

MATHEMATICAL FOUNDATIONS OF QUANTUM INFORMATION THEORY



Jointly organized by IIT Tirupati and IISER Tirupati in memory of Prof K R Parthasarathy

Prof K. R. Parthasarathy



Prof. K. R. Parthasarathy (KRP) was one of the most prolific and distinguished mathematicians that India has produced in the twentieth century. One of the famous "Four" at the Indian Statistical Institute Kolkata went to Moscow, where he had an exciting journey with A. N. Kolmogorov. He taught at Sheffield and Manchester in the UK, Bombay University, and the Indian Institute of Technology Delhi. Finally, he spent all his years at the Indian Statistical Institute Delhi until retirement.

Prof. KRP has contributed prolifically in various areas of mathematics. The canvas encompasses (1) Information theory, classical in the early years and quantum in the last decade (2) Limit theorems, weak convergence, and infinite divisibility in probability theory (3) Lie groups and probability measures on them (4) Mathematical formulations of quantum mechanics – imprimitivity systems and perturbation of operators in a Hilbert space (4) Quantum stochastic calculus – in which he was the pioneer along with R. L. Hudson.

KRP was a great teacher and an inspiration to many generations of Indian students and researchers. He has authored many books, monographs, and lecture notes, all written in impeccable style, and they are treasured by students and researchers worldwide. Prof. KRP passed away in Delhi on June 14th, 2023, at the age of 87.

Forenoon session speakers

My path with KRP on quantum trajectories

Prof A. R. Usha Devi

Bangalore University, Bengaluru

A glimpse of Gaussian quantum information theory

Prof Sibasish Ghosh

The Institute of Mathematical Sciences, Chennai

Afternoon session speakers

Finite dimensions with KRP

Dr Ritabrata Sengupta

Indian Institute of Science Education and Research Berhampur, Berhampur

Extreme points of quantum coupled systems

Prof B V Rajarama Bhat

Indian Statistical Institute, Bangalore Center, Bengaluru

Schedule

- 09:00 AM: Inauguration
- 09:30 AM: Prof A. R. Usha Devi
- 10:30 AM: Tea Break
- 11:00 AM: Prof Sibasish Ghosh
- 01:30 PM: Bus to IISER Tirupati
- 02:00 PM: Introduction to second session
- 02:15 PM: Dr Ritabrata Sengupta
- 03:15 PM: Tea Break
- 03:45 PM: Prof B.V. Rajarama Bhat
- 04:45 PM: Concluding remarks

Venue

All forenoon sessions will be held in AB2-CR104, IIT Tirupati; And all afternoon sessions will be held in the auditorium of IISER Tirupati permanent campus.

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