C. N. R. Rao Lecture

5 PM, Wednesday, 6th March 2013, Venue: L 2

Professor Debasis Kundu
Department of Mathematics and Statistics, IIT Kanpur

Title: Analyzing Periodic Data: Statistical Perspectives

Abstract

We observe periodic phenomena everyday in our lives. The daily temperature of Delhi or the number of tourists visiting the famous Taj Mahal or the ECG data of a normal human being, clearly follow periodic nature. Sometimes, the observations may not be exactly periodic due to different reasons, but they may be nearly periodic. The received data is usually disturbed by various factors. Due to random nature of the data, statistical techniques play an important role in analyzing the data. Statistics is also used in the formulation of appropriate models to describe the behavior of the system, development of an appropriate technique for estimation of model parameters, and the assessment of model performances. In this talk we will discuss different techniques which have developed over the last twenty five years for analyzing periodic data, other than the standard Fourier analysis.

About the Donor

Chintamani Nagesa Ramachandra Rao was born on June 30, 1934 in Bangalore. In 1958, he completed his Ph.D. from Purdue University and became a research chemist at the University of California at Berkeley. Returning to India in 1959, he worked as a lecturer at the Indian Institute of Science in Bangalore. From 1963-76, he was a Professor of Chemistry at IITK. During 1984 -89, he was the Director of IISC Bangalore.

Dr. Rao has published more than 45 books and 1500 research papers with more than 42,000 total citations. Concurrent with his academic excellence, he was appointed Chair of the Scientific Advisory Council to the Indian Prime Minister in 2005. He has won several international prizes and is a foreign member of the US National Academy of Sciences, American Academy of Arts and Sciences and of the Royal Society (London). He has also been given the high honors of Padma Shri and Padma Vibhushan by the Government of India.

About the Speaker

Prof. Debasis Kundu received his B.Stat in 1982 and M.Stat in 1984 both from the Indian Statistical Institute. He finished his Ph.D. in 1989 from the Pennsylvania State University under the guidance of Professor C.R. Rao. After finishing his Ph.D. he worked for a year at the University of Texas at Dallas as a Tenure Track Assistant professor, before joining IIT Kanpur in 1990.

Professor Kundu is currently Arun Kumar Chair Professor and also the Head of the Department of Mathematics and Statistics. His research interests include statistical signal processing, univariate and multivariate probability distributions, statistical computing and data analysis.

Professor Kundu, a Fellow of the Indian National Academy of Sciences, has authored more than 200 research publications and co-authored two books. He is on the editorial board of four international journals in the field of Statistics.

Previous Lectures

Year	Name	Title
2012	Sanjay Mittal	Using High Performance Computing (HPC) for Understanding Fluid Flows
2011	Amalendu Chandra	Molecular simulations of liquids and interfaces: An HPC activity at IITK
2010	Gautam Biswas	Understanding Vapor and Air Bubbles
2009	V. Chandrasekhar	Single-Molecule Magnets
2008	Manindra Agrawal	The P<>NP Problem
2007	R.C. Budhani	Low-Diamentional Superconducting and Magnetic Material of Proven Technology Relevance
2006	Kalyanmoy Deb	Evolution Optimization for problem Solving and Knowledge Discovery
2004	Ashutosh Sharma	Of Small Things and other Stories