# NSERC Discovery and Research Tools & Instruments Grants Addressing EDI Considerations

Presented by:

**Andrea Gill**
**Research Equity & Development Strategist**
**Research Services Office**

September 26, 2023

UNIVERSITY OF TORONTO

DEFY GRAVITY

# AGENDA

- EDI definitions and concepts

- Overview of EDI requirements for NSERC Discovery and Research Tools & Instruments applications

- EDI in teams and training – effective strategies

- GBA+ in research design

- Questions

UNIVERSITY OF TORONTO

# EDI DEFINITIONS

**EQUITY**

- The process of treating all people fairly

- Policies and decisions that are fair to all and do not disadvantage groups or individuals based on their identity or lived experience

**DIVERSITY**

- The demographic mix of the community

- The expressions and experience of different groups based on gender identity, ethno-racial identity, disability, sexual orientation, Indigeneity, etc.

**INCLUSION**

- The creation of an environment where everyone is treated equitably and with respect, and feels welcome

- Everyone can access opportunities and reach their full potential

**EDI goes beyond a counting or box-checking exercise**

UNIVERSITY OF TORONTO

# SYSTEMIC BARRIERS

- Systems, policies or practices that result in some individuals from under-represented groups being excluded or receiving unequal access

- These barriers can be unintentional or "invisible"

- **Unconscious bias in recruitment/peer review**

  - Implicit assumptions or mental shortcuts

  - Studies demonstrate how biases disadvantage members of under-represented groups

- **Inequitable distribution of opportunities**

  - Women are under-represented in STEM publications, are less likely to be invited to collaborate, receive fewer speaking invitations, and are nominated for fewer awards and prizes



"What's the matter? It's the same distance!"

Cartoon by Emanu

UNIVERSITY OF TORONTO

# SYSTEMIC BARRIERS, CONT.

- **Lack of access to mentors and sponsors**

    ▪ Members of under-represented groups have more trouble finding a quality mentor

- **Physical or sensory barriers to research participation**

    ▪ Lack of accessibility in buildings, labs, field work, conferences, etc.

- **The "hidden curriculum"**

    ▪ The unwritten rules, norms, and expectations of research and STEM cultures

    ▪ Can be especially challenging for members of under-represented groups

- **Unwelcoming or exclusionary environments**

    ▪ Lack of accommodations, microaggressions, harassment, etc.

**These barriers affect retention and drive attrition across academic and career stages.**

UNIVERSITY OF TORONTO

# WHY EDI IN RESEARCH MATTERS

- EDI is essential to creating the excellent, innovative, and high-impact research necessary to advance knowledge and understanding

  - In order to achieve world-class research, we must create the conditions that enable the full participation of all talented individuals

  - Integrating EDI into research design opens new avenues of exploration and makes research more usable and relevant

- Systemic barriers cause the research community to lose research talent and opportunities for excellence

UNIVERSITY OF
TORONTO

# EDI CRITERIA IN EACH APPLICATION

**Discovery Grants**

**Contribution to the Training of HQP:**

- Consideration of equity, diversity and inclusion in past and planned training of HQP

**Merit of the Proposal:**

- Consideration of sex, gender, and diversity in the research design, where applicable to the field of research

**RTI Grants**

**Feasibility and Impact (40%):**

- Consideration of EDI in the rationale of the team composition

**Training of HQP (20%):**

- Consideration of EDI in the training of HQP

UNIVERSITY OF TORONTO

# WHERE TO DISCUSS EDI IN EACH APPLICATION

**Discovery Grants**

**HQP Training Plan (max. 9,000 characters):**

- Describe qualitatively any challenges or barriers to ensuring an inclusive research and training environment

- Planned approaches to support of EDI in HQP training, including recruitment, mentorship, and the training environment

**Past Contributions to the Training of HQP (max. 6,000 characters):**

- Describe qualitatively any barriers to ensuring an inclusive research and training environment

- Describe specific actions implemented to support EDI in recruitment, mentorship, and the training environment

**Proposal Attachment (max. 5 pages):**

- Consideration of sex, gender, and diversity in the research design, where applicable to the field of research

UNIVERSITY OF TORONTO

# WHERE TO DISCUSS EDI IN EACH APPLICATION, CONT.

**RTI Grants**

**Proposal Attachment (max. 4 pages):**

- Consideration of EDI in the rationale of the team composition
  - Equitable access, time sharing and accessibility of the equipment for co-applicants and other users should also be discussed

- Consideration of EDI in the training of HQP

**Both Discovery and RTI Grants**

**Demographic data is neither requested nor required to assess EDI in teams and training.**

UNIVERSITY OF TORONTO

# EDI IN RESEARCH TEAMS AND TRAINING

- Avoid broad or generic statements about EDI
  - Go beyond listing/quoting institutional policies
  - Demonstrate knowledge of systemic barriers and a commitment to EDI

- Provide **concrete actions** that **address systemic barriers**/EDI challenges
  - Tailor these actions to the context of the institution and the discipline
  - Show you will proactively support EDI
  - "Already doing" is better than "will do"

- Try to address recruitment, mentorship/training activities, **and** the inclusive environment

- Do not include identifying personal information or demographic data about team members or trainees (focus on practices and their implementation)
  - You may include information about yourself/lived experience

**Describe strategies that are**

- **Specific**

- **Intentional**

- **Ongoing**

UNIVERSITY OF TORONTO

# CONTEXT QUESTIONS

- Are there gaps in representation in the current lab or group, the institution, and/or the field in general?

  - If no, is this diversity the result of **intentional** actions, or is the result of chance?

- What are the usual practices for recruitment and research training in your team or discipline?

  - Are these practices fair and consistent?

- Are training and mentorship opportunities equitably distributed? Does everyone have the same access to research skills and experience, relative to training level?

- Do team members and trainees feel welcome, included, and supported in their success?

# EDI PRACTICES – TEAM COMPOSITION (RTI)

- Describe processes and intentional efforts to assemble a diverse team

- Outreach to networks/prospective team members

- Team members' expertise/experience in EDI

- Team members have experience training/mentoring diverse HQP

- Equity/inclusion are embedded into research activities, training, and decision-making

- Flexibility and accommodation in scheduling

UNIVERSITY OF TORONTO

# TEAM COMPOSITION & EQUIPMENT (RTI)

- Address equitable access, time sharing, and accessibility of the equipment for co-applicants and other users

- How will be time on the equipment be allocated?

  - Is scheduling/allocation clear and transparent?

  - Is there flexibility or accommodation in scheduling for researchers with caregiving responsibilities?

- How will more junior researchers and/or HQP be considered in access to the infrastructure?

  - Part of commitment to equitable mentoring

  - Provide equitable opportunities to gain marketable skills

- Is the equipment accessible/housed in an accessible space?

  - Describe any Universal Design principles or accommodations for users with disabilities

UNIVERSITY OF TORONTO

# EDI PRACTICES – HQP RECRUITMENT

- Post opportunities openly and widely and use inclusive language

- Engage in pro-active recruitment, using target venues and encouraging diverse applicants

- Establish diverse selection committees, wherever possible, and ensure all committee members complete unconscious bias education

- Evaluate candidates using pre-determined selection criteria that are consistently applied

- Base decisions only on the application materials

- Take into account career/academic interruptions or non-linear career paths

- Carefully evaluate emerging methodologies or non-traditional scholarship, as applicable

- Be aware of biases in letters of reference

- Spend sufficient time on each application — biases are most pronounced when we are rushed

# EDI PRACTICES – TRAINING AND MENTORSHIP

- Create equitable training and career development opportunities, relative to level of study

  - Opportunities to gain skills, use infrastructure, co-publish, present research, work with collaborators, network, engage with partners, etc.

  - Track these opportunities

- Develop a team EDI training plan to build capacity

- Create equitable access to mentorship opportunities

- Create mentorship plans/individual development plans with all trainees

- Develop a team mentorship network and distribute mentorship work equitably

- Make use of UofT resources

  - School of Graduate Studies Supervision Guidelines

  - Centre for Graduate Mentorship & Supervision

UNIVERSITY OF TORONTO

# EDI PRACTICES – INCLUSIVE ENVIRONMENT

- Inclusion is **not** a matter of counting under-represented groups
  - A diverse environment is not necessarily inclusive
  - Inclusive environments are supportive, collaborative, professional, respectful, collegial, and value wellness

- Lead by example — model inclusive behaviours and practice allyship
  - Emphasize these skills for lab managers and other scientific staff

- Adopt a code of conduct/guidelines for labs or fieldwork, and share widely
  - Create accountability — show you take concerns seriously

- Establish "core hours" and accommodate flexibility in scheduling

- Organize and host accessible and inclusive events

- Communicate University resources that support EDI, accessibility, and mental health

# EDI RESOURCES AT U OF T

**Tri-campus Equity Offices**

- Accessibility for Ontarians with Disabilities Act (AODA) Office

- Anti-Racism & Cultural Diversity Office

- Family Care Office

- Office of Indigenous Initiatives

- Sexual & Gender Diversity Office

**Related Offices**

- UTM Equity, Diversity & Inclusion Office

- UTSC Equity, Diversity & Inclusion Office

- Community Safety Office

- Indigenous Student Services/First Nations House

- Health & Well-Being Services & Programs

- Multi-Faith Centre

- Sexual Violence Prevention and Support Centre

- Student accessibility services (St. George, UTM, and UTSC)

- Student wellness/counselling centres (St. George, UTM, and UTSC)

UNIVERSITY OF TORONTO

# COMMON WEAKNESSES

"I believe that equity, diversity, and inclusion are very important to building a research team. I have always sought to uphold these values, and I will continue to do so in my proposed research program. EDI will be considered in any future recruitments to my team and in my training activities. I will put these principles into practice and create a team environment that is equitable and inclusive."

"I am very committed to EDI: two of my PhD students, Ms. X and Ms. Y, are women, and one of my post-docs, Dr. Z, is a member visible minority. My team will continue to recruit outstanding females and other under-represented trainees. We will also include a woman, Professor Q, on the team's Leadership Committee."

"The University of Toronto embraces diversity and strongly encourages applications from Indigenous Peoples, Black and racialized persons, women, persons with disabilities, and people of diverse sexual and gender identities. My team will adhere to all University EDI policies."

**Vagueness & lack of specificity**

**Counting/ listing demo-graphic info**

**Restating University policies**

UNIVERSITY OF TORONTO

# DIVERSITY/GBA+ IN RESEARCH DESIGN & METHODS (Discovery Grants)

- GBA+ = Gender-based analysis plus

- The consideration of sex, gender, and other identity factors in research design and methods, data collection and analysis, and knowledge mobilization
  - How the research is carried out
  - Who the research subjects are (who is included/excluded)
  - Who will be affected by the research

- Counters biases, addresses gaps in research, and makes research more usable and socially relevant

# IMPORTANCE OF GBA+ IN RESEARCH



**Pulse oximeter**

- Overestimate oxygen levels in the blood in patients with darker skin, putting them at risk for organ failure if supplemental oxygen is not provided

- Can also be also inaccurate for women, due to finger size/shape. Black women may experience the highest error rates

**AI and Machine Learning**

- Bias in large language models via discriminatory language, stereotyping, or preferential treatment of some topics

- Occurs through the training data and interpretation of the data



**The "Reference Man"**

- Safety equipment is designed around the average cis man's body

- Occupational research has focused on male-dominated industries



UNIVERSITY OF
TORONTO

# GBA+ – KEY QUESTIONS

- Does the literature review address EDI/diversity considerations? Are there any gaps in existing scholarship?

- Which population groups might benefit from the research or might experience unintended impacts?

- Does the project use existing data sets? Could these data sets contain biases?

- Does the research take place on Indigenous lands or refer to Indigenous communities/peoples?

- What diversity factors(s) could be embedded to strengthen the study?

- How will you obtain data/information for these factors? What methods will you use?

- Can research data be disaggregated by identity factors (race, sex, gender, etc.)?

- How will the findings reach those who will benefit?

- How will the dissemination of findings be accessible and inclusive?

UNIVERSITY OF
TORONTO

# RESOURCES & CONTACT INFORMATION

**EDI in Research Practices**

- VPRI: Addressing EDI in Your Research Funding Application (Research Teams and the Training of Highly Qualified Personnel)

- NSERC, EDI Considerations for Research Teams

- NFRF, Best Practices in EDI in Research Practice

**EDI in Research Design**

- NSERC, EDI Considerations at Each Stage of the Research Process

- Stanford University, Gendered Innovations

- Women & Gender Equality Canada, GBA+ Course

**Unconscious Bias Education Modules (TIDE)**

- https://faculty.utoronto.ca/academic-administrators/advancing-equity-and-inclusion/

**RSO Contact**

- Andrea Gill, Research Equity & Development Strategist, amk.gill@utoronto.ca

UNIVERSITY OF TORONTO

# Questions?