

CURRICULUM VITAE: ALEXANDRE BORITCHEV

PERSONAL INFORMATION

| | | | |
|-----------------|--|----------------------|--|
| Date of birth: | 10/01/1986 | Work address: | Institut Camille Jordan Université Claude Bernard Lyon 1 Bâtiment Braconnier 43 boulevard du 11 novembre 1918 69622 Villeurbanne cedex FRANCE |
| Place of birth: | Saint Petersburg, Russia | | |
| Nationality: | French | | |
| Languages: | French, Russian (bilingual); English (fluent); Italian (intermediate). | | |
| | | Mobile phone number: | (+33) 6 60 99 38 71 |
| | | E-mail: | alexandre.boritchev@gmail.com |

STUDIES AND WORK SITUATION

September 2014-: Maître de conférences (tenured assistant professor), Institut Camille Jordan, Université Lyon 1.

July-December 2018: Sabbatical (Délégation CNRS).

July 2013-August 2014: Post-doctoral position at the University of Geneva with J.-P.Eckmann (ERC BRIDGES).

September 2012-June 2013: Post-doctoral visits to Trieste, Milan, Cergy-Pontoise and Rennes.

September 2009-October 2012: Ph.D. under the direction of Sergei Kuksin, Centre de Mathématiques Laurent Schwartz, Ecole Polytechnique. Subject: "Generalised Burgers equation with random force and small viscosity". Thesis defended on October 8, 2012.

2008-2009: Master "Analysis, Arithmetics and Geometry" (Ecole Polytechnique-Ecole Normale Supérieure-University Paris 11).

2005-2008: Ecole Polytechnique (Paris).

PUBLICATIONS

Articles:

- *Ergodicity for a particle system representing random nonentropy solutions of a scalar conservation law* (with C.-E.Bréhier and M.Mariani), currently drafted.
- *Exponential convergence to the stationary measure for a class of 1D Lagrangian systems with random forcing*, Stochastic and Partial Differential Equations: Analysis and Computation, 2018, 6: 109-123.
- *Decaying turbulence for the fractional subcritical Burgers equation*, Discrete and Continuous Dynamical Systems A, 2018, 38(5): 2229-2249.
- *Multidimensional potential Burgers turbulence*, Communications in Mathematical Physics, 2016, 342: 441 with an erratum: (2016) 344: 369, <http://arxiv.org/abs/1312.6971>
- *Turbulence for the generalised Burgers equation*, Russian Mathematical Surveys, 69:6 (2014), 957-994, <http://arxiv.org/abs/1304.6814>.
- *Note on Turbulence in a Generalised Burgers Equation*, Archive for Rational Mechanics and Analysis, 214 (2014), 1, 331-357, <http://arxiv.org/abs/1208.5241>.
- *Sharp Estimates for Turbulence in White-Forced Generalised Burgers Equation*, Geometric and Functional Analysis, 23 (2013), 6, 1730-1771, <http://arxiv.org/abs/1201.5567>.

- *On Hyperbolicity of Minimizers for 1D Random Lagrangian systems* (with K.Khanin), Nonlinearity, 26, 1 (2013), 65-80, <http://arxiv.org/abs/1203.4990>.
- *Estimates for Solutions of a Low-Viscosity Kick-Forced Generalised Burgers Equation*, Proceedings of the Royal Society of Edinburgh A, 143(2), 2013, 253-268, <http://arxiv.org/abs/1107.4866>.

Proceedings:

- *1D Burgers Turbulence: a model case for the Kolmogorov theory* (in French), Laurent Schwartz seminar - PDE and applications (2011-2012), Exp. No. 40, 13 p.
- *Exponential convergence to the stationary measure and hyperbolicity of the minimisers for random Lagrangian systems*, Proceedings Equadiff 2017 Bratislava, pp. 117-126.

Book:

- *Introduction to SPDEs, Stochastic Burgers Equation and Burgulence* (with S. Kuksin), currently drafted.

TEACHING EXPERIENCE

- 2018-2019: University Lyon 1 (one semester because of sabbatical).
Exercice sessions for 1st year undergraduate students: Algebra and Analysis.
Exercice sessions for 3rd year undergraduate students: Differential Calculus, Probability.
Lectures and exercice sessions for 1st year master students: Analysis and PDEs.
- 2017-2018: University Lyon 1.
Exercice sessions for 1st year undergraduate students: Algebra and Analysis.
Exercice sessions for 2nd year undergraduate students: Algebra and Analysis.
Exercice sessions for 3rd year undergraduate students: Differential Calculus, Complex Analysis and Probability.
Lectures and exercice sessions for 1st year master students: Analysis and PDEs.
- 2016-2017: University Lyon 1.
Exercice sessions for 1st year undergraduate students: Algebra and Analysis.
Exercice sessions for 3rd year undergraduate students: Differential Calculus, Complex Analysis.
Exercice sessions for 1st year master students: Analysis and PDEs.
- 2015-2016: University Lyon 1.
Exercice sessions for 1st year undergraduate students: Algebra and Analysis.
Exercice sessions for 3rd year undergraduate students: ODEs, PDEs and Probability, Statistics.
Exercice sessions for 1st year master students: Analysis and PDEs.
- 2014-2015: University Lyon 1.
Exercice sessions for 1st and 2nd year undergraduate students: Algebra and Analysis.
Exercice sessions for 3rd year undergraduate students: ODEs, PDEs and Probability, Statistics.
- 2013-2014: Exercice sessions for 3rd year undergraduate students at the University of Geneva. 1st semester: Statistical Physics.
- 2011-2012: Lectures and exercice sessions for 2nd year undergraduate students at IUT de Cachan (University Paris 11). 1st semester: Probability Theory. 2nd semester: Fourier Series and Fourier Transform.
- 2010-2011: Lectures and exercice sessions for 2nd year undergraduate students at IUT de Cachan (University Paris 11). 2nd semester: Fourier Series and Fourier Transform.
- 2009-2010: Oral examinations training sessions ("Colles") for undergraduate students in mathematics at the Classe Préparatoire of Lycée Blaise Pascal (Orsay).

ADMINISTRATIVE RESPONSIBILITIES

- 2019-: Organiser of the Lyon Applied Math Seminar.
- 2016: President of the jury for the baccalauréat (French high-school diploma equivalent to the A-Levels), Lycée Robert Doisneau, Vaulx-en-Velin.
- 2015-: Member of the library comittee, Institut Camille Jordan, University Lyon 1.
- 2011-2012: Organiser of the Ph.D. students seminar at CMLS, Ecole Polytechnique.

EDITORIAL RESPONSIBILITIES

- Referee for: Arnold Mathematical Journal, Communications in Mathematical Physics, Discrete and Continuous Dynamical Systems A, Journal of Evolution Equations (twice), Journal of Theoretical Probability, SPDEs: Analysis and Computation.
 - 2013-2014: Mathscinet reviewer.
-

OUTREACH

- 2017: Participation in the "Maths à Lyon" mobile exhibition for schoolchildren, Middle school Jean Perrin, Lyon.
 - 2014-2018: Participation in the press review team for the blog "Images des mathématiques".
-

SCIENTIFIC VISITS

- April 2019: Visit to the university of Paris 6 for a collaboration with V.Banica (3 days).
 - Février 2019: Visit to Lyon by D.Eceizabarrena, Bilbao (1 week).
 - November 2018: Visit to the university of Paris 6 for a collaboration with V.Banica (3 days).
 - Novembre 2018: Visit to Lyon by P.Biler and G.Karch, Wroclaw (1 week).
 - October 2018: Visit to the university of Jinan for a collaboration with S.Kuksin (2 weeks).
 - September 2018: Visit to the university of Wroclaw for a collaboration with P.Biler and G.Karch (1 week).
 - May 2017: Visit to the University of Wroclaw for a collaboration with P.Biler and G.Karch (1 week).
 - April 2017: Visit to the University of Rome 1 for a collaboration with M.Mariani (1 week).
 - October 2016: Visit to the University of Toronto for a collaboration with K.Khanin and K.Zhang (2 weeks).
 - Avril 2016: Visit to Lyon by M.Mariani, Rome 1 (1 week).
 - October 2015: Visit to the University of Rome 1 for a collaboration with A.Davini and M.Mariani (1 week).
 - October 2010: Visit to the University of Toronto for a collaboration with K.Khanin (1 month).
-

TALKS AT SEMINARS

- 2018 *Seminars at Beijing (2 times), Düsseldorf, Jinan, Nice, Pau, Tours*
 - 2017 *Seminars at Besançon, College Park (University of Maryland), Lisbon, Paris (IHP), Wroclaw*
 - 2016 *Seminars at Bordeaux, Cergy-Pontoise (2 times), Geneva, Hamilton, Leipzig, Montréal*
 - 2015 *Seminars at Rome (2 times), Toulouse*
 - 2014 *Seminars at Evry, Lyon (2 times), Nice, Paris Dauphine, Paris 11, Paris 13*
 - 2013 *Ph.D. students seminars at Cergy-Pontoise, Rennes; Seminars at Cergy-Pontoise, Geneva, Grenoble, Helsinki, Lyon, Marseille, Nice, Oxford, Paris (IHP) (2 times)*
 - 2012 *Ph.D. students seminars at Cambridge, Ecole de Ponts et Chaussées, Ecole Polytechnique; Seminars at IHES, Geneva, Milan (2 times), Nice*
 - 2010 *Ph.D. students seminar at Ecole Polytechnique (2 times)*
-

TALKS AT CONFERENCES

- 2018, Pontoise, France
Conference: Random and Dispersive Waves.
- 2018, Bielefeld, Germany
ICSAA conference: "Stochastic analysis and its applications".
- 2017, Bratislava, Slovakia
Equadiff 2017, Minisymposium: Stochastic PDEs.
- 2017, Edimbourg, United Kingdom
Conference: "Probabilistic perspectives in nonlinear PDEs".
- 2017, Bedlewo, Poland
Conference: "Stochastic analysis and applications".
- 2017, Bures-sur-Yvette, France
Meeting of the ANR ISDEEC grant, IHES
- 2017, Bordeaux, France
Conference "Beyond Hamilton-Jacobi, last call for Bordeaux"

- 2016, Ecully, France
MMCS group internal meeting, Ecole Centrale Lyon
- 2016, Montréal, Canada
Conference “Probabilistic Methods in Dynamical Systems and Applications”
- 2016, Shanghai, China
Workshop on Hamiltonian Dynamical Systems
- 2016, Levico, Italy
Conference: Stochastic Partial Differential Equations and Applications
- 2014, Ecully, France
PDE Meeting Rhône-Alpes-Auvergne, Ecole Centrale Lyon
- 2012, Oxford, United Kingdom
International Conference on Nonlinear PDEs, University of Oxford
- 2012, Oberwolfach, Germany
Workshop: Mathematical aspects of hydrodynamics
- 2012, Palaiseau, France
Analysis and PDE research group internal meeting, CMLS, Ecole Polytechnique
- 2012, Edinburgh, United Kingdom
Conference: Dynamics in infinite dimensions: ergodic theory and PDE
- 2012, Pontoise, France
Conference: Stochastic systems in mathematics and mathematical physics
- 2011, Peyresq, France
Summer school: Nonlinear Dynamics and Localised Structures

FUNDING

- 2018-: P.I. of the Franco-Polish PHC Polonium Grant (4 participants in Lyon, Toulouse and Wroclaw): Nonlocal and Nonlinear Problems in Biology and Astronomy.
- 2018-2021: Member of the French ANR grant NONSTOPS: Nonequilibrium stochastic and open systems.
- 2017: Research funds PEPS: grant for young assistant professors.
- 2017-2020: Recipient of the PEDR (Research and Doctoral Mentoring Bonus).
- 2017-2020: Member of the French ANR grant ISDEEC: Interactions between dynamical systems, evolution equations and control.
- 2015: Research funds from the University Lyon 1.
- 2012-2016: Member of the French ANR grant WKBHJ: Weak KAM beyond Hamilton-Jacobi.

COMPETITIONS AND PRIZES

- 2007-2008: International Mathematics Competition for University Students (IMC). Gold medal in 2007; silver medal in 2008.
- 2003: International Mathematical Olympiad (IMO). Bronze medal.