

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

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

Seminar Notice

Title:	Spontaneous quantum gravity
Speaker:	T. P. Singh, TIFR
Date:	February 06, 2020 (Thursday)
Time:	15:30 Hours
Venue:	Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS
Abstract:	Spontaneous localisation is a falsifiable dynamical mechanism which modifies quantum mechanics, and explains the absence of position superpositions in the macroscopic world. However, this is an ad hoc phenomenological proposal. Adler's theory of trace dynamics, working on a flat Minkowski space-time, derives quantum theory, and spontaneous localisation, as a thermodynamic approximation to an underlying classical matrix dynamics. We describe how to incorporate gravity into trace dynamics, by using ideas from Connes' non-commutative geometry programme. This leads us to a new quantum theory of gravity, from which we can predict spontaneous localisation, and give an estimate of the Bekenstein-Hawking entropy of a Schwarzschild black hole.

All are cordially invited to attend the seminar