

ICTS MONTHLY COLLOQUIUM

# Chern-Simons field theory Invariants

Chern-Simons field theory provides a natural framework for the study of knots, links and three-manifolds. First, we will discuss the construction of the invariants of knots, links and three-manifolds. Then we will focus on the recent developments on knot-quiver correspondence. Finally, we present our results on the new three-manifold invariants called Zhat invariants.



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Professor Pichai Ramadevi is a mathematical physicist and a Professor in the Department of Physics at the Indian Institute of Technology Bombay. Her research focuses on Chern-Simons's field theory, Knot invariants, string theory, supersymmetric quiver theories and ADS-DFT correspondence. Professor Pichai received her PhD from the Institute of Mathematical Sciences Chennai. She is a recipient of IIT Bombay Research publication award (2016), IIT Bombay Research paper award (2006), Junior research associateship award ICTP (2003-2007), Senior research associateship award ICTP (2019-2024), Professor S.P. Sukhatme Excellence in Teaching Award (2023) and Departmental Award for Excellence in Teaching (2017).

### 3:30 PM, 16 January 2024

Zoom link: <https://shorturl.at/cFJ01>

Meeting ID: 912 9798 1227

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Madhava Lecture Hall  
ICTS, Bengaluru