Curriculun vitæ

Mickaël BOURGOIN

Birth date :	April 23rd, 1975
Birth place :	Paris, France
Present position :	C.N.R.S. Research Director (DR2)
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Research

2016-present :	C.N.R.S. Research Director (DR2) at the *Laboratoire de Physique*, Lyon (U.M.R. 5672).
2014-2015 :	Group Leader of EDT Team at LEGI.
2014-2015 :	C.N.R.S. Research Director (DR2) at the *Laboratoire des Écoulements Géophysiques et Industriels*, Grenoble (U.M.R. 5519).
2012 :	Habilitation à Diriger des Recherches : "Turbulent transport of particles and fields", Université Joseph Fourier.
2008 - :	C.N.R.S. Researcher (CR1) at the *Laboratoire des Écoulements Géophysiques et Industriels*, Grenoble (U.M.R. 5519).
2004-2008 :	C.N.R.S. Researcher (CR2) at the *Laboratoire des Écoulements Géophysiques et Industriels*, Grenoble (U.M.R. 5519).
2003-2004 :	Postdoctoral associate : *"Experimental investigations of Lagrangian turbulence"* with E. Bodenschatz, Cornell University (U.S.A.).
2000-2003 :	PhD Thesis : *"Magnetohydrodynamics studies, application to dynamo effect"*, supervised by J.-F. Pinton & Ph. Odier (École normale supérieure de Lyon)

Awards & Honours

2022 :	ONERA Prize of the French Academy of Science.
2013-present :	Plenary and semi-plenary speaker in major international conferences,ETC11 Varsovie (2013), ICMF Florence (2016), CFM Lille (2017), APS-DFD Seattle (2019).
2009 :	EUROMECH young scientist prize, awarded at the 12th European Turbulence Conference (Marburg, Germany).
2000-2003 :	CNRS PhD Fellowship

Higher Education

2000-2003 :	PhD Thesis : *"Magnetohydrodynamics studies, application to dynamo effect"*, supervised by J.-F. Pinton & Ph. Odier (École normale supérieure de Lyon)
1999-2000 :	Master degree (DEA) : "Physics of Matter" at University Paul Sabatier in Toulouse and Master degree from ENS-Lyon.
1999-1998 :	Agrégation of Physics (national teaching competitive examination).
1996-1998 :	Undergraduate studies at ENS-Lyon.

Teaching

since 2022 :	Head of the Research M2 Program *Physics, Concepts and Applications* at ENS de Lyon.
2016-2020 :	*Image Processing, Lab Class*, L3 at ENS de Lyon (24 h/yr).
2016-2022 :	*Advances Fluid Mechanics and Turbulence*, Master 2 at ENS de Lyon (20 h/yr).
since 2015 :	*Lagrangian turbulence*, International Master at École Centrale de Lille (20 h/yr).
2011 - 2015 :	*Image Processing with Matlab, Lab Class*, Master 1 at U.F.R. Phitem, Université Joseph Fourier de Grenoble (8 h/yr).
2011 - 2014 :	*Aeroacoustics, Lab Class*, Magitèère L2 *Mécanique et Physique de l'acoustique à l'aéroacoustique*, Universitéé Joseph Fourier de Grenoble (8 h/yr).

2011 - 2012 :	*Heat Transfer, Tutorial Class*, I.U.T. *Génie Thermique et Énergie* at I.U.T.1, Université Joseph Fourier de Grenoble (16 h/yr).
2010 - 2015 :	*Fluid Mechanics, Lab Class*, Master 1 *Mécanique, Énergétiques* at ENSE^3, Grenoble-INP (32 h/yr).
2007 - 2010 :	*Hydrodynamic Instabilities, Lecture*, Master 2 *Mécanique, Énergétique et Ingénieries* at ENSE^3, Grenoble-INP (6 h/yr).
2000-2003 :	Teaching assistant at École normale supérieure de Lyon (64 h/yr).
2000-2003 :	Developer for the CANUTS National project for a Physics experiments Data Base.
2000-2002 :	"Colles" in physics at Lycée du Parc and Lycée Jean Perrin, Lyon.

Other trainings

2016 :	Laser safety habilitation, 4 days training session by Laser Conseil (Lyon, France).
2012 :	NI Vison Development Module, 4 days training session by Alliance Vision (Montélimar, France).
2004 :	Machine-shop training (20 hours), at LASSP, Cornell University (Ithaca, U.S.A.).
2002 :	NI Labview, 5 days training session organized by the CNRS (Lyon, France).
2000 :	"Sodium School", one-week training session for habilitation to work with Sodium, prepared at Cadarache center of the Atomic Energy Commission (France).

Supervising activities

PhD Thesis

2023- :	Supervisor (with N. Plihon) of François Schweitzer on the aerodynamis of butterflies in altered grvity.
2023- :	Supervisor (with N. Plihon) of Samuel Bera thesis on the aerodynamics of drones in confined environment.
2020- :	Supervisor (with F. Chilla) of Elian Bernard thesis on Turbulent Thermal Convection.

2020-2023 : Supervisor (with R. Volk) of Thomas Basset thesis on Turbulent Pair Dispersion.

2019-2023 : Supervisor (with R. Volk, J.-L. Pierson (IFPEN) and Lionel Gamet (IFPEN)) of Florencia Falkinhoff thesis on flows in porous media.

2019-2022 : Supervisor (with N. Plihon) of Ariane Gayout thesis on pendulum multi-stable aerodynamics.

2018-2022 : Supervisor (with R. Volk, ENS de Lyon) of Benjamin Laplace thesis on the coupling between turbulent and inertial particles.

2018-2021 : Supervisor (with K.J. Måløy, Univ. of Oslo) of Louison Thorens thesis on magnetic porous media.

2018-2021 : Supervisor (with N. Plihon, ENS de Lyon) of Facundo Cabrera thesis on the settling of inertial particles in turbulence.

2015-2019 : Supervisor (with R. Volk, ENS de Lyon) of Jeremy Vessaire thesis on the dynamics and collective effects of particles in turbulence.

2013-2016 : Supervisor (with A. Cartellier, LEGI) of Sholpan Sumbekova thesis on particle clustering in turbulence : inertial dynamics and resulting turbulence-induced accumulation, enhanced settling and collision/coalescence.

2013-2016 : Supervisor (with J.-P. Matas, LEGI) of Diego Rodriguez thesis on Splashing mechanisms from an immersed rotating wheel.

2012-2015 : Co-supervisor (with F. Chillà, ENS de Lyon) of Olivier Liot thesis on the Lagrangian properties of Rayleigh-Bénard convection.

2012-2016 : Co-supervisor (with B. Rousset, CEA Grenoble) of Fatimata Sy thesis on the comparative study of classical and superfluid turbulence.

2010-2013 : Supervisor (with C. Baudet) of Martin Obligado PhD thesis on the preferential concentration of inertial particles.

2005-2009 : Co-supervisor (with C. Baudet) of Nauman M. Qureshi's PhD thesis on the turbulent transport of material particles.

Post-Doc

2024- ; Supervisor of Cheng Wang on Particle dynamics and neuromporphic PTV.

2023- ; Supervisor of Di Bao on fluid structure interactions of pendular systems.

2020-2021 ; Supervisor of Alexandre Ponomarenko on Particle tracking in porous media.

2018-2020 ; Supervisor of Richard Pédurand on Experiments on particles dynamics.

2015-2017 ; Supervisor of Sander Huisman on turbulent particle dispersion.

2015-2016 ; Supervisor of Mamadou Cisse on the clustering of finite size particles in turbulence.

2013-2015 ; Supervisor of Miguel Lopez Caballeros on the development of a simultaneous PTV/PIV system.

2013-2016 ; Supervisor of Thomas Barois on the interaction of particles with turbulent flows.

2012-2013 : Supervisor of Cyril Mauger on the role of effective Shmidt number on macroscopic mixing.

2011-2013 : Supervisor of Lionel Fiabane on the preferential concentration phenomenon in turbulence.

2007-2008 : Supervisor of Romain Monchaux on the collective effects of inertial particles in turbulent flows.

Trainings

2024 (2 months) : supervisor of Noé Clavier (Master student at ENS Paris).

2024 (2 months) : supervisor of Matthijs Sterenborg (Master student at Groningen University, Nehterlands).

2024 (2 months) : supervisor of Camille Planchon (Batchelor student at ENS de Lyon).

2023 (3 months) : supervisor of Elie Sévègnes (Master student at ENS de Lyon).

2023 (2 months) : co-supervisor of Florian Lavrilleux (Batchelor student at ENS de Lyon).

2022 (3 months) : co-supervisor of Lucas Giboni (Master student at ENS de Lyon).

2022 (2 months) : co-supervisor of Rémy Dolbeault (Batchelor student at ENS de Lyon).

2022 (1 months) : co-supervisor of Thomas Phan-Thien et Walid DAFRI (Engineer students at CESI).

2021 (1 months) : co-supervisor of Jessime Azzizi et Mathieu Revy (Engineer students at CESI).

2021 (3 months) :	co-supervisor of Nathan Grosne (Engineer student at ENSTA).
2021 (3 months) :	co-supervisor of Samuel Bera (Master student at ENS de Lyon).
2020 (3 months) :	co-supervisor of Zacharia Abdeddaim (Master student at ENS de Lyon).
2020 (2 months) :	co-supervisor of Maude Viallet (Batchelor student at ENS de Lyon).
2020 (4 months) :	co-supervisor of Pedro Perez Gaton (Master student at EC-Lille).
2019 (6 months) :	supervisor of Thomas Basset (Master student at ENS de Lyon).
2019 (12 months) :	supervisor of Bianca Viggiano (PhD student at Portland State University, U.S.A.).
2019 (6 months) :	supervisor of Greg Sakradse (Master student at Portland State University, U.S.A.).
2018 (2 months) :	supervisor of Martin Malvy (BsC student at ENS de Paris, France).
2018 (4 months) :	co-supervisor of David Dumont (Master at ENS de Lyon, France).
2018 (4 months) :	co-supervisor of David Oks (Master at ENS de Lyon, France).
2018 (4 months) :	co-supervisor of Louison Thorens (Master at ENS de Lyon, France).
2018 (5 months) :	supervisor of Ariane Gayout (Master at ENS de Lyon, France).
2017 (5 months) :	supervisor of David Oks (Master student at Universidad de Buenos Aires, Argentina).
2017 (6 months) :	co-supervisor of Ahmed Hassan (Master 1 student at Ecole Centrale de Lille, France).
2017 (4 months) :	co-supervisor of Paul Godart (Master 2 student at ENS de Lyon, France).
2017 (3months) :	co-supervisor of Guillaume Ropp (Master 1 student at ENS de Lyon, France).
2016 (3 months) :	co-supervisor of Vatsal Sanjay (undergraduate student at IIT Roorkee, India).
2016 (5 months) :	Master degree (M2) supervisor of Jeremy Vessaire (student at Université Aix-Marseille).
2016 (6 months) :	Master degree (M1) supervisor of Swapnil Kharche (student at École Centrale de Lille).

2015 (3 months) :	supervisor of Saksham Gakhar (undergraduate student at IIT Bombay, India).
2015 (3 months) :	Master degree (M1), supervisor of Jeremy Vessaire (student at Université Joseph Fourier).
2014 (6 months) :	Master degree (M2), co-supervisor of Niloufar Eskandari (student at Université Joseph Fourier).
2012-2013 (6 months) :	Master degree, supervisor of Ivan Torrano (graduate student at University of Mondragón).
2012 (3 months) :	Master degree (M1), co-supervisor of Quentin Aubourg (student at Université Joseph Fourier).
2011-2012 (9 months) :	End of studies project, supervisor of Mikel Arrinda (Spanish ERASMUS engineer student, University of Mondragón).
2011 (3 months) :	Master degree (M1), supervisor of Mahrane Missaoui (Tunisian studen from INSAT).
2011 (5 monts) :	Master degree (M2R), supervisor of Nathanael Machicoane (student at Ecole Normale Supérieure de Lyon).
2011 (3 months) :	Master degree (M1), supervisor of Martin Puy (student at Université Joseph Fourier de Grenoble).
2010-2011 (9 months) :	End of studies project, supervisor of Jon Urteaga (Spanish ERASMUS engineer student, University of Mondragón).
2009-2010 (9 months) :	Master degree (M2R), supervisor of Martin Obligado (student of MFE Master INP/UJF, Grenoble).
2009-2010 (9 months) :	End of studies project, supervisor of Ibai Basauri (Spanish ERASMUS engineer student, University of Mondragón).
2009-2010 (9 months) :	End of studies project, supervisor of Igor Lizarralde (Spanish ERASMUS engineer student, University of Mondragón).
2008-2009 (9 months) :	End of studies project, supervisor of Maïté Aristegui (Spanish ERASMUS engineer student, University of Mondragón).
2008 (2 mois) :	Master degree, co-supervisor of Joachim Tephany (student at ENS Lyon).
2007-2008 (9 months) :	End of studies project, supervisor of Andoni Palacios (Spanish ERASMUS engineer student, University of Mondragón).

2006-2007 (9 months) :	End of studies project, supervisor of Unai Arrieta (Spanish ERASMUS engineer student, University of Barcelona).
2006 (6 months) :	Master degree, co-supervisor of Pierre Augier (student at ENS-Lyon).
2005 (3 months) :	End of studies project, supervisor of Nicolas Courade (student at E.N.S.T.A., Paris)
2003 (2 months) :	Master degree (M1) de Grégory Beaume (student at l'E.N.S. Lyon).
2002 (4 months) :	Master degree (M2), co-supervisor of Romain Volk (student at E.N.S. Lyon).

PhD and Habilitation Jurys

March 2024 : **University of Toulouse** (France), reviewer of Dylan Letessier **PhD Thesis**, "Chute en régime inertiel de cylindres isolés ou en groupes dans une cellule mince".

December 2023 : **Technical University of Eindhoven** (Netherlands), reviewer of Timo van Overveld **PhD Thesis**,"Spherical particles in oscillating flows : from a single particle to pattern dynamics".

December 2023 : **University Grenoble Alpes** (France), reviewer of Amélie Ferran **PhD Thesis**,"Inertial Particle Dynamics in the Turbulent/Non-Turbulent Interface".

December 2023 : **University of Lille** (France), reviewer of Paul Beaumard **PhD Thesis**,"Experimental analysis of two-point Navier-Stokes equations in non-homogeneous turbulence and application to Large Eddy Simulation".

April 2023 : **IMT Atlantique, France**, president of Corentin Cazes **PhD Theis** jury, "Remise en suspension de microparticules dans l'air induite par des évènements transitoires dans l'écoulement, approche expérimentale".

March 2023 : **University of Lorraine** (France), reviewer of Gagan Kewalramanie **PhD Thesis**, "Experimental and theoretical analysis of a turbulent two-phase jet".

February 2023 : **University of Paris-Saclay** (France), reviewer of Damien Geneste **PhD Thesis**, "From Dissipation Extreme Events to Dispersion Extreme Events, a Print of Singularities : Experimental Approach".

May 2022 : **University of Paris-Saclay** (France), president of Naz Turankok **PhD Thesis**, "Etude expérimentale de la dynamique couplée des forces et champs de pression et de vitesse en écoulements complexes et turbulents".

April 2022 : **University of Rennes** (France), jury member of Ali Rahimi Khojasteh **PhD Thesis**, "Lagrangian coherent motions to track particle trajectories in turbulent flows".

March 2022 : **Ecole Centrale of Lyon** (France), president of Fabio Feraco **PhD Thesis**, "Dynamics Driven by Emerging Vertical Drafts in Stratified Turbulent Flow".

March 2022 : **Portland State University** (U.S.A.), jury member of Bianca Viggiano **PhD Thesis**, "Building a turbulent jet : Lagrangian dynamics, multi-scale descriptions and intermittency".

September 2021 : **University of Mondragón** (Spain), president of Ander Zarketa Astigarraga **PhD Thesis**, "Aerodynamic characterization of transitionally-operating airfoils under a set of flow conditions going from ideal to real configurations".

June 2021 : **University of Aix Marseille** (France), reviewer of Gautier Verhille **Habilitation**, "Objets déformables en turbulence du couplage fluide structure à la turbulence lagrangienne".

December 2020 : **University of Toulouse** (France), jury member of Clément Strauss **PhD Thesis**, "Quelle turbulence sur les bords des nuages convectifs ?'

November 2020 : **University of Toulouse** (France), reviewer of Marie Poulain **PhD Thesis**, "Étude de la distribution de particules de plastique dans les océans : caractérisation, modélisation et corrélation avec des observations".

October 2020 : **University of Aix Marseille** (France), reviewer of Benjamin Kadoch **Habilitation**, "Contribution à l'étude du transport et du mélange turbulent et à l'optimisation de systèmes énergétiques".

October 2020 : **University of Normandie** (France), reviewer of Yacine Brahami **PhD Thesis**, "Active scalar mixing in turbulent jet flows".

September 2020 : **University of Toulouse** (France), reviewer of Florian Le Roy De Bonneville **PhD Thesis**, "Modélisation numérique de l'agitation et du mélange dans les écoulements à bulles. Application aux phénomènes de convection dans un bain de corium".

July 2020 : **University of Toulouse** (France), reviewer of Micheline Abbas **Habilitation**, "Flowing particles : when physics meets engineering".

January 2020 : **University of Tel Aviv** (Israel), jury member (reviewer) of Ron Shnapp **PhD Thesis**, "Lagrangian experimental investigation of Lagrangian dispersion in canopy turbulence."

December 2019 : **Universidad de Jaén** (Spain), jury member of Javier Ruiz Rus **PhD Thesis**, "Generación controlada des burbujas y estudio de su dinámica colectiva."

September 2019 : **KTH** (Sweden), jury member of Sagar Szade **PhD Thesis**, "Experimental studies of large particles in Newtonian and non-Newtonian fluids."

September 2019 : **Université de Perpignan Via Dominitia** (France), jury member of Antoine du Cluzeau **PhD Thesis**, "Modélisation physique de la dynamique des écoulements à bulles par remontée d''échelle à partir de simulations fines."

September 2019 : **Université Paris-Saclay** (France), president of Paul Debue **PhD Thesis**, " Experimental approach to the problem of the Navier-Stokes singularities."

September 2019 :	**ENS de Lyon** (France), jury member of Jason Reneuve **PhD Thesis**, " Modélisation de la structure fine de la turbulence quantique et classique."
December 2019 :	**Ecole Centrale de Lyon** (France), jury member of Juan-Ignacio Polanco **PhD Thesis**, "Lagrangian properties of turbulent channel flow : a numerical study."
December 2019 :	**Aix Marseille Université** (France), reviewer of Hector de la Rosa Zambrano Homann **PhD Thesis**, "Fragmentation des agregats dans le domaine inertiel de la turbulence."
December 2017 :	**Université de Nice Sophia Antipolis** (France), reviewer of Holger Homann **Habilitation**, "Turbulent transport of finite size particles."
September 2017 :	**Université de Lyon** (France), jury member of Peter Huck **PhD Thesis**, "Particle dynamics in turbulence : from the role of inhomogeneity and anisotropy to collective effects."
September 2017 :	**Université de Toulouse** (France), president of Guiquan Wang **PhD Thesis**, "Modulation of wall-bounded turbulent flows by large particles : effect of concentration, inertia, and shape."
June 2017 :	**Université de Lyon** (France), jury member of Marion Serres **PhD Thesis**, "Étude hydrodynamique d'un écoulement gaz-liquide dans un milieu poreux confiné".
November 2016 :	**University of Mondragón** (Spain), president of Ivan Torrano Zabalza **PhD Thesis**, "Low speed wind tunnel design, setup, validation and testing and speed testing of airfoils in turbulent inflow conditions."
November 2016 :	**Université Paris-Saclay, École Centrale** (France), president of Macole Sabat **PhD Thesis**, "ModËles EulÈriens et mÈthodes numÈriques pour la description des sprays polydisperses turbulents".
September 2016 :	**Université de Strasbourg** (France), reviewer and president of Wei Zhou **PhD Thesis**, "Path Instabilitis of spheres, ellipsoÔds and bubbles".
June 2016 :	**Université de Rouen** (France), reviewer of Lea Voivenel **PhD Thesis**, "Influence des paramËtres hydrodynamiques sur le mÈlange turbulent de fluides hÈtÈrogËnes. Etude expÈrimentale et analytique."

April 2015 : **Université de Nice-Sophia Antipolis**, Nice (France), reviewer of Mamadou Cisse **PhD Thesis**, "Suspensions turbulentes de particules de tailles finies : dynamique, modifications de l'écoulement et effets collectifs".

December 2014 : **Institut National Polytechnique de Toulouse** (France), reviewer of Elise Alméras **PhD Thesis**, "Étude des propriétés de transport et de mélange dans un écoulement à bulles".

December 2013 : **University of Mondragón**, Mondragón (Spain), president of the jury of Proficiency of Academic Research of Ivan Torrano, "Experimental and Numerical Investigation of Turbulent Flow Characteristics in a Low-Speed Wind Tunnel".

September 2013 : **University of Twente**, Enschede (The Netherlands), jury member at Vivek Prakash **PhD Thesis**, "Light Particles in Turbulence".

September 2013 : **University of Navarra**, Pamplona (Spain), jury member at Miguel Lopez-Caballeros **PhD Thesis**, "Large scales in a turbulent von Kármán swirling flow".

September 2013 : **École Polytechnique**, Paris (France), reviewer of Pablo Gutierrez-Matus **PhD Thesis**, "Effects on the free surface of a turbulent flow".

November 2012 : **Université de Nice-Sophia Antipolis**, Nice (France), reviewer of Rehab Bitane **PhD Thesis**, "Transport and Density Fluctuations in Disordered Systems : Application to Atmospheric Dispersion".

July 2012 : **Université de Nice-Sophia Antipolis**, Nice (France), jury member at Benjamin Pergolizzi **PhD Thesis**, "Étude de la dynamique de particules inertielles dans des écoulements aléatoires".

January 2008 : **Université Joseph Fourier**, Grenoble (France), jury member at Marine Peyrot **PhD Thesis**, "Parametric Instability of the Ponomarenko dynamo".

2006-2011 : Member of the jury for several Master degree defenses at ENS-Lyon and Grenoble-INP.

Organisation of scientific events

August 2023 : Main organiser of the 4 weeks summer school *200 Years of Navier-Stokes and Turbulences* (55 participants), Les Houches (France).

April 2023 : Member of the scientific committee of ICMF 2023, Kobe (Japan).

2022–present : Co-founder of the *Fluid Mechanics Tour of the Alps*, in partnership with University of Grenole-Alpes, Ecole Polytechnique de Lausanne and ETH Zurich. Guest invited speakers : Detlef Lohse (2022), Charles Menneveau (2023).

May 2022 :	Co-organiser of the *Turbulence & Interfaces workshop* of the Ercoftac Henri Bénard PC (40 participants), Lyon (France).
October 2021 :	Co-organiser of the *Dispersed two-phase flows" conference* (70 participants), Lyon (France), held online.
February 2021 :	Co-organiser of the sixth edition of the winter-school *"New Challenges in Turbulence Research"'* (70 participants), Les Houches (France).
November 2020 :	Organiser of the exceptional online meeting of the GDR "Phenomenology of Turbulence" dedicated to the turbulent dispersion of particles in the context of pathogens and contaminants transmission.
October 2019 :	Organiser of the annual meeting of the GDR "Phenomenology of Turbulence" (80 participants), Lyon (France).
September 2019 :	Co-organiser of the conference *"Crossed Pathways in Turbulence"'* (100 participants), Lyon (France).
May 2019 :	Member of the scientific committee of ICMF 2019, Rio (Brasil).
April 2019 :	Co-organiser of the fifth edition of the winter-school *"New Challenges in Turbulence Research"'* (70 participants), Les Houches (France).
November 2018 :	Organiser of the workshop *"Out-of-Equilibrium Systems"* (80 participants), Lyon (France).
December 2017 :	Co-organiser of the conference *"Turbulent Cascades II"* (70 participants), Lyon (France).
May 2016 :	Member of the scientific committee of ICMF 2016, Firenze (Italy).
March 2016 :	Co-organiser of the fourth edition of the winter-school *"New Challenges in Turbulence Research"* (70 participants), Les Houches (France).
June 2015 :	Organiser of the annual meeting of the GDR "Phenomenology of Turbulence" (50 participants), Grenoble (France).
March 2014 :	Co-organiser of the third edition of the winter-school *"New Challenges in Turbulence Research"* (70 participants), Les Houches (France).
September 2013 :	Organiser of the 14th edition of the *"European Turbulence Conference"* (600 participants), September 1-4, 2013, Lyon (France).
March 2012 :	Co-organiser of the second edition of the winter-school *"New Challenges in Turbulence Research"*, Les Houches (France).
February 2010 :	Main organiser of the winter-school *"New Challenges in Turbulence Research"* (70 participants), Les Houches (France).

September 2008 :	Co-organiser of D. Dautreppe seminar (SFP) : *"Turbulence : fundamental aspects and applications"* (50 participants), Grenoble (France).

Collective responsibilities & research management

- **Direction activities**

  2022-present : **Head** of the Research M2 Program *Physics, Concepts and Applications* at ENS de Lyon.

  2019-2022 : **Deputy Director** of the doctorate school of Physics ans d'Astrophysics of the University of Lyon (ED52 - PHAST).

  2021-present : **Director** of the GDR "Navier-Stokes 2.00" - GDR 2097.

  2019-2020 : **Director** of the GDR "Phenomenology of Turbulence" - GDR 2865.

  2017-2019 : **Deputy director** of the GDR "Phenomenology of Turbulence" - GDR 2865.

- **Selection committees**

  2023 : Member of an ATER recruiting committee at ENS de Lyon.

  2022 : Member of an Associate Professor recruiting committee at ENS de Lyon.

  2021 : External member of an Associate Professor recruiting committee at Université de Lyon 1.

  2020 : External member of a recruiting selection commitee at CEA Saclay.

  2019 : External member of an Assistant Professor recruiting selection committee at Université de Lyon 1.

  2017 : External member of an Assistant Professor recruiting selection committee at Université Marseille-Aix.

  2013 : External member of an Assistant Professor recruiting selection committee at Université de Toulouse.

  2013 : External member of an Assistant Professor recruiting selection committee at Université de Nice-Sophia Antipolis.

- **Scientific committees**

  2023 : Member of the scientific board from INSIS for the CNRS Prospective.

  2023-present Member of the Eurpean Turbulence Conference Committee (ETCC) under the aegis of Euromech.

  2021-present : Member of the General Assembly of the "Conseil National Français de Mécanique" under the aegis of the French Academy of Science.

  2021-present : Member of the Stirring Committee of the "Non-Linear Physics Division" of Société Française de Physique.

  2018-present : Member of the Scientific Committee of the "Musée des Confluences" of Lyon.

  2019-present : Member of the Scientific Animation Committee of the Labex "iMUST" for the axis "Continuous Media and Fluids"

  2018-2019 : Member of the Stirring Committee of the Labex "iMUST"

  2013-2016 : Member of the Scientific Committee of the GDR "Phénoménologie de la Turbulence".

- **Editorial activities**

  — **Guest Editor** for the special focus on "Particles in Turbulence" of the New Journal in Physics (2012).

- **Reviewer for several international journals**

  — International Journal of Multiphase Flows
  — Physics of Fluids
  — Journal of Fluid Mechanics
  — European Physical Journal
  — Physica D
  — New Journal of Physics
  — Geophysical and Astrophysical Fluid Dynamics
  — Physical Review E
  — Physical Review Letters
  — Plos One

- **Collective activities**

  — **Laser safety referent** at LPENSL (2016-present).

  — **Organizer of the LEGI seminars** (2006-2008).

  — **Representative of students** at the council of the physics laboratory of École normale

- **Management activities**
  - **PI** of the A.N.R. project *"Bucolyc"* (2023-2027).
  - **Local PI** of the A.N.R. project *"TurbCab"* (2022-2026).
  - **co-PI** of the I.M.P.T. (Maths/Physics) project *"Natural dispersion of aerosols, particles and pollutants : The role of turbulent fluctuations"* (2022-2026).
  - **PI** of the C.N.E.S. project *"Phoebus"* (2020-2023).
  - **co-PI** of a Franco-Bresilian project *FAPESP-UdL* (2019-2023).
  - **PI** of the IDEXLyon Breakthrough project *"TurBullet"* (2018-2022).
  - **Leader** of the team EDT at LEGI (2014-2015).
  - **Leader** of the work package *"Particles and Fields"* of the FP7 Integrated Infrastructure Initiative European project *EuHIT* (2013-2017).
  - **PI** of the project *"Small Scale Turbulence in S1MA Windtunnel"* within the European *ESWIRP* initiative of the FP7 Capacities-Research Infrastructures program (2012-2014).
  - **co-PI** for the French partners of the project *"Dynamics of Kolmogorov scale particles in turbulent flows"*, within the PHC French-German *Procope* program (2012-2015) with the Karlsruhe Institute of Technology.
  - **Local PI** for the L.E.G.I. of the A.N.R. project *"TEC2"* (2012-2016).
  - **Local PI** for the L.E.G.I. of the A.N.R. project *"DSPET"* (2007-2011).
  - **Co-coordinator** of the project *"Role of mutliscale fluctuations in MHD turbulent dynamos"* (#A08U02), within the France-Argentina ECOS-SUD program (2008-2011) with CONICET and University of Buenos Aires.

- **Expert activities**
  - **Expert** for The Israel Science Foundation.
  - **Expert** for The National Science Center of Poland.
  - **Expert** for The FONCyT of Argentina.
  - **Expert** for The French ANRT.
  - **Expert** for The Netherlands Organisation for Scientific Research.
  - **Expert** for the Icelandic Research Fund.
  - **Expert** for the French National Research Agency - ANR.
  - **Consultant** for the PEMDYN project (CEA), for the study of instabilities of large electromagnetic pumps (2011-2012).

- **Industrial relations**
  - **co-PI** of a partnership with IFPEN for the study of hydrodynamics in fixed beds (2019-2023).
  - **PI** of a partnership with PSA-Peugeot-Citroën for the investigation of splashing mechanisms from and immersed wheel (2011-2016).

Collaborations and research programs

- **National collaborations and research programs**
  - 2024-2028 : ALEAS project (**co-PI**), RI^2 program (3M€ total - 1M€ local), other partners : CEA/SPEC, LEGI.
  - 2023-2027 : FSPINT project, ANR PRCI (535k€ total - 262k€ local), other partners : KIT (Karlsruhe, Germany).
  - 2023-2027 : Bucolyc project (**PI**), ANR PRCE (584k€ total - 154k€ local), other partners : (i) academic : LORIA-CRAN, INRIA, ISM, ISYEB, (ii) industrial : XTim, Parrot.
  - 2022-2026 : IMPT project (**co-PI**) "Natural dispersion of aerosols, particles and pollutants" (105k€).
  - 2022-2026 : TurbCab project (**local PI**), ANR PRCE (770k€ total - 155 k€ local), other partners : (i) academic : PPrime, LHEEA, CSTB, (ii) industrial : POMA, Doppelmayr, MND.
  - 2020-2023 : Phoebus project (**PI**), support from CNES for Phoebus project (45k€+ access to parabolic flights), other partners : MNHN, LORIA, CRAN.
  - 2021 : "Projet Tremplin" (**PI**) (20k€) - CNRS/INP.
  - 2020 : "Projet Emergence" (**PI**) from "Fond Recherche" (12k€) - ENS de Lyon.
  - 2018-2022 : Breakhtrough program from IDEXLyon (**PI**), "Particles drifting and propelling in turbulent flows" (1.2M€), other partners : ILM, LMFA, CRAL, LGL, ICJ.
  - 2018 : "Projet Emergence" (**PI**) from "Fond Recherche" (15k€) - ENS de Lyon.
  - 2018 : Support of FRAMA (**PI**) for the purchase of a fluorescebce camera (15k€), other partners : ILM (Lyon).
  - 2017 - 2018 : FRAMA Project on turbulent transport of inertial particles (15k€), other partners : CRAL (Lyon).
  - 2016-2021 : Tunamix project, ANR "Défis des autres savoirs" (530k€), other partners : ENS-Lyon, ILM, LMFA.
  - 2014-2015 : Turbulent transport of particles and fields (**PI**), AGIR Program of Université de Grenoble (37k€).
  - 2014-2018 : LTIF project, ANR-Blanche, other partners : LEGI, ENS-Lyon, LMFA.
  - 2014-2017 : DYNAMO project, ANR-Blanche, other partners : ENS-Lyon, LMFA, LPP.
  - 2014-2017 : Labex iMust, ActiMix project, other partners : LEGI, ENS-Lyon, LMFA, ILM.
  - 2014-2015 : Labex TECXXI (**PI**), Finite size particles in turbulence, other partners : LEGI.
  - 2013-2016 : Labex TECXXI, particles in turbulence, other partners : LEGI, University of Washington (USA).
  - 2012-2013 : Labex iMUST, MaxiMix project, other partners : LEGI, ENS-Lyon, LMFA, ILM.
  - 2012 : IDRIS project for Direct numerical simulations of grid turbulence, other partner : LEGI, University of Nice.
  - 2012-2016 : TEC2 project (**local PI**), ANR-Blanche, other partners : LEGI, LMFA, ENS-Lyon, University of Nice.
  - 2009-2010 : Programme CIBLE (Région Rhône Alpes, other partners : LEGI, ENS-Lyon, LPMCN.
  - 2008-2012 : VKS project, ANR-Blanche, other partners : LEGI, ENS-Lyon, ENS-Paris, CEA-Saclay.
  - 2007-2011 : DSPET project (**local PI**), ANR-Blanche, other partners : LEGI, LMFA, ENS-Lyon, University of Nice.
  - 2007-2011 : PPF (Plan Pluri-Formation) on Lagrangien Turbulence, other partners : LMFA, ENS-Lyon.

- **Funding of International collaborations and research programs**
  - 2023-2027 : Franco-Argentinian I.R.L. from CNRS *IFADyFE (Institut Franco-Argentin de Dynamique des Fluides pour l'Environnement).*
  - 2020-2022 : Franco-Bresilian FAPESP-UdL prioritary program from IDEX Lyon (**PI**), collaboration with University of Sao Paolo for the turbulent dispersion of pollutants (40k€).
  - 2019-2023 : Franco-Argentinian I.R.P. from CNRS *IVMF (Ingénieries Vertes par la Mécanique des Fluide).*
  - 2019 : IDEX Lyon mobility program (**PI**) for PhD exchange with Portland State University (10k€) .
  - 2019 - 2021 : ECOS-SUD France-Argentina program, with the University of Buenos Aires (extended to 2022 due to Covid context).
  - 2017 - 2018 : PAI (Projet d'action intégré) France-Czech Republic Barande program, with Charles University of Prague.
  - 2014-2016 : PAI (Projet d'action intégré) France-Germany Procope program, with the Karlsruhe Institut of Technology.
  - 2013-2014 : Scientific collaboration with the University of Mondragón (Spain) on the characterization of grid generated turbulence using RANS and LES simulations.
  - 2013-2017 : EuHIT European project, other patners : 22 academic and industrial European groups. (**Leader** of the Joint Research Action work package "Particles and Fields").
  - 2012-2014 : *Small Scale Turbulence in S1MA Windtunnel* within the ESWIRP European Capacities-Research Infrastructures program, other partners : 12 international groups. (**PI of the project**).
  - 2012-2014 : PAI (Projet d'action intégré) France-Germany Procope program, with the Karlsruhe Institut of Technology (**Coordinator and PI** for the French side).
  - 2008-2011 : ECOS-SUD France-Argentina program, with the University of Buenos Aires (**Co-coordinator and PI** for the French side).
  - 2006-2007 : PAI (Projet d'action intégré) France-Germany Procope program, with the Max Planck Institute of Göttingen.

- **Industrial connections**
  - 2023-2027 : PRCE ANR projet with XTim and Parrot (**PI**) for the study of the flight of drones in confined environement.
  - 2022-2026 : PRCE ANR project with POMA, Doppelmayr and MND for the study of the role of turbulence on aerodynamic instability of cable cars.
  - 2019-2023 : Industrial partnership with IFPEN (**co-PI**) for the study of hydrodynamics in fixed beds.
  - 2012-2016 : Industrial partnership with PSA Peugeot Citroën (**PI**) for the investigation of splashing mechanisms from an immersed rotating wheel.
  - 2011-2012 : Industrial partnership with PSA Peugeot Citroën (**PI**) for the preliminary investigation of splashing mechanisms from an immersed rotating wheel.

List of publications and oral presentations

International journals

1. Facundo Cabrera-Booman, Nicolas Plihon, Raúl Bayoán Cal, Mickaël Bourgoin, Tuning particle settling in fluids with magnetic fields, Experiments in Fluids **65**, 79 (2024). doi :10.1007/s00348-024-03809-w.

2. Bianca Viggiano, Thomas Basset, Mickaël Bourgoin, Raúl Bayoán Cal, Laurent Chevillard, Charles Meneveau, Romain Volk, Lagrangian modeling of a nonhomogeneous turbulent shear flow : Molding homogeneous and isotropic trajectories into a jet, Physical Review Fluids **9**(4), 044604 (2024).

3. Florencia Falkinhoff, Alexandre Ponomarenko, Jean-Lou Pierson, Lionel Gamet, Romain Volk, Mickaël Bourgoin, Turbulent Properties of Stationary Flows in Porous Media, Physical Review Letters **132** (17), 174001 (2024). doi :10.1103/PhysRevLett.132.174001.

4. Ariane Gayout, Mickaël Bourgoin, Nicolas Plihon, Influence of the porosity pattern on the aerodynamics of a square-shaped fly-swatter, Physics of Fluids **36** (1) (2024). doi :10.1063/5.0179009.

5. Facundo Cabrera-Booman, Nicolas Plihon, Mickaël Bourgoin, Path instabilities and drag in the settling of single spheres, International Journal of Multiphase Flow **171**, pp.104664 (2024). doi :10.1016/j.ijmultiphaseflow.2023.104664.

6. Florencia Falkinhoff, Jean-Lou Pierson, Lionel Gamet, Mickaël Bourgoin, Romain Volk, Revisiting the influence of confinement on the pressure drop in fixed beds, Transport in Porous Media, **150**, pp.285-306 (2023). doi :10.1007/s11242-023-02009-0.

7. Louison Thorens, Knut Måløy, Eirik Flekkøy, Bjørnar Sandnes, Mickaël Bourgoin, Stéphane Santucci, Capillary washboarding during slow drainage of a frictional fluid, Soft Matter **19**, 9369-9378 (2023). doi :10.1039/d3sm00717k.

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9. Ariane Gayout, Ármann Gylfason, Nicolas Plihon, Mickaël Bourgoin, Fluidelastic modeling of a weathercock stabilization in a uniform flow, Journal of Fluids and Structures, **120**, 103895 (2023). doi :10.1016/j.jfluidstructs.2023.103895.

10. Thomas Barois, Bianca Viggiano, Thomas Basset, Raúl Bayoán Cal, Romain Volk, Mathieu Gibert, Mickaël Bourgoin, Compensation of seeding bias for particle tracking velocimetry in turbulent flows, Physical Review Fluids, **8** (7), 074603 (2023). doi :10.1103/PhysRevFluids.8.074603. **Editor's Selection.**

11. Romain Volk, Mickaël Bourgoin, Charles-Édouard Bréhier, Florence Raynal, Phoresis in cellular flows : from enhanced dispersion to blockage. Journal of Fluid Mechanics, **948**, A42 (2022). doi :10.1017/jfm.2022.730. **Selected for journal cover.**

12. Thomas Basset, Bianca Viggiano, Thomas Barois, Mathieu Gibert, Nicolas Mordant, Raúl Bayoán Cal, Romain Volk, Mickaël Bourgoin, Entrainment, diffusion and effective compressibility in a self-similar turbulent jet, Journal of Fluid Mechanics, **947**, A029 (2022).

13. Martin Obligado, Mickael Bourgoin, Dynamics of towed particles in a turbulent flow, Journal of Fluids and Structures, **114**, 103704 (2022).

14. Andre Fuchs, Martin Obligado, Mickael Bourgoin, Mathieu Gibert, Pablo Mininni, Joachim Peinke, Markov property of Lagrangian turbulence, Europhysics Letters, **137** (5), 53001 (2022).

15. Jan Friedrich, Bianca Viggiano, Mickael Bourgoin, Raúl Bayoán Cal, Laurent Chevillard, Single inertial particle statistics in turbulent flows from Lagrangian velocity models, Physical Review Fluids, **7**, 014303 (2022).

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17. Sofía Angriman, Pablo J. Cobelli, Mickael Bourgoin, Sander Huisman, Romain Volk, Pablo Mininni, Broken Mirror Symmetry of Tracers Trajectories in Turbulence, Physical Review Letters, **127**, 254502 (2021) 10.1103/PhysRevLett.127.254502.

18. Ariane Gayout, Mickaël Bourgoin, Nicolas Plihon, Rare Event-Triggered Transitions in Aerodynamic Bifurcation, Physical Review Letters, **126**, 104501 (2021) 10.1103/PhysRevLett.126.104501.

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23. Fatimata Sy, Pantxo Diribarne, Bernard Rousset, Mathieu Gibert, Mickaël Bourgoin, Multiscale energy budget of inertially driven turbulence in normal and superfluid helium, Physical Review Fluids, **6** (6), 064604 (2021) 10.1103/PhysRevFluids.6.064604

24. Bianca Viggiano, Thomas Basset, Stephen Solovitz, Thomas Barois, Mathieu Gibert, Nicolas Mordant, Laurent Chevillard, Romain Volk, Mickaël Bourgoin, Raúl Bayoán Cal, Lagrangian diffusion properties of a free shear turbulent jet, Journal of Fluid Mechanics, **918**, A25 (2021) 10.1017/jfm.2021.325

25. Clément Gouiller, Florence Raynal, Laurent Maquet, Mickaël Bourgoin, Cecile Cottin-Bizonne, Romain Volk, Christophe Ybert, Mixing and unmixing induced by active camphor particles, Physical Review Fluids, **6** (1), 014501 (2021). 10.1103/PhysRevFluids.6.014501

26. Clément Gouiller, Christophe Ybert, Cécile Cottin-Bizonne, Florence Raynal, Mickaël Bourgoin, Romain Volk, Two-dimensional numerical model of Marangoni surfers : From single swimmer to crystallization, Physical Review E , **104** (6), 064608 (2021) 10.1103/physreve.104.064608.

27. Mickaël Bourgoin, Sander Huisman, Using ray-traversal for 3D particle matching in the context of particle tracking velocimetry in fluid mechanics, Review of Scientific Instruments **91** (8), 085105 (2020). 10.1063/5.0009357

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33. Bianca Viggiano, Jan Friedrich, Romain Volk, Mickaël Bourgoin, Raul Bayoan Cal, Laurent Chevillard, Modelling Lagrangian velocity and acceleration in turbulent flows as infinitely differentiable stochastic processes, Journal of Fluid Mechanics **900**, A27 (2020). 10.1017/jfm.2020.495

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41. Bourgoin, M., Baudet, C., Kharche, S., Mordant, N., Vandenberghe, T., Sumbekova, S. *et al.*, J. Investigation of the small-scale statistics of turbulence in the Modane S1MA wind tunnel. CEAS Aeronautical Journal, **9**, 269–281 (2018). http ://doi.org/10.1007/s13272-017-0254-3.

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85. N. M. Qureshi, U. Arrieta, C. Baudet, Y. Gagne and M. Bourgoin, Acceleration statistics of inertial particles in turbulent flow, European Physical Journal B **66**, 531–536 (2008).

86. S. Aumaître, M. Berhanu, M. Bourgoin, A. Chiffaudel, F. Daviaud, B. Dubrulle, S. Fauve, L. Marié, R. Monchaux, N. Mordant, P. Odier, F. Pétrélis, J.-F. Pinton, N. Plihon, F. Ravelet and R. Volk, The VKS experiment : turbulent dynamical dynamos, Comptes Rendus Physiques **9**, 689-701 (2008).

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96. M. Bourgoin, P. Odier, J.-F. Pinton, Y. Ricard,An iterative study of time independent induction effects in magnetohydrodynamics, Physics of Fluids **16**, 2529-2547 (2004).

97. M. Bourgoin, R. Volk, P. Frick, S. Kripchenko, P. Odier, J.-F. Pinton, Induction mechanisms in a von Kármán swirling flow of liquid Gallium, Magnetohydrodynamics **40**, 13-31 (2004).

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101. E. Benichou, A.R. Allouche, R. Antoine, M. Aubert-Frecon, M. Bourgoin, M. Broyer, Ph. Dugourd, G. Hadinger, D. Rayane, Non perturbative approach for a polar and polarizable linear molecule in an inhomogeneous electrical field : Application to the molecular beam deviation experiments, European Physical Journal D **10**, 233-242 (2000).

Invited Publications

1. M. Bourgoin, N. M. Qureshi, C. Baudet, A. Cartellier, and Y. Gagne. *Turbulent transport of finite sized material particles*, Journal of Physics : Conference Series **318**, 012005, (2011).

2. M. Bourgoin, *Lagrangian statistics of inertial particles in turbulent flow*, Young Scientist Prize Invited Paper for the EUROMECH Newsletter **37**, 21-28 (2010).

3. M. Bourgoin, R. Volk, N. Plihon, P. Augier, J.-F. Pinton, *"A synthetic turbulent dynamo"*, New Journal of Physics, 10th Anniversary Highlights (2008)

Book Chapters

1. Mickael Bourgoin, Some Aspects of Lagrangian Dynamics of Turbulence, in Mixing and Dispersion in Flows Dominated by Rotation and Buoyancy, Hermann Clercx and Gert Jan Van Heijst Eds., Springer, in press (Springer, 2017).

2. Mickael Bourgoin, Some Aspects of the Collective Dynamics of Particles in Turbulent Flows, in Collective Dynamics of Particles : From Viscous to Turbulent Flows, Cristian Marchioli Ed., Springer, (Springer, 2017).

3. M. Bourgoin, J.-F. Pinton and R. Volk, "Lagrangian Methods in Experimental Fluid Mechanics" in *Modelling Atmospheric and Oceanic flows, insights from laboratory experiments and numerical simulations*, T. von Larcher and Paul Williams Eds. (Wiley & Sons, 2014).

4. M. Obligado and Mickael Bourgoin, "The influence of turbulence in ball games" in *Sports Physics*, C. Clanet Ed., 241-251 (Les Éditions de l'École Polytechnique, 2013).

5. M. Bourgoin, P. Gervais, A. Cartellier, Y. Gagne and C. Baudet. "3D Acoustic Lagrangian Velocimetry", in *Particle Laden Flows ; From Geophysical to Kolmogorov Scales*, B. Geurts, H. Clercx, W. Uijttewaal, Eds., 243-256 (Springer, 2007).

Outreach Articles

1. M. Bourgoin, "Pourquoi la science des fluides est au cœur des défis du 21e siècle", The Conversation, June 2023, https ://theconversation.com/pourquoi-la-science-des-fluides-est-au-coeur-des-defis-du-21e-siecle-204203.

Proceedings

1. Louison Thorens, Knut Jorgen Maloy, Mickael Bourgoin, Stephane Santucci, Taming the Janssen effect, Powders & Grains 2021, Proceedings of the 9th International Conference on Micromechanics on Granular Media, Jul 2021, Buenos Aires (Virtual), Argentina. pp.08004, doi :10.1051/epjconf/202124908004

2. Louison Thorens, Knut Jorgen Maloy, Mickael Bourgoin, Stephane Santucci, Discharge of a 2D magnetic silo, Powders & Grains 2021, Proceedings of the 9th International Conference on Micromechanics on Granular Media, pp.08004, July 2021, Buenos Aires (Virtual), Argentina. doi :10.1051/epjconf/202124908004

3. Jérémy Vessaire, Nicolae Plihon, Romain Volk, M. Bourgoin, Sedimentation of a suspension paramagnetic particles in an external magnetic field, in Proceedings of the 2017th edition of the Congrès Français de Mécanique, 28th-31st of August, Lille, France (2017).

4. Jaun Ignacio Polanco, Ivana Vinkovic, Nick Stelzenmuller, Nicolas Mordant, Mickael Bourgoin, Relative dispersion of particle pairs in turbulent channel flow, in Proceedings of the 10th International Symposium on Turbulence and Shear Flow Phenomena (TSFP10), Chicago, USA, July, (2017).

5. Sholpan Sumbekova, Alberto Aliseda, Alain Cartellier and Mickael Bourgoin, Clustering ans settling of inertial particles in turbulence, in Proceedings of the 5th International Conference on Jets, Wakes and Separated Flows (ICJWSF2015), Antonio Segalini Ed., Springer (2016).

6. M. Bourgoin *for the ESWRIP Turbulence Collaboration*, Experimental Investigation of Small Scale Homogeneous IsotropicTurbulence in S1MA windtunnel, in Proceedings of the 5th CEAS Air & Space Conference, Delft (The Netherlands) (2015).

7. R. Zimmermann, Y. Gasteuil, R. Volk, M. Bourgoin, A. Pumir, and J.-F. Pinton. Turbulence induced lift experienced by large particles in a turbulent flow. **13th European Turbulence Conference**, Warsaw (Poland), September 12-15, 2011, Journal of Physics : Conference Series, **318**, 052027, (2011).

8. M. Obligado, M. Missaoui, R. Monchaux, A. Cartellier, and M. Bourgoin. Reynolds number influence on preferential concentration of heavy particles in turbulent flows. **13th European Turbulence Conference**, Warsaw (Poland), September 12-15, 2011, Journal of Physics : Conference Series, **318**, 052015 (2011).

9. M. Obligado, C. Baudet, Y. Gagne, and M. Bourgoin. Constrained dynamics of an inertial particle in a turbulent flow. **13th European Turbulence Conference**, Warsaw (Poland), September 12-15, 2011, Journal of Physics : Conference Series, **318**, 052016 (2011).

10. M. Obligado, C. Baudet, Y. Gagne, and M. Bourgoin. Constrained dynamics of an inertial particle in a turbulent flow. **20ème Congrès Français de Mécanique**, Besançon (France), August 28th - September 2nd, 2011.

11. R. Monchaux, M. Bourgoin, and A. Cartellier, Inertial particles clustering in turbulent flows : a Voronoï analysis, in 7th International Conference on Multiphase Flows - ICMF 2010 Proceedings, ed. I. C. on M. F. (ICMF), Tampa (FL), U.S.A., (2010).

12. M. Bourgoin, N. Qureshi, C. Baudet, A. Cartellier, Y. Gagne, *"Lagrangian statistics of inertial particles in turbulent flow"*,**Advances in Turbulence XII, Proceedings of the 12th EUROMECH European Turbulence Conference**, Marburg (Germany), September 7-10, 2009.

13. M. Bourgoin, N. Ouellette, H. Xu, E. Bodenschatz, *"Suivi Lagrangien 3D de particules à haute résolution spatiale et temporelle en écoulement pleinement turbulent"*, **Proceedings du XVIIIème Congrès Français de Mécanique**, Grenoble (France) 27-31, août 2007.

14. N. Qureshi, M. Bourgoin, C. Baudet, A. Cartellier, Y. Gagne, *"Experimental investigation of turbulent transport of material particles"*, **Proceedings of the 6th International Conference on Multiphase Flows**, Leipzig (Germany), 9-13 July, 2007.

15. N. Qureshi, M. Bourgoin, C. Baudet, A. Cartellier, Y. Gagne, *"Experimental investigation of turbulent transport of material particles"*, **Advances in Turbulence XI, Proceedings of the 11th Euromech European Turbulence Conference**, Porto (Portugal), 25-28 June, 2007.

16. M. Bourgoin, C. Baudet, A. Cartellier, P. Gervais, Y. Gagne, *"3D Acoustic Lagrangian Velocimetry"*, **Proceedings of FEDSM2006 2006 ASME Joint U.S. - European Fluids Engineering Summer Meeting**, Miami (USA), July 17-20, 2006.

17. M. Bourgoin, C. Baudet, A. Cartellier, P. Gervais, Y. Gagne, *"3D Acoustic Lagrangian Velocimetry"*, **Proceedings of Euromech Colloquium-477 on Particle laden flows**, University of Twente (The Netherlands), June 21-23, 2006.

18. M. Bourgoin, R. Volk, P. Odier, J.-F. Pinton. *"Mécanismes d'induction en magnétohydrodynamique"*, **Sixième rencontre du non-linéaire**, Paris 13-14 mars 2003. Editeurs Y. Pomeau & R. Ribotta. Non Linéaire Publications, Orsay (France), pp 47-52, 2003.

19. L. Marié, F. Pétrélis, M. Bourgoin, J. Burguete, A. Chiffaudel, F. Daviaud, S. Fauve, P. Odier, J.-F. Pinton. *"MHD Measurements in the VKS experiment"*, **5th Pamir International Conference** , Ramatuelle (France), September 2002.

20. M. Bourgoin, L. Marié, F. Pétrélis, J. Burguete, A. Chiffaudel, F. Daviaud, S. Fauve, A. Guigon, J.-B. Luciani, M. Moulin, F. Namer, P. Odier, J.-F. Pinton. *"Etudes MHD dans l'écoulement de von Kármán Sodium"*, **Proceedings du XVème Congrès Français de Mécanique**, Nancy (France), September 2001.

21. L. Marié, A. Chiffaudel, F. Daviaud, J. Burguete, F. Pétrélis, S. Fauve, M. Bourgoin, P. Odier, J.-F. Pinton, A. Guigon, F. Namer, J.-B. Luciani. *"Mesures MHD dans l'expérience von Kármán sodium"*. **3ème Colloque Chaos Temporel & Chaos Spatio-temporel**, Le Havre (France), September 2001.

22. L. Marié, M. Bourgoin, F. Pétrélis, J. Burguete, A. Chiffaudel, F. Daviaud, S. Fauve, P. Odier, J.-F. Pinton. *"Water experiments related to the Von Kármán Sodium Dynamo Project"*. **6th Experimental Chaos Conference**, Potsdam (Germany), July 2001.

23. L. Marié, J. Burguete, A. Chiffaudel, F. Pétrélis, S. Fauve, M. Bourgoin, P. Odier, J.-F. Pinton. *"MHD dans les écoulements tourbillonnaires de von K·rm·n"*, **Quatrième rencontre du non-linéaire**, Paris 15-16 mars 2001. Editeurs Y. Pomeau & R. Ribotta. Non Linéaire Publications, Orsay (France), pp 87-92, 2001.

24. M. Bourgoin, M. Moulin, P. Odier, J.-F. Pinton, S. Fauve, F. Pétrélis, J. Burguete, A. Chiffaudel, F. Daviaud, D. Ericher, C. Gasquet, L. Marié, A. Guigon, J.-B. Luciani, F. Namer. *"Magnetic Induction in von Kármán swirling flows"*. In MHD at dawn of 3rd Millenium, **4th Pamir International Conference**, Giens (France), September 2000.

25. L. Marié, J. Burguete, A. Chiffaudel, F. Daviaud, D. Ericher, C. Gasquet, F. Pétrélis, S. Fauve, M. Bourgoin, M. Moulin, P. Odier, J.-F. Pinton, A. Guigon, J.-B. Luciani, F. Namer, J. Léorat. *"MHD in von Kármán swirling flows, development and first run of the Sodium experiment"*, **Dynamo an Dynamics, A Mathematical Challenge**, Proceedings of the NATO Advanced Research Workshop, Cargèse (France). NATO Science series II, Vol. 26, P. Chossat, D. Armbruster and I. Oprea eds. Kluwer Academic Publishers, Dordrecht, The Nederlands, August 2000.

26. M. Bourgoin, M. Moulin, P. Odier, J.-F. Pinton, S. Fauve, F. Pétrélis, J. Burguete, A. Chiffaudel, F. Daviaud, D. Ericher, C. Gasquet, L. Marié, A. Guigon, B. Pelisset, F. Namer. *"The von Kármán*

Sodium (VKS) dynamo project", **International Workshop on Homogeneous Dynamos**, Karlsruhe (Allemagne), Eds R. Stieglietz & U. Müller, Forschungszentrum Karlsruhe, Internal Report 51.04.02/A, March 2000.

Invited Conferences & Lectures

1. June 2024, **Lille Turbulence Program**, Lille (France) : **Molding homogeneous and isotropic lagrangian turbulence into a non-homogeneous free shear turbulent jet**.

2. May 2024, **Euromech Colloquium on Collective Dynamics of Particles, Droplets and Bubbles**, Toledo (Spain) : **Turbulence Modulation in a highly seeded swirling flow**.

3. March 2024, **A colloquium at the occasion of Jacques Magnaudet's 65th birthday**, Toulouse (France) : **Rare-event triggered transitions in a bistable aerodynamic pendulum**.

4. February 2024, **Workshop of the Franco-Norwegian IRP**, Courmayeur (Italy) : *Settling of Magnetic Rods in Quiescent Fluids.*

5. August 2023, **50 Years of International Journal of Multiphase Flows**, Vienna (Austria) : *Settling of magnetic rods in quiescent fluid.*

6. May 2023, **Académie des Sciences**, Paris (France) : *Superdiffusion, cascade d'énergie et irréversibilité en turbulence.*

7. April 2023, **50 ans du LEMTA**, Outreach Conference, *Autant en transporte le vent : la turbulente histoire des particules en écoulement.*

8. Mars 2023, **Cérémonie de remise du prix Onera de l'Académie des Sciences 2022**, Palaiseau (France) : *Transport et couplages multi-échelles en écoulement turbulents de la dispersion de particules aux interactions fluides structures.*

9. February 2023, **Complex Particles in Turbulence Workshop**, Sophia-Antipolis (France) : *Settling of (Magnetic) Particles in Turbulent Flows.*

10. September 2022, **From Stokesian suspension dynamics to particulate flows**, IUTAM Symposium in honour of Martin Maxey, *Settling of Particles in Quiescent Fluids and Turbulent Flows : disentangling the role of inertia and gravity.*

11. August 2022, **CMiF 2022 Summer School**, Twente (The Netherlands) : *Lagrangian characterization of turbulent free shear jets : is the idealized framework of homogeneous isotopic turbulence somehow relevant to describe non-homogeneous flows ?.*

12. July 2022, **Lille Turbulence Program** , Lille (France) : *Rare-event triggered transitions in aerodynamic bifurcation.*

13. July 2022, **Particles in Turbulence** workshop, Marseille (France) : *Settling of Particles in Quiescent and Turbulent Flows ?Magnetic disentangling of inertia and gravity.*

14. June 2022, **Turbulence & Interfaces** workshop of the ERCOFTAC Henri-Bénard PC, Lyon (France) : *Entrainment, diffusion and effective compressibility in a self-similar free shear jet.*

15. March 2022, **Workshop of the Franco-Norwegian IRP**, Courmayeur (Italy) : *RARe-Event triggered Transitions in aerodynamic bifurcation : A Model from the Transition to Turbulence.*

16. June 2021, **EUROMECH Colloquium 621 "Transport and Fluxes in Dispersed Turbulent Flows"**, Reykjavik (Iceland - online) : *Lagrangian investigation of transport and diffusion in particle-laden turbulent jets.*

17. November 2019, ***Plenary conference* at APS-DFD 72nd Annual Meeting**, Seattle (USA) : *Lagrangian Turbulent Thermal Convection.*

18. September 2019, **Universal features of hydrodynamical, optical and wave turbulence**, Nice (France) : *Lagrangian particle tracking in normal and superfluid turbulent flow.*

19. June 2019, **From pattern formation to turbulence**, Kloster Banz (Germany) : *Sedimentaiton of magnetic particles.*

20. May 2018, **Workshop SIG35 - ERCOFTAC** "Mulit-point turbulent structures and modeling", Ecully (France) : *Kolmogorovian turbulence in active matter.*

21. December 2017, **Turbulent Cascades II**, Lyon (France) : *The role of turbulence cascade in pair dispersion.*

22. July 2017, Imperial College CDT Summer School, London (United Kingdom) : 2 invited lectures on *Dynamics and clustering of inertial particles in turbulence.*

23. August 2017, Plenary conférence at Congrès Français de Mécanique 2017, Lille (France), *Relative dispersion of particles in turbulence.*

24. April 2017, Workshop **Particles & Fluids : from individual particle dynamics to collective effects and fluidized beds**, Roscoff (France), *Preferential concentration of inertial particles in turbulent flows.*

25. January 2017, **Tec21 Labex Summer Schoole**, Grenoble (France) : 2 invited lectures on *Introduction to Turbulence* and *Experimental Techniques for Turbulence.*

26. May 2016, **Semi-plenary conference at International Conference of Multi-phase flows**, Firenze (Italy), *Inertial particles in turbulence.*

27. September 2015, **Tec21 Labex Summer School**, Grenoble (France) : 2 invited lectures on *Introduction to Turbulence* and *Experimental Techniques for Turbulence.*

28. July 2015, **CISM Session : Mixing and dispersion in flows dominated by rotation and buoyancy**, Udine (Italy) : 4 invited lectures on *Lagrangian Dispersion of Particles in Turbulence.*

29. March 2015, **FLOMAT2015**, COST MP1305 "Flowing matter", Rome (Italy), *Superclustering of inertial particles in turbulence.*

30. March 2015, **IUTAM Meeting on Bubbly Flows**, Oaxaca (Mexico) : *"Turbulent relative dispersion as a ballistic cascade phenomenology".*

31. May 2014, **CISM Session : Collective Dynamics of Particles : from viscous to turbulent flows**, Udine (Italy) : 5 invited lectures on *Collective Dynamics of Particles in Turbulence.*

32. May 2014, **Quantum Turbulence and its Visualization**, Abu Dhabi (United Emirates) : *Visualization in Classical Turbulence.*

33. June 2013, **Small-Scale Turbulence**, workshop in honour of Pr. Robert Antonia, Rouen (France) : *Turbulent pair dispersion as a ballisitc cascade.*

34. June 2013, **Révéler l'invisible par les techniques acoustiques : sonder et agir sur la matière à différentes échelles**, Journée scientifique de la Fed3G, Grenoble (France) : *Suivi Lagrangien acoustique de particules en écoulements turbulents.*

35. April 2013, **Workshop on Open Particle Tracking Velocimetry**, COST MP0806 "Particles in turbulence", Tel Aviv (Israel) : *Intermittent dynamics of material particles in turbulent flows.*

36. June 2012, **Particles in complex flows 2012, International Conference on Fundamentals, Experiments, Numeric and Applications**, Reykjavik (Iceland) : *Preferential concentration of inertial particles in turbulent flows.*

37. September 2011, **13th European Turbulence Conference**, Warsaw (Poland) : *Turbulent transport of finite sized material particles* (***Plenary conference***).

38. August 2011, **20ème Congrès Français de Mécanique**, Besançon (France) : *Material Particles in Turbulent Flow.*

39. July 2011, **ANISO Summer School at Cargèse** (France) : *Small scale anisotropy in Lagrangian Turbulence.*

40. October 2008, **Séminaire D. Dautreppe 2008, *Turbulence : Fundamental aspects and applications***, Grenoble (France) : *Turbulent transport of material particles.*

41. September 2008, **Dynamics of Inertial Particles : From Ocean and Atmosphere to Planets**, Dresden (Allemagne) : *Experimental investigations of the turbulent transport of material particles.*

42. February 2008, **Geophysical Turbulent Phenomena Workshop 1 "Turbulent Theory and Modeling**, NCAR, Boulder (U.S.A.) : *VKS turbulent dynamo.*

43. August 2007, **XVIIIème Congrès Français de Mécanique**, Grenoble (France) : *3D Lagrangian tracking of particles in turbulent flow with high time & space resolution.*

44. July 2007, **Société Française de Physique**, Grenoble (France) : *VKS2 Expriment : turbulent dynamo and magnetic field reversals.*

45. March 2003, **Sixième rencontre du non-linéaire**, Institut Henri Poincaré (Paris) : ,*Mécanismes d'induction en magnétohydrodynamique.*

Oral presentations

1. September 2022, **EFMC14**, Athens (Greece) : *Capillary washboarding during the drainage of frictional fluids.*

2. March 2021, **1st BICTAM-CISM Symposium on Dispersed Multiphase Flows : from Measuring to Modeling**, Beijing, (China - online) : *Multi-way couplings between inertial particles and a turbulent swirling flow.*

3. Septembre 2018, **EFMC12**, Vienna (Austria) : *"Sedimentation of paramagnetic particles".*

4. June 2018, **ECC15**, Madrid (Spain) : *"Kolmogorovian active turbulence".*

5. January 2018, **From Active Matter to Complex Fluids**, COST Action workshop, Nice (France) : *"Kolmogorovian active turbulence"*.

6. August 2017, **ETC16**, Stockholm (Sweden) : *"Kolmogorovian turbulence in active matter"*.

7. Novemner 2016, **APS-DFD Meeting**, Portland (U.S.A.) : *"Experimental study of splashing mechanisms by a rotating immersed body"*.

8. June 2016, **GDR Turbulence**, Grenoble (France) : *"Inertial particles in turbulence"*.

9. September 2015, **15th European Turbulence Conference**, Delft (The Netherlands) : *"Turbulent pair dispersion as a ballistic cascade"*.

10. June 2015, **GDR Turbulence**, Grenoble (France) : *"Turbulent pair dispersion as a ballistic cascade"*.

11. September 2014, **10th European Fluid Mechanics Conference**, Copenhagen (Denmark) : *"'Superclustering of Inertial Particles in Turbulence'*.

12. May 2013, **Kick-off meeting of the European project EuHIT**, Gottingen (Germany) : *"Particles and Fields (WP25) within EuHIT"*.

13. September 2012, **9th European Fluid Mechanics Conference**, Rome (Italy) : *"Hysteresis of a pendulum subjected to aerodynamics forces"*.

14. October 2011, **3rd ESWIRP Workshop**, Zwolle (The Netherlands) : *Investigation of the Small Scale Statistics of Turbulence in Modane S1MA wind-tunnel.*

15. September 2010, **8th European Fluid Mechanics Conference**, Bad Reinchenhall (Gremany) : *"A Voronoï tesselation analysis of preferential concentration in turbulent particle laden flows"*.

16. June 2010, **GDR Turbulence**, Rouen (France) : *"Concentration préférentielle de particules inertielle"*.

17. September 2009, **12th Euromech European Turbulence Conference**, Marburg (Germany) : *"Lagrangian statistics of inertial particles in turbulent flow"* (***Award of the best oral presentation***).

18. February 2009, **Workshop du Centre Henri Bénard**, Lyon (France) : *"Intermittent dynamics of material particles in turbulent flow"*.

19. January 2008, **Workshop du Centre Henri Bénard : approches couplées eulérienne-lagrangienne : traceurs passifs et particules inertielles**, Lyon (France) : *"Pair dispersion in turbulence"* (***Invited presentation***).

20. November 2007, **APS/DFD Meeting**, Salt Lake City (U.S.A.) : *"Experimental study of the turbulent transport of material particles"*.

21. June 2007, **11th Euromech European Turbulence Conference**, Porto (Portugal) : *"Turbulent transport of material particles : finite size effects"*.

22. April 2007, **European Geosciences Union General Assembly**, Viena (Austria) : *"Pair Dispersion in Turbulence"*.

23. April 2007, **European Geosciences Union General Assembly**, Viena (Austria) : *"Turbulent Transport of material particles : finite size effects"*.

24. February 2007, **Journées Imagerie quantitative**, Grenoble (France) : *"3D Lagrangian tracking of particles in turbulent flow with high time & space resolution"* (***Invited presentation***).

25. November 2006, **GDR Turbulence**, Nice (France) : *"Lagrangian Turbulence"* (***Invited presentation***).

26. November 2006, **GDR Dynamo**, Nice (France) : *"Bullard-von Kármán Dynamo"*.

27. November 2006, **GDR Turbulence**, Nice (France) : *"Small scale anisotropy in turbulent flow"*.

28. August 2006, **Stirring and Mixing in Turbulence : the Lagrangian Approach**, Leiden (The Netherlands) : *"Particles in Turbulence : preliminary results from Lagrangian acoustic velocimetry"*.

29. July 2006, **ASME Joint U.S. - European Fluids Enigneering Summer Meeting**, Miami (U.S.A.) : *"3D Acoustic Lagrangian Velocimetry"*.

30. June 2006, **Euromech Colloquium-477 on Particle laden flows**, Twente (The Netherlands) : *"3D Acoustic Lagrangian Velocimetry"*.

31. November 2005, **GDR Turbulence**, Nantes (France) : *"Experimental investigation of turbulent relative dispersion"*.

32. November 2004, **APS/DFD Meeting**, Seattle (U.S.A.) : *"Experimental study of turbulent relative dispersion"*.

33. September 2003, **Mathematical aspects of natural dynamos**, Caramulo (Portugal) : *"A perturbative approach of magnetohydrodynamic induction"* (*poster*).

34. July 2002, **Astrophysical Fluid Mechanics (LMS Durham Symposium)**, Durham (United Kingdom) : *"Magnetic induction in von Kármán swirling flows of liquid metals"* (*poster*).

35. January 2002, **GDR Turbulence**, Nice (France) : *"Etudes Magnétohydrodynamiques d'un écoulement tourbillonnaire de von Kármán"*.

36. January 2002, **COST**, Paris (France) : *"MHD turbulence in VKS experiment"*.

37. January 2001, **Journées de la Physique Statistique**. Paris (France) : *"MHD in a von Kármán swirling flow"*.

Invited Seminars

1. September 2023, **LEGI Seminar, Grenoble** : **Using Lagrangian stationarisation to connect inhomogeneous turbulence in a free shear jet to idealised homogeneous isotropic turbulence**.

2. October 2022, **LMSF Seminar, CEA Saclay** : **Lagrangian stationarisation of a turbulent free shear jet**.

3. January 2022, **LMFL Webinar**, online : *Lagrangian investigation of diffusion and entrainment in a self-similar turbulent jets.*

4. April 2021, **Seminar of the Faculty of Science, Universidad Nacional Autonoma de Mexico**, Mexico : *Kolmogorovian active turbulence of a sparse assembly of interacting Marangoni Surfers.*

5. January 2018, **Seminar at LMFL**, Lille (France) : *Preferential concentration of inertial particles in turbulence, the role of sweep-stick mechanism.*

6. September 2017, **Seminar at Solvay**, Lyon (France) : *Preferential concentration of inertial particles in turbulence.*

7. March 2017, **Seminar of the Department of Low-Temperature Physics**, Charles University of Prague (Czech Republic) : *Relative Pair Dispersion.*

8. January 2017, **Seminar of the Physics of Fluid Group**, University of Twente (The Netherlands) : *Preferential concentration of inertial particles in turbulence.*

9. January 2016, **Seminar of Laboratoire de Physiqe**, ENS de Lyon (France) : *Turbulent pair dispersion as a ballistic cascade.*

10. October 2015, **Seminar of IRPHE**, University of Aix-Marseille (France) : *Turbulent pair dispersion.*

11. May 2015, **Seminar of IRSTEA** Rennes (France) : *Turbulent pair dispersion.*

12. October 2014, **Turbulence Seminars of the Department of Aeronautics**, Imperial College, London (United Kingdom), *"Turbulent pair dispersion as a ballistic cascade".*

13. September 2013, **Seminar of the Physics of Fluid Group**, University of Twente (The Netherlands) : *Turbulent pair dispersion as a ballistic cascade.*

14. April 2012, **Séminaire du CEA/SPEC**, Saclay (France) : *Preferential concentration of inertial particles in turbulent flows.*

15. March 2012, **Rencontre Niçoise de Mécanique des Fluides**, Nice (France) : *Preferential concentration of inertial particles in turbulent flows.*

16. February 2011, **Séminaire de l'Unité de Mécanique de l'ENSTA** : *Material particles in turbulent flow.*

17. February 2011, **Conférences des Conf'luences, Institut de Mécanique des Fluides de Toulouse** (France) : *Material particles in turbulent flow.*

18. January 2011, **Seminar of the Institute of Hydromechanics, Karlsruhe Institute of Technology** (Germany) : *Material particles in turbulent flow.*

19. November 2010, **Colloquim of the Physics department, University of Buenos Aires** (Argentina) : *The VKS experiment : geodynamo ported to laboratory scale.*

20. October 2009, **Colloquim of the Physics department, University of Buenos Aires** (Argentina) : *"Experimental sudy of the dynamics of material particles in a turbulent flow".*

21. March 2009, **Séminaire de l'observatoire de Nice-Côte d'Azur**, Nice (France) : *"Turbulent transport of material particles".*

22. March 2007, **Séminaire du LMFA**, Lyon (France) : *"Transport et dispersion en turbulence"*.

23. December 2006, **Forum du LGIT**, Grenoble (France) : *"VKS2 dynamo experiment"*.

24. October 2003, **Cornell University "Stability, Transition and Turbulence" seminar**, Ithaca (U.S.A.) : *"Magnetohydrodynamic induction mechanisms and dynamo effect"*.

25. September 2003, **LGIT seminar**, Grenoble : *"Dynamo effect and induction mechanisms"*.

26. February 2003, **Physics of Fluids Laboratory seminar**, Twente university, Enschede (Pays Bas) : *"Magnetohydrodynamic induction in von Kármán turbulent swirling flows of liquid Gallium and liquid Sodium"*,.

27. January 2003, **Princeton Plasma Physics Laboratory (PPPL) seminar**, Princeton (U.S.A.) : *"Magnetohydrodynamic induction in von Kármán turbulent swirling flows of liquid Gallium and liquid Sodium"*,.

Scientific outreach

•Art & Science

— Since September 2018 : Collaboration with the digital artist Alex Andrix, for the realization of a numerical gallery entitled *Variations Physique vol. 1* (including a virtual reality work of art (https ://vimeo.com/296754990), printed works ((http ://alexandrix.com/gallery) and an interactive application) inspired from fluid dynamics laboratory experiments. *Variations Physique vol. 1* has been presented at the 2018 edition of the "Fête de la Science" and will be presented at other important artistic events : PopSciences 2019, Village des Sciences at the occasion of the 80th anniversary of CNRS (Musée des Confluences of Lyon), Festival Digital Narratives of Grenoble, etc.

— Since January 2019 : Collaboration with Jean-François Robin for the realization of the work of art illustrating fluid-structure interaction phenomena.

•Turbulence

— Article in The Conversation online magazine "Pourquoi la science des fluides est au cœur des défis du 21e siècle" (june 2023) : https ://theconversation.com/pourquoi-la-science-des-fluides-est-au-coeur-des-defis-du-21e-siecle-204203.

— Article in the French scientific outreach magazine "Pour la Science" on rare events triggered transitions of a simple pendulum in the wind (June 2021).

— Interview with a journalist from the French scientific outreach magazine "Science & Vie" for the publication of an article on Turbulence (July 2013).

— Article in the newspaper "Le Progrès" on the preparation of the large scale experiment to be held in S1MA wind-tunnel from ONERA in Modane (Septembre 2013).

•Turbulent transport of particles

— Outreach Conference at the occasion of the 50th anniversary of LEMTA, Nancy (France), April 2023 : https ://ultv.univ-lorraine.fr/video/14866-autant-en-transporte-le-vent-la-turbulente-histoire-des-particules-en-ecoulement-mickael-bourgoinmp4/

— Invited contribution to the Euromech Newletter **37** (2011).

•Turbulent relative dispersion

— News releases to the press issued by CNRS, Cornell University (U.S.A.) et Max Planck Society (Allemagne), broadcasted on many scientific outreach websites (news.cornell.edu, sciencedaily.com, brightsurf.com, physorg.com, etc.) and german newspapers (2006-2007).

•VKS dynamo experiment

— News releases to the press issued by CNRS, broadcasted in newspapers and outreach scientific magazines (Le Monde, Le Figaro, The Economist, Les echos, Reflets de la Physique, Pour la Science, Nature News, Le journal du CNRS, etc.) as well as many scientific outreach websites (Physical Review Focus, Nature News, physorg.com, sciencedaily.com, brightsurf.com, etc.) (2007)

— Press + internet broadcast, textitTurbulent dynamo and Earth magnetic field, paru dans Europhysics News Highlights, 38, 2, p.11 (2007).

— Documentary *La Terre perd le nord*, directed by Yanick Rose and Stephane Niclopoulos, broadcasted on France 5 on July 9th 2011.

•Bullard-von Kármán dynamo experiment

— Press + internet broadcast, *An experimental Bullard–von Kármán dynamo*, paru dans Eurphysics News Highlights, **38**, 2, p. 13 (2007).

Other outreach activities

— Frequent participations to the ourteach event "La Science en Fête".

— Frequent discussions and scientific assistance in the context of scientific educational projects (*TIPE*) with high school and undergraduate students.