

Title: Organization principles for living systems

Organizers: Jorge Zubelli (IMPA), Benoit Perthame (Sorbonne Universite), Nicolas Vauchelet (Paris-Nord)

Goal: *The goal of this minisymposium is three-fold: Emphasize the role of Analysis and Partial Differential Equations in understanding biological phenomena, foster cooperation among researchers in those subject areas from the Brazil and France, and expose students and researchers to challenging problems in the Applied Sciences in general, and concerning living systems in particular.*

Collaborations: There is a long tradition of collaborations between the mathematical biology groups in Paris and Rio with many papers published since many years (Perthame-Zubelli, Zubelli-Vauchelet-Strugarek, Bliman-Aronna). Also J. Zubelli organizes with IMPA a Biomath conference every other year which gathers an international community including many french. A STIC Amsud program has been lead by P.-A. Bliman in 2016-2017. Finally, a fruitful collaboration on the control of mosquitos populations has been launched in 2014, with Fiocruz, IMPA and SU. It has been supported by a CAPES-COFECUB program in 2015-2017 and has motivated new research areas combining parabolic PDEs, control theory, dynamical systems with several successful PhD thesis.

Speakers: All speakers have been contacted and have agreed

Br (4 names): Jorge Zubelli, Boyan Sirakov, Maria-Soledad Aronna, Paulo Amorim

Fr (4 names): Pierre-Alexandre Bliman, Luis Almeida, Lionel Roques, Martin Strugarek

Websites:

<https://impa.br/page-pessoas/jorge-passamani-zubelli/>

<https://www.ljll.math.upmc.fr/perthame/>

<https://www.math.univ-paris13.fr/~vauchelet/>

<https://who.rocq.inria.fr/Pierre-Alexandre.Bliman/>

<https://www.ljll.math.upmc.fr/~almeida/>

https://www.researchgate.net/profile/Lionel_Roques

<https://www.ljll.math.upmc.fr/strugarek/>

<http://www.im.ufrj.br/~paulo/>

http://www.mat.puc-rio.br/english/docentes_bsirakov.htm

<http://w3.impa.br/~aronna/>

Title Aronna: "Modeling and analysis of the contribution of fish farming to the population of the *anopheles* mosquito and its impact in malaria transmission"
(joint work with Felipe Antunes and Claudia Codeço)