

Distinguished Lecture Series

University of Notre Dame
Department of Mathematics

Wolfgang Lück - University of Bonn, Germany

Speaker: Wolfgang Lück

University of Bonn, Germany

Will give a lecture entitled

L^2 -Betti numbers and their applications I

Date: Tuesday, April 9, 2019

Time: 4:00 PM

Location: 127 Hayes-Healy Hall



Abstract:

We present a variety of easy to understand interesting results and prominent conjectures from different areas of mathematics, e.g., group theory, algebra, topology, K-theory, differential geometry and algebraic geometry. These are on the first glance not related to L^2 -Betti numbers. We will later see in the other lectures how L^2 -methods can be used to prove these results or to confirm the conjectures in rather general cases. The remainder of the first talk consists of an introduction to the L^2 -setting from the topological point of view using von Neumann algebras and Hilbert modules and explaining the basic properties of L^2 -Betti numbers.