

A fluorescence microscopy image showing several cells with intricate cytoskeletal structures. The structures are primarily purple and blue, with a prominent bright yellow-orange structure in the upper right. The background is black.

Ankita Jha, NIH

13 et 14 juin 2022 — COLLOQUE

# Single and Collective Cell Motility

COLLÈGE  
DE FRANCE

—1530—

Organisation :  
Jean-François Joanny  
Thomas Lecuit

MONDAY 13<sup>th</sup> — Amphithéâtre Maurice Halbwachs

---

- 09h30 Robert Insall, Beatson Institute, University of Glasgow, UK  
***How Cells Make Their Own Way by Self-Generated Gradients - And Go Backwards, Too***
- 10h00 Raphaël Voituriez, Laboratoire Jean Perrin, Sorbonne Université Paris, France  
***Memory Effects in Cell Migration***
- 10h30 Coffee break
- 11h00 Pierre Recho, Université Grenoble Alpes, France  
***Spontaneous Crawling on a Track: Two Paradigms***
- 11h30 Julie Theriot, Fred Hutchinson Cancer Research Center, USA  
***Genome-Wide CRISPRi Screens Reveal Distinct Regulatory Mechanisms for Varying Modes of Neutrophil Motility***
- 12h15 Lunch
- 14h00 Chase Broedersz, University Muenchen, Germany  
***Learning the Dynamics and Interactions of Confined Cell Migration***
- 14h30 Xavier Trepast, ICREA, Barcelona, Spain  
***Optimal Collective Durotaxis through Active Wetting***
- 15h00 Alex Mogilner, New York University, USA  
***Mechanics of Collective Cell Migration***
- 15h30 Coffee break
- 16h00 Denise Montell, UC Santa Barbara, USA  
***External and Internal Control of Collective Border Cell Migration***
- 16h30 Francis Corson, ENS Paris, France  
***From Tissue Flows to Embryonic Self-Organization***
- 17h00 Mingming Wu, Cornell University, USA  
***Roles of Cell-Microenvironment Communication in Tumor Invasion***
- 17h30 Erik Sahai, The Francis Crick Institute, London, UK  
***The Impact of Cell Migration on Cancer Evolution***

TUESDAY 14<sup>th</sup> — Amphithéâtre Maurice Halbwachs

---

- 09h30 Kirsty Wan, University of Exeter, UK  
***Mechanisms of Ciliomotor Control in Single-Celled Organisms***
- 10h00 Manu Prakash, Stanford University, USA  
***Geometry of Behavior: How Cytoskeletal Geometry Encodes Search in a Single Cell Protist***
- 10h30 Coffee break
- 11h00 Tâm Mignot, LCB, Marseille, France  
***Linking Single Cell Decisions to Multicellular Predatory Behaviors in a Bacterium***
- 11h30 Thierry Emonet, Yale University, USA  
***Emergent Non-genetic Adaptation of Phenotypic Diversity during Collective Cell Migration***
- 12h15 Lunch
- 14h00 Thibaut Brunet, Institut Pasteur, Paris, France  
***The Evolution of Animal Cell Motility***
- 14h30 Ana-Maria Lennon, Institut Curie, Paris, France  
***The Response of Immune Cells to Physical Deformation***
- 15h00 Pierre Sens, Institut Curie, Paris, France  
***Models of Spontaneous Symmetry Breaking Through Mechanical Feedback in Single Cell Crawling***
- 15h30 Coffee break
- 16h00 Christina Hueschen, Stanford University, USA  
***Eukaryotic Cell Gliding: Surface Actin Flows Drive Parasite Movements***
- 16h30 Kinneret Keren, Technion University, Israel  
***Dynamics of Actomyosin Networks with Rapid Turnover***
- 17h00 Carles Blanch, Institut Curie, Paris, France  
***Collective Migration of Anisotropic Cells Organised by Integer Topological Defects***
- 17h30 Benoît Ladoux, Institut Jacques Monod, France  
***Mechanical Plasticity of Epithelial Cells during Collective Migration***

13 & 14 juin 2022

## Single and Collective Cell Motility

Motilité cellulaire  
individuelle et collective

Les cours et séminaires  
sont gratuits, en accès libre,  
sans inscription préalable.

Image de couverture : Ankita Jha, NIH.

**COLLÈGE  
DE FRANCE**

— 1530 —

Thomas Römer  
Administrateur du Collège de France  
11, place Marcellin-Berthelot, 75005 Paris  
[www.college-de-france.fr](http://www.college-de-france.fr)

Année  
académique  
2021/2022