EDI (Equity, Diversity, and Inclusion) Statement

Mason A. Porter, 12/22/19

My strong belief in both equity and outreach is an important part of my research, teaching, and other activities. Part of the former comes from a longstanding desire for a level playing field, and these ideas (and especially how one might help actively in an academic setting) were strengthened by my graduate-school experiences at Cornell as a mentor in the Mathematical and Theoretical Biology Institute (MTBI), an REU for underrepresented groups that Carlos Castillo Chavez has run for many years, and my time as the Tutor in Applied Mathematics in Somerville College (whose original and pioneering purpose was to give educational opportunities to women, who had long been denied them) while I was at University of Oxford. Engaging with students who were currently overcoming barriers at both MTBI and Somerville was eye-opening, and I found it both inspiring and educational to hear accounts (including many firsthand ones) of the many stories from generations of Somervillians (including both my colleagues and alumnae) about their lifelong challenges for gender equity in academia and other settings.

I have supervised a very large number of students, relative to my career age. Notably (and very much in the spirit of my time and lessons from Somerville College), many of these students and postdocs are women, who are underrepresented in Mathematics. For example, our department only has about 10% ladder faculty female and roughly the same percentage of Ph.D. students. By contrast, roughly 2/3 of my research group right now are women, a rather stark contrast to the rest of the department and in the mathematical sciences more generally. In my career as a whole, more than one third of my roughly 150 research student mentees have been women. To give some more specific numbers, since earning my Ph.D. in 2002, I have mentored 8 postdocs and have supervised or co-supervised 27 Ph.D. students, including 20 to completion. Half of the 8 postdocs are women, including all 3 of my current postdocs. Of the 27 students, 10 are women, 8 of whom have completed their doctorates. One of those 8 is Puck Rombach, who went on to do a postdoc at UCLA and is now a tenure-track assistant professor in the mathematics department at University of Vermont. Others of those 8 currently hold postdoctoral positions in mathematics departments in places like University of Michigan and University of Warwick. I have also supervised 37 Masters students, 14 of whom are women, and more than 85 undergraduate students (28 women) in research projects.

Many of my mentees face additional difficult challenges from being in underrepresented groups, and I discuss these issues openly with them. I also point them to to resources, networks, and opportunities (e.g., from the Association for Women in Mathematics and other organizations) that can be useful for them and bring up mathematicians and scientists from various backgrounds in my courses and in our other discussions. I make sure that all of my students at all levels are aware of these issues and opportunities. The courses that they take often have only 1 or 2 women but multiple dozen men in them, so the environment in my research group differs rather markedly from the environment elsewhere in our department. Until very recently, our 6ᵗʰ floor had a hallway with pictures in an outrageous

exhibit called "Men of Mathematics" (with only Emmy Noether otherwise represented, if one could even find her picture), and that sent exactly the wrong message to our graduate students, undergrads, prospective students, and others. I encouraged the PhD students and postdocs in my orbit to make their voices heard loud and clear about this exhibit. (Unsurprisingly, they really did not like the exhibit.) I also added my voice to help encourage removing the exhibit. We still need to replace the now-blank walls of those hallways with something explicitly positive, but at least the exhibit is gone.

In addition to mentorship directly at my own universities, I have also been the lead and co-lead organizer of several conferences and other programs, where ensuring diversity of participants and invited speakers has played a major role. This includes being the lead organizer of the 2014 Mathematics Research Community in Network Science, where more than 40% of the participants were women. A more recent example is my role as lead organizer (joint with Elaine Spiller, and with much support from Andy Bernoff) of the 2019 SIAM Conference on Applications of Dynamical Systems, which is the most important conference in nonlinear systems. Through expanding icebreaker and mentoring sessions (and recruiting excellent people to lead them, including my postdoc Heather Brooks as co-leader of the former), we tried very hard to create an inclusive environment at the conference. As one junior researcher wrote to me after the conference, "you guys created a palpable shift toward a more inclusive, humble, welcoming SIAM DS community this year at Snowbird, and it's made me more comfortable being more completely myself in math settings."

For several years, I have been involved heavily in networks outreach, including for elementary-school and high-school students. I developed materials and conducted a "traveling road show" with my (and other) postdocs and students in England to introduce network science to students of ages 13–16 (often at schools whose students rarely apply for admission to University of Oxford). We published a paper about our efforts, along with the associated modules that we used for teaching, as a commentary (https://www.cambridge.org/core/journals/network-science/article/commentary-teach-network-science-to-teenagers/5AEBD266BEB5F6AD47BF569809C793EA) in a journal in 2013. My 2014 Erdös–Rényi prize in network science recognized not only my scholarship but also these outreach efforts. (It pleased me immensely that it was mentioned explicitly in the prize citation.) I subsequently became part of the NetSciEd team. As part of it, I co-organize networks education sessions at the NetSci conference. In 2015, we (self-)published a booklet of core network concepts (which has been translated from English into 19 other languages thus far). It is available at http://tinyurl.com/networkliteracy. More recently, we edited a book, *Network Science in Education — Tools and Techniques for Transforming Teaching and Learning*, which was published by Springer International Publishing in 2019.

My various outreach efforts are ongoing. For example, in April 2017, using various outreach materials — from both us and others (such as AMS Mathematical Moments) — Puck Rombach and I hosted a mathematics booth at the Los Angeles March for Science. In 2019, I coauthored (with Petter Holme and Hiroki Sayama) an introduction to "centrality" (importance) of nodes in networks for children by publishing a paper (called "Who is the Most Important Character in

Frozen? What Networks Can Tell Us about the World") in the journal *Frontiers for Young Minds*, an outlet in which both the reviewers and intended audience are young readers, who we hope to engage further in science. There are almost no mathematics papers in this journal, and I wanted to write one. Thankfully, my recent grants will give me the funding to renew my outreach efforts from my time in England by visiting local schools (including ones that serve many children from underrepresented groups) to introduce children to networks, related areas of mathematics and science, and their applications. As part of this funding, my research group will also be designing new modules (e.g., on topological data analysis and on the spreading of information over social networks), making introductory videos about mathematical topics to post on YouTube, and writing more articles for venues like *Frontiers for Young Minds*. Some of the research from my projects also has the potential to directly and positively impact underrepresented groups. A notable example is my collaboration with the Los Angeles Unified School District (LAUSD) to improve their busing services.

Since the 2016 presidential election, I have also participated in efforts at data-driven analysis of societal issues. In particular, in November 2016, a few of us formed a data-science collective called "Susan Bourbaki Anthony", where we do projects in data science for the purpose of social justice. We have written some blog entries and have collaborated with Southern Poverty Law Center. Some of our work, including network analysis of Twitter data (including using methods that I helped pioneer), has appeared in articles in venues such as *The Atlantic* and *The Huffington Post*.

I'd like to close this document with some context from my personal background and prior experiences, as they have helped shape why I care so much about mentoring. I am a second-generation immigrant: My father was born in Argentina and moved to the US when he was a teenager. His family changed their surname upon moving to the US, and my generation is the first one that was born with the surname "Porter". (My father's parents had previously tried to immigrate to the US, but they were unable to do so, apparently because a quota for Jewish immigrants had already been reached. Argentina was much more welcoming than the US to such immigration.) My parents were the first generation to go to college, and my mother was raised by a single parent, after her father (who I never met) simply left when she was about 6 years old. My own childhood was also rather traumatic — both at school and at home, where I grew up in a violent household and did not have an emotional support network. From a very young age, I became fiercely independent and developed an unusually strong will; that has carried me through everything that I have done ever since. ("What doesn't kill you makes you stronger.", so to speak.) Thankfully, I have received significant help from various more senior academics (though, notably, my Ph.D. advisor was not supportive at all, and we were no longer on speaking terms within about a year or so after I graduated) during my career. This is part of what I try to pass along to my own mentees. While my various personal experiences as a child and in graduate school may seem only tangentially related to my contributions to equity, inclusion, and diversity, they provide the underpinnings of how I want to help my mentees: I want to help provide a support network — through both their connections to me and their connections to each other — that I had neither as a human growing up in my family nor from my Ph.D. advisor.

In many ways, my students and postdocs *are* my family. I care about them a great deal, and I want to put them in the best possible position to succeed. I want them to have the opportunities that I have had, and that includes trying to do my best to help them through challenges that I was lucky either to not have to face or to have others help me overcome. Much like the philosophy behind the name Association FOR Women in Mathematics (which explicitly uses the word "for", rather than "of"), the key is those for whom we are trying to create a good environment. Mentorship of students and postdocs is, by a very large margin, my main role — much more than research itself or any course that I teach — as a UCLA faculty member. It is important for me for my mentees (and everyone else) to have the best environment possible to succeed, and I do the best I can to play my part in trying to help create one.