

## Quantum and Kinetic Problems: Modeling, Analysis, Numerics and Applications

### Workshop 4: Mathematical Biology: Modeling, Analysis and Simulation (20–23 January 2020)

Name & Affiliation	Talk Title
<a href="#">Emeric Bouin</a> Université Paris-Dauphine, France	Large scale asymptotics of velocity-jump processes and non-local Hamilton-Jacobi equations <a href="#">(Video)</a>
<a href="#">Marie Doumic</a> Institute for Research in Computer Science and Automation, Inria	Estimating the division in unicellular organisms: the incremental model
<a href="#">Gissell Estrada-Rodriguez</a> Laboratoire Jacques-Louis Lions - Sorbonne Université	Macroscopic description of nonlocal movement of biological systems in $\mathbb{R}^n$ and in networks <a href="#">(Video)</a>
<a href="#">Francis Filbet</a> Institut de Mathématiques de Toulouse	Rigorous derivation of the nonlocal reaction-diffusion FitzHugh-Nagumo system <a href="#">(Video)</a>
<a href="#">Carsten Gräser</a> Freie Universität Berlin	Multiscale modelling of particles in membranes <a href="#">(Video)</a>
<a href="#">Maurizio Grasselli</a> Politecnico di Milano	Mathematical models of phase separation in binary liquids <a href="#">(Video)</a>
<a href="#">Henrik Jönsson</a> University of Cambridge	Modeling morphogenesis in plant stem cell niches <a href="#">(Video)</a>
<a href="#">Yong-Jung Kim</a> Korea Advanced Institute of Science and Technology	Reversible velocity jump process and heterogeneous diffusion
<a href="#">King-Yeung Lam, Adrian</a> Ohio State University	On the problem of spreading in Lotka-Volterra competition models
<a href="#">Shuwang Li</a> Illinois Institute of Technology	Modeling and nonlinear simulation of solid tumor growth with chemotaxis
<a href="#">Tiejun Li</a> Peking University	scRNA-seq data analysis: issues and some recent results
<a href="#">Tommaso Lorenzi</a> University of St Andrews	A mathematical dissection of the adaptation of cell populations to fluctuating oxygen levels <a href="#">(PDF)</a>
<a href="#">Anna Marciniak-Czochra</a> Heidelberg University	Mathematical modeling and analysis to compare different mechanisms of developmental pattern formation

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<a href="#">Yasumasa Nishiura</a> Tohoku University	Spontaneous recovery of loop structure in multi-state network systems <a href="#">(Video)</a>
<a href="#">Benoit Perthame</a> Sorbonne-Université	Public Lecture: Some Equations from Mathematical Biology <a href="#">(Video)</a>  Distinguished Visitor Lecture Series: PDEs for neural assemblies; models, analysis and behavior <a href="#">(Video)</a>
<a href="#">Diane Peurichard</a> Inria de Paris	A new model for the emergence of vascular networks
<a href="#">Gaël Raoul</a> Ecole Polytechnique	A structured population model for sexual populations
Xinran Ruan Sorbonne Université	An asymptotic preserving scheme for capturing concentrations in age-structured models arising in adaptive dynamics
<a href="#">Min Tang</a> Shanghai Jiao Tong University	Mathematical modeling and analysis of fractional diffusion induced by intracellular noise
<a href="#">Nicolas Vauchelet</a> Université Paris 13	Mathematical modeling of propagation of Wolbachia to control dengue spread <a href="#">(Video)</a>
<a href="#">Xuefeng Wang</a> The Chinese University of Hong Kong, Shenzhen	Bulk-surface coupling: derivation of two models <a href="#">(Video)</a>
<a href="#">Zhisong Wang</a> National University of Singapore	A unified and exactly solvable model for dimeric nanomotors <a href="#">(Video)</a>
<a href="#">Michael Winkler</a> Universität Paderborn	Can primitive chemotaxis generate spatial structures?
Yaping Wu Capital Normal University	Existence and stability of nontrivial steady states for the SKT competition model with cross-diffusion
<a href="#">Jie Yan</a> National University of Singapore	The responses of protein structures and protein-protein complexes to mechanical perturbations
<a href="#">Lei Zhang</a> Peking University	Network design principle for dual function of adaptation and noise attenuation
<a href="#">Douglas Zhou</a> Shanghai Jiao Tong University	A brain-inspired spiking neural model for artificial intelligence
<a href="#">Zhennan Zhou</a> Peking University, China	Fokker-Planck equations of neuron networks: rigorous justification and numerical simulation <a href="#">(PDF)</a>