

# Quentin VAGNE

Postdoctoral fellow

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30 years old



Keywords: Cell biology, self-organization, active matter, numerical simulations.

## Professional Experience

- 2017 – Today **Postdoctoral fellow**, Max-Planck institute for Molecular Biology and Genetics, Dresden, Theoretical modeling of liver structure and development.
- 2013 – 2016 **PhD student (3 years)**, Physico-Chemistry Curie, Curie institute (Paris), Stochastic models (theory and simulation) of membrane exchanges between cellular organelles, focusing on the Golgi apparatus. Supervisor: Pierre Sens. Skills: *Out of equilibrium Statistical Physics, Stochastic processes, Biological Physics, Numerical simulations*.
- 2014 – 2016 **Teaching Assistant (2 years)**, University Paris Descartes (Paris), Teaching general Physics and also Biophysics to first year medical students.
- 2013 **Master research project (6 months)**, Laboratoire de Physico-Chimie Théorique (ESPCI Paris), Theoretical study of clustering dynamics in biological membranes out of equilibrium. Analytical models and simulations. Supervisor: Pierre Sens.
- 2010 – 2012 **Three research internships**, In different places: CNRS Laboratory Pierre-Marie Duffieux (Besançon, France), TOTAL Geoscience Research Center (Aberdeen, Scotland), and EC2M team (ESPCI, Paris), Supervisors: Jérôme Salvi, Evren Unsal and Olivier Dauchot..

## Education

- 2012 – 2013 **Master Degree ENS-ICFP**, Ecole Normale Supérieure-UPMC (Paris), Master in fundamental Physics (<http://www.phys.ens.fr/spip.php?article1602&lang=en>), specialty « Macroscopic Physics and complexity » - Rank : 3/27.
- 2009 – 2013 **ESPCI Engineering school**, Ecole Supérieure de Physique et de Chimie Industrielles de la ville de Paris, First two years of general scientific curriculum with an emphasis on interdisciplinary (Physics Chemistry Biology) followed by a specialization in Physics.
- 2007 – 2009 **Classes préparatoires (CPGE)**, Lycée Victor Hugo (Besançon), PCSI/PC.

## Languages

- English Full professional proficiency  
German Basic proficiency

French Mother tongue

## Computer related skills

- Matlab/R/ Main working tools for data analysis  
Python  
C/C++ Monte Carlo simulations, stochastic simulations (Gillespie algorithm), object-oriented programming  
Operating At ease on Windows, Linux and Mac OS.  
systems

## Publications

- 2020 A Minimal Self-Organization Model of the Golgi Apparatus. Q. Vagne, J.P. Vrel, P. Sens. eLife 2020;9:e47318
- 2018 Stochastic Model of Maturation and Vesicular Exchange in Cellular Organelles. Q. Vagne, P. Sens. Biophysical Journal, volume 114, issue 4, 947-957
- 2018 Stochastic Model of Vesicular Sorting in Cellular Organelles. Q. Vagne, P. Sens. Phys. Rev. Lett. 120, 058102
- 2015 Sensing Size through Clustering in Non-Equilibrium Membranes and the Control of Membrane-Bound Enzymatic Reactions. Q. Vagne, M.S Turner, P. Sens. PLoS ONE 10(12): e0143470.
- 2012 Polarization sensitive sub-wavelength metallic structures: toward near-field light confinement control. A. Ndaø, Q. Vagne, J. Salvi, F. I. Baida. Applied Physics B (106), 4, p857-862