New Jersey Section Award
For Distinguished College or University Teaching of Mathematics

Dr. Matthew Mizuhara

The New Jersey Section of the Mathematical Association of America (MAA) is pleased to present its 2024 section award for Distinguished College or University Teaching of Mathematics to Dr. Matthew Mizuhara of The College of New Jersey.

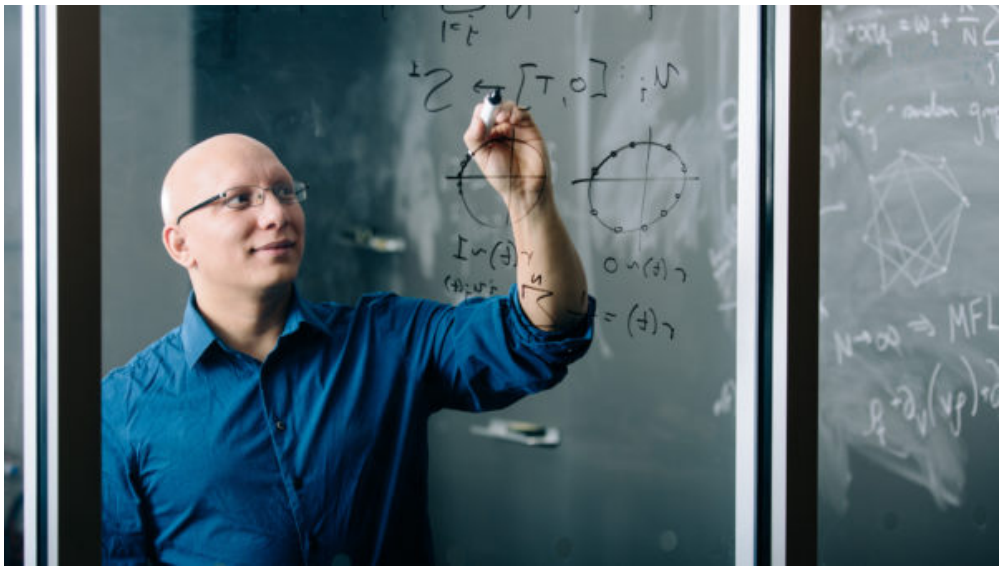

Photo credit: TCNJ Magazine

Dr. Matthew Mizuhara is recognized by his colleagues and students at The College of New Jersey (TCNJ) as a thoughtful and highly effective educator. They all speak of his love of mathematics, challenging, engaging, and inclusive classroom environment, unending support of student learning, and commitment to undergraduate research. He was recognized as embodying the teacher-scholar model in 2018 by receiving the Distinguished Teaching Award from TCNJ's Mathematics and Statistics department. Outside the classroom, he regularly mentors undergraduate research projects that have resulted in presentations, peer-reviewed publications, and student acceptance into mathematics PhD programs. More broadly, he helped the department support more students through designs of the calculus curriculum and the research opportunity selection process. Both feature his belief in creating inclusive, equitable, and accessible learning opportunities for all. He serves the greater mathematics community by mentoring students outside of TCNJ, serving as the MAA-NJ Section NExT co-director, and sharing his classroom resources and experiences through presentations and workshops.

The recommendation letters from students and colleagues showcase how Dr. Mizuhara expects challenging mathematical rigor in the classroom while also balancing the support and resources needed for students to reach those high bars. It is that balance walked so unwaveringly that make his teaching so effective. A student reported,

> *"I anticipated this course would be difficult, but Dr. Mizuhara showed encouragement, positivity, and a sense of understanding. I immediately knew that*

he was there not only to teach the subject matter, but even more importantly to support, aid, and guide students while revealing the true beauty of mathematics."

His practices of active learning are often discussed as examples of his effective approach to teaching. One colleague recalled a specific observation of his classroom,

"Dr. Mizuhara masterfully led a class full of active learning opportunities. He had prepared a set of very thoughtful voting questions – the type of questions that really make a student think and push them to achieve conceptual understanding of the course content… Dr. Mizuhara handled both correct and incorrect explanations with kindness and emphasized the value of "wrong" answers in moving towards conceptual understanding. I can see why students line up to take his classes and speak so highly of their experience with him."

Achieving this level of engagement requires a lot of preparation. The students equate this additional time to their learning as part of his commitment to educating the whole person, not just teaching mathematics as described by one student:

"Dr. Mizuhara brings humanity and curiosity into the classroom, making math interesting, enjoyable, and most of all, accessible. He is amazingly clear, concise, and organized in the classroom, and his countless hours of preparation before each class are apparent in every lesson. All of this reveals how much he cares."

Many students attested to his commitment to their learning about his willingness to meet outside of office hours or add additional office hours to meet the time limitations and needs of many students. Some even commented that his door is essentially "always open and he was always happy to help answer any questions." These office hours were not just used to discuss mathematics, but to help students understand educational perspectives. He shared his experiences in and out of the classroom to help students grow.

"Loving the math was certainly a large part of what made his lectures super engaging, but another thing that really shone through was his love for teaching and working with students. I've had many thought-provoking conversations with him about things like pedagogy, teaching during the pandemic, coming back to in-person instruction after the pandemic, and how prepping the same course for different groups of students can look completely different."

Dr. Mizuhara brings his inclusive approach to mathematics to the entire TCNJ mathematics curriculum, not just his own classroom. Calculus is often the foundational mathematics taken by many STEM majors and may act as a barrier to entrance to their chosen field. In order to support student success, Dr. Mizuhara along with Dr. Jana Gevertz redesigned the curriculum to help with this issue. Dr. Gevertz described the project as

"Recognizing that our students come into our classroom with a range of mathematical backgrounds, and that shaky foundational skills in algebra and precalculus pose a serious barrier to success in calculus, we also created a set of "just in time" resources. For each topic in the calculus curriculum, we considered what mathematical knowledge we expect a student to have mastered to learn the

new calculus topic. We then collected a set of short videos that allow the students to revisit/review the topic and asked all calculus faculty to share this resource with their students. We hope this normalizes the idea of reviewing prerequisite content, therefore making our calculus courses more accessible to all."

Dr. Mizuhara has mentored over a dozen undergraduate students at TCNJ "on topics ranging from partial differential equation models of cell motility to systems of collected oscillators represented by ordinary differential equations to models of math anxiety." Two of these projects resulted in peer-reviewed publications. He has also mentored many students that continued into graduate school.

"I would not be pursuing a PhD if it were not for the impact that Dr. Mizuhara had on me. He has truly shaped me into the mathematician and person I am today. He is simply extraordinary at what he does and is meant to be teaching. He is the exact example of someone I hope to be as a teacher and mentor, and for that reason I cannot imagine a better candidate for this teaching award."

Part of his approach includes teaching students research skills that would help them pursue these opportunities.

"Learning how to read higher level publications in mathematics was no easy hurdle to cross as I began my first independent study. As many mathematicians may know, reading and actually understanding publications with a high level of rigor can be challenging to a novice. I can remember many sessions sitting with Dr. Mizuhara as we read through publications together, while along the way I train my brain to recognize the important details to add to my notes. This type of engagement with my education is exactly why I appreciate Dr. Mizuhara as my mentor."

He creates that inclusive environment within his undergraduate research experiences as well. In his syllabus he includes:

"I will create a supportive and equitable workspace free from bias or harassment. Particularly, I want to learn about the diverse experiences and lives of mentees outside of our research. An equally valid use of our meeting times can be spent discussing your celebrations, concerns, culture, identities, career/life goals, etc. Especially if something in the world or at TCNJ is affecting your sense of belonging or ability for success, I am open and glad to discuss how to create a positive, supportive space for you."

Again, his focus on educating the whole person is part of his successful mentorships.

In addition to being a research advisor, Dr. Mizuhara expanded access to research opportunities throughout his department by creating a more inclusive process. Typically research pairings were created through an informal process of individual instructors finding or offering research opportunities to a few hand-selected students. This process was limited to a few privileged students. After Dr. Mizuhara redesigned the system, "The Department now holds a session of research lightning talks that students can attend to learn about research opportunities in the Department, and they can fill out a form to express interest in participating in a project." Another faculty added that "This has resulted in

student research opportunities being available to a wider group of students and an increase in the equity of distribution of department resources."

Dr. Mizuhara has shared his experience and expertise with the mathematical community in a variety of venues. He organized a session on undergraduate research at the summer SIAM conference on Applied Mathematics Education. He has mentored three students at Drexel University to complete research projects. He has also served as the co-director of NJ NExT program since 2023. Together with Professor Wong (County College of Morris), they organize faculty workshops and professional development for new mathematics/statistics faculty across colleges in NJ. Workshops are held in conjunction with the NJ Section Meetings of the Mathematical Association of America.

Overall, the committee finds that Dr. Mizuhara is a Distinguished Teacher of College Mathematics, because "Dr. Mizuhara's teaching practices, compassion, and passion for math and teaching helps *all* students learn better, achieve more, and love math and learning."

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Dr. Thomas Hagedorn, Professor of Mathematics at The College of New Jersey, nominated Dr. Matthew Mizuhara for this Distinguished Teaching Award.

Response from Dr. Mizuhara

It is a great honor to have been selected for the MAA NJ Section Distinguished Teaching Award. My deepest thanks to the colleagues and students who nominated me and to the selection committee for this wonderful recognition.

I am extremely fortunate to work at The College of New Jersey (TCNJ) where student-centered pedagogy and the teacher-scholar model are truly valued and practiced. My colleagues in the Department of Mathematics & Statistics continue to serve as wonderful role models for excellence in teaching and mentorship. Since my arrival I have been exposed to a culture where faculty are encouraged to be reflective and innovative in their teaching practices every day. Moreover, I am lucky that my colleagues freely share their advice, teaching resources, anecdotes, and challenges regularly. My own growth and successes are testaments to the wealth of knowledge and experience I can access by simply knocking on my neighbors' doors. Special thanks go to my faculty mentor Dr. Jana Gevertz. She has always inspired and supported me to become a better educator, both by example and through many fruitful conversations.

My thanks also go to the students I have had the pleasure of working with over the years, whether as classroom learners or as research collaborators. It is a privilege and joy to work with students and be part of their academic and personal journeys.

Finally, it would be impossible for me to be where I am now without support and encouragement from my family. My parents instilled a passion for learning from an early age, and created a space where my love of math could flourish. My biggest thanks goes to my wife Flo, who to this day continues to astound me: she has not only supported my career path in countless instances (including providing teaching advice!), but also excels in her own faculty role. I am glad to share this award with all those who have helped and inspired me along the way!