



ICTS

INTERNATIONAL  
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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

## **ICTS-String Theory Seminar**

- Title : APS  $\eta$ -invariant, path integrals, and mock modularity
- Speaker : Diksha Jain, Scuola Internazionale Superiore di Studi Avanzati, Italy
- Date : Tuesday, August 27 , 2019
- Time : 4:00 PM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : I will show that the Atiyah-Patodi-Singer  $\eta$ -invariant can be related to the temperature-dependent Witten index of a noncompact theory and will give a new proof of the APS theorem using scattering theory. I will then motivate how the  $\eta$ -invariant can be computed using path integral and use this method to compute  $\eta$ -invariant for Cigar. The relation between  $\eta$ -invariant and Mock modular forms will also be hinted.