NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

SEMINAR

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Hosted by Assist. Prof Long Yuchen

Cytoskeleton mediated regulation of cell geometry, topology and patterning in plants

By **Arun Sampathkumar**

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About the Speaker

Arun Sampathkumar obtained a PhD in Cell biology at the Max Planck Institute of Molecular Plant Physiology (MPI-MP) (2011). After that he did a post doc shared between Sainsbury laboratory (Cambridge, UK) and CALTECH (Pasadena, USA) where he established pavement cells as a model system to investigate aspects of biophysical regulation of morphogenesis. In 2016 he was appointed as the head of plant cell biology and Morphodynamics group at the MPI-MP. Here, his group undertakes research that focuses on understanding how the structural components of the cell influence growth rates and directions in plants.

https://www.mpimp-golm.mpg.de/8353/4sampathkumar

Division plane orientation contributes to cell shape and topological organization, playing a key role in orchestrating morphogenetic events. Numerous studies since the 19th century have been performed to understand the geometric basis of cell division plane orientation in plants. Yet, the precise physical and molecular mechanism influencing these processes remains largely obscure. Here I will provide insights into how cell shape regulation impacts global topology of cells and contributes to the disorder observed in phyllotactic patterning at the shoot apical meristem.