

## Inserm Workshop 250

### Dynamiques intracellulaires des molécules : analyse et modélisation Intracellular dynamics of molecules: analysis and models

24-26 juin 2019 / June 24-26, 2019 ■ Bordeaux, France

Lundi 24 juin 2019 ■ Monday June, 24<sup>th</sup> 2019

15:30 - 16:00	Reception of participants
16:00 - 16:15	Welcome and presentation by the organizers
16:15 - 17:00	Introduction to the main methods for intracellular dynamics (FRAP, FCS, ICS, spt, sptPALM): comparisons and validity regimes <b>Maité COPPEY-MOISAN (Institut Jacques Monod, Paris, France)</b>
17:00 - 17:30	Coffee break
<b>SESSION I</b>	<b>An introduction to the microscopy methods for intracellular movements of molecules</b>
17:30 - 18:15	Single and variable spot FCS: The best broths are cooked in the oldest pans <b>Cyril FAVARD (IRIM, Montpellier, France)</b>
18:15 - 19:00	Catching molecules in the act: scanning and imaging fluorescence correlation spectroscopy <b>Cécile FRADIN (McMaster University, Hamilton, Canada)</b>
19:30	Dinner

Mardi 25 juin 2019 ■ Tuesday June, 25<sup>th</sup> 2019

06:30 - 08:30	Breakfast
08:30 - 09:15	Super-resolution optical microscopy: What's the point? A biologist's perspective <b>Rory R. DUNCAN (Heriot-Watt University, Edinburgh, United Kingdom)</b>
09:30 - 10:00	Analysis of 3D localization, individual tracks and clustering in sptPALM <b>Jean-Baptiste SIBARITA (IINS, Bordeaux, France)</b>
10:00 - 10:30	Coffee break
<b>SESSION II</b>	<b>Recent methods for trajectory analysis in living cells</b>
10:30 - 11:30	An introduction to the theoretical models for passive molecule movements in living cells <b>Hugues BERRY (INRIA, Villeurbanne, France)</b>
11:30 - 12:30	Temporal analysis of single trajectories <b>Christian VESTERGAARD (Institut Pasteur, Paris, France)</b>
12:30 - 14:00	Lunch

14:00 - 15:00	Bayesian Model Selection for Objective Analysis of Single-particle Trajectories <b>Mark BATHE (MIT, Cambridge, USA)</b>
15:00 - 16:00	Computational methods for super-resolution localization microscopy <b>Christophe ZIMMER (Institut Pasteur, Paris, France)</b>
16:00 - 16:30	<b>Coffee Break</b>
16:30 - 17:30	Machine learning approach to biomolecule random walks <b>Hervé MARIE-NELLY (Institut Pasteur, Paris, France)</b>
17:30 - 18:30	Bayesian approaches for spatial analysis of trajectories <b>Jean-Baptiste MASSON (Institut Pasteur, Paris, France)</b>
19:00 - 20:15	<b>Cocktail</b>
20:15	<b>Dinner</b>

Mercredi 26 juin 2019 ■ **Wednesday June, 26<sup>th</sup> 2019**

06:30 - 08:30	<b>Breakfast</b>
<b>SESSION III</b>	<b>Illustration on specific cases</b>
08:30 - 09:30	Computer simulations for the spatial dynamics of signaling pathways with NeuroRD and Smoldyn <b>Kim Avramia BLACKWELL (George Mason University, Fairfax, USA)</b>
09:30 - 10:30	Spatiotemporal dynamics of transcription at the nanoscale <b>Timothée LIONNET (NYU School of Medicine, NY, USA)</b>
10:30 - 11:00	<b>Coffee Break</b>
11:00 - 12:00	Spatiotemporal dynamics of membrane receptors at the nanoscale <b>Diego KRAPP (Colorado State University, Fort Collins, USA)</b>
12:00 - 14:00	<b>Lunch</b>
14:00	<b>Departure</b>