

# B I-CO MATHEMATICS COLLOQUIUM

**Daniel Krashen**

The University of Pennsylvania

*“The Geometry of Field Arithmetic”*

*Monday, February 13, 2023*

*Talk at 4:00 – Park 338*

*Tea at 3:30 – Park 361, Math Lounge*

**Abstract:**

Field arithmetic is concerned with how we can decide whether or not a system of polynomial equations has a solution (in the rational, real, complex, or various other number systems). Such questions have had interesting applications to various areas from cryptography to string theory. In this talk I'll discuss some analogies between these problems and ideas in topology, geometry and even analysis which have helped to shape our intuition and expectations, and which have occasionally provided powerful tools to answer these questions.

**BRYN MAWR COLLEGE**