

Special Hausdorff Program



Applied and Computational Algebraic Topology

Organizers: Herbert Edelsbrunner, Michael Farber,
Kathryn Hess, Dmitry Kozlov, Martin Raussen

Scientific and engineering disciplines are in increasing need of effective methods for distilling and analyzing structural information from vast quantities of complex data. In recent years, ideas and methods from algebraic topology, combined with the development of fast algorithms and user-friendly software, have proven valuable in this endeavor. This program aims at stimulating and enhancing collaboration between experts in several areas of applied and computational topology, together with scientists actively working on problems the solution of which might require topological insights and machinery. It will focus on the following three areas of investigation:

- Topological and statistical analysis of shapes, images, and multi-dimensional data sets
- Stochastic topology
- Topological contributions to the theory of concurrent computation and computer networks

The program comprises two parts:

- A spring school and an international interdisciplinary conference (26.4.-6.5.2017)
- Collaboration between experts in applied and computational algebraic topology, both senior and junior, including focused seminars (4.-29.9.2017)

Those planning to participate include:

Robert Adler
Peter Bubenik
Gunnar Carlsson
Frédéric Chazal
Lisbeth Fajstrup

Maurice Herlihy
Yasuaki Hiraoka
Matthew Kahle
Dmitri Krioukov
Roy Meshulam

Konstantin Mischaikow
Dmitriy Morozov
Marian Mrozek
Michel Raynal
Sergio Rajsbaum

Primož Skraba
Vanessa Robins
Ulrike Tillmann
Yusu Wang
Shmuel Weinberger



Call for participation: Financial support is available (for senior scientists, postdocs, and PhD students). The deadline for applications is **November 15, 2016**. Please send applications (including CV and, for postdocs and PhD students, a letter of recommendation) using the online application form at

www.him.uni-bonn.de/acat-2017/.