

CURRICULUM VITÆ Eric FALCON



Date of birth March 15, 1971, in Lyon (France)
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CURRENT POSITION

CNRS Research Director (DR1), Université Paris Cité, CNRS, MSC Laboratory, Paris (France)

APPOINTMENTS

2019 – CNRS Research Director 1st class (DR1), Université Paris Cité, France
2011 – 2019 CNRS Research Director 2nd class (DR2), Université Paris Diderot, France
2007 – 2011 CNRS Associate Scientist 1st class (CR1), Université Paris Diderot, France
2002 – 2007 CNRS Associate Scientist 1st class (CR1), École Normale Supérieure Lyon (ENS Lyon)
1999 – 2002 CNRS Associate Scientist 2nd class (CR2), École Normale Supérieure Lyon (ENS Lyon)
1997 – 1999 CNES Post-doc, LPS, École Normale Supérieure Paris (ENS), France
1996 – 1997 DGA Post-doc, LPMC, École Normale Supérieure Paris (ENS), France

PROFESSIONAL PREPARATION

2008 HDR (Habilitation Thesis to supervise research), Wave Turbulence, Université Paris Diderot, France
1997 PhD in Nonlinear Physics, École Normale Supérieure Lyon, France
1993 Master of Physics (M2), Statistical Physics and Nonlinear Phenomena, ENS Lyon, France
1993 Magistère, ENS Lyon, France
1990 – 1993 ENS Lyon student

RESEARCH INTERESTS

Experiments in nonlinear physics
Fluid dynamics: Wave turbulence, Hydrodynamic turbulence, Integrable turbulence
Solitons and nonlinear waves, Self-organization in complex systems,
Granular media, Ferrohydrodynamics, Physics of instabilities

AWARDS

2023 Simons Foundation (USA) Principal Investigator (Renewal)
2022 CNRS Scientific Excellence Reward (RIPEC C3)
2019 Simons Foundation (USA) Principal Investigator
2018 CNRS Scientific Excellence Reward (PEDR)
2016 Physical Review E Milestone Paper from American Physical Society (APS)
2014 CNRS Scientific Excellence Reward (PES)
2004 Branly Prize
2001 CNRS Bronze Medal

INDICATORS

h-index: 34 / Total citations: 4238 / Most cited article: 634 times / 8 articles with more than 100 citations (Google Scholar)

99 articles in international peer-reviewed journals (24 during the last 4 years)

(20 PRL, 15 EPL, 19 PRE, 12 PRF, 5 JFM, 5 EPJB, 2 PRSA, 2 RSI, 2 Sci. Rep., 1 Nature Com., 1 Annu. Rev. Fluid Mech.)

20 edited books or book chapters

45 conference proceedings

33 popularizing works

98 press items

32 Invited talks in international conferences

11 abroad invited visits (6xUSA, China, Mexico, Chile, Belgium)

35 talks in international conferences 10 invited talks in national conferences 71 invited seminars / other national pres.

FUNDING TOTAL: 4.29M€, 52 FUNDED PROJECTS (35 P.I., 17 CO-P.I.)

P.I. of 35 funded projects (19 international, 16 national) since 2002. Total 2.91M€, e.g.,

SIMONS FOUNDATION (USA) 2023 and 2019, ANR TURBULON 2012, ESA PFC (2015-2021), ESA TT (2011-2024), AXA Research Fund 2012, DGA/CNRS 2012, ANR TURBONDE 2007, CNES PFC 2006, ACI Young Researcher 2002

Co-P.I. of 17 funded projects (5 international, 12 national) since 2000. Total 1.38M€, e.g.,

ANR PROVEBACT 2024, ANR LASCATURB 2023, ANR SOGOOD 2022, ANR DYSTURB 2017, ESA CORA 2018, DIM Syst. Complexes. IDF 2013, ECOS-Sud CONYCIT 2008, CNES PFC (2000-2003), ESA PFC (2001, 2017-2021)

SUPERVISION

14 post-docs: M. Vernet (2024), S. Kucher (2024), T. Singla (2022), J.-B. Gorce (2020-21), E. Opsomer (2017), T. Jamin (2017), E. Opsomer (2015), F. Haudin (2015), L. Gordillo (2011-12), B. Issenmann (2010), E. Herbert (2009), U. Bortolozzo (2007), A. Merlen (2006), S. Dorbolo (2005)

10 PhD students: J. Barckicke (2024-26), F. Novkoski (2021-24), G. Ricard (2020-23), J. Fillette (2019-23), A. Cazaubiel (2017-20), S. Merminod (2013-16), T. Jamin (2012-15), L. Deike (2010-13), C. Falcón-Beas (2005-08), M. Creyssels (2003-06)

21 interns: 14 M2 and 2 M1 Master students, 5 L3 Bachelor students

MAIN SERVICES

President of the Nonlinear Physics Division of the French Physical Society (since 2021)

President of expert group in Physics of French Space Agency (CNES) (2015-2019 and Member 2010-2014)

General secretary of French Committee for Physics, French Academy of Sciences since 2012

Elected member of European Low Gravity Research Ass. Management Committee (2017-2023)

Member of the Spatial Exploration and Research Evaluation Committee (CERES) of CNES (2017-2019)

PI of the ESA VipGran instrument for International Space Station (ISS) since 2017 and Parabolic Flights (2011-2022)

Co-PI of the CNES Fluidics instrument in International Space Station (ISS) since 2017

French Delegate during the General Assembly of IUPAP (International Union of Pure and Applied Physics) 2014, 2021

Secretary of the Rhone-Alpes section of the French Physical Society (2000-2005)

Head of the Out-of-Equilibrium Dynamical Systems group (37 people) at MSC Laboratory, Univ Paris Cité (2013 – 2021)

Head of the Nonlinear Physics Group (6 people) at MSC Laboratory since 2007

Member of MSC Laboratory Board, Université Paris Cité (2010-2012, 2014-2024)

Coordinator of the European network ESA Space Grains (18 international scientists from 8 countries) since 2011

European coordinator of “Granulogy” joint ESA-China project for Chinese Space Station since 2019

Coordinator of the Annual Nonlinear Physics Conference (RNL) in Paris since 2012 (200 participants)

Organizations of 13 international conferences and 13 national conferences since 2003 (see below)

Member of scientific committees of international conferences: ELGRA 2022, 2019, ISPS 2017, Dust&GrainsLow-g2012

Member of scientific committees of national conferences: RNL (since 2010), GDR Phenix (2010-2016)

Member of the French Physical Society Young Researcher Prizes committee (2021 – 2023)

Member of the “La Recherche” Prize committee (2015)

Member of the board for the CNRS Physics Institut Scientific prospective (2023)

Member of the board for the CNES Scientific prospective (2019)

Member of 20 PhD dissertation committees, 1 HDR committee, 2 HDR expertise, 10 M2 internship committees

Member of the selection committee of doctoral contract allocations of Doctoral Schools in 2017 and 2012

International review expert of China Manned Space Program in Space Utilization since 2018

Expert to review international funding applications: ESA (2019), NSF (2015, USA), Royal Society Newton Fellow-ships (2013, UK), Fondecyt (2017, 2014, Chile), FNRS (2014, Belgium)

Expert to review national funding applications: CNES (from 2010 to 2019), ANR (2018 2015 2014 2011 2010), Conseil de la Région Aquitaine (2018, 2014, 2013)

Regular scientific reviewer for Nature, PRL, EPL, JFM, PR Fluids, PRE, EPJB, EPJE, EJMB, J. Mag. Mag. Mat.

International reviewer of Full Professor applications in Physics Belgium (2011), Chile (2016)

Member of HCERES committees: INPHYNI Nice (2017)

Member of hiring committees for Full or Ass. Professor in Toulouse (2009) Lille (2018) Paris (2019, 2023) Nice (2021)

ORGANIZATION OF CONFERENCES

27 since 2003: 13 international and 14 national ones, e.g.,

2012-2019, 2021-2024 Annual Nonlinear Physics Conference (RNL), Paris (~ 200 participants each year)

2022: 27th ELGRA (European Low Gravity Association) Symposium, Lisbon, Portugal

2019: 26th ELGRA (European Low Gravity Association) Symposium, Grenada, Spain (300 participants)

ESA Space Grains Workshop, Noordwijk (2013, 2017), Köln (2016), Liège (2016, 2019), Bordeaux (2017), Paris (2018)

2017 Satellite meeting of the RNL *Nonlinear wave interactions*, Paris

2013 International conference *Nonlinear hydrodynamic waves*, Université Paris Diderot

2012 International conference *Wave Turbulence*, Les Houches, France (70 participants)

2009 International conference *Wave Turbulence*, Institut Henri Poincaré (IHP), Paris

2003 Congrès Général Société Française de Physique (SFP), Lyon (France)

OUTREACH

98 press items (*Science*, *Science News*, *Physics*, *Le Monde*, etc),

4 outreach articles,

6 Art and Science exhibitions (2013 Paris, 2015 Lyon, 2016 Annecy, 2018 Paris, 2019 Roque d'Anthéon, 2019 Bruxelles)

1 Art and Science book 2019

MEMBER OF NON-PROFIT SCIENTIFIC SOCIETIES

Member of American Physical Society (APS) 2014, 2015, 2017, 2019, 2021-2024

Member of European Physical Society (EPS) since 2003

Member of European Low Gravity Research Association (ELGRA) since 2017

Member of Société Française de Physique (SFP) since 2003

SELECTED PUBLICATIONS (DOWNLOAD A SHORT LIST OF PUBLICATIONS [HERE](#))

G. Ricard, F. Novkoski, and **E. Falcon**, [Nature Communications 15, 5726 \(2024\)](#)

Anderson localization of nonlinear surface gravity waves

J.-B. Gorce and **E. Falcon**, [Physical Review Letters 132, 264001 \(2024\)](#)

Freely Decaying Saffman Turbulence Experimentally Generated by Magnetic Stirrers

J.-B. Gorce and **E. Falcon**, [Physical Review Letters 129, 054501 \(2022\)](#)

Statistical Equilibrium of Large Scales in Three-Dimensional Hydrodynamic Turbulence

E. Falcon and N. Mordant, [Annual Review of Fluid Mechanics 54, 1 \(2022\)](#)

Experiments in Gravity-Capillary Wave Turbulence

E. Falcon, G. Michel, G. Prabhudesai, A. Cazaubiel, M. Berhanu, N. Mordant, S. Aumaître, and F. Bonnefoy,

[Physical Review Letters 125, 134501 \(2020\)](#)

Saturation of the inverse cascade in surface gravity-wave turbulence

E. Falcon, C. Laroche, and S. Fauve, [Physical Review Letters 98, 094503 \(2007\)](#)

Observation of gravity-capillary wave turbulence

E. Falcon, R. Wunenburger, P. Evesque, S. Fauve, C. Chabot, Y. Garrabos, and D. Beysens, [Physical Review Letters 83, 440 \(1999\)](#)

Cluster formation in a granular medium fluidized by vibrations in low gravity

C. Coste, **E. Falcon**, and S. Fauve, [Physical Review E 56, 6104 \(1997\)](#) *PRE Milestone paper*

Solitary waves in a chain of beads under Hertz contact