Instituts thématiques Inserm
Institut national de la santé et de la recherche médicale

Institute of Psychiatry and Neuroscience of Paris

UNIVERSITÉ PARIS DESCARTES

Psychiatry and Neuroscience Seminar Series

Pr Rytis Prekeris

(Host T GALLI)

Cell and Developmental Biology
School of Medicine
University of Colorado, Aurora, USA

How to Make Invadopodia: coordination between membrane transport and actin cytoskeleton during cell migration

Friday June 15th, 2018, 12 pm

Room R04-45, 102-108 rue de la santé - 75014 Paris

Pr Rytis Prekeris
Cell and Developmental Biology, University of Colorado, Aurora, USA

Our studies are to understand the mechanisms of cell polarization and the functional consequences of this polarization during development and cancerogenesis. In the last several years my laboratory has focused on three distinct but related projects: regulation and function of asymmetric cell division, mechanisms of cancer metastasis and regulation of epithelia polarization in vitro and in vivo.

Remodelling of the extracellular matrix (ECM) is a key process during tumor growth and metastasis and is mediated via formation of structures, known as invadopodia, and targeted secretion of enzymes, known as matrix metalloproteinases (MMPs). One project is to combine studies using basic cell and molecular biology techniques with more translational in vivo approaches to define and systematically analyse novel pathways that mediate targeted MMP transport and secretion during breast cancer metastasis. Cytokinesis is the final stage of the cell cycle resulting in physical separation of daughter cells. During ingression of the cleavage furrow, the central spindle microtubules are compacted to form the structure known as the midbody (MB). One p roject is to identify the factors mediating MB inheritance and accumulation, and to test the role of these factors in regulating stem cell fate and differentiation.