

Applications are invited for a position of JRF on a SERB funded project at IOP Bhubaneswar

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Title: *Entropic and active forces on confined polymers: Organization and dynamics of bacterial chromosomes*

The candidate will work at IOP Bhubaneswar under the guidance of Dr. Debasish Chaudhuri.

Goal : *In this project we will explore a physical model of bacterial chromosomes using numerical simulations, and analytical calculations to understand chromosomal positioning, morphology, dynamics and segregation associated with the cell division. At short length scales the DNA can be modeled as a semi-flexible and self-avoiding polymer, dynamics of associated proteins involve diffusion, and stochastic attachment-detachment. The impact of molecular crowding and confinement will be analyzed.*

Duration: Initial appointment of the candidate will be for 6 months, extendable on a biannual basis depending on the performance of the candidate, up to three years or upon the termination of the project, whichever occurs earlier.

Possibility of converting to a PhD position exists, for candidates clearing PhD entry requirements at IOP-Bhubaneswar while working on the project.

No. of Positions: 1

Fellowship: JRF emoluments according to SERB and IOP rules, at par with the regular PhD students of IOP (Rs. 25,000 / month for initial 2 years, Rs. 28,000/ month subsequently).

Essential Qualifications: M.Sc. in Physics / B.Tech. engineering physics

Desirable: A keen interest in statistical mechanics and computer programming. The candidate is expected to be proficient in programming languages Fortran/c/c++ and familiar with unix/Linux based operating systems.

Candidates are requested to send a CV with a short write up about why they would be interested in the project to *Dr. Debasish Chaudhuri* (debc@iopb.res.in).

Last Date of receipt of application : 2nd June, 2017.

Contact Person:

Dr. Debasish Chaudhuri

email : debc@iopb.res.in

Institute of Physics, Bhubaneswar, India

group website: <http://www.iopb.res.in/~debc/index.html>