

ICTS-String Theory Seminar

Title : Role of geometry in cell polarization

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Date : Wednesday, August 28 , 2019

Time : 2:00 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Many important processes in cell and developmental biology are controlled by the spatial distribution of proteins. For example, highly non-uniform concentration of proteins can help the cell to be polarized. It is interesting to note that the cell geometry can exhibit various shapes which in general can be different from the spherical geometry. The present talk focuses on the effect of geometry on the distribution of proteins. 1) In the first part , we discuss about the minimum model of cell polarization to capture the role of geometry. Here, we show that the geometry can bring robustness in the steady-state distribution of proteins. 2) In the second part, we discuss about role of geometry on non-conserved mass models in reaction-diffusion systems. Here, we show that the non-conserved mass models can show different behaviour in response to geometry compared to minimum model for cell polarization.