Curriculum Vitae

EVELINA SHAMAROVA

Assistant Professor of Mathematics
Federal University of Paraíba

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Date of birth:	1974/01/04
Citizenship:	Portugal/Russia

ACADEMIC POSITIONS

- *(04.10.2014 – current)*, Assistant professor (Professora adjunta) at the Mathematics department of Federal University of Paraíba, João Pessoa, Brazil.

- *(01.07.2009 – 30.06.2014)*, Faculty researcher (Ciência 2008 5-year contract) at the Mathematics Center of the University of Porto, Portugal.

- *(01.09.2007 – 30.06.2009)*, Post-Doc at Mathematical Physics group of the University of Lisbon, Portugal.

- *(01.04 – 31.08.2007)*, Post-Doc at Financial and Actuarial Mathematics research group at Vienna University of Technology, Vienna, Austria.

ACADEMIC DEGREES

- *(20.05.2005)*, **Ph.D. in mathematics**, Lomonosov Moscow State University, Faculty of Mechanics and Mathematics, Department of Theory of Functions and Functional Analysis, Moscow, Russia.
    - Specializations: Infinite dimensional analysis, Functional analysis, Stochastic Analysis

- Dissertation: Surface measures and the Stokes formula in locally convex spaces
- Supervisor: Professor O. G. Smolyanov

- *(2003)*, **Master's degree in mathematics (Dipl.-Math)**, University of Kaiserslautern, Mathematics Department, Germany
  - Grade: 1.0 (highest)
  - Major subject: Stochastic Analysis
  - Thesis: Some problems related to stochastic differential equations
  - Supervisor: Professor H. v. Weizsäcker

- *(1999)*, **Master's degree in mathematics**, Lomonosov Moscow State University, Faculty of Mechanics and Mathematics, Moscow, Russia
  - Grade: Excellent (highest, with honor)
  - Major subject: Functional analysis
  - Thesis: On surface measures in locally convex spaces
  - Supervisor: Professor O. G. Smolyanov

- *(1997)*, **Master's degree in physics and computer science**, Moscow Institute of Physics and Technology (known as MIPT, MFTI, PhysTech), Faculty Of Applied Mathematics and Control Theory. Moscow, Russia.
  - Major subject: Computer modeling in physics

EDUCATION / ACADEMIC PREPARATION

- *(2000–2003)*, Ph.D. studies, Lomonosov Moscow State University, Faculty of Mechanics and Mathematics, Moscow, Russia

- *(2000–2003)*, Master's studies, Mathematics department, University of Kaiserslautern, Germany

- *(1994–1999)*, Master's studies, Faculty of Mechanics and Mathematics, Lomonosov Moscow State University, Russia

- *(1991–1997)*, Master's studies, Department of Applied Mathematics and Control theory at Moscow Institute of Physics and Technology

RESEARCH VISITS

- *(15.01.2010 – 15.03.2010)* & *(01.06.2010 – 15.06.2010)*, Mittag-Leffler institute, Djursholm, Sweden

- *(01.10.2006 – 02.28.2007)* Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Austria

PH.D. SUPERVISION

- (2011 & 2015–2018) Rui Sá Pereira, "Forward-backward Stochastic Differential Equations and Applications", Mathematics department, University of Porto, Portugal (Supervision, defended)

- (2017–current) Jorge de Nascimento, "Hörmander theorem in Banach spaces", Mathematics department, Federal University of Paraíba, Brazil (Co-supervision)

TEACHING

- (2019) Introduction to functional analysis, postgraduate course (in Portuguese, assigned)

- (2018–2019) Calculus II, undergraduate course (in Portuguese, assigned)

- (2016–) Measure and integration, postgraduate course (in Portuguese)

- (2016–) Calculus I, undergraduate course (in Portuguese)

- (2015–) Series and ordinary differential equations, undergraduate course (in Portuguese)

- (11.2014–2017) Calculus III, undergraduate course (in Portuguese)

- (02.2010–07.2010) & (09.2011–12.2011) Stochastic processes, postgraduate course (in English)

- (2002–2003), Calculus II, tutorials (in German)

- (2003), Physics, for external students (in German)

- (2000–2001), Member of the admission committee for entrance examinations at Lomonosov Moscow State University, Faculty of Mechanics and Mathematics

PUBLICATIONS AND PREPRINTS

- PUBLICATIONS

  - E. Shamarova, *A version of the Malliavin-Hörmander's theorem in 2-smooth Banach spaces*, Infinite dimensional analysis, quantum probability, and related topics, Vol. 11, issue 1, **2014**, arXiv:1304.3688,

– A.B. Cruzeiro and E. Shamarova, *Navier–Stokes equations and forward-backward SDEs on the group of diffeomorphisms of a torus*, Stochastic Processes and their Applications, Vol. 119, Issue 12, 4034-4060, **2009**

– E. Shamarova, R. Chertovskih, A. F. Ramos, and P. Aguiar, *Backward stochastic differential equation approach to modeling of gene expression*, Physical Review E, v. 95, p. 032418, **2017**, arXiv:1308.6619,

– E. Shamarova and A.B. Simas, *Uniform approximation of the heat kernel on a manifold*, Archiv der Mathematik, v. 108, pp. 485–494, **2017**, arXiv:math/0701281,

– A. Ohashi, E. Shamarova, and N. Shamarov, *Path-dependent Itô formulas under finite (p,q)-variation regularity*, ALEA, Vol. XIII, 1–31, **2016**, arXiv:1505.00879

– E. Shamarova and N. Shamarov, *Differential forms on locally convex spaces and the Stokes formula*, Russian Mathematics – Springer, Vol. 60, issue 8, pp. 74–85, **2016**

– G. Amosov, M. Kpekpassi, N. N. Shamarov, and E. Shamarova, *Antisymmetric Fock space and Grassmann algebras with unitary Fourier supertransform*, Transactions of the conference "Quantum dynamics and functional integrals", Keldysh Institute of applied mathematics, pp 67–74, Moscow, **2016**

– E. Shamarova and R. S. Pereira, *Forward-Backward SDEs driven by Lévy Processes and Application to Option Pricing*, Global and Stochastic Analysis: An International Journal (GSA), No. 1, 113–132, **2015**, arXiv:1203.5546

– W. Polasek and E. Shamarova, *Numerical Solution of Stochastic Differential Equations with Jumps in Finance by Eckhard Platen, Nicola Bruti-Liberati*, International Statistical Review, v. 81, p. 311–313, **2013**.

– E. Shamarova, *Chernoff's theorem for backward propagators and applications to diffusions on manifolds*, Operators and Matrices, Vol. 5, No. 4, 619-632, **2011**, arXiv:1001.3373

– A.B. Cruzeiro and E. Shamarova, *On a forward-backward stochastic system associated to the Burgers equation*, Stochastic Analysis with Financial Applications (A. Kohatsu-Higa, N. Privault, S.J. Sheu, eds.), Progress in Probability, Birkhäuser Verlag, Vol. 65, 43-59, **2011**, arXiv: 1001.3367

– E. Shamarova, *A mathematical approach to Jarzynski's identity in nonequllibrium statistical mechanics*, Infinite dimensional analysis, quantum probability and related topics, Vol. 12, No. 2, 213–229, **2009**

– E. Shamarova, *Constructing a Brownian sheet with values in a compact Riemannian manifold*, Math. Notes 76, No. 4, 590–596, **2004**

– E. Shamarova, *Approximation of surface measures in a locally convex space*, Math. Notes 72, No. 4, 551–568, **2002**

– E. Shamarova, Surface measures and the Stokes formula in locally convex spaces , Ph.D. thesis, Moscow, **2005**, 102 pages

- SUBMITTED MANUSCRIPTS

    - C. Olivera and E. Shamarova, Gaussian density estimates for solutions of fully coupled forward-backward SDEs, arXiv:1807.11448, **2018**.

    - E. Shamarova and R. Sá Pereira, Forward-backward SDEs with jumps and classical solutions to nonlocal quasilinear parabolic PDEs, arXiv:1608.03584, **2018**

    - E. Shamarova and R. Sá Pereira, Hedging in a market with jumps – an FBSDE approach, arXiv:1309.2211, **2018**

    - Andréa V. Rocha, Evelina Shamarova, Alexandre B. Simas, Improved residuals for linear regression models under heteroskedasticity of unknown form, arXiv:1607.07926, **2017**

    - A. Ohashi and E. Shamarova, Multidimensional stochastic Burgers equation: the inviscid limit, arXiv:1602.06268, submitted, **2017**

- PREPRINTS

- E. Shamarova, *Approximation of the heat kernel on a Riemannian manifold based on the Smolyanov–Weizsäcker approach* http://www.esi.ac.at/preprints/esi1896.pdf, ESI preprint, **2007**

- E. Shamarova, *Solution to the Navier-Stokes equations with random initial data*, arXiv:1106.3861, preprint, **2011**.

CONTRIBUTIONS AT CONFERENCES AND INVITED SEMINAR TALKS

- Workshop in Stochastic Analysis and Applications – ICM 2018 Satellite Meeting, IMECC, Unicamp, Campinas, Brazil, August 13–15, **2018** (invited speaker)

- Invited seminar talk at the Mathematics institute of the Federal University of Rio de Janeiro, June 18–20, **2018**

- Mini-Workshop in Stochastic Partial Differential Equations, IMECC, Unicamp, Campinas, Brazil, February 27–28, **2018** (invited speaker)

- Brazilian school of Probability, IMPA, Rio de Janeiro, Brazil, July 31 – August 4, **2017** (talk)

- IV Encontro da Pós-Graduação em Matemática da UFBA, Federal University of Bahia, Salvador, Brazil, November 21–25, **2016** (invited speaker)

- Workshop in Stochastic Analysis, IMECC, Unicamp, Campinas, Brazil, June 28–30, **2016** (invited speaker)

- Two days in stochastic analysis II, IMECC, Unicamp, Campinas, Brazil, August 12–13, **2013** (invited speaker)

- Advanced Finance and Stochastics, Moscow, Russia, June 24 – 28, **2013** (talk)

- 1st Portuguese meeting on Mathematics for Industry, Porto, Portugal, June 6 – 8, **2013** (talk)

- Modern Stochastics: Theory and applications III, Kiev, Ukraine, September 10 – 14, **2012** (talk)

- Brazilian school of probability, Recife, Brazil, August 6 – 11, **2012** (talk)

- 4th Porto Meeting on Mathematics for Industry, Porto, Portugal, June 7–9, **2012** (talk)

- Integral and differential operators and their applications, (June 30 - July 2) Aveiro, Portugal, **2011** (talk)

- 5th International Conference on Stochastic Analysis and its Applications, (September 5-9) Bonn, Germany, **2011** (talk)

- 8th International Conference on Function Spaces, Differential Operators, Nonlinear Analysis, (September 18-24) Tabarz/Thür., Germany, **2011** (talk)

- Modern Stochastic: Theory and Applications II (September 7–11), Kiev, Ukraine, **2010** (invited speaker)

- International Congress of Mathematicians (August 19–27), Hyderabad, India, **2010** (talk)

- ICM Satellite Conference on Probability and Stochastic Processes (August 13–17), Bangalore, India, **2010** (talk)

- Invited seminar talk at the Mittag-Leffler seminar, Mittag-Leffler institute, Djursholm, Sweden, Jan 21, **2010**

- *East Midlands Stochastic Analysis Seminar*, University of Warwick, Coventry, UK, August 21, **2009** (invited speaker)

- International Congress on Mathematical Physics (August 3–8) and Young Researcher Symphosium (July 31 – August 1), international conference, Prague, Czech Republic, July 31 – August 8, **2009** (talk + poster)

- Stochastic Processes and their Applications, international conference, Berlin, Germany, July 27–31, **2009** (talk)

- Stochastic Analysis and Random Dynamical Systems, international conference, Lvov, Ukraine, June 14–20, **2009** (talk)

- The Second Najman Conference on Spectral Problems for Operators and Matrices, international conference, Dubrovnik, Croatia, May 10–17, **2009** (talk)

- GOCPS 2008 – 8th German Open Conference on Probability and Statistics, Aachen, Germany, March **2008** (talk)

- Skorokhod Space. 50 Years On, international conference, Kiev, Ukraine, June **2007** (talk)

- International Congress of Mathematicians Madrid 2006, Madrid, Spain, August **2006** (talk)

- 31st Conference on Stochastic Processes and their Applications, international conference, Paris, France, July **2006** (poster)

- German open conference on probability and statistics Frankfurter Stochastik-Tage 2006, Frankfurt, Germany, February **2006** (talk)

- Invited seminar talk at the Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, December **2006**

- Invited seminar talk at the Institute for Mathematical Physics, Technical University of Braunschweig, Germany, July **2006**

- XXV Conference "Lomonosov readings" at Lomonosov MSU, Moscow, Russia, March **2003** (talk)

GRANTS AND SCHOLARSHIPS

- *(15.01.2010 – 15.03.2010) & (01.06.2010 – 15.06.2010)* Post-doctoral research grant at the Mittag-Leffler institute

- *(09.2007 – 06.2009)*, Portuguese Foundation for Science and Technology (FCT) post-doctoral research grant (University of Lisbon)

- *(03.2007 – 08.2007)*, Austrian Science Fund (FWF) post-doctoral research grant (Vienna University of Technology)

- *(10.2006–02.2007)*, Erwin Schrödinger Institute for Mathematical Physics (ESI) research grant

- *(04.2003–03.2006)*, German Research Foundation (DFG) project grant (University of Kaiserslautern)

- *(2000–2002)*, Mathematics International Master's program scholarship at the University of Kaiserslautern

- *(1999–2002)*, Ph.D. scholarship at Lomonosov Moscow State University

- *(1994–1999)*, Student scholarship at Lomonosov Moscow State University

- *(1991–1997)* Student scholarship at Moscow Institute of Physics and Technology

OTHER EMPLOYMENT

- *(04.2003 – 03.2006)*, Project research assistant, Physics department, University of Kaiserslautern, Germany.

- *(01.01.2006 – 30.09.2006)*, Research assistant (Hiwi), Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany

- *(2005)*, Research assistant (Hiwi), Fraunhofer Institute for Experimental Software Engineering (IESE); Tasks: C/C++ scientific programming,

- *(2001–2003)*, Research Assistant (Hiwi), Robotics and Embedded Systems research group, Computer Science department, University of Kaiserslautern; Tasks: C/C++ scientific programming

LANGUAGES

- English (fluent)

- German (used to be fluent)

- Portuguese (fluent)

- Russian (mother tongue)

HOBBIES

Marathon running