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FÉV.
2022

09h30
-
16h00

2022-T1 MATHEMATICAL MODELING OF ORGANIZATION IN LIVING MATTER

Mathematical modeling and statistical analysis in neuroscience

Institut Henri Poincaré
Amphithéâtre Hermite
11 rue Pierre et Marie Curie
75005 Paris

INSCRIPTION

Organizers : Susanne Ditlevsen, Olivier Faugeras, Antonio Galves, Patricia Reynaud-Bouret, Delphine Salort, Shigeru Shinomoto

[Back to main page](#)

URL de la page : https://www.ihp.fr/fr/agenda/mathematical-modeling-and-statistical-analysis-neuroscience&is_pdf=true

Aims and scope: Modeling neuronal systems and understanding how well those models can represent the neurophysiological and cognitive data at hand is a very challenging problem from both theoretical, practical and experimental point of view. One of the main challenge consists in bridging multiple spatial and temporal scales: from the single neuron or even synapse behavior to brain cortical areas and to cognitive behaviors; from the millisecond scale corresponding to action potentials to hour/year scales corresponding to learning and memory function for instance. This requires a whole range of mathematical skills: statistics, stochastic calculus, dynamical systems, functional analysis, geometry, information theory, and numerical analysis. But this also requires deep discussions with experimentalists to confront models and data at hand but also to build potentially new experimental set-ups. This workshop aims at gathering mathematicians (modelers and statisticians) as well as theoretical neuroscientists and practitioners to exchange on this topic.

Talks by young researchers: Young researchers are welcome to submit a proposition of talk (15mn). Please provide a title, an abstract and the webpage of the speaker (which should be a PhD student or someone who has defended his/her PhD less than two years ago). The scientific committee will select between 10 and 15 talks. All the authors of selected talks will be invited to submit a paper to the journal Mathematical Neuroscience and Application.



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HORAIRES

L'institut :

- lundi au vendredi de 8h30 à 18h,
- fermé les jours fériés.

Le musée - Maison Poincaré :

- lundi, mardi, jeudi et vendredi de 9h30 à 17h30,
- samedi de 10h à 18h,
- fermé le mercredi et le dimanche.