# Étienne Fodor

*Postdoctoral Research Associate*

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*French | Born on January 6, 1990*
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## Education

2013 – 2016 **Ph.D. in Theoretical Physics**, *Université Paris Diderot*.
*Tracking nonequilibrium in living matter and self-propelled systems*
Topics | nonequilibrium statistical mechanics, biophysics, active matter
Supervisors | Paolo Visco, Frédéric van Wijland

2012 – 2013 **M2 (Masters degree, 2nd year) in Physics**, *École Normale Supérieure de Paris, Universités Pierre et Marie Curie, Paris Diderot and Paris Sud*.
ICFP - Macroscopic Physics and Complexity

2011 – 2012 **Agrégation de Physique**, *École Normale Supérieure de Cachan*.
National competitive exam for teachers in classes préparatoires/first years of French Universities

2010 – 2011 **M1 (Masters degree, 1st year) in Physics**, *École Normale Supérieure de Lyon*.

2009 – 2010 **Bachelor degree in Physics**, *École Normale Supérieure de Lyon*.

2007 – 2009 **Classes préparatoires**, *Lycée Bellevue*, Toulouse.
Two-year University level preparation for the competitive entrance exams to French "grandes écoles"

## Research

### Preprints

- É. Fodor*, V. Mehandia*, J. Comelles, R. Thiagarajan, N. S. Gov, P. Visco, F. van Wijland, and D. Riveline, *From motor-induced fluctuations to mesoscopic dynamics in epithelial tissues*, `arXiv:1512.01476`
- É. Fodor*, W. W. Ahmed*, M. Almonacid*, M. Bussonnier, N. S. Gov, M.-H. Verlhac, T. Betz, P. Visco, and F. van Wijland, *Nonequilibrium dissipation in living oocytes*, `arXiv:1511.00921`
- W. W. Ahmed*, É. Fodor*, M. Almonacid*, M. Bussonnier, N. S. Gov, M.-H. Verlhac, P. Visco, F. van Wijland, and T. Betz, *Active mechanics in living oocytes reveals myosin-V force kinetics in vivo,* `arXiv:1510.08299`

* Equal contribution of these authors to this work

### Publications

[7] É. Fodor, C. Nardini, M. E. Cates, J. Tailleur, P. Visco, and F. van Wijland, *How far from equilibrium is active matter?*, Phys. Rev. Lett. **117**, 038103 (2016), `arXiv:1604.00953`
Selected as Editor's Suggestion – Highlighted in Physics (2016)

[6] É. Fodor, H. Hayakawa, P. Visco, and F. van Wijland, *Active cage model of glassy dynamics*, Phys. Rev. E **94**, 012610 (2016), `arXiv:1601.06613`

[5] E. Ben Isaac, É. Fodor, P. Visco, F. van Wijland, and N. S. Gov, *Modeling the dynamics of a tracer particle in an elastic active gel*, Phys. Rev. E **92**, 012716 (2015), `arXiv:1507.00917`

[4] W. W. Ahmed, É. Fodor, and T. Betz, *Active cell mechanics: Measurement and theory*, BBA - Mol. Cell Res. **1853**, 3083 (2015)

[3] É. Fodor*, M. Guo*, N. S. Gov, P. Visco, D. A. Weitz, and F. van Wijland, *Activity-driven fluctuations in living cells*, EPL **110**, 48005 (2015), arXiv:1505.06489
Selected as editor's choice – Highlighted in Europhysics News 46/5 (2015)

[2] É. Fodor, D. S. Grebenkov, P. Visco, and F. van Wijland, *Generalized Langevin equation with hydrodynamic backflow: equilibrium properties*, Physica A **422**, 107 (2015), arXiv:1412.3235

[1] É. Fodor, K. Kanazawa, H. Hayakawa, P. Visco, and F. van Wijland, *Energetics of active fluctuations in living cells*, Phys. Rev. E **90**, 042724 (2014), arXiv:1406.1732

## Conferences, seminars, and summer schools

Jul. 2016 **Statphys 26**, *Biological Physics*, Lyon.
*Injection, dissipation, efficiency of motors' activity in a living cell* | Contributed talk

May 2016 **MSC Laboratory Seminar**, *Université Paris Diderot*, Paris.
*Self-propelled particles as an active mater system* | Seminar

Mar. 2016 **Yukawa Institute for Theoretical Physics**, *Kyoto University*, Kyoto.
*Self-propelled particles as an active mater system* | Seminar

Feb. 2016 **Non-Gaussian workshop**, *Kyoto University*, Kyoto.
*Phenomenology of caging in glassy dynamics* | Contributed talk

Dec. 2015 **LIPhys Laboratory - Statistical Physics and Modelling**, *Université de Grenoble*, Grenoble.
*Tracking nonequilibrium physics in living matter* | Seminar

Dec. 2015 **Physics-Biology interface seminar**, *Université Paris Sud*, Orsay.
*Tracking nonequilibrium physics in living matter* | Seminar

Dec. 2015 **DAMTP - Prof. Michael E. Cates group**, *University of Cambridge*, Cambridge.
*Tracking nonequilibrium physics in living matter* | Seminar

Sep. 2015 **Active Liquids**, *Lorentz Center*, Leiden.
*How far from equilibrium is active matter?* | Contributed talk
Best talk prize

Feb. 2015 **Yukawa Institute for Theoretical Physics**, *Kyoto University*, Kyoto.
*Modeling active fluctuations in living matter* | Seminar

Feb. 2015 **Kyoto Winter School for Statistical Mechanics**, *Kyoto University*, Kyoto.
*Energetics of active fluctuations in living cells* | Poster

Jan. 2015 **Luxembourg out of Equilibrium**, *University of Luxembourg*, Luxembourg.
*Energetics of active fluctuations in living cells* | Poster

Dec. 2014 **MSC Laboratory - Physique du vivant**, *Université Paris Diderot*, Paris.
*Modeling active fluctuations in living matter* | Seminar

Sep. 2014 **Beg Rohu summer school**, Saint-Pierre Quiberon.
*Nonequilibrium Statistical Mechanics and Active Matter*

Aug. 2014 **Condensed Matter in Paris**, *Université Paris Descartes*, Paris.
*Modeling active fluctuations in living matter* | Contributed talk

Jun. 2014 **Physics and Biological Systems**, *Université Paris Sud*, Gif-sur-Yvette.
*Modeling active fluctuations in living matter* | Poster

Jun. 2014 **MSC Laboratory - Theory Group**, *Université Paris Diderot*, Paris.
*Modeling active fluctuations in living matter* | Seminar

Jun. 2014 **MSC Laboratory Days**, *Université Paris Diderot*, Paris.
*Modeling active fluctuations in living matter* | Contributed talk

Feb. 2014 **Journées de Physique Statistique**, *ESPCI*, Paris.
*Fluctuations d'un traceur dans la matière active* | Contributed talk

Jan. 2014 **Mini Stat Mech Meeting**, *University of California*, Berkeley.
*Active fluctuations of a tracer in living matter* | Poster

### Research associate visits

2016 **Yukawa Institute for Theoretical Physics**, *Kyoto University*, Kyoto, 2 months.
Inviting professor | Hisao Hayakawa

2015 **Yukawa Institute for Theoretical Physics**, *Kyoto University*, Kyoto, 2 months.
Inviting professor | Hisao Hayakawa

### Internships

2013 **M2**, *Université Paris Diderot*, Department of Physics, 16 weeks.
*Modeling active forces in living cells*
Supervisors | Paolo Visco, Frédéric van Wijland

2011 **M1**, *University of Oxford*, Department of Physics, 12 weeks.
*Complete characterization and control of extreme ultraviolet pulses from high harmonic generation*
Supervisors | Adam S. Wyatt, Ian A. Walmsley

2010 **Bachelor's degree**, *University of Geneva*, Department of Physics, 8 weeks.
*CARS microspectroscopy using a single laser source*
Supervisors | Jérôme Extermann, Luigi Bonacina, Jean-Pierre Wolf

## Teaching

2013 – 2016 **Tutorials in Physics**, *Université Paris Diderot*, Paris, 64 hours/year.
First-year University training in medical Physics

2012 – 2013 **Tutorials in Physics**, *Lycée Fénelon*, Paris, 23 hours.
Second year of classes préparatoires

2010 – 2011 **Tutorials in Physics**, *Lycée la Martinière Monplaisir*, Lyon, 60 hours.
First year of classes préparatoires

## Languages

French **Mothertongue**
English **Fluent**
Spanish **Intermediate**

## Computer skills

Profic. user Linux, Mathematica, LaTeX, C/C++
Basic Matlab, PYTHON

## Scholarships

2013 **Three-year teaching assistantship**, *Université Paris-Diderot*.
2013 **Three-year Ph.D. scholarship**, *École Normale Supérieure de Cachan*.
2011 **Two-year scholarship**, *École Normale Supérieure de Cachan*.

## Academic references

**Prof. Michael E. Cates**
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**Prof. Nir S. Gov**
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