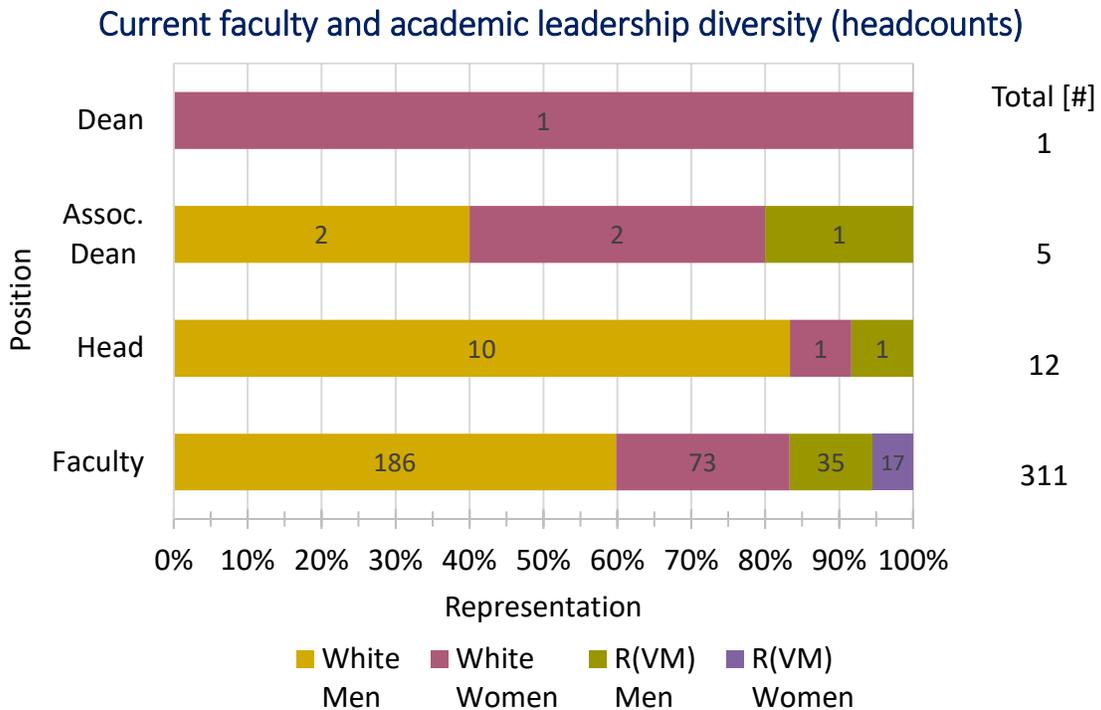


Figure 7



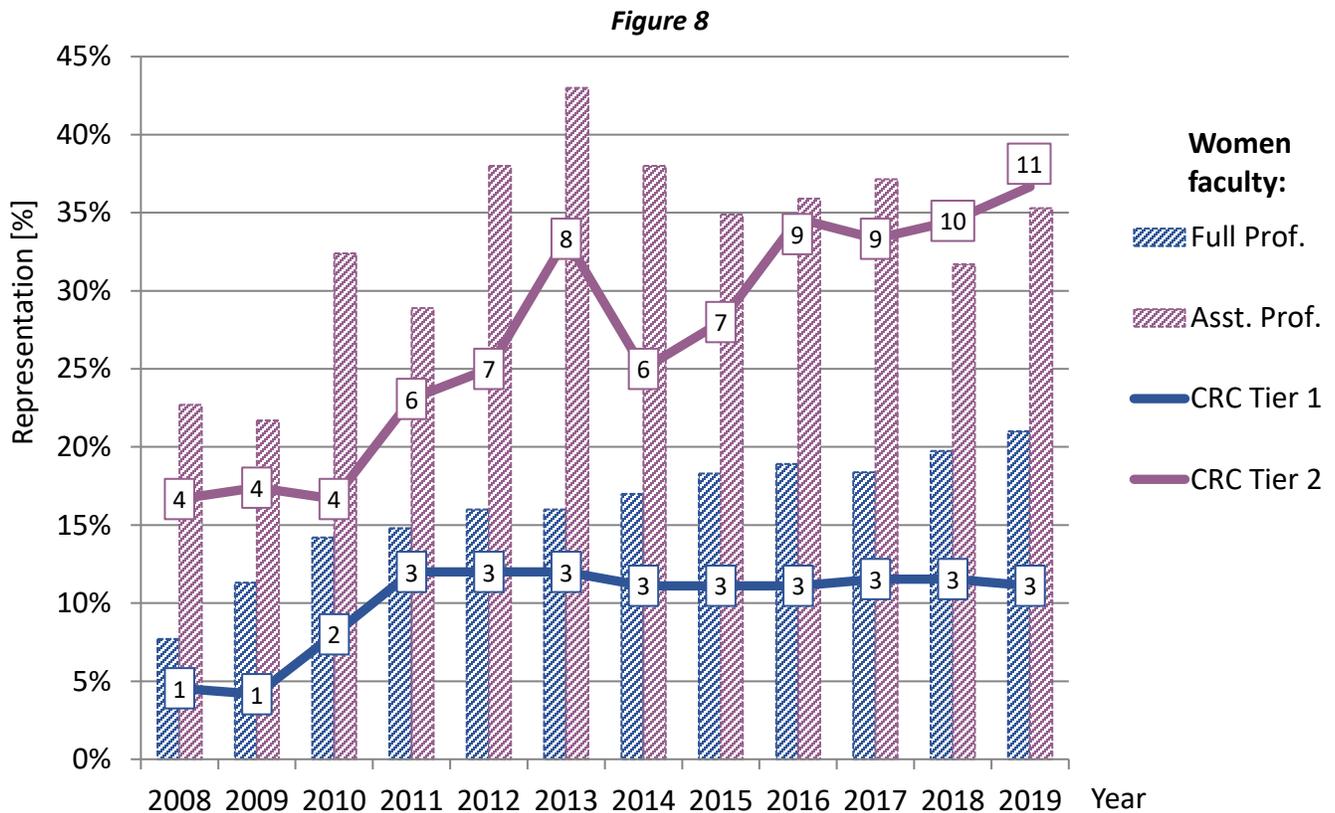
¹⁴ Sources: UBC EE Survey and HRMS for tenure-stream faculty (1-Nov-2019 snapshots); direct observations for academic leadership 2000/01-2019/20.

¹⁵ "Head" includes head of department (9 heads) and director of interdisciplinary research institutes (3 directors)

Canada Research Chairs (CRCs) and Canada 150 Chairs

Representation of women CRCs compared to women faculty: Trend 2008-2019¹⁶

Representation of women among Canada Research Chairs in Science has remained below their representation among faculty for ten years. However, representation of women holding a junior research chair (CRC Tier 2) steadily increased in recent years to and above level of their representation among assistant professors.



Canada 150 and President’s Excellence in Research Chairs

The prestigious Canada 150 Research Chairs Program provided UBC with the opportunity to attract top-tier, internationally based scholars and researchers to Canada. Two out of the four Chairs are held in Science. While the number of women holding a senior CRC (Tier 1) in UBC Science has remained at 3 faculty members for the past 9 years, both Canada 150 Research Chairs are held by women faculty – in Computer Systems and in Evolutionary Genomics.

The UBC President’s Excellence Chairs in Biodiversity Studies appointed in UBC Science is also held by a woman. Seven UBC President’s Excellence Chairs were created to attract exceptional faculty who will enable cutting-edge research in designated areas and an excellent student learning experience.

¹⁶ Sources: UBC HRMS, annual snapshots as of November 1 (faculty demographics), UBC CRC Office (CRCs)

Diversity and equity in faculty recruitment

Candidate diversity: Representation of employment equity groups in faculty searches

Diversity in candidate pools compared to population and academic pipeline data¹⁷

Putting progress and gaps of our tenure-stream faculty’s diversity into broader context, the representation of each of these groups in UBC Science’s candidate pools is compared to their representation in the general (Canadian) population and in UBC’s own academic pipeline as well as North American post-doctoral pools (science disciplines).

Table 6

Pool		Equity group	Women	Racialized persons (Visible Minorities)	Indigenous (Aboriginal) people (in NAM)	Persons with Disabilities	2SLGBTQ+ and gender diverse persons
C A N A D I A N	Population		50.9%	22.3%	4.9%	22.3%	5%
	Labour market availability		48.2%	17.8%	3.5%	4.9%	n/a
	Labour force (federally regulated private sector)		40.2%	22.8%	2.3%	3.3%	n/a
A C A D E M I C	UG students FoS (4th year BSc)		52%	62%	1%	n/a	n/a
	PhD students FoS		38%	37%	3%	n/a	n/a
E M P L O Y M E N T	Post-doctoral fellows	NSF	38%	32%	n/a	n/a	n/a
		FoS	34%	n/a	n/a	n/a	n/a
I N T E R N A T I O N A L	Faculty candidates FoS		24%	30%	1%	2%	6%

Faculty UBC Science 2019	27%	17%	<1%	2%	8%
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¹⁷ Sources: [Employment Equity Act: Annual Report \(2018\)](#); 2016 Canada Census Profiles: [Population](#), [Aboriginal Identity](#), [Visible Minority](#); [Canadian Survey on Disability Reports \(2017\)](#); [Forum Research \(2012\)](#); UBC HRMS; National Survey of Student Engagement, 2017 (UBC BSc undergrad (UG) students) – response rate: 25%; Graduate and Professional Student Survey, 2016 (graduate students in sciences programs at UBC) – response rate: 18% ; NSF, 2017

FoS candidates: Average of diversity surveys for 112 searches (comprising 141 advertised positions) for tenure-stream faculty candidates, conducted in 2010/11-2018/19, where offers had been made, resulting in a total of 117 accepted offers (90 research stream and 27 educational-leadership stream hired).

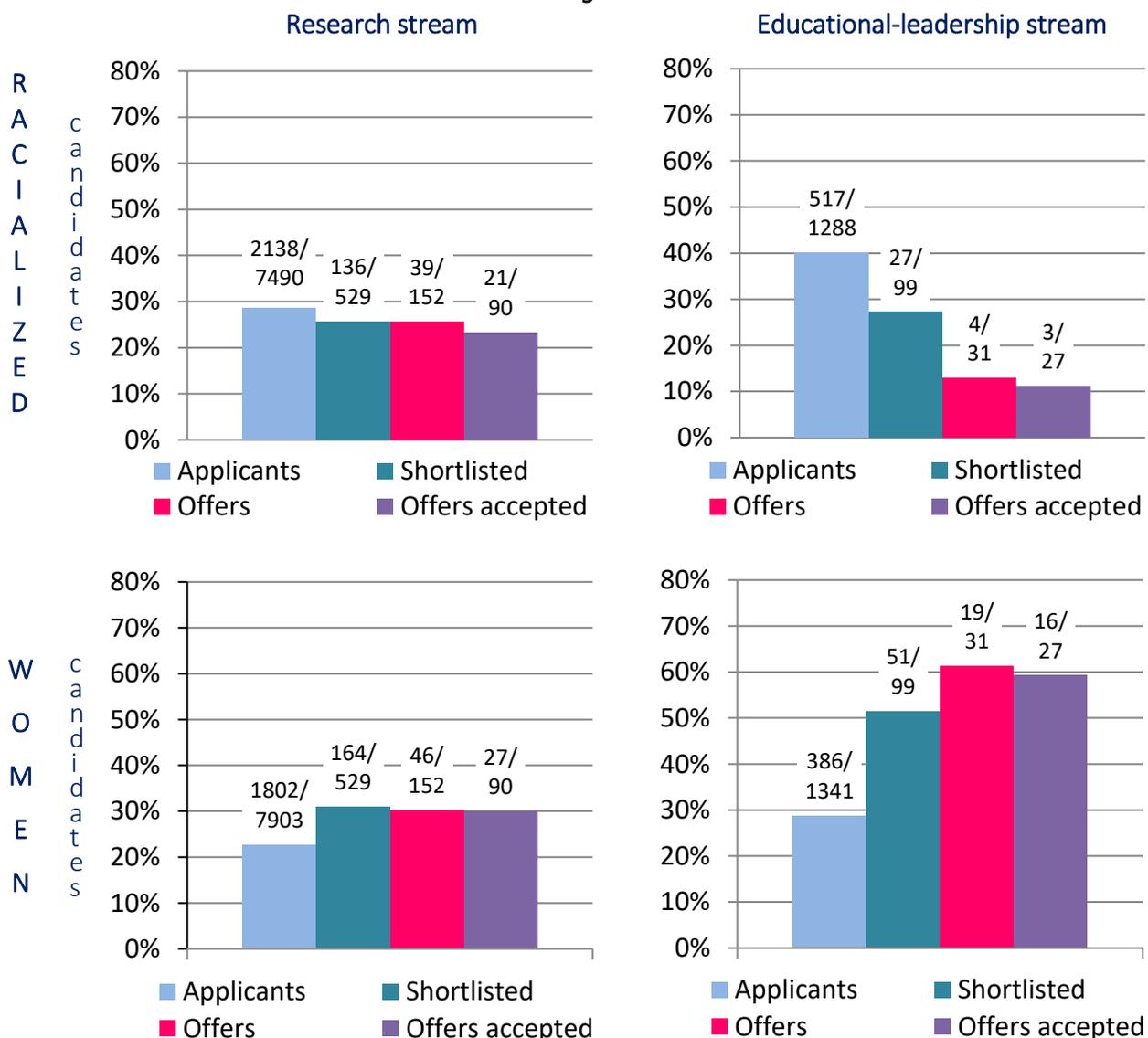
“n/a”: data not available

Representation of women and racialized candidates by stream¹⁸

On average over the past nine years, the representation of racialized candidates for research-stream faculty positions remained at about the same rate throughout the four recruitment stages (applicants, shortlisted candidates (interviewees), candidates who received an offer, candidates who accepted an offer). Racialized candidates accepted offers at a rate six percentage points below that in the candidate pool. In contrast, in educational-leadership stream recruitments, their representation dropped by more than ten percentage points at each selection step (shortlisting, final candidates).

Women candidates for research-stream faculty positions saw a slight increase (by seven percentage points) in representation from the candidate pool to shortlist stage, and accepted offers at this same rate. In educational-leadership stream searches, women candidates' representation increased by more than 20 percentage points from candidate pool to shortlist, and women were hired at a rate twice the representation in their candidate pool.

Figure 9



¹⁸ Source: Includes data from 112 tenure-stream faculty searches (for 141 advertised positions) conducted in 2010/11-2018/19, for which candidate surveys were conducted and offers made, resulting in a total of 117 accepted offers (90 research stream and 27 educational-leadership stream hired).

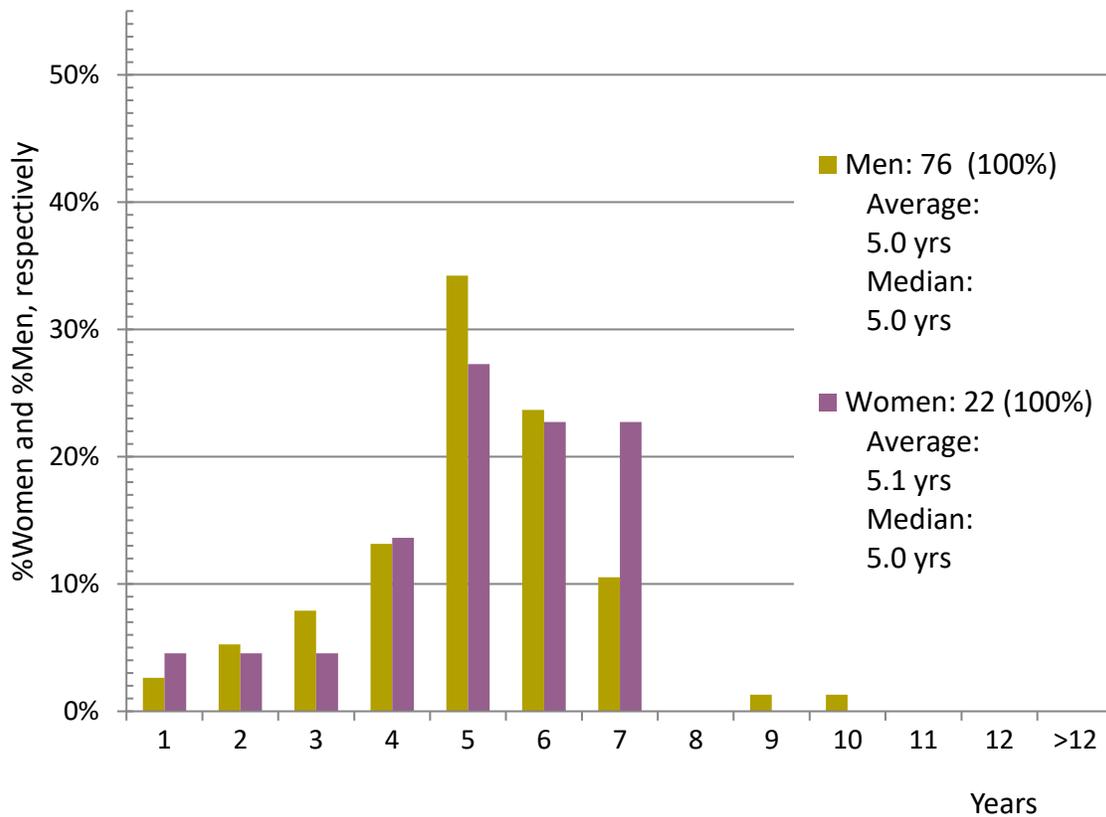
Progression of UBC Science faculty members

Time to promotion to Associate Professor for promotion candidates in past eleven years¹⁹

When comparing women’s and men’s time (number of years) from appointment as tenure-track Assistant Prof. to first promotion, there was a minimal average lag (1 month) for women when Time to Promotion to Assoc. Prof. was adjusted for maternity, parental and adoption (MPA) leaves (one year of tenure-clock extension was subtracted for each unique leave).

Figure 10

Representation of women and men, respectively, by time to 1st promotion (years), adjusted for tenure-clock extensions

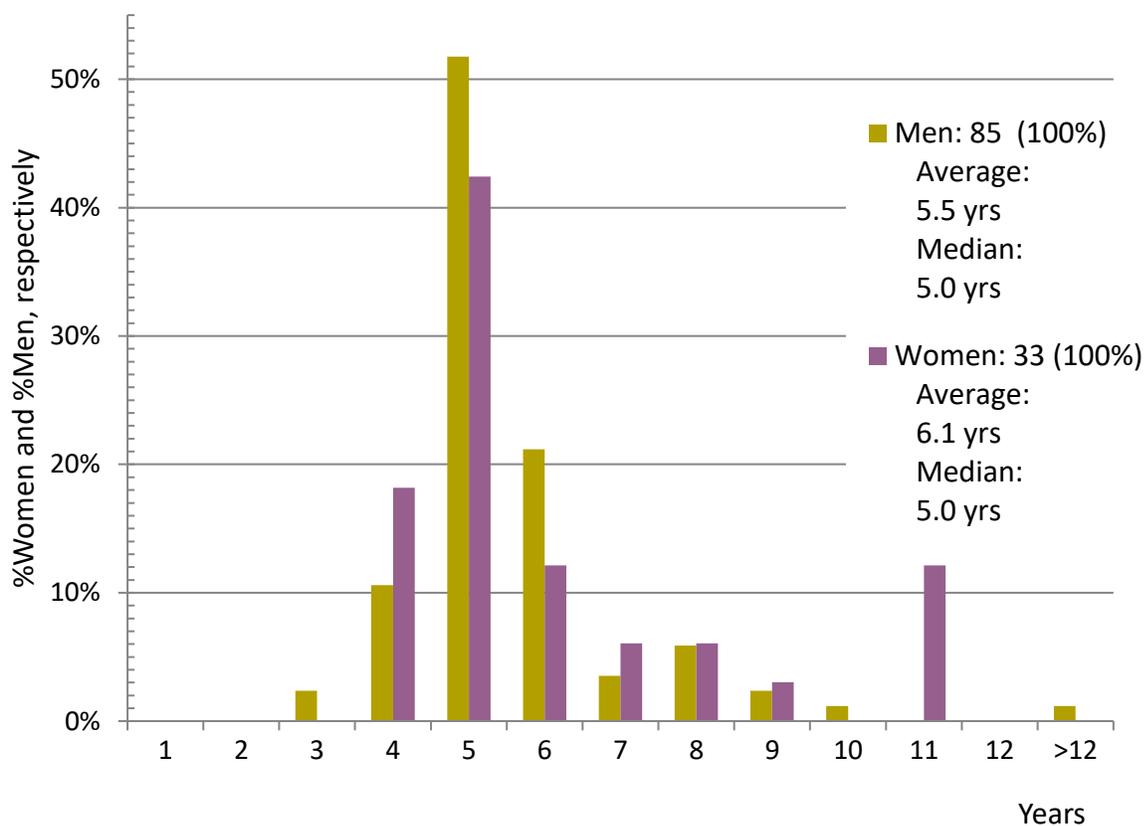


¹⁹ Includes 98 faculty members (22 women and 76 men) who were promoted to Associate Professor over the past 11 academic years (2008/2009-2018/2019). Does not include Associate Professors who were hired into that rank.

Time to promotion to Full Professor for promotion candidates in past eleven years²⁰

When comparing women’s and men’s time (number of years) from appointment at rank of Assoc. Prof. to second promotion (Full Prof.), there remained an average lag of 0.5 years (6 months) for women when adjusted for maternity, parental, adoption (MPA) leaves (total length of time on MPA leave(s) was subtracted). In part, women’s lag may reflect efforts to promote faculty who may have hesitated before for other reasons. When faculty who remained in rank of Assoc. Prof. for eight or more years before promotion were excluded (six women and ten men), average time to promotion was the same for women and men (5.1 years).

Figure 11
Representation of women and men, respectively, by time to 2nd promotion (years) adjusted for length of MPA leaves



²⁰ Includes 118 faculty members (33 women and 85 men) who were promoted to Full Professor over the past 11 academic years (2008/2009-2018/2019). Does not include Full Professors who were hired into that rank.