

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

Org. by

Theoretical Physics Department

Title:	Exact Lattice Supersymmetry
Speaker:	Anosh Joseph, ICTS, Bengaluru
Date:	October 30, 2017 (Monday)
Time:	03:30 p.m.
Venue:	Theoretical Physics Seminar Room (C406), 3rd Floor, Centenary Building, IACS
Abstract:	Certain classes of supersymmetric Yang-Mills theories including the well known $N=4$ Yang-Mills theory, that takes part in the AdS/CFT correspondence, can be formulated on a Euclidean spacetime lattice using the techniques of orbifolding and twisting. Such lattice constructions preserve a subset of supersymmetries exactly on the lattice. I will describe how great ideas such as topological field theories, Dirac-Kahler fermions and geometric discretization all come together to create lattice theories that are supersymmetry preserving, gauge invariant, local and doubler free. Such theories can be simulated using lattice QCD algorithms to probe their strongly coupled regimes. I will provide details of some recent developments of supersymmetric lattice theories in various spacetime dimensions. Some insight into applications to holography is also discussed.

All are cordially invited to attend the seminar