Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Students' Annual Webinar

Actin-driven Golgi apparatus dispersal during collective migration of epithelial cells

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The change in Golgi polarity is fundamental to epithelial migration, morphogenesis and metastasis. Despite decades of investigation, a mechanistic and molecular understanding of the process remains poorly understood. Here, we address the problem using a combined approach involving live-cell dynamics, high-resolution imaging and molecular perturbations. We report a novel Golgi remodelling pathway displaying equatorial dispersion around the nucleus during collective cell migration, distinct from well-known mitotic Golgi remodelling. Interestingly, we uncover a direct role of Arp2/3 mediated actin dynamics in the Golgi remodelling, as opposed to Golgi-associated microtubules. Further, we describe the role of MENA-GRASP65 interaction in elucidating the molecular details of the migration induced Golgi apparatus remodelling (MIGAR).

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10:30 AM