

Mechanotransduction of Host-Pathogen Interactions

December 17th, 2018

Auditorium Biopark
11, rue Watt
Paris 13^e, France

- ▶ 9 :00 a.m. – 9 :30 a.m. Welcome
- ▶ 9 :30 a.m. – 9 :40 a.m. **Introduction by organizers**
- Session 1: Biophysics of Parasite-host cell interactions**
- ▶ 9 :40 a.m. – 10 :15 a.m. **Markus ENGSTLER**, University of Würzburg, Germany
“From solitary swimmers to swarms and back: trypanosomes on their journey through the tsetse fly and beyond”
- ▶ 10 :15 a.m. – 10 :30 a.m. **Elisabeth LABRUYERE** et al, Pasteur Institute, Paris, France
“A mechano-imaging method to quantify intracellular biophysics”
- ▶ 10 :30 a.m. – 11 :05 a.m. **Pierre BUFFET**, Integrated red cell biology, Paris, France
“Malaria, red cells and red spleen: from mechanical friction to controllable infection?”
- ▶ 11 :05 a.m. – 11 :25 p.m. **Coffee Break**
- ▶ 11 :25 a.m. – 12 :00 p.m. **Isabelle TARDIEUX**, Institute for Advanced Biosciences, Grenoble, France
“The Toxoplasma tour de force to unfold the intravacuolar developmental program in metazoan cells”
- ▶ 12 :00 p.m. – 12 :15 p.m. **Julien ROBERT-PAGANIN** et al, Curie Institute, Paris, France
“The atypical and tunable force generation mechanism of *Plasmodium* class XIV myosin drives parasite invasion”
- ▶ 12 :15 p.m. – 12 :50 p.m. **Friedrich FRISCHKNECHT**, Parasitology Heidelberg University, Heidelberg, Germany
“Forces and shape changes of *Plasmodium* sporozoites during transmission of malaria”
- ▶ 12 :50 p.m. – 1:05 p.m. **Eloïse BERTIAUX** et al, Pasteur Institute, Paris, France

“Bidirectional intraflagellar transport is restricted to two sets of microtubule doublets in the trypanosome flagellum”

1 :05 p.m. – 2 :15 p.m.

Lunch break with posters

Session 2: Biophysics of bacterial-host cell interactions

2 :15 p.m. – 2 :50 p.m.

Anne-Marie KRACHLER, McGovern Medical School, Texas, USA
“Biophysics of bacterial adhesion and virulence”

2 :50 p.m. – 3 :05 p.m.

Claude LOVERDO et al, Laboratoire Jean Perrin, Paris, France
“Antibody-mediated enchainment of bacteria in the gut : a possible mechanism for microbiota homeostasis”

3 :05 p.m. – 3 :40 p.m.

Khalid SALAITA, Emory University, Atlanta, Georgia, USA
“Biophysics, nanoscience, force sensors at the cell membranes”

3 :40 p.m. – 3 :55 p.m.

Nathalie SAUVONNET et al, Pasteur Institute, Paris, France
“Mechanical forces and 3D topology of the colonic epithelium are critical for Shigella infection using a biomimetic human gut on a chip”

3 :55 a.m. – 4 :15 p.m.

Coffee Break

4 :15 p.m. – 4 :50 p.m.

Patricia BASSEREAU, Curie Institute, Paris, France
“Force measurements and giant unilamellar vesicles to study pathogen-host cell interactions”

4 :50 p.m. – 5 :05 p.m.

Alexandra ZAK et al, Ecole Polytechnique, Palaiseau, France
“Viscoelastic properties of neutrophil during phagocytosis”

5 :05 p.m. – 5 :40 p.m.

Guillaume DUMENIL, Pasteur Institute, Paris, France
“Neisseria meningitidis vascular colonization”

5 :40 p.m. – 5 :45 p.m.

Conclusion