

# 5th CENTURI Scientific Day

July 2, 2021 - Hexagone

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09.40-10.00 Welcoming coffee

10.00-10.05 Welcoming words - Tâm Mignot

10.05-10.15 Presentation of CENTURI multiengineering platform

10.15-11.30 **Session 1 - Physics/soft matter/microfluidics/modelling**

**Pierre Ronceray (CPT)** - Learning more from stochastic trajectories

**Alphée Michelot (IBDM)** - Reconstitution of two molecular mechanisms from purified proteins requires new biophysical models

**Mar Benavides (MIO)** - High spatiotemporal resolution measurements of marine diazotroph cells

**Félix Rico (LAI)** - Acoustic force spectroscopy, a new tool to manipulate molecules and cells

**Andrea PASINI (IBDM)** - Epithelial dynamics in a new model system, the Placozoan *Trichoplax adhaerens*

11.30-11.50 Coffee break

11.50-12.50 **Session 2 - Advanced microscopy**

**Simon Hadjaje (IUSTI - IBDM)** - Hemolymph circulation during the *Drosophila* *Melanogaster* wing deployment

**Prithwidip Saha (LAI - CRCM)** - Exploring how DNA repair nanomachines dynamically and mechanically interact with DNA

**Adrien Julia (LIS - INMED)** - Modeling and correcting physics of degradation in microscopy

**Pierre Mandin (LCB)** - Dynamic control of gene expression by regulatory RNAs

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**12.50-14.00** Lunch break

**14.00-15.00** Session 3 - Computational tools for biology

**Philippe Roudot (I2M)** - Dynamic biomolecular cloud modeling for automated mining in 3D live cell microscopy

**Belaid Benhamou (LIS)** - Study of logical models and AI tools for the detection of the secondary structure of RNA molecules and the stable structure of proteins

**Léo Guignard (LIS)** - Morphogenesis quantification at the single cell scale

**Alla Solod (INMED - CPT)** - Understanding large-scale spatial navigation using virtual reality, multi-site electrophysiological recordings in the hippocampus and computational modeling

**15.00** End of CENTURI Scientific Day