

2024-2025 Erdős Colloquium



Speaker: Frank Calegari
University of Chicago

Opening remarks by Kevin Knudson
Interim Associate Dean, CLAS, UF

Monday, April 14, 2025
4:05-4:55 PM, Little Hall 113
Refreshments at 3:30 PM in Little Hall 339

Two and a half millennia of irrationality in mathematics

Abstract: The discovery of irrational numbers — especially the fact that $\sqrt{2}$ is not rational — is often attributed to the Pythagorean philosopher Hippasus. According to legend, this revelation so disturbed his fellow Pythagoreans that they drowned him in a lake. In this talk, we will explore the long (often unsuccessful) history of our attempts to understand irrationality, with the goal of explaining how mathematicians now really think about these questions. Our journey will span from ancient Greece to the ancient régime, from 17th-century Basel to the present day. This talk will be accessible to undergraduate math majors.

About the speaker: Francesco “Frank” Calegari is a Professor of Mathematics at the University of Chicago. He received his PhD from the University of California, Berkeley, in 2002, following which he was Benjamin Pierce Assistant Professor at Harvard University from 2002 to 2006. He then joined the faculty at Northwestern University, where he remained until 2015 before moving to the University of Chicago. During his tenure at Northwestern, he spent the 2010-11 academic year at the Institute for Advanced Study in Princeton as a von Neumann Fellow. His primary research interests lie in Number Theory and the Langlands Program. His recent major accomplishments include two groundbreaking collaborations with Vesselin Dimitrov and Yunqing Tang, in which they resolved the unbounded denominators conjecture of Atkin and Swinnerton-Dyer and established a significant linear independence result in the theory of irrationality.

About the Erdős Colloquium: Paul Erdős (1913–1996) was one of the most renowned mathematicians of the 20th century. Between 1973 and 1996, he was a frequent visitor to the University of Florida. In 1998-99, under the leadership of Chair Krishnaswami Alladi, the Department of Mathematics established the annual Erdős Colloquium Lecture Series in pure mathematics at the University of Florida.