Du
21
MARS.
2022
au
25
MARS.
2022

09h30
-
13h00

2022-T1 MATHEMATICAL MODELING OF ORGANIZATION IN LIVING MATTER

Mathematical models in ecology and evolution

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

INSCRIPTION

Organizers: Vincent Calvez, Florence Débarre, Jimmy Garnier, Amandine Véber

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Aims and scope: The objective of this one-week workshop is to gather mathematicians, theoretical biologists, and biophysicists around the theme of mathematical modeling in ecology and evolution. The area of interest is as wide as the long history of mathematical advances in the field: the Lotka-Volterra predator-prey system, the Wright-Fisher population genetics models, the Fisher-Kolmogorov-Petrovskii-Piskunov reaction-diffusion equation. We shall rather focus on emerging topics who gave rise to innovative mathematical methods for relevant biological questions. In particular, we aim to address the following topics: asymptotic analysis of multi-scale problems (semi-classical analysis of quantitative genetics models in the limit of small variance, connection with Hamilton-Jacobi equation; derivation of macroscopic models from individual stochastic models); evolution of species range (adaptation to an environmental change, segregation of interacting species, dynamics of multi-species or complex invasions); evolutionary rescue; diversity of immune repertoires; evolutionary epidemiology; methods in statistical physics...

For more informations : matmodecoevo-22.sciencesconf.org/

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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.