SEMPARIS – Séminaires en région parisienne

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TBA

Mercredi 22 Novembre 2017, 11 :00
IHES, Amphithéâtre Léon Motchane
Domaines : hep-th

Titre : *Mathematical modeling of cell lineage specification in mouse embryo development*

Orateur : **Alen Tosenberger (Université Libre de Bruxelles & IHES)**

Résumé : *Embryonic development is a self-organized process during which cells divide, interact, change fate according to a complex gene regulatory network and organize themselves in a three-dimensional (3D) space. Here, we model this complex dynamic phenomenon in the context of the acquisition of epiblast (Epi) and primitive endoderm (PrE) identities within the inner cell mass (ICM) of the preimplantation embryo in the mouse. The multiscale model describes cell division and biomechanical interactions between cells, as well as biochemical reactions inside each individual cell and in the extracellular matrix. We use the model to study the Epi and PrE lineage development and the appearance of a so-called salt-and-pepper pattern which the two lineages form.*