

Department of Mathematics, BGU

Colloquium

On Tuesday, June 18 2024

At 14:30 – 15:30

In Math 101-

Misha Verbitsky (IMPA)

will talk about

Automorphisms of hyperkahler manifolds and fractal geometry of hyperbolic groups

Abstract: A hyperkahler manifold is a compact holomorphically symplectic manifold of Kahler type. We are interested in hyperkahler manifolds of maximal holonomy, that is, ones which are not flat and not decomposed as a product after passing to a finite covering.

The group of automorphisms of such a manifold has a geometric interpretation: it is a fundamental group of a certain hyperbolic polyhedral space. I will explain how to interpret the boundary of this hyperbolic group as the boundary of the ample cone of the hyperkahler manifold. This allows us to use the fractal geometry of the limit sets of a hyperbolic action to obtain results of hyperkahler geometry.