

# EQUITY, DIVERSITY, AND INCLUSION: A GRADUATE STUDENT PERSPECTIVE

BY SARAH DAWSON, CARMEN LEE, WYATT KIRKBY, JACQUELINE WIGHTMAN AND RACHEL PILLSWORTH

In the past months we have witnessed a massive international push to address racism towards Black, Indigenous, and People of Colour (BIPOC). We have both the opportunity and responsibility to harness the momentum of this movement and translate it into a more equitable, diverse, and inclusive Physics community. It is within this context that we, as representatives of the graduate students in the Physics, Astronomy, and Radiation Sciences programs at McMaster University, are writing this article. Here we describe how we are organized, introduce the equity, diversity, and inclusion (EDI) initiatives we have put forward in our department, discuss proposed anti-racism actions in the context of the #ShutdownSTEM event of June 10, and identify the barriers we have encountered throughout this process. It is our hope that this article will serve both as reference material for other groups and as a testament to the unique role that graduate students are playing in improving EDI in academia.

The graduate students in our department are organized through a graduate student association named the McMaster Astronomy-Physics Student Association (MAPSA), and an EDI-focused student group named Promoting Inclusion in Physics and Astronomy (PIPA). We are also connected to the broader University community through the Science Graduate Student Association (SciGSA), the Graduate Student Association, and the union of academic workers at McMaster, CUPE 3906. These groups work to provide a supportive environment for students in the University.

Graduate students in our department are active in bringing science communication to the public — for example we run the Hamilton branches of Science on Tap and Pint of Science, which are outreach events that take science to the public in a local bar. We are also the primary presenters at the W.J. McCallion Planetarium, with presentations

developed for children and adults. Notably there have been Planetarium presentations developed in collaboration with Six Nations and McMaster's Indigenous Studies Program. We also organize an annual outreach event called Girls in Science Day, which promotes science to girls attending high school in the city of Hamilton.

To address the issue of low enrollment of BIPOC students at the undergraduate level, we have proposed expanding the outreach we already do in order to include underrepresented communities. One proposal is to seek partnerships with nearby high schools that have large Indigenous populations, using spare lab equipment to run labs and sidewalk astronomy sessions. Graduate students would play a vital role in organizing and otherwise providing the labour for these outreach events. The position of full-time outreach coordinator has existed in previous years; however it has since been eliminated due to budget cuts. We are advocating that the Department and the Faculty of Science reintroduce the outreach coordinator positions, and support them with paid Teaching Assistants.

We organized the #ShutdownSTEM event in our department, which consisted of four EDI-specific events: a town hall discussion on department hiring practices, focused breakout sessions within research sub-fields, the CAP Special Session on EDI, and a department-wide conversation about community outreach. Following these discussions, MAPSA representatives and the PIPA executive wrote an open letter to the faculty and staff in the Physics Department in which we identified a series of action items for the department to directly address to promote inclusivity. Major items in the letter include a call for a BIPOC-specific faculty hire and the creation of targeted research scholarships for BIPOC students at the undergraduate and graduate level to encourage higher retention.

The faculty response to our advocacy has been positive in the months following #ShutdownSTEM. Owing to the consistent efforts of MAPSA and the general graduate student populace, steps are now being taken by both the Physics and Astronomy Department and the Faculty of Science. For example, EDI and micro-aggression training will now be openly available and promoted to all faculty, staff and Teaching Assistants. Following the

Sarah Dawson  
<dawsos7@mcmaster.ca>  
Ph.D. Candidate,  
Department of  
Physics &  
Astronomy,  
McMaster  
University, Hamilton,  
Ontario

## SUMMARY

**We discuss the role that graduate students play in shaping EDI initiatives and the structural barriers that we must overcome to do that.**

discussion led by CAP during the Special Session on EDI, MAPSA encouraged the Department to actively participate in acquiring anonymous demographic data for metrics both internally and in cooperation with CAP. The Department will consider changes to its hiring practices, including having all short-listed candidates meeting with PIPA and including graduate student voices more actively in the hiring process. Additionally, a voluntary faculty, student, and staff donation program has been proposed to contribute to BIPOC-specific research scholarships.

Moving forward we are most encouraged by the formation of an EDI committee within our Department. This committee consists of a small number (2-4 each) of faculty, staff, post-doc, graduate, and undergraduate representatives, and is designed to spearhead EDI initiatives. The graduate students who sit on this committee were elected by the student body. In order to address the concern that momentum may fade as the term resumes, the committee will establish a regular newsletter to keep the department involved in the ongoing conversation about existing problems and the progress being made towards a more equitable, diverse, and inclusive environment. At this point it becomes our responsibility to acknowledge our own limitations: we are not experts in EDI. It is for this reason that MAPSA is encouraging the EDI committee and the department as a whole to work with consultants, such as the Office of Equity and Inclusion at McMaster University.

It is clear that graduate students have played a key role improving the environment of the Physics and Astronomy Department at McMaster and advocating for EDI initiatives. Part of what makes this possible is that we are in a position to see structural issues that may be invisible to faculty members. Academia is a selective system that pushes some people away and it is often difficult for faculty to see issues with the processes that have worked for them. Of course this difficulty exists for graduate students as well to a lesser extent, however not all of us pursue faculty careers. We are familiar with the university system yet

still vulnerable to its flaws, and this gives us the unique perspective that has allowed us to do this work.

Despite this, graduate students face barriers that limit our ability to change the academic structures around us. First, it cannot be ignored that meaningful EDI initiatives require money. Decisions over how much money is allocated to the department or how that money is spent are made without graduate student input, even when those decisions directly impact us. The second barrier is time. Due to research and teaching commitments, many graduate students do not have time to spend organizing and participating in outreach initiatives, or engaging in necessary critical analysis of the structure that we exist within. If we are serious about improving EDI outcomes then we must do away with the idea that graduate students and faculty members are “research output machines” first and foremost, with outreach or community building done as an afterthought. An extreme push for productivity not only hinders the other important roles that we all have to play within our community, it is also an element of the environment that actively hurts people who may have responsibilities outside of academia.

Organizing has given the graduate students in the McMaster Physics and Astronomy Department a strong unified voice and allowed us to advocate for EDI and outreach initiatives and we encourage other graduate students who are reading this to form or to participate in your own representative organizations. You possess a unique and valuable perspective and you can improve academia for yourself and your peers. #ShutdownSTEM is a wakeup call to all of us to make our communities better for BIPOC. Graduate students are perfectly positioned to lead this movement, and we will accomplish positive, impactful change with collective action.

## ACKNOWLEDGEMENTS

We would like to acknowledge the Physics, Astronomy, and Radiation Sciences graduate student body at McMaster University for valuable input on this article.