Birla Institute of Technology & Science, Pilani
K K Birla Goa Campus

Date: 23 December 2020

JRF position in DST project under QuEST Scheme

Applications are invited from eligible candidates for a position of Junior Research Fellow (JRF) in a project sponsored by the Department of Science and Technology (DST) under the scheme "Quantum Enabled Science and Technology" (QuEST) at the Department of Physics, BITS-Pilani K K Birla Goa Campus, NH17B Zuarinagar, Goa.

Project Title:	Geometric aspects of Quantum Correlations in Dynamics
Project Duration:	3 years
Principal Investigator (PI):	Dr. Radhika Vathsan
Project Description:	Mathematical aspects of quantum correlations for open systems and mixed states are a fundamental problem in quantum systems that are utilized in quantum information processing. Much of current work involves algebraic and entropic study of quantum entanglement. This project addresses dynamic aspects quantum correlations from a geometric perspective, starting from the notion of information geometry and correlations between probability distributions. We wish especially to study how these correlations evolve during quantum dynamics, and in the measurement process. We also wish to establish a connection with the classical limit, which becomes relevant in the quantum-classical transition natural to the measurement process. This study will further aid the process of recognizing decoherence mechanisms and their control, in particular applications to information encoding and decoding.
Fellowship:	Rs. 31,000/- per month for 2 years and Rs. 35,000/- per month in 3rd year.
Essential Qualifications:	MSc in Physics with at least 60% marks, qualification of UGC CSIR NET/GATE exam
Desirable Qualities:	Good written and spoken English, interest in mathematical methods of physics including differential geometry and probability theory

Interested candidates may apply with their CVs through the Google form: https://forms.gle/QGAdoxnhxMrmJVG

Last date for receipt of applications: 20th January 2021

Note:

1. The position is for the period of duration of the project (3 years).
2. Selected candidate will be encouraged to join Ph.D. program of BITS-Pilani as per institute rules.
3. If performance of candidate is found unsatisfactory, position can be terminated with a notice of one month.
4. The interview will be conducted online.