

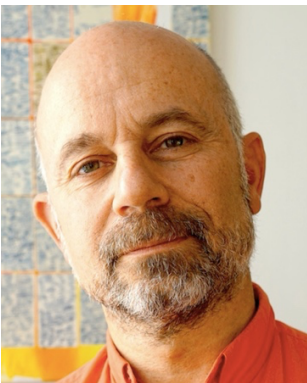
CRBM external seminar
BIOLuM

Monday, Jan 20th at 11:00 am Salle Marcel Dorée

A maggot becomes a fly: From cell dynamics to epithelial tissue patterning

François GRANER, DRCE CNRS

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Titulaire d'une agrégation de Physique (1989) puis d'un PhD en Physique (1990). Après un post-doc au Japon et à l'ENS à Paris il est recruté au CNRS en 1994.

François Graner est biophysicien, directeur de recherche (DRCE) au laboratoire « Matières et systèmes complexes » (UMR 7057 CNRS et Université de Paris), et aussi « référent déontologue » de la faculté des sciences auprès de l'Université de Paris. Cosignataire, au sein du « groupe de Paris », de quatre lettres ouvertes à l'OMS, il collabore à la recherche « Elucidating the Proximal Origin(s) of the SARS- Cov-2 » (Labex WhoAmI, Université de Paris).

His research activities aim at understanding how, during animal organism development, a tissue forms from cells, namely complex entities which self-organise and interact. This involves a truly multi-scale approach, both in vivo and in vitro, coordinating experiments, simulations and theory. The long-term goal is to answer a double question :

– For physicists : how do cellular processes determine tissue shape and size (so-called "morphogenesis"), and hence how can we link the discrete cell-scale description with tissue modeling in term of continuum mechanics ?

– For biologists : how does the cell-level regulation of various processes, including cell divisions and cell neighbor changes, precisely and robustly determine the observed shapes of adult tissues.

Independently, I try to proactively participate to "science and society" teaching and debates

Selected publications

[Inferring cell junction tension and pressure from cell geometry.](#)

[Roffay C, Chan CJ, Guirao B, Hiiragi T, Graner F](#)
[Development](#), 148(18):dev192773, 12 Mar 2021

[Lumen Expansion Facilitates Epiblast-Primitive Endoderm Fate Specification during Mouse Blastocyst Formation.](#)

[Ryan AQ, Chan CJ, Graner F, Hiiragi T](#)
[Dev Cell](#), 51(6):684-697.e4, 14 Nov 2019

['The Forms of Tissues, or Cell-aggregates': D'Arcy Thompson's influence and its limits.](#)

[Graner F, Riveline D](#)
[Development](#), 144(23):4226-4237, 01 Dec 2017