

Deborah and Franklin Tepper Haimo Award

Sarah C. Koch

University of Michigan

Dr. Sarah Koch is an inspirational teacher whose influence extends from elementary school to graduate school. She is a tireless and relentless advocate for mathematics who leverages the power of communities to support, encourage, and inspire all students; especially those who are typically underrepresented in the STEM disciplines. This focus on community informs her work at the graduate level, at the undergraduate level, and most impressively at the elementary and secondary levels in under-resourced school districts in the Ann Arbor area. In the words of a nominator, Sarah is “an irrepressible force of nature: unceasingly upbeat, endlessly enthusiastic, supremely supportive, intensely innovative.”

Since 2018, Sarah has been working with the Ypsilanti Community Middle School (YCMS), a predominantly African American middle school near Ann Arbor, to provide instruction and support of their mathematics curriculum. On a bi-weekly basis, Sarah and groups of about 20 University of Michigan students traveled to YCMS to provide tutoring and additional instruction for about 2 hours per session. To support this work and these students, she founded the Ypsilanti Math Corps to provide a supportive community that uses engagement in mathematics to inspire students to envision themselves as active participants in the STEM disciplines beyond high school and college.

Fostering community informs her pedagogy at the undergraduate and graduate levels where she regularly uses Inquiry Based Learning methods. And while this is not uncommon in higher education, Sarah creates “a sense of community and belonging in her classes by encouraging collaboration and making it clear that any student—irrespective of prior mathematical background—could succeed with hard work and dedication.”

Professor Koch models “hard work and dedication” both in and out of the classroom. Students and colleagues note that she can often be found working nights and weekends, helping students in her classes, her advisees, the Math Club, and almost every other math focused group on campus and doing all this while building community with fun activities, food, and even exercise!

Like her work in Ypsilanti, much of her on-campus work outside the classroom focuses on building community for students who are typically underrepresented in the STEM disciplines. She organized the Graduate Opportunities for Women (GROW) conference and advises FEMMES., a student group dedicated to closing gender and racial divides in the STEM disciplines. In this work, Sarah works tirelessly to build and support communities so that all

students can envision themselves not only as contributors to these disciplines, but successful creators and innovators as well.

For her work in inspiring and supporting students at all levels and from all walks of life in pursuing mathematics, the MAA is honored to present Professor Sarah Koch with the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics.

Response

Wow!!! Thank you!! This is an incredible honor!! I have had many wonderful teachers in my life—I would not be where I am today without their steadfast support and tremendous teaching. I would first like to thank Mr. Lemeris (Algebra I, Rundlett Junior High), Ms. Davis (AP Calc, Concord High), and Dr. Piper (Analysis I, RPI). A special thank you to my PhD advisor, John H Hubbard (Cornell) who helps me to see how alive (and fun!!!!) mathematics can be. Thank you to Bill Thurston (formerly at Cornell) who still challenges me to stretch my imagination, and thank you to my postdoc mentor, Curtis T McMullen (Harvard); I always find infinite inspiration in his beautiful lectures. I love my job, and that is due in no small part to all of the wonderful people I get to work with every day. Thank you to my friends and colleagues at the University of Michigan: you have given me the chance to create and build wonderful things. Thank you to my amazing undergraduate and graduate students: I am so proud of all that you have accomplished, and I can't wait to learn about all of the wonderful adventures you have!!! A very, very, very special thank you to Stephen DeBacker, Noah Luntzlar, PK (aka Steve Kahn), Dean Harper (aka Brittany Harper Wilkes), Ms. Carolyn (aka Carolyn Norton), and the Math Corps kids: working with you is one of the greatest joys in my life—I treasure each and every one of you. As we say in the Math Corps “Have a beautiful day by creating a beautiful day.”

Biographical Sketch

Sarah Koch, aka PK2, is a professor of mathematics at the University of Michigan in Ann Arbor. Her research is in the area of complex dynamical systems; she spends lots of time trying to understand the infinitely complicated structure of beautiful fractals that emerge in her work. She has a BS in math from RPI, and she has two PhDs in mathematics: one from the Université de Provence in Marseille, and one from Cornell University. Since arriving at Michigan (in 2013), she received the Class of 1923 Memorial Teaching Award in 2016, the Harold R. Johnson Diversity Service Award in 2020, and she was appointed as an Arthur F. Thurnau Professor in 2021. She is proud to be the Director of the Math Corps at U(M) and the organizer of the Math Mondays

in Ypsi Program (which has temporarily been replaced with Super Saturdays). In addition to doing math, she enjoys teaching, working with students, making kindness chains, and winning the step contest.