

Laura MESSIO

Associate Professor Hors Classe

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Research positions and Education

- Nov. 2024 **Promotion: hors classe**
- Dec. 2023 **HDR**, *Thermodynamics of spin systems*, (required to be advisor of PhD students)
- Since 2013 **Maître de conférences (teaching assistant) at LPTMC (Laboratoire de Physique Théorique de la Matière condensée)**, Sorbonne Université, Paris
- 2012–2013 **Post-doctorate at IPhT (Institut de Physique Théorique)**, CEA (Commissariat à l’Energie Atomique), Saclay, in the group of O. Parcollet, Strongly correlated systems out of equilibrium.
- 2010–2012 **Post-doctorate at ITP (Institut de Physique Théorique)**, EPFL (Ecole Polytechnique Fédérale de Lausanne), Lausanne, in the group of F. Mila, $SU(N)$ models in cold atoms.
- 2007–2010 **Ph. D. in Physics at LPTMC**, UPMC, Paris, supervised by C. Lhuillier and G. Misguich, Ground states and excitations of frustrated classical and quantum magnetic systems.
- 2007 **Master Dynamical Systems and Complex Matter Statistical Physics with distinction**, cohabilitated by UPMC, ENS Cachan, ENS Paris
- 2004–08 **Ecole Normale Supérieure de Cachan (ENS Cachan)**

Some teaching

- 2025– **Numerical methods for Physicists**, *Lectures+TD M1*, SU, (in charge of the course)
- 2022– **Quantum Physics**, *Lectures+TD M1 PAD (distantial)*, *TD L3*, SU, (in charge of the course)
- 2016–20 **Condensed Matter Theory**, *TD M2 ICFP*, SU and ENS Paris,
- 2017–2019 **Energy and Entropy**, *TD L1*, SU,
- 2013–2017 **Computational Physics**, *TD-TP*, *L2*, *L3*, *L3 Phytem*, SU and ENS Cachan
- 2011–2012 **Statistical Physics I and Quantum Mechanics II**, *TD 3rd year*, EPFL

Sciences outreach

- 2021–24 **Organization of a stand for the Fête de la science**, (*induction, magnetism and superconductivity*).
- 2022–2024 **Presentations of the researcher activities**, *to children and young people at various levels (elementary, middle and high school)*.
- 2024– **"Quantum" seminars in schools**, *organised by the CNRS*

Some reviewing activities

- Member of the jury of 12 PhD's, **bold** when reviewer (F. Heully-Alary, E. Castiel, **L. Rampon** - in 2025, K. Sourounis, M. Vanhoecke and **B. Dabholkar** in 2024, R. Garioud in 2023, M. Tiwari and T. Lugan in 2022, M. Bouammali in 2021, A. Moutenet in 2020, O. Gauthé in 2019).
- 9 PhD committees (to annually follow the student during his/her PhD).
- Referee of many journals (PRB, PRL, Nature communications, JPSJ), see [webofscience](#).

Significant and recent invited oral contributions

- Dec. 2025 **ICTP, Trieste (Italy) (France)**, *Advanced School and Conference on Quantum Matter*
- Nov. 2024 **Les Houches (France)**, *Experimental, Theoretical and Numerical Approaches to Frustrated Quantum Magnets (lecture)*
- June 2024 **Aussois (France)**, *School on topology (lecture)*
- Jan. 2024 **Chennai (India)**, *HFM 2024*
- June 2023 **Paris**, *Diagrammatic Monte Carlo workshop*
- Oct. 2022 **Bordeaux**, *French-Indian workshop on Novel Phases of Matter in Frustrated Magnets*
- Feb. 2022 **Benasque (Spain)**, *Entanglement in Strongly Correlated Systems*
- Dec. 2020 **Online meeting**, *French Frustrated Magnetism 2020*
- Jan. 2020 **Chédigny (France)**, *Réunion plénière du GDR MEETICC*
- June 2019 **Pont-à-Mousson (France)**, *Statistical Physics and Low Dimensional Systems*
- Jan. 2019 **Paris (France)**, *Journées de Physique Statistique 2019*
- June 2018 **Physikzentrum Bad Honnef (Allemagne)**, *Trends in Quantum Magnetism*

PhD, post-docts, internships

- **2 Ph. D. students** (2016–2019: Mélody Merle, in co-supervision, 30%, with J. Mozziconacci and 2023-: Thibault Noblet, in co-supervision, 50%, with Riccardo Rossi, EPFL).
- **4 post-docs**: A. Angelone (2022–23), M. Gonzalez (2020-21), K. Essafi (2017–18), S. Bieri (2013-15).
- **8 Master students**: F. Couriol, (2025, M1 SU) M. Vinteler (2024, M1 SU), T. Noblet (2023, M2 SU), G. Bracci Testasecca (2022, M2 Sapienza), J. Lunde (2022, M1 SU), C. Supiot (2021, M1 SU), C. Letouzé (2021, M1, SU), V. Grison (2019, M1, SU), M. Kucuckbas (2018, M2, P3TMA Aix-Marseille), H. Harzoun (2016, M2 Systèmes Complexes)
- **5 bachelor students**: B. Geoffrin-Tanner, (2024, L3 SU), A. Henry and K. Kpatinvo (2021, L3 SU), Z. Bourkha et E. Salib (2019, L3 SU)

Some fundings

- Participation to the ANR ULTIMAT (2025-29), coordinator: F. Bert
- Participation to the [ANR Link](#) (2019-2023), coordinator: Ph. Mendels
- Participation to the SpinLiq ANR (2013-2015), coordinator: Ph. Mendels

Some collective tasks

- **LPTMC lab council** since 2014.
- **Section 29 of the CNU** since 2016 (sessions each year to attribute bonuses, qualification required to apply as assistant professor, career guidance, teaching discharges).
- **Organizing Committee** of the national workshop [FMW2025](#) (June 2025). This initiates a series of conferences (next one in Bordeaux) created to allow researchers to communicate with the national community avoiding long-distance trips,
- **Organizing Committee** of a Doctoral Training, Les Houches School of Physics (October 2024), [Experimental, Theoretical and Numerical Approaches to Frustrated Quantum Magnets](#).
- **Organizing Committee** of the international conference HFM2022, Highly Frustrated Magnetism (Paris). I was the only local member and had to handle all the financial aspects, helped by Liliane Cruzel (administrative staff LPTMC).
- Environment :
 - 2020-: Member of the LPTMC "Clim'actions" commission, created in 2020, which carried out the carbon footprint of the laboratory for the years 2019-20-21, organized a vote concerning measures to reduce the greenhouse gas balance, and wrote the LPTMC charter.
 - 2023-: *Environmental Responsibility* referent for the CNRS DR02 (Paris-Centre), one meeting every three months
 - 2021-: *Environmental Issues* referent for the voluntary units of the FSI (Faculty of sciences and Engineering of SU), one meeting per month.