SIGMAA IBL
WORKSHOP SERIES
SPRING 2025

We're excited to invite you to our Workshop Series hosted by the Special Interest Group of MAA for Inquiry-Based Learning. Each 50-minute session offers a chance to engage with interactive activities and explore techniques to enhance your teaching and learning practices. All are welcome.

https://tinyurl.com/sigmaa-ibl-series

April Strom

Building Thinking Classrooms in College Mathematics

TUE JAN 28 4 pm EST

Lauren Rose

Incorporating Puzzles and Games into the Mathematics Classroom

TUE FEB 25 3 pm EST

Kate Melhuish

Turning Proofs Into Objects of Inquiry

THU MAR 27 4 pm EDT

Angie Hodge-Zickerman

TACTivities: An embodied way to engage learners

TUE APR 1 3 pm EDT

http://sigmaa.maa.org/ibl/ Questions? Lee.Roberson@colorado.edu

Tuesday, January 28 at 4 pm Eastern

April Strom

Building Thinking Classrooms in College Mathematics

Abstract:
This webinar will focus on the instructional practices promoted in Building Thinking Classrooms (Liljedahl, 2020) and how these practices can be leveraged when teaching college level mathematics. We will explore ways to engage students through launching and landing of thinking tasks that promote collaboration, engagement, and excitement in learning!

Bio:
Dr. April Strom (she/her) is a mathematics professor at Chandler-Gilbert Community College in Arizona, where she has taught for over 26 years. April's passion for engaging students in active learning in mathematics, developing their conceptual understanding and sense-making abilities, and elevating the joy of learning mathematics shines through in all her work. Since 2018, April not only infuses Building Thinking Classroom practices into her own teaching, she also actively facilitates professional development in K-14 focused on BTC instructional practices. As an official member of the BTC professional development team, April works with educators to experience BTC practices from a student's perspective and then cultivates experiences for them to reflect on their experience from an educator's perspective.

April's passion for teaching and love of mathematics is a perfect combination when working closely with mathematics teachers, leaders, and administrators at all levels. She is a 2023-24 recipient of The League for Innovation in the Community College League Excellence Award for her leadership and instruction in mathematics education. April strongly believes that every student can learn mathematics and that they deserve to have meaningful opportunities to think, reason, and problem solve throughout their mathematics journey which is exactly the experience that building thinking classrooms provides students (and teachers!).

April's research background in mathematics education, coupled with her passion for teaching and learning, has prompted her to engage in various leadership roles in national organizations, such as the U.S. National Academies of Sciences, the Mathematical Association of America (MAA), and the American Mathematical Association of Two-Year Colleges (AMATYC). April currently serves as the Principal Investigator for the NSF-funded Teaching for Prowess project, which is focused on Building Thinking Classrooms and active learning in the first two years of college mathematics. April also co-led the writing of the Classroom Practices chapter of the 2017 MAA Instructional Practices Guide and served on the steering committee for the 2018 AMATYC IMPACT guide, both of which aimed to elevate active learning in mathematics in higher education.

Tuesday, February 25 at 3 pm Eastern

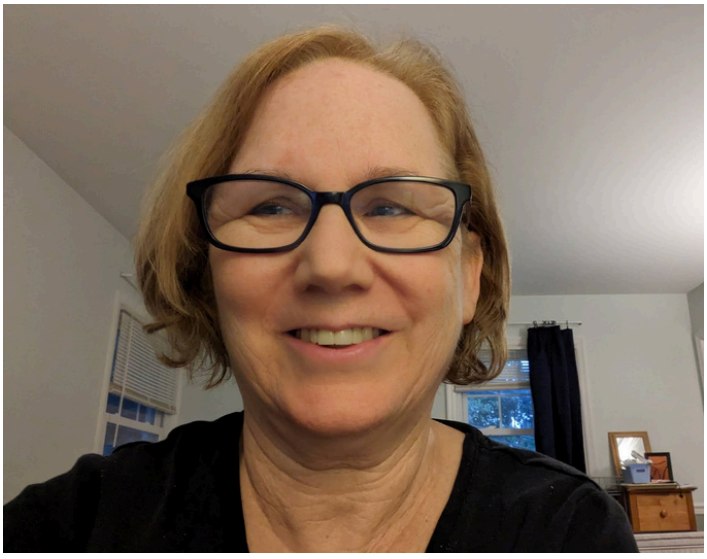
Lauren Rose

Incorporating Puzzles and Games into the Mathematics Classroom

Abstract:
One way to develop and explore active learning strategies is through the use of 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. Benefits include fostering mathematical habits of mind, creating inclusive collaborative environments, leveling the playing field, and creating a non-judgmental space for all students to thrive.

In this talk, we will give examples of how you can incorporate Rubik's cubes, EvenQuads, Dominos, and Julia Robinson Math Festival puzzles into meaningful classroom activities. No prior experience with these puzzles and games is assumed but come prepared to have fun!

Bio:
Dr. Lauren Rose is a mathematics professor at Bard College. Her research areas include algebraic combinatorics, finite geometry, and recreational math. She enjoys mentoring students in both research and outreach, and is the inventor of several mathematical games. She is passionate about making deep mathematics fun and accessible to diverse populations, and in 2022 she was made a Fellow of the Association for Women in Mathematics.



Thursday, March 27 at 2 pm Eastern

Kate Melhuish

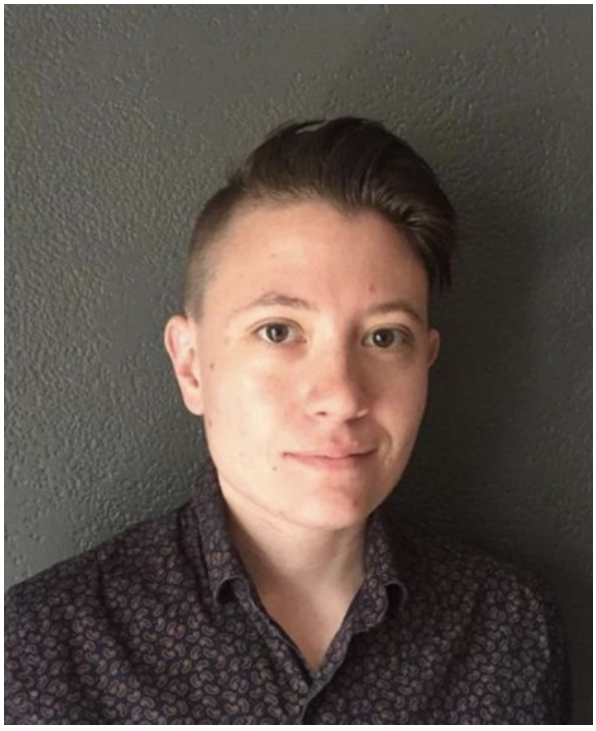
Turning Proofs Into Objects of Inquiry

Abstract:

Inquiry in proof-based courses can be more than providing students with theorems and asking them to generate proofs. In this session, we will explore how existing proofs can become objects of inquiry via carefully designed proof comprehension tasks. As both an instructor and researcher, I have found that proof comprehension tasks can be powerful for students because they provide entry points for all students to deeply explore mathematical structures and ideas. In this session, we will reflect on how one inquires into a proof and spend time on particular types of questions and activities that can promote students in genuine inquiry into complex proofs. We will also have time to brainstorm our own ideas and reflect on what makes a good proof for inquiry. Participants will leave with concrete tools for developing proof comprehension tasks for their own classes.

Bio:

Kate Melhuish is an Associate Professor in the Department of Mathematics at Texas State University. They study teaching and learning in proof-based courses. Their research focus and expertise is student thinking about abstract algebra, design and validation of conceptually-driven assessments in upper division mathematics, and the intersection of instruction and equity in undergraduate proof courses. Their work has been funded through multiple National Science Foundation grants and spans many subject areas and methodological approaches.



Tuesday, April 1 at 12 pm Eastern

Angie Hodge-Zickerman

TACTivities: An embodied way to engage learners

Abstract:
In this interactive Zoom session, we will dive into the world of TACTivities—dynamic, embodied learning activities designed to actively engage students in both physical and mental practices of learning mathematics. TACTivities encourage tactile experiences and collaborative tasks to promote deep understanding of mathematical concepts. Through trying a TACTivitiy, attendees will experience TACTivities from the learner's perspective and discover strategies to create TACTivities for their own active learning classroom. Participants will leave with practical ideas to increase learner participation and create memorable, meaningful experiences in the mathematics classroom.

Bio:
Dr. Angie Hodge-Zickerman is the Chair of Educational Specialties at Northern Arizona University. She completed her graduate work at Purdue University, earning a master's degree in mathematics and a PhD in mathematics education. She is also an Professor in the Department of Mathematics and Statistics at NAU. Her research interests include active learning, mentoring strategies for pre-service teachers, equity in the STEM disciplines, and the role of artificial intelligence in active learning. She is actively involved in the Mathematical Association of America and the Arizona Math Task Force. In her free time, she enjoys running, hiking, and traveling.