

**Adam Mickiewicz University**  
**Faculty of Mathematics and Computer Science**

**GEOMETRY AND TOPOLOGY SEMINAR**

1:45 PM, Thursday, June 1, 2017  
A1-33, Collegium Mathematicum

**Speaker:** Matthias Kreck (Universität Bonn)

**Title:** An overlooked problem: Betti numbers of closed manifolds

**Abstract:**

Until rather recently nobody seems to have thought about the following very simple problem: Given a sequence of natural numbers  $b_0, \dots, b_n$ , is there a closed  $n$ -dimensional manifold  $M$  with these Betti numbers? Work by Su, Su-Fowler, Su-Kennard and Kreck-Zagier shows that this is a very delicate problem which relates topology to non-trivial number theory. The role of bordism in attempts to solve this simple problem will be explained.