

# Emmanuel Dormy

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*Department of Mathematics & its Applications*  
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*France*

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## Research Positions

- 2008-now Senior Researcher (Directeur de Recherche) at the french National Center for Scientific Research (CNRS)
- 2016-now Attached to the Ecole Normale Supérieure (ENS), Department of Mathematics and its Applications. Head of the *Analysis* team (2018-2023).
- 2008-2016 Attached to the ENS, Physics Department. Head of the MAG-team.
- 1999-2008 Junior Researcher (Chargé de recherche) at the CNRS
- 2006 Initiated an interdisciplinary team at the ENS Physics Department, on Magneto-hydrodynamics in Astrophysics and Geophysics (MAG). Head of this team (2006-2016).
- 2004-2008 Attached to the ENS, Physics Department.
- 1999-2003 Attached to the Institut de Physique du Globe de Paris (IPGP).
- 1997-1998 Post-Doctoral researches at the University of California Los Angeles (UCLA, USA).

## Professional qualifications

- 2002 Habilitation à Diriger des Recherches (higher doctorate), University of Paris (France).
- Nov. 1997 PhD in Geophysics, with honors at IPG in Paris (France).
- Juin 1994 Masters (DEA) in Mathematics, with honors, Nice Sophia-Antipolis University (France).

## Teaching

- 2005-now Professor at the Ecole Normale Supérieure, Paris, France (in Physics and Mathematics).
- 2020-now Professor at SciencesPo, Paris, France.
- 2023 Professor of a unique graduate course at the University of Cambridge, U.K.
- 2008-2020 Professor at Ecole Polytechnique, Palaiseau, France.

## Former students

- PhD: Alan Riquier (exp. 2025), Pierre Saulgeot (2023), Florence Marcotte (2016), Raphaël Raynaud (2015), Isamël Bouya (2013), Ludovic Petitdemange (2009), Christophe Gissinger (2009), Laure Goudard (2009), Vincent Morin (2002-2005).
- Postdocs: Fernando Garcia (2013-2014), Ludivine Oruba (2013-2017), Martin Schrinner (2009-2011), Wietze Herreman (2009-2010), Alexey Isakov (2003-2004).

## Service to Profession

- 2022 Organiser of a 3 month programme *Frontiers in dynamo theory* at the Isaac Newton Institute (INI) in Cambridge (Sept.-Dec.). Principal organiser of the first Workshop.
- 2021-2023 Co-editor of *Zeitschrift für Angewandte Mathematik und Physik* (ZAMP).
- 2017-now Member of the editorial committee of *Geophys. Astrophys. Fluid Dyn.* (GAFD).
- 2014-now Deputy-president of the MesoPSL computing center committee (PSL, Paris).
- 2011-2016 Director of the European Research Network (GDRE) on Dynamo.
- 2009 Organiser of a 3 months programme at the Institute Henri Poincaré (IHP) in Paris.
- 2007-2010 Director of the french Research Network on Dynamo.

## Invited Conferences (21 in total, list since 2013)

- Apr. 2024 “British Applied Mathematics Colloquium” (Plenary Speaker) 2024, Newcastle, UK.
- May. 2022 “Advances in geophysical and astrophysical turbulence” programme, Isaac Newton Institute, Cambridge, UK.
- Apr. 2021 “Mathematical problems in fluid dynamics” at MSRI, San Francisco, USA (via Zoom).
- Apr. 2021 *British Applied Math. Conference (BAMC)*, Glasgow, U.K. (via Zoom).
- Nov. 2017 *PHR2017*, Royal Astronomical Society, Londres, U.K.
- Apr. 2016 *IUTAM Symp. Helicity, structures and singularity in fluid and plasma dynamics*, Italy.
- Dec. 2015 *Princeton Center for Theoretical Science*, Princeton, U.S.A.
- Oct. 2014 *Workshop on Geophysical and Astrophysical Turbulence*, Inst. of Pure and Applied Math. (IPAM) UCLA, USA.
- Dec. 2013 *American Geophysical Union, AGU Fall Meeting*, San Francisco, U.S.A.
- Nov. 2013 *RIMS Int. Conf. on Zonal Flows in Geophysical and Astrophysical Fluids*, Kyoto, Japan.

## Invited Positions

- 2023 *Member in Residence*, Mathematical Science Research Institute (now SLMATH), Berkeley, USA, 1 month.
- 2021 *Visiting Scientist*, Institute for Computational and Experimental Research in Mathematics (ICERM), Boston, USA, 1 month.
- 2018-2022 *Visiting Fellow*, Trinity College, Cambridge, UK (2018: 3 months, 2020: 3 months, 2022: 6 months).

## Prizes

- 2023 *Grand Prix Mergier Bourdeix*, prize awarded by the french Academy of Sciences.
- 2009 *La Recherche* prize, received jointly with D. Gérard-Varet, B. Desjardins, D. Bresch, E. Grenier.
- 2000 *Doornbos Memorial Prize*, given by the SEDI committee of SEDI (Study of the Earth’s Deep Interior) of the IAGA (International Union of Geodesy and Geophysics).

## Five significant publications

- Dormy E. & Lacave C. (2024) Inviscid Water-Waves and interface modeling, *Quarterly of Applied Mathematics*, **82**, 583-637.
- Moffatt H.K. & Dormy E. (2019) *Self-Exciting Dynamos in Fluids*, Cambridge Univ. Press, 520 p.
- Dormy E. (2016) Strong-field spherical dynamos *J. Fluid Mech.* **789**, 500-513.
- Gérard-Varet D., Dormy E. (2010) On the ill-posedness of the Prandtl equation *J. Amer. Math. Soc.*, **23**, 591-609.
- Pétrélis F., Fauve S., Dormy E., Valet J.-P. (2009) Simple Mechanism for Reversals of Earth’s Magnetic Field, *Physical Review Letters*, **102**, 144503.