

College of Arts and Sciences  
**Department of Mathematics**  
University of South Carolina

# Math Colloquium

*Topological Viewpoints on Algebraic Complexity*

Daniel Krashen, Rutgers University/University of Georgia



**Thursday**  
February  
**22<sup>nd</sup>**

**4:30 PM**  
**LeConte 412**

Understanding algebraic structures such as Galois extensions, quadratic forms and division algebras, can give important insights into the arithmetic of fields. In this talk, I will discuss recent work showing ways in which the arithmetic of certain fields can be partially described by topological information. I will then describe how these observations lead to arithmetic versions of the Meyer-Vietoris sequences, the Seifert–van Kampen theorem, and examples and counterexamples to local-global principles.