

# Metro NExT (New Experiences in Teaching) Workshop

Friday September 15, 2023

9:30am-3pm

Iona University

New Rochelle, NY

[metronext.github.io](https://metronext.github.io)

## Welcome!

The Metro NExT Workshop is a mathematics pedagogy and professional development workshop geared towards graduate students, postdocs, and early-career mathematicians in the NYC metro area and is open to anyone who are interested in learning about new teaching techniques and in making connections with other math educators.

## Schedule (All Events Held in La Penta Business 105, Iona University, New Rochelle, NY)

**9:30-9:50:** Registration. Coffee available and light breakfast.

**9:50-10:00:** Welcome to the workshop by Tricia Mulligan, Provost of Iona University

**10:00-11:00:** *Incorporating Puzzles and Games into the Mathematics Classroom*  
Lauren Rose, Bard College

**11:00-12:00:** Lightning Talks

**12:00-1:00:** Lunch

**1:00-2:00:** *Practical approaches to experiential and project-based learning*  
Anil Venkatesh, Adelphi University

**2:00-3:00:** Roundtable Discussion on Building and Enhancing the Local Mathematical Community

**3:00-3:10:** Thank you- Metro NExT co-Coordinator



## Invited Speakers

### **Lauren Rose, Bard College - *Incorporating Puzzles and Games into the Mathematics Classroom***

**Abstract:** Many studies show that active learning techniques in the math classroom can create an inclusive and collaborative environment, leveling the playing field and creating a non-judgmental space for all students to thrive. But developing a curriculum and testing materials can be time consuming, even if resources are shared with you.

One easy way to develop and explore active learning strategies is through puzzles and games. They can be used to introduce and explore mathematical concepts related to the course material, or as a way to invite exploration and build mathematical habits of mind.

In this talk, we will give examples of classroom activities using Rubik's cubes, [EvenQuads](#), Dominos, and activities from the [Julia Robinson Math Festival](#) to introduce and reinforce topics from courses such as Linear Algebra, Combinatorics, Probability, Graph Theory, and Abstract Algebra. No prior experience with these puzzles and games is assumed.

**Bio:** Lauren Rose is a mathematics professor at Bard College whose research interests include algebraic combinatorics and finite geometry. In addition to teaching throughout the mathematics curriculum, she supervises undergraduate research and mentors Bard students to run math outreach events. She is co-founder of the [JRMF Community Math Circle](#), past chair of the [MAA SIGMAA on Math Circles](#), chair-elect of the UR SIGMAA, and was selected as a 2022 Fellow of the AWM. Her main goal in life is to make deep mathematics fun and accessible to as many people as possible.

### **Anil Venkatesh, Adelphi University- *Practical approaches to experiential and project-based learning***

**Abstract:** Experiential and project-based learning are related pedagogical approaches that, when executed well, can contribute to increased student motivation and initiative and promote multidisciplinary skills and thinking. They can also pose an exciting and fun challenge to the teacher. When considering adopting a new teaching method, it's generally wise to start small. What does "starting small" look like in experiential and project-based learning? An obstacle common to both methods is the necessity for some external structure or motivation and the likelihood of multidisciplinary complexity arising in so-called "real world" problems. In the case of experiential learning, it's often necessary to partner with another organization or facility that may have its own preferences for scope. In the case of project-based learning, a project assignment can backfire if the students lack the necessary soft skills or discipline-specific knowledge to carry it off. In this talk, we give concrete examples of both teaching methods, discuss outcomes and benefits, and highlight ideas for "starting small."

**Bio:** Anil Venkatesh is an applied mathematician in the Department of Mathematics and Computer Science at Adelphi University. His primary research interest is in music theory, acoustics, and music information retrieval, but he enjoys applying math and computing to various problems in the humanities and social sciences. He also works in the scholarship of teaching and learning with a focus on formative assessment in college mathematics. As an educator, he specializes in educational partnerships with business, industry, and government.

## Lightning Talk Participants

Andrew Lee

Bradford Witt and Ira L. Crofford, Jr.

Brittany Oletti

Michael Stewart

## Workshop Organizers

**Benjamin Gaines**, Iona University

**Monica Morales Hernandez**, Adelphi University

**Andrew Lee**, St. Thomas Aquinas College

## Other Mathematical Events and Professional Development Opportunities

### **National MAA Project NExT Fellow**

Application Deadline: April 15, 2024. [projectnext.maa.org](http://projectnext.maa.org)

**MAA Metro NY Section Meeting:** Spring 2024 (date TBD)

Further information can be found on the section's website: <http://sections.maa.org/metrony/>

**Joint Mathematics Meetings:** January 3-6 2024, San Francisco, CA.

**SIMIODE Challenge Using Differential Equations Modeling (SCUDEM).** Deadline for coach and student registration is October 18, 2023. <https://simiode.org/scudem>

## About Iona University

Founded in 1940, Iona University is a master's-granting private, Catholic, coeducational institution of learning in the tradition of the Edmund Rice Christian Brothers. Iona's 45-acre New Rochelle campus and 28-acre Bronxville campus are just 20 miles north of Midtown Manhattan. With a total enrollment of nearly 4,000 students and an alumni base of over 50,000 around the world, Iona is a diverse community of learners and scholars dedicated to academic excellence and the values of justice, peace and service.

All Workshop events will take place in La Penta Business Room 105, on Iona's New Rochelle Campus. Workshop attendees are allowed to park in the parking garage which is just behind the building where events will take place. For more information about getting to Iona, please see

<https://www.iona.edu/visit-campus/maps-directions>