



*Workshop on
Volume Conjecture and
Related Topics in
Knot Theory*
Dec. 17-21, 2018
at

Speakers

Abhijit Champanerkar (CUNY)
Ilya Kofman (CUNY)
Hitoshi Murakami (Tohoku University)
Adam Sikora (SUNY Buffalo)
Kate Petersen (Florida State University)
Uwe Kaiser (Boise State University)*
Shashank Kanade (University of Denver)
P. Ramadevi (IIT Bombay)*
Mahender Singh (IISER Mohali)
Stefan Friedl (University of Regensburg)



Topics to be Covered

- Volume Conjecture and generalizations
- Quantum invariants of knots and links
- Colored Jones polynomials
- Hyperbolic knot theory
- Geometric invariants of knots and links
- Asymptotics of q-series
- Computational aspects

Abstract

In the 1980s the field of knot theory was revolutionized by two seminal ideas. Thurston established the importance of hyperbolic geometry and geometric invariants in studying knots, links and 3-manifolds. On the other hand, the discovery of the Jones polynomial led to many new families of quantum diagrammatic invariants of knots and links. A big open question in knot theory is to understand the relationship between quantum and geometric invariants. The “Volume Conjecture” asserts an explicit relationship between quantum invariants and geometry, and is a very important conjecture in knot theory.

The aim of this workshop is to make the background of hyperbolic knot theory, Colored Jones polynomials and other quantum invariants, accessible to the participants and understand the computational aspects of the Volume Conjecture, leading to open problems in this area. Talks in the workshop will also survey recent developments about the Volume Conjecture and its generalizations.



Organizers

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