



Faculty of Science – Dimensions Annual Report 2021-22

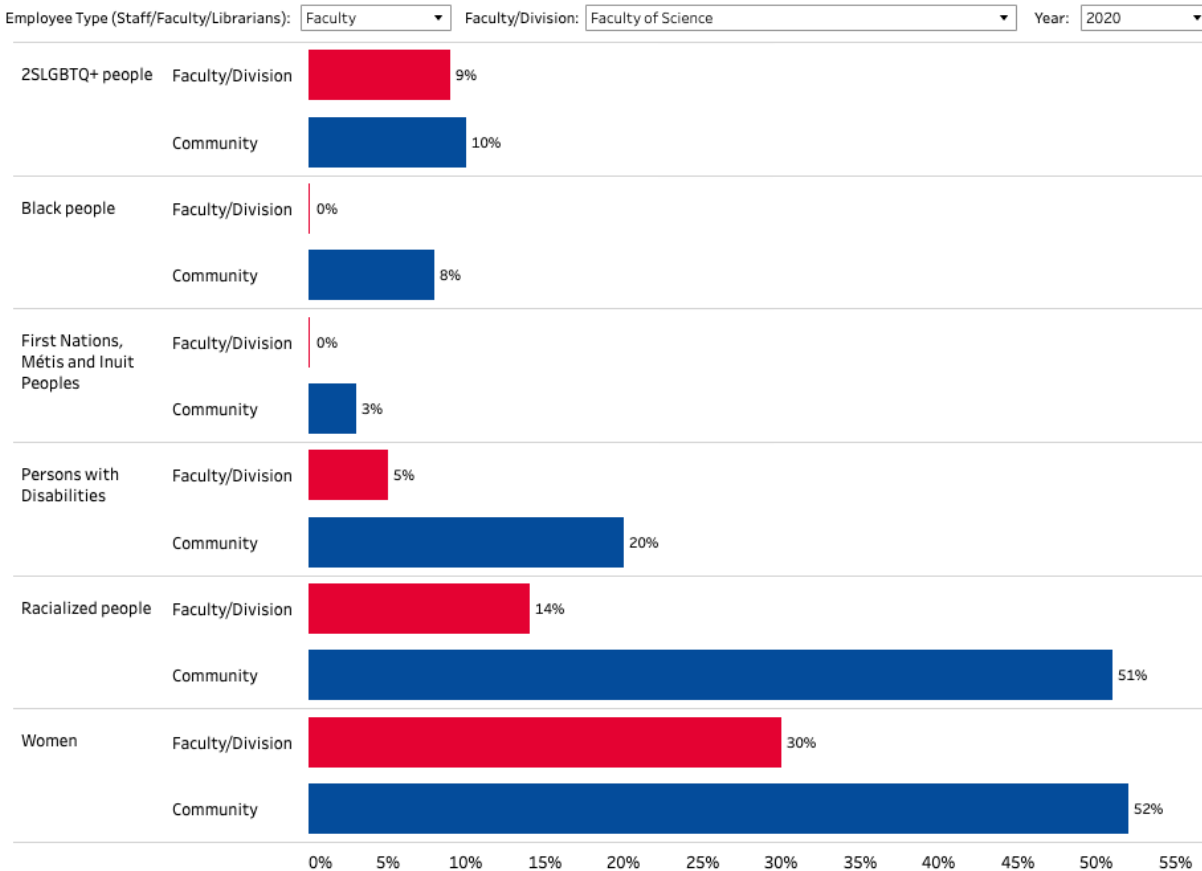
Faculty of Science - context

In 2022, the Faculty of Science celebrated a decade of independence as a stand-alone faculty at Toronto Metropolitan University, having split from the Faculty of Engineering, Architecture and Science in July 2012 (resulting in a renamed Faculty of Engineering and Architectural Science). Strong connections between the two faculties remain, despite their independent existences, and this has facilitated the Dimensions work since the program was launched at Toronto Metropolitan University because of both institutional history and similar cultures across science and engineering in particular. For instance, commonly noted barriers to engaging in research in science, engineering and architecture are exclusionary gender stereotypes, schema associated with academic research in STEM that maintain unrealistic and unattainable expectations for many demographics, the existence of a “hidden curriculum” known to a privileged and select demographic, narrow measures of merit and disciplinary cultures. The approaches to addressing these barriers are therefore overlapping and complementary between the two faculties.

Research activity (as measured by external funding rates) in the Faculty of Science has grown since independence, although application success rates have been unpredictable. As of January 2022, based on data collected by the office of the associate dean, research - there were ~100 RFA members in the Faculty of Science with an approximately 30/70% female/male ratio*. This distribution is not even across the professoriate. As might be expected, the assistant professor rank is more evenly split while the full professor rank is heavily skewed male. Other data on the profile of the Faculty of Science can be found in the most recent TMU diversity report (released July 2021).

A graphical representation of the representation of faculty is shown below. Overall, there is a significant under-representation of members of the 4 FDGs. The representation of members of the 2SLGBTQ+ community within the faculty is almost equivalent to that in the community. Compared to data from 2016, there has been marginal improvement across most categories towards increased representation.

2020 representation of faculty in Faculty of Science



Previous Dimensions work in the [Faculty of Science \(2020-21\)](#) focused on trainee experiences

For 2021-22, the focus was on faculty members and the identification of barriers associate with research or SRC (Scholarly Research and Creative activities). Themes identified by members of the Faculty of Science in response to the Dimensions survey and one-on-one interviews.

Note that very few responses to the offer of one-on-one interviews were received (although interviews were conducted with members of more than one department) while there were more response to the institutional Dimensions survey.

Themes described below are derived from both sets of feedback and comments varied with respect to barriers to research ranged from personal experiences to those identified for other groups. In addition, in fall of 2021, a virtual session of the Faculty of Science Faculty Council was devoted to EDI issues and responses to a series of moderated questions were collected through an anonymous Mentimeter comment board. These results are included in supplemental

information at the end of this report and can be viewed as additional feedback provided by community members with respect to both barriers and actions.

General Themes

Inequitable Resource Allocation: Uneven resource allocation in support of research was a common concern. This included issues related to space, internal grants, offices, and other supports. Uneven responses to requests for accommodations were also raised, including issues for faculty who are developing needs as they age.

Uneven/unfair workloads and unworkable work-life balance especially for certain demographics: There were a number of comments suggesting that research activity was not equally recognized and that those conducting less SRC should be assigned increased teaching (and vice versa). It was not clear that this was an EDI concern but rather a general frustration with overwhelming expectations which may be differentially experienced, and weigh more heavily on those with care-giving responsibilities or those who are already marginalized. The impact of the pandemic was noted and concerns about recognition for differential impacts on researchers by both at the university level and granting agencies was raised.

On a number of occasions, individuals raised the issue of lack of acknowledgement, recognition and credit for EDI work (which can be highly impactful but is often considered of lower value within an academic scientific research setting). Questions have been raised as to where to report this type of work in the annual report and when one's core research program is in science, work on creating more inclusive and productive research cultures in science is often not understood by colleagues and cannot be evaluated fairly in hiring, tenure and promotion. In fact, those who do this work have experienced belittlement, despite, potentially, being some of the more innovative and impactful work for a particular discipline. Some concerns about this not being a core requirement for recruitment (i.e. core competencies in the application of EDI principles) but rather an afterthought were also raised.

Limited Opportunities for trainees from diverse communities: Several individuals raised concerns about students not having access to research opportunities because of a "Hunger Games" type of competition to gain access to a very limited number of research spots within the faculty. This barrier was identified as likely to specifically disadvantage students who were possibly culturally less likely to self-advocate, had lower overall GPAs or lacked previous research experience. Despite a willingness to provide research opportunities for a broader range of demographics, respondents felt constrained by the somewhat rigid format and long-standing culture of how undergraduates find research placements. For instance, the culture of volunteerism as a "selling point" for students looking for placements, where volunteerism is really a proxy for privilege. In addition, financial barriers (fees, housing and travel expenses) to research opportunities for graduate students were frequently cited, especially when compared

to neighbouring institutions where fees are lower and/or the cost of living may be lower (for institutions outside the GTA). Other barriers identified were a lack of attention to mental health issues for trainees and a lack of specific EDI-related training (e.g. anti-racism training) specifically designed for science, and targeted more broadly, than the very minimal amount of information currently available to trainees. Issues related to accessibility (for both trainees and faculty) for those with disabilities was also raised as being something rarely discussed in science. The need for heightened awareness through increased education about EDI in science, as well for allyship and bystander training for trainees (undergraduate, graduate and postdoctoral fellows) and faculty members was highlighted as being useful towards a more inclusive cultures where barriers are explicitly identified, discussed and strategies towards removing them are developed. Generally, faculty members recognized the need for their own upskilling but could not always clearly articulate exactly what would be useful while being clear on what they thought would be useful for trainees.

Interrupted Career Trajectories: The restricted role of an LTF and the precarious nature of sessional appointments were raised as barrier to the inclusion of diverse talent in the research community. There is an over-representation of women and other FDGs in these positions in science and significant challenges in participating in research while employed in these positions making it very difficult to move from this type of precarious employment position to a tenure-track research position at TMU (and other institutions). This is clearly a significant structural and cultural issue in the academic sciences. Effectively, those individuals who take on positions as LTFs or sessional instructors find it impossible to achieve the expectations of hiring committees for positions as research-stream faculty.

The Hidden Curriculum and/or need to belong to the “In-Crowd”: The hidden curriculum, often mentioned at the undergraduate student level, as a form of privilege, were certain individuals, often those with strong networks of individuals familiar with the ways of the system, have an advantage in knowing how to navigate that system. A similar hidden curriculum or invisible power structure has been described in the literature for academia and was raised by a number of respondents as being barrier that they experienced (in not knowing how invisible power structure work or being part of the in-group) in terms of advancing their research. This was described as having the sense of not knowing boundaries and expectations, within academia and research, a lack of clear instructions, having to work twice as hard to be considered half as good, etc.

Overt and subtle racism, sexism, etc. from the community.

Some respondents described directly negative experiences due to their identity from undergraduate students in student evaluations, from colleagues in various settings and from other members or sectors of the community. Blatant misogyny and racism in hiring committees and more subtle types of discrimination were noted. Microaggressions described by individuals were related to questioning their competence (from female respondents) or spoke accented

English (possibly implying an immigration status) or they had specific lifestyle choices (e.g. veganism). Not knowing how to respond to challenges associated with the relevance of EDI in science were also raised and a specific suggestion for getting training in responding or disarming supportive or biases statements would be useful.

Actions:*On-going***Increased Education and Training**

Both one-on-one and workshop type events that provide background and actions in support of increased EDI in research have taken place during the 21-22 year, frequently in collaboration with the Faculty of Engineering and Architectural Science. One-on-one sessions to assist with EDI sections of grants continues in an ad hoc manner and a formal FEAS-FOS mentoring plan is in place and focused on the Fall 2022 NSERC Discovery Grants competition. In addition, a Dimensions/YSGS/Associate Dean, Graduate Students, workshop is proposed for Sept 2022, for incoming graduate students, which will highlight the importance of EDI in rigorous research design and particularly allyship, bystander training and the importance of inclusive research cultures for all graduate students.

Provision of Resources in support of EDI-related issues

Following the lead by the FEAS, the Faculty of Science created a Dependent Care Supplement for the travel fund, but this has yet to be implemented (as of April 6, 2022) due to some HR or administrative concerns. A document entitled **A Practical Guide to Writing about Equity, Diversity and Inclusion (EDI) in Grant Proposals (appendix C)**, based on a document produced in support of faculty in FEAS was also produced for faculty in FoS and other resources in support of inclusive hiring, writing codes of conducts, creating environmental scans for your research group (based on one developed by Dr. Andriyy Miransky, Comp. Sci.) were posted to a dedicated site linked to the office of the Associate Dean, Research.

Clarifying Routes for supports relating EDI issues

Specific routes for raising EDI issues would be helpful and while the Dimensions Faculty Chairs currently sit within the office of the Associate Dean, Research, various questions related to EDI do not seem to naturally fall to being answered via this administrative office so providing clarity about who to ask about what would be helpful. Not knowing where to go was identified as a barrier. This will be more explicitly addressed within future Faculty of Science learning sessions.

*Proposed***Increased and Advanced Education and Training: Challenging the myth of meritocracy and increasing the rigour of the scientific enterprise**

It is clear that there is a very large range of familiarity, comfort and competency with respect to the application of EDI principles in research settings, including research labs, but more broadly,

in the scientific enterprise. The traditional concepts of merit are very strongly embedded as is resistance to a deeper level of self-awareness about the intersections of culture, history and systemic bias in the scientific enterprise. This appears to be echoed in narratives accompanying grant applications where EDI sections from faculty members in science often state that TMU is considered a national leader in the integration of EDI into the academy and that they (the applicant) will consult with the OVPECI on various issues related to their proposed research program – such as, for instance, wording for ads for trainee positions. This appears to reflect a misunderstanding as to where resources and expertise are located both locally, within a faculty, and institutionally, for instance, in the OVPRI – which “houses” in part, the Dimensions project. Bringing the community to a point where they can recognize that calibrating for bias is a way of adding rigour to the process will take time because it goes against almost everything that scientists are trained and told about themselves. There is a need for on-going education from the basics to more advanced understanding of EDI and accessibility principles and how to apply them in all aspects of academic science. Successful approaches are typically varied (one-on-one, workshops, invited speakers) and need to be targeted to specific audiences (disciplinary, demographic, career stage etc.). A more coordinated effort, perhaps led by a dedicated office of EDI or a team, reporting directly to the Dean or perhaps led by the Dean is something to consider for the future.

Development of Targeted opportunities for trainees.

A suggestion that the Faculty of Science provide specific funding packages for marginalized demographics was proposed. Fully funded summer internships for example for certain groups of undergraduates or targeted graduate funding for certain demographics was suggested. This would also address one of the recommendation in the recent TMU anti-Black racism report in which increased opportunities for Black students in STEM was highlighted. In addition, targeted supports for low income or low GPA students for research opportunities, students with Indigenous or historically under-represented identities could be put in place.

Expansion of criteria for allocation of resources (e.g. adding lived experience to funding applications for trainees)

Adding a section on a funding application that allowed an applicant (UG or grad) to explain mitigating circumstances that might impact GPA or similar. While this was raised specifically in response to OGS / NSERC USRAs / PGS-M scholarships (which are not within our control) – the same principle could apply to our applicants to graduate programs and for trainee positions in our research groups. Recognizing the humanity of the applicant – and the full range of impacts that might affect performance – would ensure that the broadest range of talent is sought, recruited and retained.

What are some words and phrases that represent good EDI practice in SRC ?

What can I do to support you?

What barriers exist for you?

Do you feel safe in this environment?

Be curious instead of authoritative

I hear you

I identify as she/her, would you like to be identified by particular gender pronouns?

Make sure that diversity is in the room

I will act to make this group more inclusive and respectful

Let's work on a schedule/work plan together (accounting for personal responsibilities they might have)

What are some words and phrases that represent good EDI practice in SRC ?

Ask yourself if your voice needs to be heard first? At all?

That sounds hard; what could help with that?

Treat everyone like they matter and can contribute and have an impact

Re-evaluate your lab practices

What do you think we should do?

Hey, want to participate in this application for a research grant?

Invite people who don't think like you to get involved.

Commit, as a PI, to learn about good EDI practices, ask if you don't know, commit to expanding your knowledge

Lack of understanding/empathy around mental health.

What are some barriers to improved EDI in your research activities?

International student fees

RFA/CUPE status

Financial resources

The LTF process seems like a barrier to entry to become a full time faculty member. Many LTF are clearly more diverse than the FT faculty.

Caretaker responsibilities

Time that minorities need to invest in their home life

Star system for grants versus broader allocation

More staff -faculty interactions that can promote conversations around career and professional development of trainees

Language barrier

What are some barriers to improved EDI in your research activities?

Lack of a community feeling

Intellectual snobbery

Outright comments/remarks from colleagues and students about visible conditions

Few highlights of scientists of Colour, LGBTQ2S+, women scientists in classes impact students and their science identity.

Impact factors

Time involved in the work to fix stuff

LTFs due to short-term (1-yr) employment cannot apply for internal/tri-agency grants as PIs and must be a co-applicant under a tenured faculty.

Lack of organizational recognition for those who practice EDI/No consequences for those who don't

Continuing hierarchy of assessments without regard for diversity

What are some barriers to improved EDI in your research activities?

Mental Health considerations and acknowledging that individuals who do have these concerns aren't any less able to be in research

Not Issuing visa for some students because of their background so they can not participate in international conferences

We seem to use "research excellence" as a means for discounting disadvantaged applicants to almost every way of receiving funding, getting jobs, and having a say.

biased conversion of international GPA averages to canadian GPA for overseas students

Opportunities available to those on non traditional paths

Lack of fairness

Disciplinary hierarchy

No experience by admin in providing accommodations

Lack of understanding/empathy around mental health.

What are some barriers to improved EDI in your research activities?

Where do we put this work on our CV?

Not much support for HQPs with disabilities

Physical barriers to participation in field research

Talking too much, doing much less.

Administration actually need to do the work

Stop talking-start doing something about it.

Administrators need to be aware of the structures they are maintaining

When you see others making comments that belittle others - intervene

Make superficial EDI statements more effective by demanding inclusion of (our often very poor) metrics concerning the facts on the ground.

What are some barriers to improved EDI in your research activities?

Treat everyone like they matter, can contribute and make an impact

Treat diversity as part of the criteria for hiring, rather than a second-level filter

What are some ideas to overcome those barriers?

Dedicated resources

Active allyship

Get trained in recognizing and addressing challenges caused by biases and microaggressions.

Adjunct positions to help LTF/CUPE qualify to apply for grants

Bringing in different research funding agencies to be involved in these conversations

Administrators need to be way more responsive to feedbacks

Improved access to mental health and counselling resources for our students

Changes to cultural norms

Can PDFs get adjunct status?

What are some ideas to overcome those barriers?

Stop talking-Start doing something about it.

People need to share their within lab processes

conversations and actions

Less reliance on biased assessments

Space on CVS talking about EDI initiatives

Stop focusing on impact factors when assessing SRC performance.

More support in hosting more international scholars and students to do part of their research in our research labs

Allow remote access to Dept Meetings

Actually host events during work hours

What are some ideas to overcome those barriers?

Can we have general EDI guidelines/policies/practices rather than each lab having to create their EDI action plan?

Good sensemaking

Reach out to communities beyond academia

Create opportunities to provide feedback asynchronously

Treat everyone with respect and fairness

The medium is the message. Only one person is talking

Supplemental Information

A Practical Guide to Writing about Equity, Diversity and Inclusion (EDI) in Grant Proposals

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Acknowledgements

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Background Information and Introduction

Application of Equity, Diversity, and Inclusion (EDI) principles is the framework for creating an environment that is fair to all participants, welcoming to all individuals, truly merit-based, and able to thrive by permitting access to the largest possible talent pool. EDI-infused proposals recognize obstacles and barriers that are experienced by members of equity deprived (also referred to as ‘equity seeking’) groups, and seeks to better identify talent and potential, and accommodate those with differing personal needs. Supporting EDI helps to reduce and eliminate its opposites, namely *inequality*, *homogeneity* (and thus less diverse lens, experience,

point of view, and creativity), and *exclusionary* practices (both overt and inadvertent). Therefore, embedding principles of EDI leverages talent and potential, drives innovation, displaces mediocrity and creates inclusive excellence, producing better scientists and better science.

As per the Tri-Agency Statement on EDI, the stated commitment to “*Increasing equitable and inclusive participation in the research system, including on research teams*” and specific initiatives to achieve that, are a primary focus of Ryerson/X University. Individual PIs do not always receive EDI training, and yet there is a growing expectation, especially from [NSERC](#), [CIHR](#), and [SSHRC](#), to show EDI competencies and the application of EDI principles in our labs, our mentoring and training, and in our grant applications.

Writing effectively about EDI in grant applications is made easier when the PI and trainees have taken concrete steps in support of EDI in the lab or SRC environment. See the document [Supporting EDI in your SRC Lab or Group Environment](#) and [Five Easy-to-Take Action Items to Support EDI in Your Research Group](#) provided previously by the Dimensions Chair. For example, each of the “five easy-to-take actions”¹ will provide context that an applicant can easily draw upon when crafting a proposal.

Granting Agency Requirements

Major grant proposals now require the applicant to write one or more sections on EDI. For example:

NSERC Discovery Grant Applications require:

- In the [HQP Training Plan](#) section, a description of “the planned approach to promoting participation from a diverse group of HQP, taking into account equity and inclusion in recruitment practices, mentorship approaches and initiatives aimed at ensuring an inclusive research and training environment and trainee growth.” See Appendix A for some sample HQP Training Plan text.
- In the [Past Contributions to the Training of HQP](#) section, a description of “specific actions implemented to support equity and inclusion in recruitment practices, mentorship approaches, and initiatives aimed at ensuring an inclusive research and training environment and trainee growth.” See Appendix A for some sample Past Contributions to the Training of HQP text.
- In the [Most Significant Contributions to Research](#) section, it is noted that “Impact can be seen as ... contributing to increased equity, diversity and inclusion in research.”
- In the [Methodology](#) section, it is noted that the “inclusion of sex (biological), gender (socio-cultural) and diversity considerations in research design makes research more ethically sound, rigorous and useful.” The applicant is instructed to describe “the rationale for including sex, gender and diversity considerations, and how these aspects will be addressed in the research design, if applicable.” If these factors are not applicable, it may

¹ (i) implementing a Code of Conduct, (ii) offering flexibility of work location and time, (iii) encouraging undergraduates from equity-seeking groups to apply for URA and Masters positions, (iv) putting an EDI statement on your website, and (v) asking about religious or cultural observance requirements,

be useful to point that out and explain why thereby demonstrating rigour in experimental design.

- See also [here](#) and check out what peer reviewers are recommended to be aware of with respect to EDI in NSERC DG applications [here](#). Write your applicant so a reviewer will find it easy to follow, specific for your location & discipline, compelling, thoughtful and substantive.

NSERC Alliance Applications require:

- an explanation of “how equity, diversity and inclusion have been considered in the academic team” and
- “how equity, diversity and inclusion are considered in the training plan.”

Early Researcher Award (ERA) applications require:

- that the “research project ... meaningfully engage members of underrepresented groups within the research team” and “[t]he institution must strive to put in place the right conditions for each individual to reach their full potential”.
- It also states that the “applicant must clearly demonstrate their commitment to Equity, Diversity and Inclusion (EDI) in their research teams, including undergraduates, graduate students, post-doctoral fellows, research assistants, associates, and technicians, as applicable.” ERA applicants must decide how to address EDI considerations in four sections of the application on HQP training.

Starting at the Beginning – Types of EDI Considerations

Aspects of EDI in research can be divided into two main categories, i. EDI considerations **for the research team members**, and ii. EDI considerations in **research methods and application (sometimes referred to as sex and gender plus based analyses – or SGBA+)**. These two categories should be considered individually when writing a grant application. Further details are provided below.

1. EDI considerations for the research team members: This category is relevant to all research proposals and can be further subdivided into 1a. EDI considerations when recruiting prospective members, and 1b. EDI considerations for current members of the research group.

1a. EDI considerations when recruiting prospective members; Some topics and considerations that fall under this category may include (but not be limited to):

- Which equity seeking groups are, or have historically been underrepresented or excluded in your department, program, and research group (See Appendix B). Be honest about this. If you don’t know – learn something about your field. Women were not [historically excluded in computer science](#) but are certainly under-represented now. People with disabilities are under-represented/historically excluded from laboratory sciences and members of other communities have been excluded across all science disciplines. Does the recent [Ryerson student ID survey](#)

help to inform this section of your EDI plan? Use specific data and metrics where appropriate.

- What recruitment strategies will you use to target members of those equity seeking groups (depending on your discipline). For example, will you advertise positions on an LGBTQinSTEM website or a Women-in-Chemistry newsletter, or will you seek assistance in crafting position ads with non-gendered language or perhaps use a “tap-on-the-shoulder” approach to recruit those who may not have considered themselves potential members of a research group. Multiple approaches are typically needed to ensure diverse pools of potential HQP.
- Recognize and articulate that members of one or more equity seeking groups may have experienced significant barriers to achievement or may have been denied research opportunities on the basis of characteristics that have nothing to do with ability. As a result of these barriers, talent and potential may be masked, or difficult to see on their CV in traditional categories (journal publications, volunteer experience, etc.). For example, will you make efforts to interview a diverse set of applicants and will you seek to understand their academic journey and the barriers they may have encountered in your assessment of research potential? What other approaches might you employ?

1b. EDI considerations when interacting within the research group; Some topics and considerations that fall under this category may include (but are not limited to):

- Do you require members of your research group to abide by a Code of Conduct which outlines responsibilities and expectations of each member. There are many examples of science lab codes of conduct available to use as templates.
- Will your research group members be expected or required to attend EDI training – what type? Where? Is there something you can point to locally? Wherever possible, give specific details that are appropriate for your context.
- Trainees from marginalized background (women, racialized individuals of all genders) often report being denied leadership opportunities, internships, choices of research projects, and also report being subject to other discriminatory practices within research settings. Note that research settings can be problematic with respect to unsafe contexts such as (but not limited to) late nights in labs, remote locations, restricted access infrastructure (computer labs, imaging facilities, analytical equipment rooms). There are aspects of research culture in the sciences which put some trainees at higher risk. Do you have specific training for field work, independent work outside regular working hours? Will your HQP know how to intervene, what to do and where to go with respect to issues.
- Will the research group have policies with regard to (for example):
 - Equitable distribution of research projects, internships, and leadership opportunities,
 - Authorship and co-authorship rights on collaborative works,

- Distribution of speaking time in meetings, interruptions
- Will accessibility and inclusion be considered when planning social events (access for persons with disabilities, accommodation for dietary restrictions, religious observances) and conference presentations. Conferences have been identified as potentially high risk environments for various demographics (e.g. poster sessions with open bars, locations in parts of the world that are explicitly racist or homophobic).
- Will the research group have a public statement (online, posted in a lab, etc.) on EDI policies. (A sample statement can be found in the [2020-2021 FEAS Dimensions Report](#)).

2. EDI considerations in research methods and application: This category is relevant to some research proposals and can be further subdivided into 2a. EDI considerations in research methods (**sometimes referred to as sex and gender plus based analyses – or SGBA+ for funding agencies such as CIHR**), and 2b. EDI considerations in the application and realized benefit of research results (an extension of the relevance of the research within the context of SGBA+). Not that SGBA+ is not exclusively about sex and/or gender – but about other aspects of diversity (e.g. age, socio-economic status, ethnicity, etc.) hence the plus (+). This is sometimes overlooked but reviewers are asked to assess incorporation of SGBA+ in the fullest sense.

2a. EDI considerations in research methods; Some topics and considerations that fall under this category include:

- In research that involves human subjects, how will the diversity of the subject pool be taken into account (e.g. databases, genomics, populations, etc.)
- In research that involves Indigenous communities, how will Indigenous modes of knowledge and communication be taken into account and how will the research be led by, or done in conjunction with Indigenous community members and scholars.

2b. EDI considerations in the application and realized benefit of research results. Some topics and considerations that fall under this category include:

- Has the application of the research topic typically benefitted the majority population of Canada (predominantly white, European ancestry, middle-class, upper-middle-class Canadians), and how might it's application extend beyond these groups. For example, many databases used in genomics analysis and machine learning are skewed to the extent they do not represent the population or reflect humanity. Multiple examples can be found [here](#) as well as approaches to improve experimental design and application of results for maximum impact.

Dos and Don'ts of Writing about EDI in Grant Proposals

Do: Be candid about the diversity shortcomings in your department/program/research group.

There is no expectation that EDI performance has been perfect, but rather it is seen as beneficial to acknowledge shortcomings, and discuss methods to address them. For example, use phrases like, “It is well known that Indigenous students have experienced significant barriers to inclusion in our field” or “To address the historic underrepresentation of researchers who identify as women and/or BIPOC in the group...”

Don't: Don't claim that EDI issues don't exist in your department/program/research group.

Similarly, don't spend too much effort touting your recruitment and team diversity achievements, unless you can explicitly demonstrate a link between your EDI initiatives to diversity statistics that exceed the norms in your field.

Do: Be specific about representation and diversity by citing statistics for race and gender breakdowns in your department/program/research (see appendix B). Quote statistics from self-identity surveys to justify the need for inclusivity initiatives. Make sure that the actions you plan to take will specifically address the shortcomings in the cited data. Be specific to your location and discipline. Make note that Ryerson is in the process of changing it's name to reflect intentionality and awareness of colonial and exclusionary histories and practices. This is the context in which your research is taking place, suggesting, by extension, there is awareness, support, expertise and advice for your EDI HQP actions plans. Then be specific about those actions.

Don't: Don't make generic statements about being committed to supporting EDI, or believing in the equality among researchers. Don't make statements about believing that members of equity-seeking groups are just as talented at researchers as others. Instead, make statements about actions that you will take in support of EDI, and be sure that they have been shown to be effective. Reviewers are looking for specific recognition of the realities in your field and your specific actions. Do not make generic statement that suggest a deficit model in individuals or groups. Equity-deserving groups are almost always interested in <science discipline> and want to participate but the culture and context is not welcoming and they do not see themselves reflected in that science. What are you going to do to change that and make your research program welcoming and supportive.

Do: Recognize and acknowledge your own privilege along your academic journey, and the advantages you have had. Each individual has had a different lived experience, and has had advantages, and possibly faced barriers. Each tenure-stream faculty member has had at least some opportunities. This statement in no way diminishes the struggles that many researchers have endured, especially those who identify as in one or more equity-seeking groups. However, by clearly articulating a recognition of our own privilege, we open our minds to understanding the barriers that others face (and *vice versa*), which is an asset when it comes to breaking down barriers of others. From subjective experience can come objective insights. Be thoughtful and honest about your own privilege. Demonstrate a level of self-awareness that has informed your proposal

Don't: Don't spend too much effort discussing the barriers that you encountered along your academic journey, especially if it is done as a means of prefacing your ability to identify with

and recognize the struggles of others. There is an enormous spectrum of identities and lived experiences in the research world, and having faced specific barriers associated with one identity does not necessarily qualify someone to truly understand the barriers and obstacles faced by others. Furthermore, having faced specific barriers does not excuse someone from self-educating on EDI issues, or mindfulness of others.

Do: Understand (and discuss) the linkage between equitable and inclusive group culture, and recruitment of diverse groups of applicants. When trainees feel valued, free to speak their mind, appreciated, included, and comfortable in their environment, a research lab can develop a reputation as equitable and inclusive, which can aid in recruitment. Prospective trainees often connect with current trainees (both directly, and on social networks) to discuss group culture. When it becomes known that a research group is deliberately and highly inclusive of all identities, it becomes easier to recruit trainees from a diverse applicant pool. It is important to remember, however, that reputation building alone is not enough to ensure diverse recruitment; other initiatives that are recruitment-equity-specific should be undertaken as well.

Don't: Don't focus your discussion entirely on recruitment. While it is valuable to discuss efforts that will be made to recruit from a diverse and larger pool of applicants for open positions, it is also important to discuss specific efforts that will be employed to support equitable treatment of group members (by the faculty and other group members), and inclusive behaviour. We know from numerous surveys that some of the biggest barriers to inclusion in the sciences is the trainee experience over an extended period time – in terms of both mentorship and research program culture.

Do: Understand and discuss the relationships between recruiting from a more diverse applicant pool and between increased diversity in the research group, and a stronger research environment.

Contact Information

Imogen R. Coe, PhD, (*She/Her*)

Professor

Chemistry and Biology

Dimensions Faculty Chair

Faculty of Science

Email: imogen.coe@ryerson.ca

Michael Kolios, PhD, (*He/Him*)

Professor

Associate Dean (Research and External Partnerships)

Faculty of Science

Email: mkolios@ryerson.c

Appendix C – Sample Text from an NSERC Discovery Application

Adapted from the “HQP Training Plan” Section:

My approach will focus on creating an environment that is inclusive to all backgrounds, experiences, and viewpoints. I, along with all HQP, will attend an annual Equity, Diversity, and Inclusion (EDI) Workshop, organized by XXXXX², focusing on awareness and issues related to EDI in my field. Our group also has a Code of Conduct³ that each new HQP is given, which outlines procedures and expectations related to harassment, expressing views and opinions, civility in discourse, critiques of colleagues work, creating an environment of physical safety (monitoring that the lab is locked, etc.), and what resources can be utilized should issues arise.

A variety of initiatives are underway to alleviate the underrepresentation of <XXX> in the group. They include building our reputation as highly inclusive and welcoming environment; ensuring that each member gets the floor in group meetings equally, and that <XXXX> members engage in leadership activities with appropriate supports. Other members of the group (e.g. from the dominant demographic) will be encouraged to receive training about microaggressions, allyship and bystander interventions as part of creating a culture of inclusion and respect. I actively seek diverse collaborators (e.g. Prof. XXXXX at XXXXX University) to provide more diverse mentorship to HQP. I work to identify promising XXXX students in our graduating class, and strongly encourage them to apply to our graduate programs.⁴

Adapted from the “Past Contributions to HQP Training” section:

I maintain a collegial and inclusive training environment. Since [year], I've had the pleasure of supervising X PDFs, X PhDs, X Masters, and X URAs. These HQP are a diverse group coming from all over the globe; North and South America, Europe, Africa, The Middle East, and Asia. They include HQP who are the first in their family to attend University, and HQP who identify as LGBTQ2S. A plan to address this underrepresentation is included in my Training Philosophy.

NB: Be very careful about quantifying numbers of individuals (X women, Y individuals from BIPOC backgrounds) or providing any other information that may lead to identification of HQP. Having a research group with 5 men and 5 women does not constitute or provide evidence of an EDI plan and may breach privacy rules.

Appendix B – 2019 Ryerson Student Diversity Self-ID Data (taken from the report that can be found [here](#))

Ryerson University overall relative to representation in the GTA or Ontario

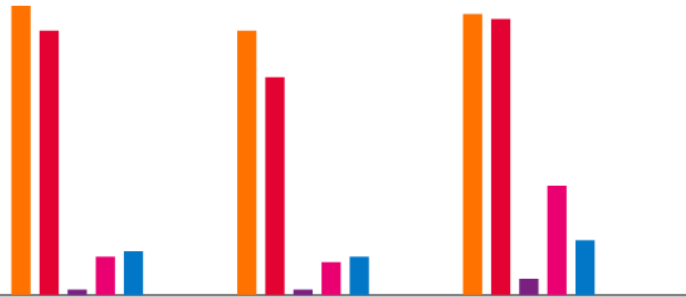
² Discuss available workshops and training with your Dimensions Chair, your department chair and/or Associate Dean – Research and External Partnerships

³ Consider implementing a group Code of Conduct if you have not done so already.

⁴ There are many faculty for whom this paragraph may not apply, however, it's form and structure may be useful for discussing any identified shortcomings and possible modes to address them.

Undergraduate and graduate student representation

The graphic compares the representation of student equity groups at Ryerson with data from the GTA or Ontario.



	Undergraduate students	Graduate students	GTA/Ontario population
Women	55%	54%	52%
Racialized people	48%	39%	51%
Aboriginal Peoples	1%	1%	3%
Persons with disabilities	7%	6%	20%
2SLGBTQ+ people	8%	7%	10%

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Diversity scores for undergraduate programs in the Faculty of Science

Program name	Women students	Racialized students	Aboriginal students	Students with disabilities	2SLGBTQ+ students	South Asian students	Black students	Chinese students	Diversity Score
Faculty of Science									64.9%
Biology	A+	A+	B+	C-	A-	A	B	B-	77.9%
Biomedical Sciences	A+	A+	C-	D-	B+	A+	B	C-	67.3%
Chemistry	B+	B	D-	D+	B	C+	A+	A	63.5%
Computer Science	D	A+	C-	C	A-	A+	D-	A	62.6%
Financial Mathematics	C-	A+	D-	D-	C	A+	A	A	62.6%
Math & Its Applications	C-	B-	C+	C-	B-	B+	D-	C+	50.1%
Medical Physics	B+	A+	C	B-	B-	A	A+	B	70.2%

How to use this information:

For example, note that the biology program has a high score for women reflecting a proportionate representation on women in the program but much lower score for students with disabilities, a demographic that is well known to be under-represented in sciences (and employment in general in Canada). Barriers to inclusion can be physical (like infrastructure) and attitudinal. What actions might be possible to unlock talent and potential in this demographic (keeping in mind that 20% of Canadians identify as having a disability).

Diversity scores for graduate programs in the Faculty of Science

Program name	Women students	Racialized students	Aboriginal students	Students with disabilities	2SLGBTQ+ students	South Asian students	Black students	Chinese students	Diversity Score
Faculty of Science									48.4%
Biomedical Physics (MSc)	A+	C-	D-	C	D-	A+	B	D-	50.1%
Biomedical Physics (PhD)	C	A-	D-	D-	D-	C+	D-	A-	41.4%
Computer Science (MSc)	C+	D	D-	B-	C-	C	D-	D+	35.6%
Computer Science (PhD)	B-	B-	D-	D-	D-	C+	D-	D-	31.8%
Mathematics (Applied Mathematics) (MSc)	A+	C+	D-	D-	D-	A+	D-	A+	52.0%
Mathematics (Math Modelling & Methods) (PhD)	A+	D-	D-	D-	A+	B+	D-	D-	44.3%
Molecular Science (MSc)	A+	A	D-	B-	A+	A+	A-	C+	76.0%
Molecular Science (PhD)	A+	D-	D-	C-	A	A	C+	C-	55.8%

Appendix C – EDI Application Requirements for other Programs

A variety of other grant programs, that are commonly subscribed to in FEAS have instituted EDI application requirements. A brief (non-exhaustive) summary of some of those programs and their requirements is included below.

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NSERC Alliance and NFRF

- These research proposals, require the applicant to “explain how sex, gender and diversity and/or EDI have been considered in the research design”.
- EDI must also be addressed in the proposed training plan portion of the application.
- In the ‘Team’ section of the application the applicant must “explain how equity, diversity and inclusion have been considered in the academic team composition.

SSHRC Insight

- In the ‘Knowledge Mobilization Plan’ section: the applicant must “include a plan to increase knowledge uptake by target audiences, and anticipated outputs, outcomes and/or impacts of social sciences and humanities knowledge among various appropriate audiences or participants (academic and/or non-academic), including:
 - methodologies and approaches to engage appropriate target audiences or participants, including, as applicable, diverse groups of researchers, policy-makers, business leaders, community groups, educators, media, international audiences, practitioners, decision-makers and the general public”

CIHR Project Grant

- In the ‘Proposal Information – Details’ section: If the project involves research involving Indigenous peoples, the applicant must explain their engagement with the community in relation to the research proposal.
- If biological sex and or gender as a socio-cultural factor are to be taken into account in the project, the applicant must explain its/their role in the research design, methods, analysis and interpretation, and/or dissemination of findings.
- If biological sex and or gender as a socio-cultural factor are not to be taken into account in the project, the applicant must explain why they are not applicable.