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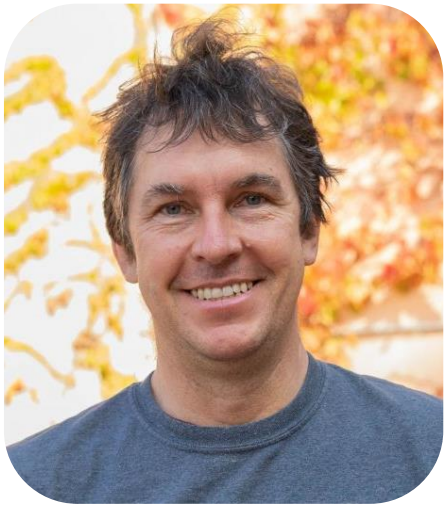
S E M I N A R



Prof David Berenstein
University of California, USA

Staggered bosons, Kahler Dirac bosons and supersymmetry on the lattice

ABSTRACT:
I will describe constructions of lattice field theories that assign a single bosonic variable to each site, rather a conjugate pair x,p. The information to realize a non-trivial dynamics is realized by non-trivial Poisson brackets between nearest neighbours. The construction is similar to staggered fermions in 1+1 dimensions. I will show how this construction readily leads to critical field theories in various dimensions and realizes naturally certain non-invertible symmetries on the lattice field theory. A more general version can be used on triangulations of manifolds, where the Poisson bracket utilizes the homology chain complex of the triangulation. I will show that when coupled to fermions this construction readily gives rise to a supersymmetric Hamiltonian where the fermions are realized as Kahler-Dirac fermions.

Date:
Tuesday, 21 May 2024

Time:
13h15-14h15 SAST

***Venue*:**
- P213, Physics Building, East Campus, WITS
- Online

Enquiries:
Email Farah-Naaz Samuels:
farah-naaz.samuels@wits.ac.za

WHO SHOULD ATTEND?
All are welcome!

REGISTER: https://bit.ly/3UN1fUO

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