

## CAIMS-SCMAI EDI/M Report

June 21, 2024

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1. For the delivery of the Equity, Diversity, Inclusion, and Indigeneity (EDI) session at the 2024 Annual meeting the EDI/M committee is collaborating with the annual meeting EDI representative, Giusy Mazzone. Funding to support travel for the EDI panelists was secured from Queen's by Giusy Mazzone.
2. Each member of the EDI panel that gave short talks at the 2023 annual meeting was provided \$100, where these funds were provided by OMNI-REUNIS, which is a research group. These EDI sessions at the annual meetings have been successful.
3. For the 2025 meeting, the CAIMS-SCMAI EDI/M committee will collaborate with the SIAM SIAG-EDI committee to support an EDI track of minisymposia and a plenary speaker.
4. The EDI/M committee provided draft text to the three presidents who continued to improve the Code of Conduct. However, the Code of Conduct that appears on the CAIMS website is not the revised version. The President should notify the communications officer when the revised version of the Code of Conduct is ready for the website.
5. The EDI/M committee administered a survey to quantify diversity in past CAIMS-SCMAI award winners, executive, and plenary speakers, and 2024 applicants for awards (including travel support). The complete report with recommendations is attached, and will be released on the CAIMS website imminently. A summary of survey findings is:
  - Woman and gender-equity seeking individuals are substantially under-represented amongst CAIMS-SCMAI award recipients, except for the Arthur-Beaumont Distinguished Service Award. Woman and gender-equity seeking individuals are under-represented in the 2024 applicant pools for CAIMS-SCMAI awards.
  - Racialized individuals are under-represented on the CAIMS-SCMAI executive and as plenary speakers at the annual meetings.
  - Indigenous Peoples were too few to be reported, and are likely under-represented in all aspects of applied and industrial mathematics.
  - Persons with disabilities are under-represented or under-reported amongst CAIMS-SCMAI award recipients, 2024 award applicants, the CAIMS-SCMAI executive, plenary speakers, and 2024 travel award applicants.
6. The CAIMS-SCMAI demographic survey is configured to support future use, and the url is static:  
[https://mun.az1.qualtrics.com/jfe/form/SV\\_eb5t4wUhqMBAqzA](https://mun.az1.qualtrics.com/jfe/form/SV_eb5t4wUhqMBAqzA). A QR code is available [here](#). The survey can be used in the future to support CAIMS-SCMAI objectives. Please email Amy Hurford ([ahurford@mun.ca](mailto:ahurford@mun.ca)) to request changes to the survey, or to be sent the results of a survey you deployed.



## CAIMS-SCMAI Equity Diversity Inclusion survey

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Equity, Diversity, Inclusion and Membership (EDI/M) Committee (Chair)  
June 13, 2024

**Overview** To support EDI in the Canadian applied and industrial mathematics community, the CAIMS-SCMAI EDI/M committee developed a survey to quantify the demography of CAIMS-SCMAI groups relative to the Canadian population.

### Results

- Woman and gender-equity seeking individuals are substantially under-represented amongst CAIMS-SCMAI award recipients, except for the Arthur-Beaumont Distinguished Service Award. Woman and gender-equity seeking individuals are under-represented in the 2024 applicant pools for CAIMS-SCMAI awards.
- Racialized individuals are under-represented on the CAIMS-SCMAI executive and as plenary speakers at the annual meetings.
- Indigenous Peoples were too few to be reported, and are likely under-represented in all aspects of applied and industrial mathematics.
- Persons with disabilities are under-represented or under-reported amongst CAIMS-SCMAI award recipients, 2024 award applicants, the CAIMS-SCMAI executive, plenary speakers, and 2024 travel award applicants.

### Recommendations for CAIMS-SCMAI executive

1. It is unlikely that the under-representation of women and gender-equity seeking individuals amongst CAIMS-SCMAI research award winners can be addressed until there is representation in the application pool, which starts with better representation of woman and gender-equity seeking individuals amongst the university faculty. To address the under-representation in awards, CAIMS-SCMAI members need to continue to nominate women and gender-equity seeking individuals for CAIMS-SCMAI research awards. CAIMS-SCMAI might support trainee women and gender-equity seeking individuals in applied and industrial mathematics to retain them in the discipline. This might occur through the continuation of the Highly Qualified Personnel (HQP) travel support program with designation of some of the awards for women and gender-equity seeking individuals.
2. When soliciting interest for positions that are coming vacant on the Executive, CAIMS-SCMAI should consider that historically racialized individuals have been under-represented in these positions.
3. CAIMS-SCMAI should monitor activities of related societies and CAIMS-SCMAI institutional members for ideas to improve inclusion of Indigenous Peoples and persons with disabilities. Future priorities for the EDI/M committee, and any decisions known to involve Indigenous

Peoples and persons with disabilities, for example a request for financial support for an activity, should be made with the perspective that these groups are likely under-represented in CAIMS-SCMAI.

4. The survey finds EDI gaps within CAIMS-SCMAI. CAIMS-SCMAI activities that support EDI should continue. CAIMS-SCMAI should consider allocating budget to support further EDI activities, for example refreshments at a networking event held during the annual meeting. Efforts to have diverse awards committees and implicit bias training for the awards committees should continue.
5. When the awards committee notifies award winners, they should also request survey completion so that CAIMS-SCMAI can continue to monitor under-representation of particular groups amongst award winners. The survey link is provided in the Appendix of this report.
6. The President and/or the EDI/M chair should be responsible for continuing to collect and communicate the recommendations for the annual meeting organizers (described below) each year.

#### **Recommendations for CAIMS-SCMAI annual meeting organizers**

7. Annual meeting organizers should know that historically racialized individuals have been under-represented as plenary speakers at the meetings. Further, Indigenous Peoples and persons with disabilities may also be under-represented as plenary speakers.
8. The executive has previously decided that the most practical way to survey CAIMS-SCMAI demography is to request the survey be completed during annual meeting registration. This is because many CAIMS-SCMAI members are lifetime members that do not complete annual membership forms. Annual meeting organizers should read this report and decide whether they have the capacity to administer a demographic survey during annual meeting registration, and report the data back to CAIMS-SCMAI. If annual meeting organizers were able to administer such a survey, this would be beneficial to CAIMS-SCMAI.
9. Annual meeting organizers should continue to organize an EDI session as part of the annual meeting, as has occurred the past few years. Additional funding might be requested to specifically support EDI activities at the meeting.
10. Annual meeting organizers should know that CAIMS-SCMAI has a Code of Conduct that applies to the annual meeting.

Motivation The Natural Science and Engineering Research Council of Canada (NSERC) requires grant applicants to understand EDI in their area of science, and to describe actions to support individuals from under-represented groups. These requirements from NSERC arose, in part, from a 2006 Settlement Agreement with the Canadian Human Rights Commission<sup>1</sup>. Dr. Mona Nemer, Chief Science Advisor of Canada, described the need to improve under-representation in science, technology, engineering, and mathematics (STEM) at the 2017 Gender Summit in Montréal<sup>2</sup>.

Survey To support EDI in the Canadian applied and industrial mathematics community, the CAIMS-SCMAI EDI/M committee developed a survey (see Appendix) to quantify the demography of CAIMS-SCMAI groups relative to the Canadian population (Table 1).

**Table 1. December 2029 equity targets for the Canada Research Chairs program<sup>3</sup>** which is based on the demography of the Canadian population as determined by the 2016 Canadian census.

| Woman and gender-equity seeking | Racialized individuals | Indigenous Peoples | Persons with disabilities |
|---------------------------------|------------------------|--------------------|---------------------------|
| 50.9%                           | 22%                    | 3.2%               | 7.5%^                     |

^Target acknowledges low self-identification rates

Groups surveyed are summarized in Table 2 and were:

- 2024 award applicants and travel award applicants. Applicants for CAIMS-SCMAI awards in 2024 were recommend to complete the survey with submission of the application.
- Past award recipients, executive members, and plenary speakers. Where email addresses could be found, all CAIMS-SCMAI awards recipients (n=81), members of the executive (n=18), and plenary speakers at the annual meetings (n=93) listed on the CAIMS-SCMAI website up until, and including, 2023 were invited to complete the survey by an email invitation. The email list was compiled based on the CAIMS-SCMAI website in April 2024, and for some awards this covers as long ago as 1984. The email lists are archived on the CAIMS-SCMAI Google Drive.
- Conference. At the 2023 CAIMS-SCMAI annual meeting attendees were encouraged to complete the survey.
- None. Some people have completed the survey without specifying the reason for completing the survey.

**Table 2. Reason given for completing the CAIMS EDI survey**

|   | 2024 award applicant | Award recipient | 2023 conference | Executive | 2024 travel award applicant | Plenary speaker | None |
|---|----------------------|-----------------|-----------------|-----------|-----------------------------|-----------------|------|
| n | 18                   | 57              | 9               | 19        | 20                          | 30              | 9    |

Response rates from past award winners (70%) and the executive (106%) was very high, which may indicate support from the CAIMS-SCMAI community to quantify under-representation. It is not known why the number of responses from executive members slightly exceeds the number of emails sent.

Measuring under-representation in CAIMS-SCMAI. Fewer than 5 responses are not reported and denoted \*. **Substantial under-representation** is defined as a deficit of more than 10% relative to Table 1, or less than 5 respondents, and is highlighted in grey.

The denominator for reported percentages excludes individuals that answered “Prefer not to answer” or that did not answer the question. Intersectional individuals identified as two or more of the following: woman or minority gender; racialized; Indigenous Peoples; or with a disability.

**Table 3. 2024 award applicants (n=18)**

| Woman and gender-equity seeking |        | Racialized individuals |      | Indigenous Peoples | Persons with disabilities |
|---------------------------------|--------|------------------------|------|--------------------|---------------------------|
|                                 | +/-    |                        | +/-  |                    |                           |
| 29%                             | -21.9% | 33%                    | +11% | *                  | *                         |

**Table 4. Award recipients (n=57).** Should be interpreted relative to 2024 applicant demography (see Table 3).

| Woman and gender-equity seeking |        | Racialized individuals |      | Indigenous Peoples | Persons with disabilities | Intersectional |
|---------------------------------|--------|------------------------|------|--------------------|---------------------------|----------------|
|                                 | +/-    |                        | +/-  |                    |                           |                |
| 24%                             | -26.9% | 33%                    | +11% | *                  | *                         | 9%             |

**Table 5. Award recipients by award (n=57).** Should be interpreted relative to 2024 applicant demography pools (see Table 3). Research awards are defined as all awards except the Arthur-Beaumont Distinguished Service.

|                                       | Woman and gender-equity seeking |        | Racialized individuals |      |
|---------------------------------------|---------------------------------|--------|------------------------|------|
|                                       |                                 | +/-    |                        | +/-  |
| Arthur-Beaumont Distinguished Service | 44.4%                           | -6.5%  | 33%                    | +11% |
| CAIMS-Fields Industrial Mathematics   | 14.3%                           | -36.6% | 29%                    | +7%  |
| CAIMS-SCMAI Research                  | 16.7%                           | -34.2% | 8%                     | -14% |
| CAIMS/PIMS Early Career               | 27.2%                           | -23.7% | 18%                    | -4%  |
| Cecil Graham Doctoral Dissertation    | 16.7%                           | -34.2% | 22%                    | 0%   |
| Research awards                       | 19.5%                           | -31.3% | 20%                    | -2%  |

**Table 6. 2024 travel award applicants (n=20).**

| Woman and gender-equity seeking | Racialized individuals | Indigenous Peoples | Persons with disabilities | Intersectional |
|---------------------------------|------------------------|--------------------|---------------------------|----------------|
|---------------------------------|------------------------|--------------------|---------------------------|----------------|

|       |       |     |      |   |   |   |
|-------|-------|-----|------|---|---|---|
|       | +/-   |     | +/-  |   |   |   |
| 44.4% | -6.5% | 39% | +17% | * | * | * |

The main finding regarding CAIMS-SCMAI awards is that women and gender-equity seeking individuals are under-represented as CAIMS-SCMAI awards winners (Tables 4 and 5) relative to the general Canadian population (Table 1) because there are too few women and gender-equity seeking individuals that apply for these awards (Table 3). There has been an effort to nominate women and gender-equity seeking for the awards; the ultimate problem is likely there are too few women and gender-equity seeking individuals at the post-PhD stage in careers in applied and industrial mathematics. For example, the 2018 NSERC Discovery Grant, competition in evaluation group 1508 reported that 22% of applicants that indicated a sex identified as women (Table 11, p17; calculated as  $13.9\% / (13.9\% + 49.3\%)$ ). Table 5 reports that 19.5% of CAIMS-SCMAI research award winners were women or gender equity seeking individuals, which is similar to the percentage of Discovery Grant applicants in 2018 suggesting that research awards in CAIMS-SCMAI are in proportion with the representation of women and gender-equity seeking groups on the university faculty.

In 2023 and 2024, CAIMS-SCMAI administered an HQP Travel Support award to support graduate and postdoctoral fellows participation in the CAIMS-SCMAI annual meeting. This travel support was funded by three past award winners (Anita T. Layton, Nilima Nigam and Frithjof Lutscher) who donated their prize money to fund the travel support, as well as extra support from CAIMS-SCMAI. Continuing this travel support, with awards specifically designated for women and gender-equity seeking groups, is an action that might contribute towards closing the gap between representation in the Canadian population and as CAIMS-SCMAI research award winners, although in following this recommendation improvement would not be expected for at least a decade.

If it is viewed that the low representation of women and gender equity-seeking individuals on the university faculty explains the under-representation for research awards, then it should be noted that women and gender-equity seeking individuals are then over-represented for the Arthur-Beaumont Distinguished Service Award and on the executive (Table 7).

**Table 7. CAIMS Executive (n=19)**

| Woman and gender-equity seeking |       | Racialized individuals | Indigenous Peoples | Persons with disabilities |
|---------------------------------|-------|------------------------|--------------------|---------------------------|
|                                 | +/-   |                        |                    |                           |
| 44%                             | -6.9% | *                      | *                  | *                         |

**Table 8. Plenary speakers (n=30)**

| Woman and gender-equity seeking |       | Racialized individuals | Indigenous Peoples | Persons with disabilities |
|---------------------------------|-------|------------------------|--------------------|---------------------------|
|                                 | +/-   |                        |                    |                           |
| 48%                             | -2.9% | *                      | *                  | *                         |

More than 5 racialized individuals reported receiving, and applying for, many CAIMS-SCMAI awards (Tables 3-6), so it is notable that fewer than 5 such individuals reported as serving on the CAIMS-SCMAI executive and as plenary speakers. Recommendations 2. and 7. aim to address this under-representations.

Feedback noted that disabilities can occur later in life, for example, after winning an award. Therefore, it is not clear how many individuals with disabilities should be reasonably expected for some categories that may skew more towards younger ages (i.e., HQP travel awards) relative to the Canadian population.

## References

1. Kadiri, H. About the necessity of collecting data to improve EDI in mathematics – CMS Notes. <https://notes.math.ca/en/article/title-about-the-necessity-of-collecting-data-to-improve-edi-in-mathematics/> (2022).
2. Nemer, M. Promoting diversity in STEM. <https://science.gc.ca/site/science/en/office-chief-science-advisor/speeches/promoting-diversity-stem> (2019).
3. Government of Canada, Canada Research Chairs. <https://www.chairs-chaires.gc.ca/programme/equity-equite/targets-cibles-eng.aspx> (2012).
4. 2018 Competition Statistics Discovery Grants, Research Tools and Instruments and Subatomic Physics Programs. [https://www.nserc-crsng.gc.ca/NSERC-CRSNG/FundingDecisions-DecisionsFinancement/2019/2018DG-RTI-SP\\_e.pdf](https://www.nserc-crsng.gc.ca/NSERC-CRSNG/FundingDecisions-DecisionsFinancement/2019/2018DG-RTI-SP_e.pdf)

**Appendix.** The demographic survey link is

[https://mun.az1.qualtrics.com/jfe/form/SV\\_eb5t4wUhqMBAqzA](https://mun.az1.qualtrics.com/jfe/form/SV_eb5t4wUhqMBAqzA). Any request for change in survey structure can be sent to Amy Hurford, [ahurford@mun.ca](mailto:ahurford@mun.ca). There is also a QR code to link to the survey available for download [here](#).

Some of the questions appeared conditional on a “YES” to the previous question. There were too few respondents to report any further stratification amongst under-represented groups.



**Rationale** Completing this survey will help CAIMS measure its position relative to the [national mandate](#) to increase the participation and impact of underrepresented groups.

**Scope** You should complete this survey once for every:

- CAIMS annual meeting you attend;
- nomination for a CAIMS award;
- CAIMS award you have won;
- application for a travel award;
- plenary speaker at a CAIMS annual meeting; and
- appointment to the CAIMS executive.

**Data** Participation in this survey is voluntary (annual meeting attendees) or requested (plenary speakers, award applicants, award winners, and executive members). **There are options to leave questions you do not wish to answer blank.** By completing the survey you consent that your responses will contribute to aggregated results. Your responses are not linked to any information outside this survey. No information for groups of less than 5 individuals will be reported. The survey is implemented using Memorial University's Qualtrics license. Responses are contributed to CAIMS.

**Reporting** Aggregated results will be reported by CAIMS and interpreted relative to the equity targets for the [Canada Research Chairs program](#), which are based on 2016 Canadian census data. Reporting will be similar to the [program representation statistics](#) for the Canada Research Chairs program.

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To help us with reporting, please provide the reason you are completing this survey

- ☐ CAIMS annual meeting attendee
- ☐ Applicant for CAIMS award
- ☐ Winner of CAIMS award
- ☐ CAIMS plenary speaker
- ☐ CAIMS executive (past or present)
- ☐ Travel award applicant
- ☐ Other



### Your name

We are asking your name because it will help us monitor our progress towards receiving responses from all past award winners, executive members, and award applicants. Your name will not be shared in reporting, but will be known to the CAIMS EDIM committee member that processes and reviews the raw data.

**You have the option to leave this question blank** and/or answer "prefer not to answer" on the subsequent questions.

### Name of award

- ☐ Arthur-Beaumont Distinguished Service Award
- ☐ CAIMS-Fields Industrial Mathematics Prize
- ☐ CAIMS/PIMS Early Career Award
- ☐ CAIMS-SCMAI Research Prize
- ☐ Cecil Graham Doctoral Dissertation Award

### Gender

The question asks about your internal sense of being a woman, man, both, neither, or somewhere along the gender spectrum. [\[Additional information\]](#)

- ☐ Man
- ☐ Woman
- ☐ Gender-fluid
- ☐ Nonbinary
- ☐ Trans
- ☐ Two-Spirit
- ☐ Don't identify with any option provided
- ☐ Prefer not to answer

### Do you identify as a racialized individual?

Racialized minorities are "persons, other than Aboriginal Peoples, who are non-Caucasian in race or non-white in colour."

The question asks about your identity, not citizenship or nationality. [\[Additional information\]](#)

- ☐ No
- ☐ Yes
- ☐ Prefer not to answer



If you answered YES to the previous question, select all that apply below:

- ☐ Arab
- ☐ Black
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Latin American
- ☐ South Asian (e.g., Indian, Pakistani, Sri Lankan, etc.)
- ☐ Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai)
- ☐ West Asian (e.g., Iranian, Afghan)
- ☐ White (to be selected only if you also answered YES to the previous question)
- ☐ Another population group
- ☐ Prefer not to answer

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### Do you identify as an Indigenous person?

The question asks about your personal identity, not legal status or registration.

"Indigenous person" refers to the original peoples of North America and their descendants: i.e., First Nations, Inuit, and Métis Peoples. Indigenous Peoples from other parts of the world may self-identify as a racialized individual (the previous question). [\[Additional information\]](#)

- ☐ No
- ☐ Yes
- ☐ Prefer not to answer



If you answered YES to the previous question, select all that apply below:

- ☐ First Nations
  - ☐ Métis
  - ☐ Inuit
  - ☐ Prefer not to answer
- 

**Are you a person with a disability?**

The question asks whether you identify as an individual with any impairment (physical, mental, intellectual, cognitive, learning, communication or sensory) that hinders your full and equal participation in society. [\[Additional information\]](#)

- ☐ No
- ☐ Yes
- ☐ Prefer not to answer



If you answered YES to the previous question, select all that apply below:

- ☐ Communications disability
  - ☐ Developmental disability
  - ☐ Dexterity disability
  - ☐ Flexibility disability
  - ☐ Hearing disability
  - ☐ Learning disability
  - ☐ Memory disability
  - ☐ Mental health-related disability
  - ☐ Mobility disability
  - ☐ Pain-related disability
  - ☐ Seeing disability
  - ☐ Disability not listed
  - ☐ Prefer not to answer
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You may leave any feedback you have below.