UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

NITheCS
National Institute for Theoretical and Computational Sciences

S E M I N A R

Field Theories from the Relativistic Law of Motion

Prof Naresh Dadhich

Inter-University Centre for Astronomy and Astrophysics (IUCAA), India

Date:
Monday, 8 April 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.

Enquiries:
Email Neli Mncube:
neli.mncube@nithecs.ac.za

ABSTRACT:
From the relativistic law of motion we deduce the field theories corresponding to the force law being linear and quadratic in 4-velocity of the particle. The linear law leads to the vector gauge theory which could be the abelian Maxwell electrodynamics or the non-abelian Yang-Mills theory. On the other hand the quadratic law demands spacetime metric as its potential which is equivalent to demanding the Principle of Equivalence. It leads to the tensor theory of gravitational field - General Relativity. It is remarkable that a purely dynamical property of the force law leads uniquely to the corresponding field theories.

Prof Naresh Dadhich is Emeritus Professor at the Inter-University Centre for Astronomy & Astrophysics, India

WHO SHOULD ATTEND?
This is a colloquium talk intended to be accessible to postgraduate students.

All are welcome!

REGISTER: https://bit.ly/48VMhAH

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

NRF National Research Foundation