

Message from the Chairs

TopoInVis 2022

Welcome to the IEEE VIS Workshop on Topological Data Analysis and Visualization (aka TopoInVis)!

Topological Data Analysis has become, over the last few years, an established framework for the extraction and analysis of subtle structural patterns in complex data. It has been successfully applied in a variety of application fields, including quantum chemistry, astrophysics, fluid dynamics, combustion, material sciences, biology, and data science. In particular, the genericity, efficiency, and robustness of topological methods have made them particularly well suited for the multi-scale, interactive analysis and visualization of the structural information of data.

Despite their rising mainstream popularity, topological methods still face a number of challenges, including, for instance efficient computational methods for large-scale time-varying data, the characterization of noise and uncertainty, or the support of novel emerging data types such as ensemble data or high-dimensional point clouds.

The IEEE VIS Workshop on Topological Data Analysis and Visualization aims at being an inclusive forum for the fast dissemination of the latest results in theory, algorithms, and applications of topological methods for the interactive and visual analysis of data. This workshop is a remodeling of the established TopoInVis workshop series, with the goal of being more diverse (in terms of applications) and inclusive (in terms of communities), with a clear will to open to other members of the visualization community potentially interested in topological methods, or experts in topological methods from other communities willing to experiment with interactive and visual applications.

The submission deadline was in mid-June 2022. Each submission was reviewed by three members of the international program committee. During the reviewing phase, a great effort was made to strictly prevent conflicts of interests at all levels. All reviewers were asked to read and agree to the IEEE Visualization and Graphics Technical Committee (VGTC) ethics guidelines. After all the reviews were completed, the primary reviewer led an online discussion among all reviewers and was responsible for writing a summary review and recommendation. Based on the reviewer's recommendations, the individual reviews, and the online discussions, final acceptance decisions were made after thorough deliberation by the Program Chairs.

The program for TopoInVis 2022 includes 12 presentations of accepted papers (grouped in 5 sessions: Performance, Comparison, Bivariate and vector data, Analytics, Applications), 3 early career lightning talks and an exciting keynote, given this year by Professor Robert Ghrist from the University of Pennsylvania.

Putting the TopoInVis workshop together was a tremendous team effort. We would like to thank the International Program Committee members, the Best Paper Program Committee, the Session chairs, and the Steering committee for their help and support. Finally, we would like to thank the authors of all the submitted manuscripts. Without their innovative, exciting work, there would be no TopoInVis.

We wish you a vibrant TopoInVis 2022!

Talha Bin Masood, *Linköping University*
Vijay Natarajan, *Indian Institute of Science, Bangalore*
Paul Rosen, *University of Utah*
Julien Tierny, *CNRS - Sorbonne Université*