UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

NITheCS
National Institute for Theoretical and Computational Sciences

S E M I N A R

Prof Sarbari Guha
St Xavier College (Autonomous) Kolkata, India

Gravitational Entropy: the concept and its importance in relativistic gravity

Date:
Thursday, 7 November 2024

Time:
12h15-13h15 SAST

Venue:
- NITheCS Seminar Room
  University of KwaZulu-Natal
  Westville Campus
  3rd Floor, H-Block,
  School of Chemistry and Physics
- Online

Refreshments will be served

WHO SHOULD ATTEND?
This talk is intended to be accessible to postgraduate students. All are welcome!

ENQUIRIES:
Email Neli Mncube:
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ABSTRACT:
The principles of thermodynamics revolve about the concept of entropy. In 1928, R. C. Tolman initiated the correlation between gravity and thermodynamics. The concept of entropy of the free gravitational field, better known as gravitational entropy, was necessary to preserve the second law of thermodynamics in the course of a gravity-driven evolution of the universe. It gives us an idea of the nature of specific space-time geometries, and also the overall energetics of that region. Its study tells us how matter and free gravity behave in a given region of space-time. There are several applications/utilities of this concept and at the same time a number of problems bug the development of the various proposals of gravitational entropy. This talk will provide an exposition to the concept of gravitational entropy, touching upon some applications and its status in the theories of gravity, mainly general relativity.

Sarbari Guha is an Associate Professor in the Department of Physics at St Xavier College (Autonomous) Kolkata, India.

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NRF National Research Foundation