SPARC-annotated Best Practices in Equity, Diversity and Inclusion in Research *(Not to be distributed beyond the UBC community, thank you.)*

A guide for applicants to New Frontiers in Research Fund competitions

- About this guide
- What is "EDI"?
- Systemic barriers in academia and the research ecosystem
- Addressing equity, diversity and inclusion in applications
  - Research team and research environment

    A) Team composition and recruitment processes
    B) Training and development opportunities
    C) Inclusion

- Considering equity, diversity and inclusion perspectives in research design: Feasibility criterion
- Appendix A–Definitions

About this guide

Equity, diversity and inclusion requirements and their related considerations are assessed under two criteria of New Frontiers in Research Fund (NFRF) competitions:

1. **Equity, Diversity and Inclusion** considers the research team and the research environment, including:
   - team composition and recruitment processes;
   - training and development opportunities; and
   - inclusion.
2. **Feasibility** considers the research plan, including:
   - Indigenous research, and
   - gender-based analysis plus (GBA+).

For the Exploration stream only, as of the 2022 competition:

- ✓ "EDI" is now "EDI in Research Practice (EDI-RP)", with content in the EDI-RP section (e.g., Analysis of Context and three sets of best practices).
- ✓ "GBA+" is now "EDI in Research Design (EDI-RD)", with "Yes/No" answers to questions in the EDI-RD section (with justification for a "No") and required content in the Research Proposal section.

This guide helps support NFRF applicants and reviewers, and the research community, in achieving greater equity, diversity and inclusion (EDI) in their research.

NFRF applicants must clearly demonstrate their commitment to EDI in their research teams, including among students, postdoctoral fellows, co-principal investigators (co-PIs), and co-applicants and/or collaborators, as applicable.

Applicants must explain what actions they will take to remove barriers to the recruitment and full participation of individuals from all underrepresented groups, including the four designated groups as defined by the *Employment Equity Act* (women, Indigenous Peoples, members of visible minorities, and persons with disabilities). The term “racialized minorities” is also used throughout this guide.

This guide provides a general overview of systemic barriers that exist in the research ecosystem. The NFRF program welcomes all feedback on how this guide can be improved. Please send your comments to edi-edi@chairs-chaires.gc.ca.

What is “EDI?”

- **Equity** is defined as the removal of systemic barriers and biases enabling all individuals to have equal opportunity to access and benefit from the program.
    - To achieve this, all individuals who participate in the research ecosystem must develop a strong understanding of the systemic barriers faced by individuals from underrepresented groups (e.g., women, persons with disabilities, Indigenous Peoples, racialized minorities, individuals from the LGBTQ2+ community) and put in place impactful measures to address these barriers.
- **Diversity** is defined as differences in race, colour, place of origin, religion, immigrant and newcomer status, ethnic origin, ability, sex, sexual orientation, gender identity, gender expression and age.
    - A diversity of perspectives and lived experiences is fundamental to achieving research and training excellence.
- **Inclusion** is defined as the practice of ensuring that all individuals are valued and respected for their contributions and are equally supported.
    - Ensuring that all team members are integrated and supported is fundamental to achieving research and training excellence.

Commitment to equity, diversity and inclusion

The Canada Research Coordinating Committee (CRCC) and the tri-agency members (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council and Social Sciences and Humanities Research Council) are committed to excellence in research and research training. Achieving a more equitable, diverse and inclusive Canadian research enterprise is essential to creating the excellent, innovative and impactful research necessary to advance knowledge and understanding, and to respond to local, national and global challenges.

With these goals in mind, the agencies are committed to:

- supporting equitable access to funding opportunities for all researchers and trainees;
- promoting the integration of EDI-related considerations in research design and practices;
- increasing equitable and inclusive participation in the research system, including on research teams; and
- collecting the data and conducting the analyses needed to include EDI considerations in decision-making.

Through these means the agencies will work with those involved in the research system to develop the inclusive culture needed for research excellence and to achieve outcomes that are rigorous, relevant and accessible to diverse populations.

Embedding equity, diversity and inclusion in program design

As part of their commitment, the tri-agency members are integrating EDI considerations into their policies, processes, excellence indicators and evaluation criteria. Since its launch in 2018, NFRF has formally embedded EDI requirements in its program design as a best practice.

The NFRF program's EDI criterion focuses on the research environment and its impact on the researchers' experience. It relates to practices that support team members by helping to reduce barriers and recognizing the contributions of all researchers, thereby promoting innovation and excellence.

Two related concepts are assessed separately in the NFRF program. The program expects that the design of all research projects be informed by gender-based analysis plus (GBA+) and by best practices in Indigenous research, as applicable:

- GBA+ is an analytical process used to assess the potential impact that identity factors, such as sex, gender, race, ethnicity, religion, age and mental or physical disability, may have on an individual's experience. The purpose of GBA+ is to promote rigorous research that is sensitive to identity factors.
- Indigenous research is an approach to enquiry that engages Indigenous persons as investigators or partners to extend knowledge that is significant for Indigenous Peoples and communities. When conducting Indigenous research, researchers must commit to respectful relationships with Indigenous Peoples and communities. Applicants are expected to follow the *Indigenous Research Statement of Principles*, where appropriate.

Both of these concepts relate to the design of the research project and are assessed under the Feasibility criterion. They are further discussed under "Feasibility criterion—Research Design of the research project" below.

Note: See Appendix A at the end of this guide for definitions of gender, gender-based analysis plus (GBA+), intersectionality, sex, microaggression, tokenism and unconscious bias.

Systemic barriers in academia and the research ecosystem

Systemic barriers are defined as policies or practices that result in some individuals from underrepresented groups receiving unequal access to or being excluded from participation in employment, services or programs. These barriers are systemic in nature, meaning they result from institutional-level practices, policies, traditions and/or values that may be "unintended" or "unseen" to those who do not

experience them, but that have serious and long-lasting impacts on the lives of those affected (e.g., on their career trajectories and/or mental and physical health).

Systemic barriers within academia and the research ecosystem are well documented in Canada. To address these persistent barriers within Canada's research ecosystem, individuals at all levels (e.g., students, trainees, faculty, researchers, administrators, research funding agencies, policy-makers) must play a sustained role in identifying and mitigating them. All individuals must recognize that systemic barriers exist, develop a strong understanding of what the barriers and their consequences are, and understand how individuals at all levels of the research ecosystem (including researchers) can play a role in addressing them. For example:

- The 2018 report published by the Canadian Association of University Teachers, *Underrepresented and Underpaid: Diversity & Equity Among Canada's Postsecondary Education Teachers*, highlights the persistent lack of diversity in the academic workforce, and wage gaps between men and women, and between white and Indigenous and racialized staff.
- *The Equity Myth: Racialization and Indigeneity at Canadian Universities*, (2017) by Frances Henry, Enakshi Dua, Carl E. James, Audrey Kobayashi, Peter Li, Howard Ramos and Malinda S. Smith, discusses the barriers in academia faced by racialized and Indigenous faculty, including racism, unconscious or implicit biases such as curriculum vitae (CV) and accent bias, bias in letters of reference, citation and self-promotion, affinity bias and precarious work, white normativity, tokenism, ineffective equity policies, wage gaps and increased workloads (e.g., "the equity tax").
- The 2012 Council of Canadian Academies report, *Strengthening Canada's Research Capacity: The Gender Dimension*, highlights the bias, stereotypes, lack of role models and mentors, and barriers within institutional practices and policies faced by women in research, which prevent their full participation.
- Recent research conducted by Holly Witteman, Michael Hendricks, Sharon Straus and Cara Tannenbaum demonstrates a gender bias in peer review processes, resulting in a 4% lower success rate for women when the focus of the review is on the caliber of the researcher versus the quality of the research being proposed.

Addressing equity, diversity and inclusion in applications

Research team and research environment

To address the EDI selection criteria, applicants are required to consider the type of research environment they will establish, as research leaders who are responsible for leading, training and mentoring their team members, according to:

A) team composition and recruitment processes;
B) training and development opportunities; and
C) inclusion.

For each area, teams must **identify a minimum of one concrete practice they will put in place to address one or more systemic barriers**. A list of examples of best practices is included further in this section. Applicants are not expected to incorporate all of these in

their application, but must **discuss a minimum of one that will be effective in the applicant's/research team's specific research context**.

Note: It is not enough to say an institution's policy will be followed or to simply provide a link to a policy. Applicants must clearly demonstrate how EDI best practices will be carefully considered in each of the sub-criteria. Copying and pasting from the guide into the application may result in an application receiving a "fail" for the EDI selection criteria.

It is recommended that applicants create an EDI plan that outlines key EDI objectives and includes action items based on the needs of team members and on known systemic barriers in the research environment. It is important that the EDI plan be based on an understanding of the institution's and the research team's environment and specific challenges. Objectives should be SMART (specific, measurable, aligned with the wanted outcome, realistic and timely). Include strategies for monitoring and reporting on progress, and for course correcting if necessary.

Required EDI-RP content (for the Exploration stream) and EDI content (for the Transformation stream and Special Calls) includes an "Analysis of Context" section (2,500 characters), identified best practice(s) (250 character each) for the each of the three elements (team composition and recruitment processes, training and development opportunities, and inclusion) and an explanation of the best practices (2,500 characters each). There are subtle differences in the website and Convergence Portal instructions as described below.

Notes: Focus on the current EDI circumstances (e.g., barriers and opportunities) in the local research environment (e.g., research group), as well as the team's commitment and proposed concrete actions to improve these EDI circumstance. Do not focus on your research group's EDI profile (current team diversity is more often a result of happenstance than proactive strategies). Prioritize details about the local research environment and research fields rather than institutional EDI policies and practices (unless they can be tailored to the particular context of the fields and team involved).

- ✓ For the Exploration stream: Analysis of Context focuses on "information about the team's specific circumstances related to EDI, including identification of structural biases that could affect members of underrepresented groups" and "your team's specific challenges in relation to EDI-RP"; and the best practices explanations focus on "information about the team's specific circumstances related to EDI, including identification of structural biases that could affect members of underrepresented groups" and "the relevance, approach and expected impacts of the best practices implemented, and how the impacts will be measured".
- ✓ For the Transformation stream: Analysis of Context focuses on "barriers [to] the meaningful integration of individuals from all groups, including the four designated groups (women, Indigenous Peoples, members of visible minorities and persons with disabilities)" and "your team's specific challenges in relation to EDI"; and the best practices explanations focus on "what actions they will take, the outcomes expected, and the assessment planned for each of the … three key areas" and "the relevance, approach and expected impacts of the best practices implemented, and how the impacts will be measured".

About tokenism

Tokenism can be defined as "the practice of doing something (such as hiring a person who belongs to a minority group) only to prevent criticism and give the appearance people are being treated fairly." It is expected that applicants to the NFRF program will instead present concerted and meaningful actions toward EDI in their applications, and implement these in their research if awarded a grant.

About privacy and confidentiality:

When completing the EDI sections of the NFRF application, applicants must protect the privacy and confidentiality of all team members. How an individual self-identifies (in terms of belonging to one or more underrepresented groups) is considered personal information and should not be disclosed.

- **Do not** provide information about the composition of the research team in any way (e.g., Dr. X identifies as a member of a visible minority; the team has X women, X men, and X individuals who identify as members of racialized minorities, etc.).
- Instead, give concrete examples of clear and specific initiatives and measures the team has undertaken to realize its EDI goals (see examples in the tables below).

Information that identifies the personal information (self-identity information) of any of the team members may result in the application being withdrawn from the competition.

A) Team composition and recruitment processes

Why is it important?

Research[Footnote1] shows that a diversity of perspectives is fundamental to achieving research excellence. Implementing proactive measures to address systemic barriers in recruitment provides a diversity of perspectives in the research team and helps ensure the best candidates are selected and the research is as impactful and innovative as possible.

Expectations

NFRF applicants are expected to consider EDI best practices when planning the research team's composition. When recruiting and selecting new members, they are expected to encourage a diverse applicant pool and not disadvantage candidates from underrepresented groups, including members of the four designated groups as defined by the *Employment Equity Act* (women, Indigenous Peoples, persons with disabilities and racialized minorities).

Applicants must identify a **minimum of one concrete practice** that will be implemented to ensure that EDI is being intentionally and proactively considered in composing the team and recruiting team members. It is not sufficient to say that the team is already complete and/or diverse; applicants must clearly demonstrate that EDI was carefully taken into consideration when the team was created.

Exploration competition: What if my team has already been created?

If your team is complete and you do not foresee recruiting additional members, outline what concrete practices have been implemented and/or will be if you need to replace or add a member, to ensure EDI is considered in the team composition and recruitment process.

Questions and best practices

The following questions are provided as examples only, to help applicants consider what types of best practices could be implemented in a team to address systemic barriers. Applicants do not need to answer each of these questions in their application.

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified
Planning the team composition/communicating the opportunity	• What are the systemic barriers faced by individuals from underrepresented groups (e.g., women, persons with disabilities, Indigenous Peoples, racialized minorities, individuals from LGBTQ2+ communities) that have led to their underrepresentation in Canada's research ecosystem? • How might systemic barriers be different or worse for individuals who identify with more than one underrepresented group (e.g., race, gender and/or sexuality)? • How could using an intersectional Footnote2 approach/lens help better identify and address their systemic barriers? • What impact does/could facing these persistent systemic barriers over the long term have on the lived experiences of individuals as students, trainees, faculty, researchers, administrators, etc.? • What are the current employment equity gaps at your institution (i.e., which groups face barriers in employment at your institution and are thus underrepresented)? • Are the opportunities within the team communicated to all potential	• If you have limited knowledge of EDI, commit to developing your knowledge (i.e., take various types of training, read some of the published research that is available, read the work of individuals from underrepresented groups, read your institution's EDI action plan, consider whether your institution has signed on to the Dimensions EDI program, speak to the leaders at your institution about their commitment to EDI and what they are doing to address systemic barriers). • Carefully consider what role you can play to help identify and mitigate potential barriers within your

✓ UBC's VP Research & Innovation hosts "EDI in research resource library" which serve as a great starting point for building capacity at UBC
✓ Start with "Making EDI Matter in Research", which includes 2 videos, slides and a 2-page framework
✓ Familiarize yourself with additional resources organized in four categories: (1) EDI in Research Design (e.g., NSERC Guide on Integrating EDI Considerations in Research"); (2) EDI in Research Practice (e.g., "Guide to Adding EDI Considerations in Partnership Grant Applications [SSHRC]"); (3) Institutional/Funder Policies (e.g., "How to Integrate Sex and Gender in Research [CIHR]"); and (4) Principles of EDI in Research (e.g., "Diverse Effects of Team Diversity: A Review and Framework of Surface and Deep-Level Diversity")
✓ Confirm your/your team's commitment to "Inclusive Excellence"
✓ Learn about UBC's Dimensions: EDI Canada endorsement and its selection as 1 of 17 pilot institutions

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified	
	candidates in an open and transparent way (i.e., made publicly available, as transparency is a best practice and is more likely to generate a diverse pool of potential candidates)? • How or where are opportunities within the team communicated/advertised? Are there special interest groups or venues that could be targeted? • Do the timelines in the posting/advertisement provide enough time for all interested candidates to apply? • What proactive measures have been/could be put in place to ensure there is a wide diversity in the pool of applicants? • Has the language of the posting/communication (if applicable) been carefully reviewed to ensure it is unbiased and inclusive and avoids gendered language and stereotypes? Research shows that gendered wording can maintain gender inequality in traditionally male-dominated occupations. • Does the posting recognize that some applicants may need accommodation during the selection process (e.g., to address hearing impairments, mobility issues)?	research, research teams and institution. • Ask your institution what its current employment equity targets and gaps are. • Provide training for team members to ensure they understand why equity, diversity and inclusion are important, and that there is a clear link between increased diversity and increased research excellence (which has been demonstrated by research). • Implement measures to ensure there is a large diversity in the pool of candidates (e.g., ensure advertisements are publicly posted and widely circulated; circulate them to special interest groups; work with your HR department/privacy officer to collect self-identification data on the diversity of the	✓ Reference and/or consult with EDI Faculty leaders (e.g., Arts Assoc. Dean, Equity, Innovation & Strategy; Forestry Assoc. Dean, Equity, Diversity & Inclusion; Sauder Senior Assoc. Dean, Equity & Diversity & Sustainability; Science Assoc. Dean, Equity & Diversity; UBCO School of Engineering Equity Diversity & Inclusion Advisors) ✓ Review the Inclusion Theme in UBC's Strategic Plan; key UBC EDI policies: HR10, Employment Equity; SC7, Discrimination; SC17, Sexual Misconduct Policy; plus a Respectful Environment Statement ✓ Review UBC's Inclusion Action Plan ✓ Learn about UBC's Senior Advisor to the Provost on Women Faculty (position dates back to Oct. 2011), UBC's Senior Advisor to the Provost on Racialized Faculty (new as of Sept. 2018) and UBC's Senior Advisor to the President on Indigenous Affairs (new as of Nov. 2018) ✓ If relevant, review UBC's Indigenous Strategic Plan ✓ Review and reference UBC Vancouver's Equity & Inclusion Office (EIO) (e.g., "How We Can Help", "Resources", "Training & Education") or UBC Okanagan's EIO (e.g., "Training & Education", "Resources")

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified	
	• Does the posting recognize that career leaves (e.g., parental leaves, sick leaves) are an expected part of many individuals' career paths, and specifically encourage those with career leaves to apply? • How is the team's commitment to EDI communicated to potential applicants? Is there a thoughtful equity statement included in all communications about the opportunities with the team?	applicant pool using best practices; implement preferential hiring of underrepresented groups in pools of qualified candidates following your institution's policies; etc.). • Use nongendered, inclusive and unbiased language in the job posting. • Use targeted hiring to address potential gaps within the team (in coordination with your HR department/provincial human rights commissions where appropriate). • Ask your HR department what your institution's accommodation practices are. • Involve an EDI officer/HR representative from the institution in each stage of the recruitment process.	✓ Summarize the current state of EDI in your field/discipline (e.g., CAUT Almanac, Stats Can reports) ✓ Reference UBC's Employment Equity Survey (EES; response rate 72%) which is designed in accordance with the Federal Contractors Program and UBC's equity plan (see "Theme One: Inclusion", pages 19-25) ✓ Reference UBC's annual employment equity reports (self-identification data for faculty and staff, including employed grad students, only); yearly summaries are provided to and available from Deans' offices ✓ Gender breakdown for UBC grad students is available by subject area ✓ Reference Textio, a tool available to UBC Faculty and staff with a CWL, which can be used to create job descriptions, recruitment materials, etc. which are free of bias (e.g., gender neutral language) and appeal to a broader audience; for example: *"Job postings will be reviewed for bias and inclusive language using Textio, a writing platform available to UBC that reviews material to make it accessible for a broader audience."* **Note**: It is not appropriate to say that UBC's EIO will review job postings; a *[continued]*

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified	
Recruitment process	• What measures have been or could be put in place to ensure the selection process is transparent and based on best practices? • Who will participate in the selection process? • How will unconscious bias be mitigated within each stage of the selection process (shortlisting CVs, interviews, etc.)? • Have the team members who are conducting the selection process received information or training on unconscious bias, or will they? • How will potential conflicts of interest between those conducting the selection process and the applicants be managed within the process? • Is there any evidence of unconscious bias within the letter of recommendations put forward by referees for the applicants from underrepresented groups? • How will applicants' leaves (e.g., maternity, parental, sick leaves, family care, community responsibilities) be fairly considered in the assessment and selection process?	• Align the selection process with best practices already in place within the institution. For example, ensure that the process is aligned with best practices included in the institution's Canada Research Chair Program EDI action plan, if applicable, or an institution-level EDI plan. • Create a selection committee and a process that prevents potential bias (decision-making should, where possible, be by more than one person, to ensure an open and transparent process where potential unconscious bias and conflict of interest are managed). • Use the same assessment process for all candidates, and ensure it is equitable (e.g., use standard tests, interview questions,	✓ *[continued]* Faculty- or Department-based contact and/or resource is much more appropriate in the case of a research project ✓ Reference relevant recruitment sources (e.g., societies, conferences, meetings, organizations) at local, national and international levels ✓ On the CRC Program EDI Action Plan website, visit A Best Practices Guide for Recruitment, Hiring and Retention for ideas (e.g., sections B, C, D, E, F, J) ✓ UBC also has a CRC EDI strategy **PLUS:** Ideas to ensure transparency in team member selection and diverse, equitable recruitment: • request application materials without personal information to avoid unconscious bias + filtering step by team member not involved in recruitment to ensure no identifying details remain • objective scoring of cover letters and CVs (e.g., pre-set system focused on education, technical expertise, relevance of skillset) • assess qualifications/abilities only on active work periods • faculty + trainee reviewers • phone/video interviews if unable to attend in-person • ≥2 interviewers of different genders and ethnicities • pre-set questions with objective criteria for consistent, reliable scoring by panel members

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified
		assessment grids, etc.). • Develop the interview questions and assessment grids before receiving applications. • Establish a policy/procedure to ensure that career leaves are fairly considered in the recruitment and selection processes. • Ask all members of the selection committee to declare all potential conflicts of interest with the applicants. • Have those involved in the hiring process complete EDI training, including instruction on how to recognize and combat unconscious, implicit, overt, prejudicial and any other kinds of bias (e.g., see the "dirty dozen" explained in chapter 11 of *The Equity Myth*). • Within the selection process:

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified
		○ actively challenge the notion of rewarding or overvaluing the familiar, such as traditional, westernized approaches to research; ○ consider whether the interview questions allow candidates to speak to different ways of knowing, methods and/or experiences (e.g., how will space be given to candidates to speak about, and be evaluated on, research based in Indigenous ways of knowing?); and

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified
		○ evaluate the candidates' demonstrated commitments to EDI.

Resources

- Guidelines and Best Practices for Letter Writers (Limiting Unconscious Bias)
- Guidelines for Assessing the Productivity of Nominees
- Tri-Agency Unconscious bias online training module
- Tri-Agency Self-Identification Form
- Tri-Agency Conflict of Interest and Confidentiality Policy
- Dimensions: Equity, Diversity and Inclusion Canada
- Universities Canada – Equity, Diversity and Inclusion
- Equity, Diversity and Inclusion Glossary of Terms – University of Washington – School of Public Health
- Gaucher, D., Friesen, J., & Kay, A. C. (2011, March 7). Evidence That Gendered Wording in Job Advertisements Exists and Sustains Gender Inequality. Journal of Personality and Social Psychology.
- Frances Trix and Carolyn Pskenka, Wayne State University, 2003: Exploring the color of glass: letters of recommendation for female and male medical faculty
- The Equity Myth: Racialization and Indigeneity at Canadian Universities (PDF, 6.3MB), published in 2017 by Frances Henry, Enakshi Dua, Carl E. James, Audrey Kobayashi, Peter Li, Howard Ramos, and Malinda S. Smith
- Diaz-Garcia, C., Gonzalez-Moreno, A., & Saez-Martinez, F.J. (2013). Gender diversity within R&D teams: Its impact on radicalness of innovation. Innovation: Management, Policy, & Practice, 15(2), 149- 160.
- Woolley, A., Malone, T. & Berinato, (2011). What makes a team smarter? More women. Harvard Business Review, 89 (6), 32-33.
- Hong, L. & Page, S.E., (2004) "Groups of diverse problem solvers can outperform groups of high-ability problem solvers." PNAS. Vol. 101, No. 46., 1638-1639.
- Leslie S.J, Cimpian A., Meyer M., & Freeland E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. Science, vol. 347(6219), 262–265. doi:10.1126/science.1261375.
- Nielsen, M. W., (2015). Limits to meritocracy? Gender in academic recruitment and promotion processes. Science and Public Policy, vol. 43 (3). http://spp.oxfordjournals.org/content/early/2015/08/28/scipol.scv052.full.pdf+html
- Hewlett, S. A. (2016). How Diversity Can Drive Innovation. Harvard Business Review.
- Francoeur, C., Labelle, R., & Sinclair-Desgagné, B. (2008). Gender diversity in corporate governance and top management. Journal of Business Ethics, 81(1), 83-95.

B) Training and development opportunities

Why is it important?

Who has access to training and development opportunities (and who doesn't) can significantly influence an individual's research career trajectory. Ensuring that such opportunities are equally available to all team members will help address potential inequities and lead to a more inclusive research environment by helping all members realize their full potential. Providing training on the principles, practices and benefits of EDI to all team members will help increase awareness and address systemic barriers, contributing to a more diverse and inclusive research ecosystem.

Expectations

Applicants must describe what best practices will be taken to ensure that training and development opportunities are equitably provided to all members of the team. Team members should also be trained in EDI principles and best practices. Applicants must provide **a minimum of one concrete practice** that will be employed to ensure that EDI is intentionally and proactively considered in the training and development opportunities within the team.

Questions and best practices

The following questions are provided as examples only, to help applicants consider what types of best practices could be implemented in the team to address systemic barriers. Applicants do not need to answer each of these questions in their application.

	Examples of questions to consider to help understand challenges/opportunities	Examples of best practices to help address the barriers identified	
Training and development opportunities	• How are training and development opportunities, conferences, networking opportunities, etc. communicated to members of the research team? Is this communication open and transparent? • What process is in place to ensure these opportunities are distributed equitably to eligible team members? • What processes are in place to ensure that unconscious bias does	• Establish procedures/policies for distributing training and development opportunities associated with the grant to team members (conferences, publications, networking, etc.). • Clearly communicate these procedures/policies to all team members. • Institute a policy/process with safeguards to ensure individuals with career leaves or family and	✓ Mandate team EDI education and training (e.g., EIO Training & Education consultation); provide a formal plan, outlining team training, communication and team building strategies ✓ Ensure all team member have access to participate in the same research/knowledge exchange activities and the same resources (e.g., funds, time) ✓ Ensure team members from underrepresented groups have access to training, mentoring and PD opportunities

	not impact the decisions made about who receives opportunities (conferences, publications, mentoring, etc.)? • Is there funding available for training and development opportunities for which travel, child care, accommodation needs, etc. may need to be paid? How do team members access this funding? How will team members have equitable access to this funding? • What support exists to allow graduate students, postdoctoral fellows and junior faculty to develop their skill sets/competencies, networks and CVs? • What types of EDI training activities are available at your institution? • What types of EDI training should the team receive, based on the current level of EDI competencies of team members and the particular context of the team's work environment (e.g., antiracism, unconscious bias, microaggressions, reconciliation, accommodations in the workplace for individuals with disabilities, etc.)?	care responsibilities are not disadvantaged within the decision-making process. • Keep a record of who within the team has had the opportunity to participate in which activities versus not. • Ensure there are opportunities for graduate students, postdoctoral fellows and junior faculty to develop papers, network and advance their own research with the assistance of more established researchers. • Identify a key team member (e.g., the nominated principal investigator) who has ultimate accountability for ensuring diversity and inclusion in training/development activities. • Discuss potential EDI training activities with team members (ask what type of training may be necessary/of interest). Provide and promote training to develop their knowledge of the systemic barriers faced by individuals from underrepresented groups.	✓ For training ideas, visit the CRC EDI Requirements and Practices website ✓ Online training/mentoring resources include the CIHR Unconscious bias training module and Harvard's Implicit Association Test **PLUS:** Ideas to ensure equitable training/development opportunities: • NPI to build own competencies in the area of EDI via workshops provided by UBC's Equity & Inclusion Office (e.g., "Countering Biases and Microaggressions", "Thriving in Diverse Teams", "Strategies for Effective Intercultural Communication") • Regular team check-ins focused on individual and team well-being, as well as research activities • Having all team members review the Canada Research Chair "Best Practices Guide for Recruitment, Hiring and Retention" and completing the corresponding "Unconscious bias training" module
Mentoring	• Are there formal mentoring opportunities within the team, especially for junior colleagues or graduate students from underrepresented groups to be mentored by senior members of the team? • Who within the team is doing the mentoring? Who within the team could or should be mentoring but	• Consider what type of mentoring is needed within the team, and who should do it. • Ensure all team members have equal access to mentoring opportunities, especially with senior researchers. • Ensure that all team members are doing their equal share of mentoring (as appropriate, given	

	isn't? Are mentors compensated for the time devoted to mentoring? • Are some team members benefiting from informal networking/mentoring opportunities while others are not?	the team size). Research demonstrates that individuals from underrepresented groups spend more time mentoring and supporting students (e.g., "the equity tax"); institute a mechanism to compensate for this (e.g., additional graduate student support, fewer administrative responsibilities for other tasks, etc.). • Ensure that mentoring activities are valued and recognized. • Ensure mentors receive unconscious bias training and/or other EDI training as necessary (e.g., microaggressions, antiracism training). • Consider whether your institution has tools that could be used to help support the work of the mentors, such as unconscious bias training materials; career development publications; tips for giving feedback to mentees; contacts for further information (e.g., faculty/student support groups, special interest groups, etc.); tips for fostering effective mentor-mentee relationships (e.g., establishing the goals of the relationship, establishing the boundaries and scope of the relationship, agreeing on the frequency of meetings, explicitly addressing the confidential nature of discussions, etc.).

Resources

- Tri-agency "Unconscious bias online training module"
- Status of Women Canada's online GBA+ module

- Stamm, M., & Buddeberg-Fischer, B. (2011). The impact of mentoring during postgraduate training on doctors' career success. Medical Education, 45(5), 488-496. doi:10.1111/j.1365-2923.2010.03857.x
- Jeste, D. V., Twamley, E. W., Cardenas, V., Lebowitz, B., & Reynolds, C. F. (2009). A Call for Training the Trainers: Focus on Mentoring to Enhance Diversity in Mental Health Research. American Journal of Public Health, 99(S1). doi:10.2105/ajph.2008.154633

C) Inclusion

Why is it important?

The research team must fully support and integrate all team members so they can reach their full research potential and continue to pursue their career in research. Issues such as microaggressions, biases, inequitable support, lack of recognition, anti-Black racism, lack of understanding of Indigenous communities, etc. can impact a team member's ability to fully contribute to the work of the team. Inclusion requires consistent effort by all team members so all team members feel supported and integrated; and so diverse lived experiences and research contributions are valued as assets to the team.

Expectations

Applicants must indicate how they will implement best practices toward ensuring all team members, in particular individuals who are from underrepresented groups, are fully integrated and supported in the research team. Applicants must provide a **minimum of one concrete practice** that will be employed to ensure EDI is intentionally and proactively considered to support the inclusion of all team members.

Questions and best practices

The following questions are provided as examples only, to help applicants consider what types of best practices could be implemented in the team to address systemic barriers. Applicants do not need to answer each of these questions in their application.

	Examples of questions to consider to help uncover the systemic barriers	Examples of best practices to help address the barriers identified
Inclusion	• Do team leaders and members understand what microaggressions, unconscious biases and racism are, and how these negatively impact individuals? How will these be mitigated?	• Ensure that the inclusion of all team members is a proactive consideration in how the team is managed on a day-to-day basis. • Ensure team leaders are demonstrating a good example to other team members in their language and attitudes in terms of fostering a safe, respectful and

- ✓ Highlight importance/availability of Inclusive Washrooms & Change Rooms (e.g., UBCV location list) and breastfeeding-friendly spaces
- ✓ Familiarize yourself with EIO's inclusive language resources (e.g., first-in-human vs. first-in-man)
- ✓ Schedule meetings to accommodate those who care for dependents

	Examples of questions to consider to help uncover the systemic barriers	Examples of best practices to help address the barriers identified	
	• How will tokenism be prevented within the team (see Appendix A – Definitions)? • What policies and/or processes are in place to address complaints from team members in a way that is confidential and effective? • What measures have been/could be put in place to underscore the fundamental role increased EDI plays in research excellence? • Is there a clear process for requesting accommodation for individuals with visible and/or invisible disabilities? How will confidentiality be maintained? • When organizing events and meetings, do team members consider whether the location and proceedings are accessible (e.g., for persons with hearing or mobility impairments)? • Is there a disproportionate pull on the time of certain members of the team? For example, are team members from an underrepresented group asked to sit on more committees? How is this disproportionate pull addressed/compensated for? • When are team meetings and social events scheduled? Do they take into account the schedules of members with family obligations? Are social events inclusive by design (e.g., held somewhere accessible; consider those who feel uncomfortable in locations serving alcohol)?	supportive work environment for all team members. • Address any conflicts or issues that arise swiftly and in a sensitive manner, respecting the privacy and confidentiality of those involved. • Put in place a complaints management process to address any issues that may arise within the team; ensure that all team members are aware of this process and that it provides opportunity for respectful and constructive discussion where possible. • Take complaints put forward by members seriously and address them swiftly while respecting confidentiality. • Hold regular meetings with members of the team to discuss workplace environment concerns and a plan to address them. • Address and discuss toxic dynamics such as anti-Black racism, colonial legacies, etc. • Develop a good understanding of microaggressions; immediately address any occurrences within the team; understand and make it clear to the team how microaggressions can lead to individuals not feeling included. Learn about impermissible questions/comments that often lead to individuals feeling excluded or "other" (e.g., asking someone from a racialized minority, "Where are you *really* from?" or telling an individual who has a chronic disability, "You don't look sick," etc.).	✓ Be mindful of Days of Significance for team members ✓ Offer opportunities to articulate needed accommodations (e.g., due to a disability) and share UBC resources (e.g., UBCV's Centre for Accessibility; UBCO's Disability Resource Centre) ✓ Become familiar with UBCV's Indigenous Research Support Initiative (IRSI) (e.g., blog) or invite UBCO's Aboriginal Programs & Services staff to meet your team, to ensure Indigenous peoples feel connected to campus resources ✓ Offer opportunity/options for people to share preferred names/gender pronouns (e.g., in-person, written format) ✓ Encourage people to attend events that raise EDI awareness ✓ Offer honest Land Acknowledgements at meetings/presentations ✓ Conduct regular team check-ins that focus on individual/team well-being and research activities **PLUS:** Ideas for promoting/ supporting/facilitating inclusion: • Regular team meetings + social gatherings, including team building exercises • Regular anonymous surveys to assess team member's inclusion integration, with support from Inclusion/Equity lead in NPI's Faculty to resolve issues

	Examples of questions to consider to help uncover the systemic barriers	Examples of best practices to help address the barriers identified

	• Does the work environment of the team provide a safe, supportive and respectful workspace for all team members?	• Provide EDI training for team members; topics could include, e.g., inclusive workplaces, reconciliation, bias-awareness training, intercultural competence, accessibility and accommodations, microaggressions and discrimination, anti-racism, and champions for change training.
		• Designate one or more senior members of the research team as EDI champions. Ensure they have EDI training and can assist with:
		  ○ providing advice and guidance to the team on how best to take EDI into account in planning and procedures;
		  ○ ensuring there is education and outreach to promote and sustain an inclusive and diverse research environment within the team;
		  ○ identifying resources and EDI training opportunities for the team to better understand the needs and realities of members of underrepresented groups; and
		  ○ promoting the value of EDI, especially as it relates to fostering excellent research.
		• Be aware of and promote various stakeholder organizations and community groups that support underrepresented faculty (e.g., faculty groups that represent interests of underrepresented groups; graduate student clubs; interest groups; etc.).

	Examples of questions to consider to help uncover the systemic barriers	Examples of best practices to help address the barriers identified
		• Recognize team members' efforts to advance equity and diversity by nominating them for diversity awards. • Participate in/organize public lectures by members of underrepresented groups and on topics of concern to these groups (e.g., Women in Science lectures, Indigenous approaches to research). Plan to have some of the team's research outputs presented through these forums. • Create a safe space for people who are not always seen and heard to feel comfortable participating in conversations (e.g., put together team meetings with interactive seminars on EDI topics and hold these during lunch times to ensure greater participation, and have regular team meetings to monitor the team's environment and help identify emerging EDI concerns). • Identify easily accessible and appropriate resources for team members, such as onsite child care with nursing rooms; accommodations offices within the institution; multi-faith prayer and meditation rooms; accommodations for students, faculty and staff fasting during Ramadan; flexibility for taking leave for religious obligations, rituals, celebrations and ceremonies; and support services for team members (such as immigration consultants, disability management specialists, faculty relations advisers, etc.).

Considering equity, diversity and inclusion perspectives in research design: Feasibility criterion

Feasibility criterion–Design of the research project

Gender-based analysis plus[Footnote3]

GBA+ will be assessed under the Feasibility criterion of the NFRF program. GBA+ is the process by which we ensure sound EDI principles are applied to research design, methods, analysis and interpretation, and/or dissemination of research findings. In the context of research, GBA+ is an analytical process used to systematically examine how differences in identity factors, such as sex, gender, race, ethnicity, religion, age and mental or physical disability, affect the outcomes of research and the impacts of research findings. The purpose is to promote rigorous research that considers identity factors, so the results are impactful and relevant to the diversity of the Canadian population. Applicants must provide a strong rationale if they believe that no aspect of the proposed research's design, methods, analysis and interpretation, and/or dissemination of findings should take GBA+ into consideration.

Applicants are strongly encouraged to take the Status of Women Canada online GBA+ module, as well as the tri-agency bias in peer review module to better understand these concepts.

Examples of questions to consider:

Why should I consider identity factors in my research design?

A vast number of studies show that consideration of GBA+ in a research project's design has the potential to make research more ethically sound, more rigorous and more useful.[Footnote4] Extrapolation of research findings that are based on a limited, nondiverse sample when compared to the overall population can lead to inaccuracies and have serious implications for how the research is interpreted and used.

How do I know if sex, gender and/or diversity considerations are relevant factors in my research?

There is an increasing number of cited research examples that would have or have benefited from considering identity factors in the research design and process. A good source for such examples is the Canadian Institutes of Health Research (CIHR) "Impacts of integrating sex and gender in research" and the Stanford University Gendered Innovations project. These materials provide practical examples and methods for sex and gender considerations, in addition to other factors or variables that should be considered, such as biological, sociocultural or psychological aspects of users, communities, customers, experimental subjects or cells. Research[Footnote5] has demonstrated how not taking into consideration certain identity factors, such as race or age, can lead to failed research projects.

How do I demonstrate that I have taken identity factors into consideration in my application?

Some questions to consider:

- Are sex (biological) considerations (including vertebrate animal and human studies) taken into account in the research design, methods, analysis and interpretation, and/or dissemination of research findings? (Y/N)
- Are gender (sociocultural) considerations taken into account in the research design, methods, analysis and interpretation, and/or dissemination of research findings? (Y/N)
- Are race and ethnicity considerations taken into account in the research design, methods, analysis and interpretation, and/or dissemination of research findings? (Y/N)
- If the research is using population/sample data, can that data be disaggregated by identity factors to determine differences between groups? (Y/N)
- Is there diversity in the work consulted and referenced in supporting/secondary research? (Y/N)
- Are other identity factors taken into account in the research design, methods, analysis and interpretation, and/or dissemination of research findings? (Y/N)
- Does the research engage or involve Indigenous Peoples using best practices and established guidelines? (Y/N) For best practices, see Resources below.
- If you answer "Yes" to any of these questions: Describe how identity factors will be considered in your research proposal.
- If you answer "No" for one or more questions: Explain why identity factors are not applicable in your research proposal.

Resources

- CIHR, Institute of Gender and Health Featured Research
- CIHR, How to integrate sex and gender into research
- CIHR, Sex, Gender and Health Research
- Department of Women and Gender Equality, What is Gender-Based Analysis Plus?
- Status of Women Canada, GBA+ module
- NSERC, Guide for Applicants: Considering equity, diversity and inclusion in your application
- Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans
- SSHRC, definition of Indigenous Research
- SSHRC, Indigenous Research Statement of Principles

Indigenous research

Indigenous research is assessed under the Feasibility criterion. Indigenous research is research in any field or discipline that is conducted by, grounded in or engaged with First Nations, Inuit, Métis or other Indigenous nations, communities, societies or individuals, and their wisdom, cultures, experiences or knowledge systems, as expressed in their dynamic forms, past and present. Research by and with Indigenous Peoples and communities emphasizes and values their existing strengths, assets and knowledge systems. All research involving Indigenous Peoples must be undertaken in accordance with the second edition of the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*, and, in particular, Chapter 9: Research Involving the First Nations, Inuit and Métis

Peoples of Canada. It is fundamental that protocols and Indigenous traditions are respected when conducting research by and with Indigenous Peoples and communities.

Resources

- SSHRC, Indigenous Research
- CIHR, Guidelines for Health Research Involving Aboriginal Peoples
- Chapter 9: Research Involving the First Nations, Inuit and Métis Peoples of Canada
- Final Report of the Truth and Reconciliation Commission of Canada (PDF document, 0.3 Mb)
- National Centre for Truth and Reconciliation
- Universities Canada principles on Indigenous education
- Colleges and Institutes Canada, Indigenous Education Protocol for Colleges and Institutes
- Federation for the Humanities and Social Sciences, Reconciliation
- Assembly of First Nations (n.d.)
- First Nations Information Governance Centre, First Nations principles of OCAP.

Appendix A – Definitions

Gender refers to the socially constructed roles, behaviours, expressions and identities of girls, women, boys, men and people with diverse gender identities. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. Gender is often conceptualized as a binary (girl/woman and boy/man), but there is considerable diversity in how individuals and groups understand, experience and express it, including nongendered, nonbinary and transgendered.

Gender-based analysis plus (GBA+) is an analytical process used to assess the potential impacts of policies, programs, services and other initiatives (such as research design) on diverse groups of women, men and people with diverse gender identities, taking into account multiple identity factors. The "plus" in the name highlights that GBA+ goes beyond gender and includes the examination of a range of intersecting identity factors (such as age, education, sexual orientation, parental status/responsibility, immigration status, Indigenous status, religion, disability, language, race, place of origin, ethnicity, culture and socio-economic status).

Intersectionality is a theoretical framework that was developed by professor Kimberlé Crenshaw in 1989 in a paper for the University of Chicago Legal Forum entitled “Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics” to explain how African-American women face overlapping disadvantages and discrimination related to sexism and racism. This approach or lens is a best practice and assists researchers to better understand and address the multiple barriers and disadvantages that individuals with intersecting social identities, such as race, gender, sexuality and class, face. Using an intersectional approach to develop policies and research projects helps better identify and address systemic barriers.

Microaggression refers to brief and common verbal, behavioural or institutional actions that play into stereotypes or discrimination against a group of people, often from underrepresented groups. First coined by Dr. Chester M. Pierce in his 1970s research with Black Americans, research on microaggressions has since expanded to examine the experiences of Indigenous Peoples, people with disabilities, women, LGBTQ2+ people, and a number of racial, ethnic and religious groups. Taken in isolation, one instance of microaggression can seem like a minor event; however, members of underrepresented groups often experience the same microaggression repeatedly over time, producing adverse emotional, social, psychological and health impacts, which can also affect their level of productivity and sense of inclusion at work. Examples of microaggression include implying a member of an underrepresented group is an "equity hire"; asking where someone is "really from"; downplaying the effects of race, gender, ability, etc. on lived experiences; implying that someone's reaction is due to sensitivity, not the nature of the situation they are in; etc.

Sex refers to a set of biological attributes in humans and animals. It is primarily associated with physical and physiological features including chromosomes, gene expression, hormone levels and function, and reproductive/sexual anatomy. Sex is usually categorized as female or male, but there is variation in the biological attributes that comprise sex and how those attributes are expressed.

Tokenism can be defined as "the practice of doing something (such as hiring a person who belongs to a minority group) only to prevent criticism and give the appearance people are being treated fairly."

Unconscious bias is an implicit attitude, stereotype, motivation or assumption that can occur without one's knowledge, control or intention. Unconscious bias is a result of one's life experiences and affects all types of people. Everyone carries implicit or unconscious biases. Examples of unconscious bias include gender bias, cultural bias, race/ethnicity bias, age bias, language bias and institutional bias. Decisions made based on unconscious bias can compound over time, to significantly impact the lives and opportunities of others affected by the decisions one makes. The following steps can mitigate against bias:

- Stereotype replacement—think about a stereotype that you hold and consciously replace it with accurate information.
- Positive counterstereotype imaging—picture someone who counters a traditionally stereotyped role.
- Perspective taking—take the perspective of someone in a stereotyped group.
- Individuation—gather specific information about an applicant to prevent group stereotypes from leading to potentially inaccurate assumptions.

Find further strategies in this Unconscious bias training module.

Footnotes

Footnote 1 Beaudry, C., Larivière, V. (2016). Which gender gap? Factors affecting researchers' scientific impact in science and medicine. Research Policy, 1-28.

Footnote 2 See Appendix A–Definitions

Footnote 3 Health fields often use the term SGBA+, to emphasize the importance of sex as a biological variable. The term GBA+ is broader and is used here to encompass all considerations of identity factors in research design.

Footnote 4 Impacts of integrating sex and gender in research.

Footnote 5 As examples, Criado-Perez, C. (2019) Invisible Women: Data Bias in a World Designed for Men. Abrams Press (review here). Taulli, T. (Aug 2019) "How Bias Distorts AI (Artificial Intelligence)," Forbes.