

Adam Mickiewicz University
Faculty of Mathematics and Computer Science

GEOMETRY AND TOPOLOGY SEMINAR

10:15 AM, Tuesday, January 16, 2018

B1-38, Collegium Mathematicum

Speaker: prof. dr hab. Waław Marzantowicz (Adam Mickiewicz University)

Title: **Estimates of covering type and the number of vertices of minimal triangulations**

Abstract:

The covering type of a space X is defined as the minimal cardinality of a good cover of a space that is homotopy equivalent to X . We derive estimates for the covering type of X in terms of other invariants of X , namely the ranks of the homology groups, the multiplicative structure of the cohomology ring and the Lusternik-Schnirelmann category of X . By relating the covering type to the number of vertices of minimal triangulations of complexes and combinatorial manifolds, we obtain, within a unified framework, several estimates which are either new or extensions of results that have been previously obtained by ad hoc combinatorial arguments. Moreover, our methods give results that are valid for entire homotopy classes of spaces.

Joint work with Dejan Govc and Petar Pavesić