

ICTS Seminar

- Title : Moonshines for M_{12} and $L_2(11)$
- Speaker : Sutapa Samanta, IIT Madras
- Date : Friday, June 8, 2018
- Time : 3:00 PM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : In this talk, we revisit an earlier conjecture by Govindarajan that related conjugacy classes of M_{12} to Jacobi forms of weight one and index zero. We construct Jacobi forms for all conjugacy classes of M_{12} that are consistent with constraints from group theory as well as modularity. However, we obtain 1427 solutions that satisfy these constraints (to the order that we checked) and are unable to provide a unique Jacobi form. Nevertheless, as a consequence, we are able to provide a group theoretic proof of the evenness of the coefficients of all EOT Jacobi forms associated with conjugacy classes of M_{12} which is subset M_{24} . In the absence of a unique answer for M_{12} , we show that there exist moonshines for two distinct $L_2(11)$ sub-groups of the M_{12} . We also show that BKM Lie superalgebras are associated with one of the $L_2(11)$ sub-groups.