

# Colloquium

University of Notre Dame  
Department of Mathematics

Florian Richter - Northwestern University

**Speaker:** Florian Richter

Northwestern University

**Will give a lecture entitled**  
Applications of Ergodic Theory to Combinatorics and  
Number Theory

**Date:** Tuesday, January 12, 2021

**Time:** 3:00 PM

**Location:** Zoom

**Zoom URL:** [notredame.zoom.us/j/91982032908?  
pwd=UkJXZEg0a09OaE5FVXFtWkw3am9tQT09](https://notredame.zoom.us/j/91982032908?pwd=UkJXZEg0a09OaE5FVXFtWkw3am9tQT09)



**Abstract:**

This talk will focus on the multifaceted and mutually perpetuating relationship between ergodic theory, combinatorics and number theory. We will begin by discussing Furstenberg's ergodic approach to Szemerédi's Theorem, and how it has inspired our recent solution to a long-standing sumset conjecture of Erdős. Thereafter, we will explore a new dynamical framework for treating questions in multiplicative number theory. This includes a new type of ergodic theorem which contains various classical number-theoretic results, such as the Prime Number Theorem, as special cases.