

MATHIAS CASIULIS

POSTDOCTORAL CANDIDATE

Profile

I am a PhD student in theoretical statistical physics, currently interested in collective motion, critical properties in 2d and spin magnetism.

My outreach and teaching activities focus on soft matter physics, statistical mechanics, and optics.

Get in Touch!



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@QuasiUlysse

Accomplishments

APS Milton van Dyke Award (2017)
Physics Valedictorian at ESPCI (2015)

Education

Ecole Normale Supérieure (Paris)

ICFP Master's Program

Quantum Physics Major (2015-2016)
Graduated magna cum laude

ESPCI Paris

Class of 2012

Physics Valedictorian

Drama Club: President, actor, stage director
Culture Club: President

Research

PhD - Collective Motion without activity

LPTMC Lab, Sorbonne Université Paris | 2016 - 2019

Supervisors: M. Tarzia, L. F. Cugliandolo, O. Dauchot

- Theory of Simple Liquids
- Topological Defects
- Critical Phenomena in 2d
- Collective Motion
- Coarsening
- Molecular Dynamics Simulations

Publications

- **M. Casiulis**, M. Tarzia, L. F. Cugliandolo, O. Dauchot,
Collective motion without activity: becoming a cool bird out of frustration,
To be published (2018)
- **M. Casiulis**, M. Tarzia, L. F. Cugliandolo, O. Dauchot,
Ferromagnetism-induced phase separation in a two-dimensional spin fluid,
ArXiv 1810.01690 (2018)
- G. Durey, H. Kwon, Q. Magdelaine, **M. Casiulis**, J. Mazet, L. Keiser, H. Bense, P. Colinet, J. Bico, E. Reyssat,
Marangoni bursting: Evaporation-induced emulsification of a two-component droplet,
Phys. Rev. Fluids 3, 100501 (2018)
- M. Dupont-Nivet, **M. Casiulis**, T. Laudat, C. Westbrook, S. Schwartz,
Microwave-stimulated Raman adiabatic passage in a Bose-Einstein condensate on an atom chip,
Phys. Rev. A 91, 053420 (2015)

Teaching

Coordinator of "Physics for All" - Ecole Normale Supérieure (2016-2019)

Co-writer and teacher of a general introduction to modern physics aimed at humanities majors (bachelor and master students).

Teaching Assistant - Sorbonne Université (2016-2019)

Exercise and lab classes for Newtonian Mechanics and Thermodynamics courses.

Teaching Assistant - Lycée Louis-le-Grand (2012-2014)

Weekly oral examinations in physics in prep classes.

Outreach

Co-founder and Vice-president of The Lutetium Project (2014-present)

13,000 subscribers across 2 languages | 295,000 views

Producer, scriptwriter, and occasional host for an outreach YouTube channel focused on soft matter physics and optics.

Spin-off outreach activities include national radio broadcast interventions and live conferences for various institutions.