

Dmitry Berdinsky

Research Activities

Areas of Expertise

Group theory; Differential Geometry

Current Interests and Activities

My research interests include, but not limited to, studying structures in low-dimensional spaces and their representations. The meaning of the term structure varies from minimal surfaces and metric structures to fundamental groups of three-manifolds and three-dimensional meshes. More specifically, my recent activities focus on:

1. Finite automata presentations of nonautomatic fundamental groups of three-manifolds and their qualitative and quantitative properties.
2. Minimal and constant mean curvature surfaces in three-dimensional Thurston geometries.
3. Splines over two-dimensional and three-dimensional box-meshes.

Depending on a particular problem, the study involves elements of group theory and automata theory, differential geometry and integrable systems, combinatorics and algebraic topology.