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Webpage
Google Scholar
Date of birth: 7/11/92
Gender: Female
Citizenship: French, British

Camille Scalliet

Academic positions

From 10/23 **Chargée de recherche CNRS**, Laboratoire de Physique de l'Ecole Normale Supérieure (CNRS, ENS-PSL), France.

10/20-09/23 **Independent Research Fellow**, University of Cambridge, United Kingdom.
Funding : Herchel Smith Fellowship and Sidney Sussex College Research Fellowship.

10/19-10/20 **Postdoctoral Researcher**, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, United Kingdom.
Funded by ERC Advanced grant to Prof. Michael E. Cates.

Education

09/16-09/19 **PhD in Theoretical Physics**, Université de Montpellier, France.
Amorphous solids from the glass transition to 1 Kelvin (advisors : L. Berthier, F. Zamponi).

2013 - 2015 **Master in Theoretical Physics with highest honors**, Ecole Normale Supérieure de Lyon, France.

January - July 2014 **Erasmus Exchange programme**, *La Sapienza University*, Rome, Italy.
Highest grade 30/30.

2012 - 2013 **Bachelor in Physics with highest honors**, Ecole Normale Supérieure de Lyon, France.

Awards, Fellowships, Scholarships

Awards

2022 **Young Scientist Prize in Statistical Physics**, International Union for Pure and Applied Physics (IUPAP).

2021 **Rising Stars in Soft and Biological Matter**, NSF MRSEC (Princeton, Chicago and Delaware).

2018 **L'Oréal-UNESCO For Women in Science Fellowship France**, 15 000€.

Independent Postdoctoral Fellowships

2020-2023 **Herchel Smith Fellowship**, Herchel Smith Fund, University of Cambridge.
ca. GBP 200 000 : competitive salary + GBP 45, 000 research grant. Success rate ∼5%.

2020-2023 **Junior Research Fellowship**, Sidney Sussex College, University of Cambridge.
ca. GBP 130,000, success rate ∼1%.

Scholarships

2016-2019 **PhD scholarship for ENS student**, French Higher Education Ministry.

1/14-7/14 **Erasmus Scholarship**, Università La Sapienza, Rome, Italy.

2012-2016 **ENS de Lyon student**, with civil servant status (63 000€).

Publications

Summary : 20 articles, 10 first author (including 1 Nature Physics, 1 PRX, 4 PRL, 1 Nat. Com.).

Impact (Google scholar) : 931 citations, h-index 15.

[20] F. L. Thiemann, **C. Scalliet**, E. A. Müller, A. Michaelides,
Defects induce phase transition from dynamic to static rippling in graphene,
Preprint arXiv :2406.04775, accepted at Proceedings of the National Academy of Sciences.

[19] D. Lang, **C. Scalliet**, C. P. Royall,
Anti-correlation between excitations and locally-favored structures in glass-forming systems,
Preprint arXiv :2408.12738, under review at Phys. Rev. E.

[18] S. Ciarella, D. Khomenko, L. Berthier, F. C. Mocanu, D. R. Reichman, **C. Scalliet**, F. Zamponi,
Finding two-level systems in glasses through machine learning,
Nature Communications 14, 4229 (2023).

[17] C. Herrero, **C. Scalliet**, M. D. Ediger, L. Berthier,
Two-step devitrification of ultrastable glasses,
Proceedings of the National Academy of Sciences 120 (16) e2220824120 (2023).

[16] F. C. Mocanu, L. Berthier, S. Ciarella, D. Khomenko, D. R. Reichman, **C. Scalliet**, F. Zamponi,
Microscopic observation of two-level systems in a metallic glass model,
The Journal of Chemical Physics 158, 014501 (2023).

[15] **C. Scalliet***, B. Guiselin*, L. Berthier,
Thirty milliseconds in the life of a supercooled liquid,
Physical Review X 12, 041028 (2022).

[14] E. De Giuli, **C. Scalliet**,
Dynamical mean-field theory : from ecosystems to reaction networks,
J. Phys. A : Math. Theor. 55, 474002 (2022).

[13] **C. Scalliet**,
Water Untangled,
Nature Physics 18, 1147-1148 (2022) - invited News & Views article.

[12] B. Guiselin*, **C. Scalliet***, L. Berthier,
Microscopic origin of excess wings in relaxation spectra of deeply supercooled liquids,
Nature Physics 18, 468-472 (2022). Featured in a News&Views.

[11] **C. Scalliet**, B. Guiselin, L. Berthier,
Excess wings and asymmetric relaxation spectra in a facilitated trap model,
The Journal of Chemical Physics 155, 064505 (2021).

[10] D. Khomenko*, **C. Scalliet***, L. Berthier, D.R. Reichman, F. Zamponi,
Depletion of two-level systems in ultrastable computer-generated glasses,
Physical Review Letters 124, 225901 (2020), Featured in Physics.

[9] **C. Scalliet**, L. Berthier, F. Zamponi,
Nature of excitations and defects in structural glasses,
Nature Communications 10, 5102 (2019).

[8] M. Ozawa, **C. Scalliet**, A. Ninarello, L. Berthier,
Does the Adam-Gibbs relation hold in simulated supercooled liquids ?,
The Journal of Chemical Physics 151, 084504 (2019).

[7] **C. Scalliet**, L. Berthier,
Rejuvenation and Memory Effects in a Structural Glass,
Physical Review Letters 122, 255502 (2019), Editor's Suggestion.

[6] L. Berthier, M. Ozawa, **C. Scalliet**,
Perspective : Configurational entropy of glass-forming liquids,
The Journal of Chemical Physics 150 (16), 160902 (2019).

[5] L. Berthier, E. Flenner, C. J. Fullerton, **C. Scalliet**, M. Singh,
Efficient swap algorithms for molecular dynamics simulations of equilibrium supercooled liquids,
Journal of Statistical Mechanics : Theory and Experiment 6, 064004 (2019).

[4] **C. Scalliet**, L. Berthier, F. Zamponi,
Marginally stable phases in mean-field structural glasses,
Physical Review E 99, 012107 (2019).

[3] **C. Scalliet**, L. Berthier, F. Zamponi,
Absence of Marginal Stability in a Structural Glass,
Physical Review Letters 119, 205501 (2017).

[2] **C. Scalliet**, A. Gnoli, A. Puglisi, A. Vulpiani,
Cages and anomalous diffusion in vibrated dense granular media,
Physical Review Letters 114, 198001 (2015).

[1] P. Oswald, **C. Scalliet**,
Measurements of the dielectric and viscoelastic constants in mixtures of 4,4'-n-octyl-cyanobiphenyl and biphenyl,
Physical Review E 89, 032504 (2014).

*equal contribution.

Conferences, workshops, seminars, and summer schools

Summary : 16 invitations to talk at international events, 15 seminars, 11 contributed talks..

Invited talks at international workshops and conferences

2024 Seeking unifying principles in equilibrated and driven disordered materials, Sept. 30-Oct. 4, *Capri (It)*.

12th Liquid Matter Conference, September 22-27, *Mainz (Ger)*.

APS March Meeting, March 4-8, *Minneapolis (USA)*.

CECAM workshop Mesoscale modeling of driven disordered materials : from glasses to active matter, May 24-26, *Lausanne (Swz)*.

2023 StatPhys28, August 7-11, *Tokyo (Jpn)*.

CECAM workshop Mesoscale modeling of driven disordered materials : from glasses to active matter, May 24-26, *Lausanne (Swz)*.

Early Career Researchers in Statistical Mechanics and Thermodynamics Workshop, April 26-28, *Edinburgh (UK)*.

XVI International Workshop on Complex Systems, March 13-17, *Andalo (It)*.

2022 "Machine Learning Glasses" workshop, November 7-11, *Paris (Fr)*.

Workshop : Viscous liquids and the glass transition XVIII, June 23-25, *Sominestationen (Dk)*.

IoP Theory of Condensed Matter Day, June 16, *Warwick (UK)*.

2021 Soft Matter for All, October 15, *online*, invitation after nomination as 'Rising Stars in Soft and Biological Materials'.

Interdisciplinary Challenges in Non-Equilibrium Physics, April 12-16, *online*.

CECAM workshop Recent Advances on the Glass Problem, January 6-8, *online*.

2020 CMD2020GEFES International conference, August 31-September 4, *online*.

2019 APS March Meeting, March 4-8, *Boston (USA)*.

Seminars

2023 Forum de Physique Statistique, ENS, June 21, *Paris (Fr)*.

Institut Lumière Matière, February 14, *Lyon (Fr)*.

2022 Mathematical physics seminar, Imperial College, November 30, *London (UK)*.

Edinburgh Statistical Physics and Complexity Webinar Series, October 4, *online*.

ETH Zurich Department of Materials, September 28, *Zurich (Swz)*.

Chemistry Department, January 27, *Cambridge (UK)*.

2021 Glass and Time, Roskilde Univ., November 24, *Roskilde (Dk)*.

Lennard-Jones Centre, October 4, *Cambridge (UK)*.

2020 Physics Department, November 25, *Bristol (online)*.

Cavendish Laboratory, January 28, *Cambridge (UK)*.

2019 Soft Matter Group DAMTP, October 22, *Cambridge (UK)*.

Laboratoire Interdisciplinaire de Physique, May 9, *Grenoble (Fr)*.

Institut Lumière Matière, May 8, *Université de Lyon (Fr)*.

2018 Department of Mathematics, April 24, *Duke University (USA)*.

Laboratoire de Physique Statistique, September 16, *ENS Paris (Fr)*.

Contributed talks

2025 n-aqua (ERC synergy grant) workshop, January 13-17, *Ringberg (Germany)*.

2024 Journées de la matière condensée, October 28-31, *Marseille (Fr)*.

ENS/Tokyo University Workshop, March 25-26, *Paris (Fr)*.

2022 CECAM Workshop 'New frontiers in liquid matter', July 4-7, *Paris (Fr)*.

2021 11th Liquid matter conference, July 19-23, *online*.

APS March Meeting, March 18, *online*.

2020 Complex Fluids 2020 Symposium, December 10-12, *online*.

APS March Meeting, March 2-6, *online*.

Edwards Centre for Soft Matter mini-conference, January 10, *Cambridge*.

Journées de Physique Statistique, January 31-February 1, *Paris (Fr)*.

Unifying Concepts in Glass Physics, June 11-15, *Bristol (UK)*.

APS March Meeting, March 13-17, *New Orleans (USA)*.

2016 Workshop : Nonlinear Response in Complex Matter, September 26-30, *Primosten (Croatia)*.

Organization of workshops and conferences

2025 Member of the International Advisory Committee for STATPHYS 29, July 13-18 2025, *Florence (It)*.

2024 JMC mini-colloquium "Statistical physics of disordered materials", October 28-31, *Marseille (Fr)*.

2022 Edwards Centre for Soft Matter mini-conference, February 4, *online*.

2020 Edwards Centre for Soft Matter mini-conference, December 4, *online*.

2019 Workshop : Two-level systems in glasses, November 25-27, *Paris (Fr)*.

Workshop : Gardner Day, January 19, *Montpellier (Fr)*, Organisor.

Poster presentations

2019 Simons Collaboration Annual Meeting, March 7-10, *New York (USA)*, Poster.

2018 Simons Collaboration Annual Meeting, March 8-9, *New York (USA)*, Poster.

2017 Simons Collaboration Annual Meeting, March 9-10, *New York (USA)*, Poster.

CECAM Workshop Glass and Jamming Transitions, January 8-12, *Lausanne (Swz)*, Poster.

Summer schools

2021 Glassy Systems and Inter-Disciplinary Applications, June 28-July 7, *Cargese (Fr)*, Invited tutorial.

Beg Rohu Summer School : Stat. Mechanics and Emergent Phenomena in Biology, May 31-June 12, *Quiberon (Fr)*, Poster.

2019 Beg Rohu Summer School : Glasses, Jamming and Slow Dynamics, June 24-July 6, *Quiberon (Fr)*, Poster.

2017 Boulder School : Frustrated and Disordered Systems, July 3-28, *Boulder (USA)*, Poster.

Academic activities

Peer-review

Reviewer for Nature Physics, Nature Communications, Proceedings of the National Academy of Sciences, Physical Review (X, Letters, E, Fluids), The Journal of Chemical Physics, Soft Matter, Europhysics Letters, J. Stat. Mech. : Theory and Experiments, Materials Today Physics, and Oxford University Press.

Organizational

Since 2024 **Member of the Sustainable Development working group**, Laboratoire de Physique de l'ENS.

Since 2024 **Member of the Equality working group**, Laboratoire de Physique de l'ENS.

2021-2023 **Council member of the Lennard-Jones Centre**, Univ. of Cambridge.

2020-2022 **Organizer of the weekly Soft Matter group seminar**, DAMTP, Univ. of Cambridge.

2021-2022 **Member of the first Equality Diversity Inclusion working group**, Sidney Sussex College, Cambridge.

Teaching

Since 2024 **Master 2 ICFP at ENS**, Course "Statistical Physics Tools and Concepts for Social Sciences". Tutorials, 14h/year. Lecturer : Jean-Philippe Bouchaud.

2020-2022 **Admission interviewer in Mathematics and Natural Sciences**, Sidney Sussex College, University of Cambridge.
Interviewer for prospective undergraduate students, 20 h/year

2020-2021 **Volunteer for the 'For Girls in Science' program by the Fondation L'Oréal**.
Free tutoring in Mathematics, Physics, Chemistry for underprivileged high school girls, 2h/week

2016-2019 **Teaching Assistant**, University of Montpellier (64 h/year), Undergraduate tutorials (Classical Mechanics) and Practical Physics (Optics and Light).

2013 - 2014 **Physics and Chemistry tutorials**, Lycée Assomption Bellevue, Lyon.
Oral examinations to prepare competitive national examinations for the French Grandes Ecoles, 60 h/year.

Supervision of internships

May 2024 - July 2024 **Master 1 internship**, Nikita Allaglo (Sorbonne Université).
Efficient sampling algorithms for polydisperse fluids.

April 2024 - July 2024 **Master 2 internship**, Ianis Huin-Sesnis (ENS).
Scaling description of avalanches in a facilitated trap model for the dynamics of supercooled liquids.

Oct 2023 - July 2024 **Master 1 research project and internship**, Danqi Lang (ENS). Co-supervisor : Paddy Royall (ESPCI).
Collective vibrational modes and structural motifs in viscous liquids.

Feb 2023 - July 2023 **Master 1 internship**, Raphael Urfin (ENS).
Large ecosystems with non-reciprocal Allee effect.

Nov 2021 - May 2022 **Part III research project (equiv. Master 2)**, Kimlam Nguyen (Trinity College, Cambridge).
Understanding the giant speedup of particle-swap algorithms.

Outreach

Interviews and articles for the general public based on my research.
Sciences & Vie, Le Figaro, Vox, and Quanta Magazine. The latter article led to an invitation to write an article in the French scientific magazine Pour la Science (Avril 2022) (now translated to german). Interview for the podcast series Sous la blouse.

November 2023 **Co-organizer of annual colloquium Femmes & Sciences and French Physical Society at LPENS**.
One day online webinar for high-school professors and one-day symposium.

March 2022 **Organizer of a panel discussion for applicants to the L'Oréal-UNESCO Fellowship**.
Organized the online discussion, inviting previous recipients and experts reviewers.

2017-present **Active member of the national association Femmes & Sciences**.
Organisation of general public events to promote science : Festival of Science, school interventions, film debates.