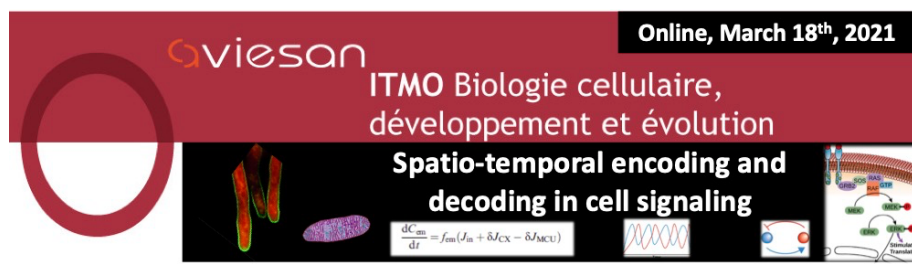


Spatio-temporal encoding and decoding in cell signaling

March, 18th 2021, Online

Program

- 9:00 am** **Introduction**
- Session 1: Calcium signaling**
 Chair person: Geneviève DUPONT, Université libre de Bruxelles, Belgique
- Invited talks**
- 9:15 am** **Spatio-temporal dynamics of calcium signaling in tiny subcellular domains: the case of astrocyte processes** - Hugues BERRY, Inria Grenoble Rhône-Alpes, équipe-projet Beagle
- 9:55 am** **Amplitude versus frequency coding in calcium oscillations** - Ursula KUMMER, COS Heidelberg, Modeling of Biological Processes
- Selected short talks**
- 10:35 am** **Simulation of astrocytic calcium signals in microscopy images based on kinetic models** – Anaïs BADOUAL, Inria Rennes, France
- 10:47 am** **Three-dimensional model of sub-plasmalemmal Ca²⁺ microdomains evoked by the interplay between ORAI1 and InsP3 receptors** – Diana Gil Montoya, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
- 11:00 am** **Short break**
- Session 2: Signaling and decision making**
 Chair person: Laurence CALZONE, Institut Curie, Paris, France
- Invited talks**
- 11:10 am** **Decoding and Re-encoding MAPK Fate Decision Signaling** - Olivier PERTZ, University of Bern, Institute of Cell Biology
- 11:50 am** **A positive feedback loop in apoptosis to explain heterogeneity in cell response to cancer drugs** - Madalena CHAVES, Inria Sophia Antipolis - Méditerranée, équipe-projet Biocore
- Selected short talks**
- 12:30 pm** **Control of SRC molecular dynamics encodes distinct cytoskeletal responses by specifying its signaling pathway usage** – Olivier Destaing, Institute for Advanced Biosciences, Grenoble, France
- 12:42 pm** **Modeling cell fate specification during early embryonic development in mouse** – Didier Gonze, Université Libre de Bruxelles, Belgium
- 12:54 pm** **Chemotaxis impact on a Turing reaction-diffusion system** – Camille Fraga Delfino Kunz
- 1:06 pm** **Detection and tracking of collective signalling** – Maciej Dobrzynski, Institute of Cell Biology, University of Bern, Switzerland
- 1:20 pm** **Lunch break**



Session 3: GPCR signaling

Chair person: Frédérique CLEMENT, INRIA-Saclay, France

Invited talks

2:30 pm **Role of kinetics and trafficking in GPCR-mediated signaling** - Eric REITER, UMR Physiologie de la Reproduction et des Comportements, équipe BIOS (Biologie et bioinformatique des systèmes de signalisation)

3:10 pm **Information transfer in gonadotropin-releasing hormone (GnRH) signaling** - Margaritis VOLIOTIS, University of Exeter, Centre for Predictive Modeling in Healthcare

Selected short talks

3:50 pm **Dynamics and cell-specific activity of signaling pathways are altered in neurons of Parkinsonian mice** – Nicolas Gervasi, Collège de France, paris, France

4:02 pm **Quantitative fret and stoichiometry measurements with Quanti-FRET** – Aurélie Dupont, LIPhy, Grenoble, France

4:14 pm **Kinetic control of the temporal dynamics of a Rhoa signaling cascade** – Serena Prigent-Garcia, IBPS – LBD, Paris, France

4:26 pm **Short break**

Session 4: Onset and propagation of oscillations in signaling

Chair person: Laurent COMBETTES, Inserm, Orsay, France

Invited talks

4:40 pm **Modeling the onset of periodic and excitable dynamics in signaling motifs** - Jacques-Alexandre SEPULCHRE, Institut de Physique de Nice

5:20 pm **Autonomous oscillations of confined epithelia: a dance-based rangefinder** - Joseph D'ALESSANDRO, Institut Jacques Monod, équipe Adhésion cellulaire et mécanique

Selected short talk

6:00 pm **cAMP bursts control T cell directionality by actinmyosin cytoskeleton remodelling** – Morgane Simao, Institut Cochin, Paris, France

6:12 pm **Conclusion**