Welcoming Dr. Lauren Ruth

McKellar Faculty Chair for Mathematics

Mathematics Assistant Professor Lauren Ruth, Ph.D., is one of Mercy College's newest faculty members, and she is already part of Mercy history.

In 2018, Mercy received its single largest donation: $2 million from Marie T. McKellar, Ph.D., philanthropist and former chair of the Mercy College Department of Mathematics and Computer Sciences. The donation was designated to establish two new tenure-track positions in mathematics or computer science. Ruth was hired as the first McKellar Faculty Chair and came to Mercy in the fall of 2020.

Ruth studied mathematics and journalism at Northwestern University and earned a master's degree and a Ph.D. in mathematics from the University of California, Riverside before completing two years as a postdoctoral scholar at Vanderbilt University.

She came to Mercy because she wants to teach at an institution that values high-quality teaching and supports students who may not have had the socioeconomic privileges and educational opportunities that she had. "I applied for this job the day the posting appeared, and it was always my top choice," she explained. "When the interim dean called to offer me the position, I felt ecstatic."

The McKellar Faculty Chairs are tasked not only with teaching, but with working to encourage women and minorities to study and pursue degrees in mathematics and computer science. So far, this work primarily involves co-leading the group Advancement in Mathematics and the Sciences (AIMS) with fellow mathematics professor Marion Ben-Jacob, Ph.D. The goal of AIMS is to show women, underrepresented racial and ethnic minorities, and members of the LGBTQ community, that science, technology, engineering and mathematics (STEM) careers are within their reach.

Photo provided by Dr. Lauren Ruth

To that end, Ruth and Ben-Jacob invite speakers and organize community-building events. For example, this year's speakers have included a female chief information officer, a female computer programmer, two female biologists and a female singer-songwriter who is a former chess champion. They also organized a virtual lunchtime math café where they introduced undergraduates to sophisticated graduate-level ideas using accessible language. "Operating online has been a challenge, but we are doing everything we can to create a sense of community, given the circumstances," said Ruth. "We look forward to hosting in-person events when we are able to do so."

Ruth also advances representation in STEM in the intentional ways she interacts with her students while teaching. When she calls on students randomly in class, she frames her questions as a check on her instruction rather than a judgment of their knowledge. Her goal is to make her class a place where students can feel comfortable taking risks and making mistakes.

Remote learning during the COVID-19 pandemic offered an unexpected benefit: "I know that some faculty members find it frustrating that students often turn off their cameras during Zoom meetings, but one benefit is that students seem to feel more willing to make mistakes when I can't see their faces." She also focuses on positively reinforcing her students and encouraging them to reflect on their successes. "It's so important for hard-working students to hear that they're doing a good job," she said. "I want them to go through the rest of their lives confident in their mathematical abilities."

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In addition to teaching, Ruth conducts research in operator algebras, an area of analysis that is concerned with transformations of infinite dimensional space. "Working in many dimensions comes with all kinds of complications," she explained. "Most of these complications have to do with the notion of continuity, a concept that our undergraduate students first learn about during calculus."

She is driven by the opportunity to introduce her students to these complex mathematical concepts and ignite their interests in STEM: "I love doing research, [and] I also love teaching early math courses where the seeds of these beautiful ideas are planted."