



Prof. Somdatta Sinha
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Title:

"Modelling infectious disease: The case of Malaria"

Seminar Link: meet.google.com/aom-qtru-qxo

Seminar Host: Prof. Jayasri Das Sarma

Time: 4 PM, 09 June 2021

Abstract: Host-pathogen interactions, leading to the development and spread of Infectious disease in a population, can be studied at multiple scales. At one end, this interaction can leave signatures of adaptation at the host and/or the pathogen's genome. Cell-cell interactions between host and pathogen in the host body can also be studied at the intra-host scale. Interaction between the hosts finally decides the spread of infection at the population level. Several biological, environmental and social factors govern the disease spread in a population. The overall temporal incidence pattern of a disease is an outcome of the interaction of all these processes acting at the different scales. Usually researchers in these different levels work independently without attempting to merge the scales.

In this talk Prof. Sinha will restrict at the population level, and discuss a biologically realistic mathematical model of Malaria. She will show how changes in environmental factors can regulate the temporal disease incidence pattern in different regions of Malaria endemicity in India. She will also present a statistical modelling approach that is based on local Malaria prevalence data, and a computational analysis of spatial prevalence of historical data of Malaria in India.

Non-IISER Kolkata participants are welcome to attend the seminar by registering through the link: bit.ly/2POQMr2

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