Physical Research Laboratory, Ahmedabad

COLLOQUIUM – 14 – 08

Speaker: **Prof. Ashok Das**
Department of Physics and Astronomy, University of Rochester
Rochester, USA

Title: **"Supersymmetry, shape invariance and the Legendre equations"**

Time: **Wednesday, 16 July, 2014, 16.00 hrs.**
Venue: **K. R. Ramanathan Auditorium, PRL.**

Abstract

In this talk we will examine the underlying symmetry principle which makes the Legendre equation and the associated Legendre equation soluble. This symmetry relation will also bring out various interesting features associated with these systems such as the recursion relations and the Rodrigues' formula. We will also comment about the solubility of other equations associated with orthogonal polynomials.

The Speaker

Prof. Ashok Das received his BS (Honors) in 1972 and MS in 1974 in Physics from University of Delhi. He did his graduate studies in Supersymmetry and Supergravity at State University of New York at Stony Brook. He received his PhD from SUNY at Stony Brook in 1977. He was a Research Associate at the City College of New York, the University of Maryland and at Rutgers University before joining the University of Rochester in 1982. He is also the Adjunct professor of Physics at Saha Institute of Nuclear Physics, India. Prof. Das' research is in the area of Theoretical High Energy Physics. He works on Supersymmetry and Supergravity. In recent years, he has worked extensively on non-linear integrable systems, which are systems which in spite of their complicated appearance can be exactly solved. He has also been working on finite temperature field theories, generalization of the Standard Model to incorporate CP violation, and problems in quantum field theory and string theory. Although he has published widely with physicists around the world, his particularly strong collaboration with Latin American physicists is well known. In fact, he has coauthored over 100 published research papers with Brazilian physicists alone. He is known for his teaching and has received University and Department awards for his teaching including the Department Award for Excellence in Undergraduate Teaching, Department of Physics and Astronomy, University of Rochester four times (1987, 1990, 1997 and 2006), the Edward Peck Curtis Award for Excellence in Undergraduate Teaching (1991), and the 2006 William H. Riker University Award for Excellence in Graduate Teaching. He has written numerous books and monographs on various disciplines of theoretical physics in advanced and undergraduate and graduate level, like Lectures on Quantum Mechanics (Hindustan Book Agency), Lectures on Quantum Field Theory (World Scientific), Finite Temperature Field Theory (World Scientific), Integrable Models (World Scientific) etc. In 2002 Prof. Das was made a Fellow of the American Physical Society "For contributions in the areas of supergravity, integrable models and finite temperature field theory". Also he is recipient of the Rockefeller Foundation Award (for residency in Bellagio) 2004.

Tea at 15:30 hrs.

ALL ARE WELCOME