Du
**10**
JAN.
2022
au
**14**
JAN.
2022

09h30
-
16h00

## 2022-T1 MATHEMATICAL MODELING OF ORGANIZATION IN LIVING MATTER

### Tissue growth and movement

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

INSCRIPTION

**Organizers:** Luis Almeida, Chloé Audebert, Thomas Lepoutre, Tommaso Lorenzi, Benoît Perthame

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**Aims and scope:** The mathematical modeling of living tissues is a very active subject, at the crossroads of disciplines such as mechanics, mathematical analysis, numerical simulation, biophysics, biology and medicine. Applications cover topics such as developmental biology, collective cell behavior, tissue repair and tumor growth. Mathematical understanding of living tissue models opens up new theoretical questions that are useful for understanding the foundations of these models, the relationships between visions at different scales (from molecule to organ) and for developing robust and reliable simulation methods.

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Several aspects currently limit the impact of modelling living tissues. Experimental methods for measuring constitutive laws are still not sufficiently accurate. Access to parameters and their variability raise fundamental questions at the interface statistical/differential systems. The many scales of space and time involved, as well as pattern formation and underlying physical instabilities, are a real challenge for numerical simulation.

**List of speakers:**

A. Ardaseva, R. Bailleul, M. Benamar, S. Benzekry, M. Bruna, P. Ciarletta, A. Collin, C. Etchegaray, S. Girel, T. Goudon, M. Grasselli, F. Hubert, P.-E. Jabin, J.-F. Joanny, L. Kanzler, N. Loy, A. Marciniak-Czochra, J. Munoz, K. Painter, M. J. Piotrowska, C. Pouchol, L. Preziosi, O. Saut, C. Schmeiser, M. Schmidtchen, M. Tang, A. Trescases

**Poster session:** Tuesday January 11th, 4.30pm

**Videos are available here**

**Online:** IHP Youtube channel (just google) otherwise Zoom link

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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.

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