Ruben Zakine

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Academic path

NYU Materials Research Science and Engineering Center (MRSEC) **New York**
Post-doctoral Associate in Statistical Physics *2019–now*
Research activity under the joint supervision of Jasna Brujic at the Center for Soft Matter Research, and Eric Vanden-Eijnden at the Courant Institute.

Laboratoire Matière et Systèmes Complexes, Université Paris Diderot **Paris**
PhD in Statistical Physics and Soft Matter *2016–2019*
PhD title: "Mediated interactions in soft matter and surface tension of active fluid".
Advisors: Jean-Baptiste Fournier and Frédéric van Wijland.
Visiting student at Tokyo Metropolitan University under the supervision of Pr. Shigeyuki Komura (January-March 2018) and at Gilman Hall at the University of California, Berkeley, with Pr. Kranthi Mandadapu (April-May 2019).
Attended Beg Rohu summer school (2016) and Les Houches - Active Matter and Non-Equilibrium Statistical Physics summer school (2018).

École Normale Supérieure, International Center for Fundamental Physics **Paris**
2nd year Master, Quantum Mechanics and Statistical physics *2015–2016*

École polytechnique, Paris-Saclay **Palaiseau**
1st year Master, High Energy Physics *2014–2015*
Courses: Astrophysics, General Relativity, Particle Physics, Quantum Field Theory.

École polytechnique, Paris-Saclay **Palaiseau**
Engineer's degree *2012–2015*
Courses: Mathematics, Mechanics, Physics, Chemistry, Molecular Biology, Humanities.

Lycée Louis Le Grand **Paris**
Preparatory class for entrance to Grandes Écoles, Mathematics, Physics and Chemistry *2009–2012*

Lycée Louis Le Grand **Paris**
Scientific Baccalauréat *June 2009*
High school diploma in science, summa cum laude.

Experience

Teaching

Université Paris Descartes **Paris**
Teaching assistant in Physics for first year medical students (PACES) *2016–2019*

Internships

Laboratoire Matière et Systèmes complexes - UMR 7057 **Paris**
2nd year Master: Field mediated Interactions between Active Spins *January 2016–May 2016*

Institut d'Astrophysique de Paris - UMR 7095 **Paris**
1st year Master: Synchrotron Emission in relativistic shocks associated to Gamma Ray Bursts *March 2015–July 2015*
Advisor: Martin Lemoine.

Laboratoire Central de la Préfecture de Police **Paris**
Research and development in Fire Engineering. *November 2012–April 2013*

Language and computer skills

Language: French (native speaker), English (fluent/professional use), Spanish (basic), German (basic)

Edition: Word, LaTeX, Excel, PowerPoint

Programming and simulations: Java, Python, C

Publications

Ruben Zakine, Yongfeng Zhao, Miloš Knežević, Adrian Daerr, Yariv Kafri, Julien Tailleur, and Frédéric van Wijland. Surface tensions between active fluids and solid interfaces: bare vs dressed. *Physical Review Letters*, 124(24):248003, 2020.

Ruben Zakine, Jean-Baptiste Fournier, and Frédéric van Wijland. Spatial organization of active particles with field-mediated interactions. *Physical Review E*, 101(2):022105, 2020.

Ruben Zakine, Dasith de Silva Edirimuni, Doru Constantin, Paolo Galatola, and Jean-Baptiste Fournier. Interaction and structuration of membrane-binding and membrane-excluding colloidal particles in lamellar phases. *Soft matter*, 15(21):4351–4362, 2019.

Ruben Zakine, Jean-Baptiste Fournier, and Frédéric van Wijland. Field-embedded particles driven by active flips. *Phys. Rev. Lett.*, 121:028001, Jul 2018.

Ruben Zakine, Alexandre Solon, Todd Gingrich, and Frédéric van Wijland. Stochastic Stirling engine operating in contact with active baths. *Entropy*, 19(5):193, 2017.

Ruben Zakine and Martin Lemoine. The elusive synchrotron precursor of collisionless shocks. *Astronomy and Astrophysics*, 601:A64, May 2017.

Miscellaneous

Trumpet player in jazz bands and orchestras.