

Department of Mathematical Sciences
Faculty and Graduate Research Colloquium

Thursday, April 27, 2023
1:00-1:50pm
RB 449

“Self-Maps of the Unit Ball in \mathbb{C}^N ”
Dr. Michael Pilla (Indiana Academy)

Abstract:

Determining the range of complex maps in several variables plays a fundamental role in the study of several complex variables and operator theory. In particular, one is often interested in determining when a given holomorphic function is a self-map of the unit ball. In this talk, we discuss a class of maps in \mathbb{C}^N that generalizes linear fractional maps. We then proceed to determine precisely when such a map is a self-map of the unit ball. In particular, we take a novel approach obtaining numerous new results about this class of maps along the way.