The Department of Mathematics, University at Buffalo, presents the Thirty-Second

MYHILL LECTURE SERIES

September 18 – 20, 2019

Laura DeMarco; Photo courtesy of Marc Harris.

Laura DeMarco

Henry S. Noyes Professor of Mathematics
Northwestern University

Complex Dynamics and Arithmetic Geometry

In a series of three talks, I will present connections between recent research in dynamical systems and the classical theory of elliptic curves and rational points. On the dynamical side — specifically in the study of iteration of rational functions (Julia sets, bifurcations, the Mandelbrot set), but originating in the mathematical study of planetary motion — the first connections to number theory were observed about 100 years ago. On the arithmetic side, it was probably the 1960s when dynamical ideas were first used as tools to understand the arithmetic geometry of elliptic curves and higher-dimensional varieties. My goal is to provide examples of how these relationships developed and where they have brought us today.

The first talk is designed for a general audience. The second and third talks are independent from the first but are connected to each other, and will be delivered in a colloquium style.

September 18
Wednesday, 4:00 p.m.
14 Knox Hall

September 19
Thursday, 4:00 p.m.
250 Mathematics Building

September 20
Friday, 4:00 p.m.
250 Mathematics Building

RELATED EVENTS
– Reception after first lecture.
– Sept. 18, 19 & 20: Coffee at 3:30 p.m.
240 Mathematics Building
UB NORTH CAMPUS

Laura Grace DeMarco is the Henry S. Noyes Professor of Mathematics at Northwestern University. Her research concerns dynamical systems and complex analysis. DeMarco is an organizer of GROW (Graduate Research Opportunities for Women) undergraduate conference, and has supervised undergraduate research projects. She received her Ph.D. from Harvard in 2002, supervised by Curtis T. McMullen. In 2012, DeMarco became a fellow of the American Mathematical Society. In 2017, she received the AMS Satter Prize in Mathematics for her contributions to complex dynamics, potential theory, and the emerging field of arithmetic dynamics. DeMarco was invited to speak at the 2018 International Congress of Mathematicians, in the section on Dynamical Systems and Ordinary Differential Equations.

Since 1988, the Myhill Lecture Series has featured special presentations and lectures by distinguished mathematicians from around the world. The series is named to honor John R. Myhill, Sr., who served as a UB Mathematics professor from 1966 to 1987. The Myhill Lecture Series is funded, in part, by the Darwin D. Martin endowment. The lectures are free and open to the public. To learn more, give us a call, 716-645-6284, or visit our website, math.buffalo.edu

University at Buffalo The State University of New York