

Curriculum Vitae

EVELINA SHAMAROVA

*Assistant Professor of Mathematics
Federal University of Paraíba*

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Date of birth: 1974/01/04

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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) 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.
- (01.10.2006 – 31.08.2007), Post-Doc at Erwin Schrödinger International Institute for Mathematical Physics and Financial and Actuarial Mathematics research group at Vienna University of Technology, Vienna, Austria.

PH.D. SUPERVISION

- (2011 – current) Rui Sá Pereira, “Forward-backward Stochastic Differential Equations and Applications”, Mathematics department, University of Porto, Portugal (Supervision)
- (2017–current) Jorge de Nascimento, “Hörmander theorem in Banach spaces”, Mathematics department, Federal University of Paraíba, Brazil (Cosupervision)

TEACHING

- (2016 –) Calculus I, undergraduate course.
- (2015 – 2017) Series and ordinary differential equations, undergraduate course.
- (11.2014 – 2017) Calculus III, undergraduate course.
- (02.2010 – 07.2010) & (09.2011 – 12.2011) Stochastic processes, lectures for master’s students at the Mathematics department, University of Porto, Portugal.

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: Stochastic Analysis, Infinite dimensional analysis, Functional 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
 - 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

RESEARCH VISITS

- (15.01.2010 – 15.03.2010) & (01.06.2010 – 15.06.2010), Mittag-Leffler institute, Djursholm, Sweden
- (30.10.2012 – 09.11.2012), Escola de Artes, Ciências e Humanidades, Universidade de São Paulo, Brazil.
- (14.08.2013 – 25.08.2013), IMECC, Unicamp, Campinas, Brazil.

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 and (in 1993–1997 as an external department within the same master’s studies) Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences

PUBLICATIONS AND PREPRINTS

• MAIN PUBLICATIONS

- A. Ohashi and E. Shamarova, Strong solution to the multidimensional stochastic Burgers equation, [arXiv:1602.06268](https://arxiv.org/abs/1602.06268), submitted, **2017**
- E. Shamarova, *A version of the Malliavin–Hörmander’s theorem in 2-smooth Banach spaces*, [arXiv:1304.3688](https://arxiv.org/abs/1304.3688), “Infinite dimensional analysis, quantum probability, and related topics”, Vol. 11, issue 1, **2014**
- 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, [arXiv:0807.0421](https://arxiv.org/abs/0807.0421), **2009**,

• OTHER PUBLICATIONS

- E. Shamarova, R. Chertovskih, A. F. Ramos, and P. Aguiar, *Backward stochastic differential equation approach to modeling of gene expression*, [arXiv:1308.6619](https://arxiv.org/abs/1308.6619), “Physical Review E”, v. 95, p. 032418, **2017**
- E. Shamarova and A.B. Simas, *Uniform approximation of the heat kernel on a manifold*, [arXiv:math/0701281](https://arxiv.org/abs/math/0701281), Archiv der Mathematik, v. 108, pp. 485–494, **2017**.
- A. Ohashi, E. Shamarova, and N. Shamarov, *Path-dependent Itô formulas under finite (p,q) -variation regularity*, [arXiv:1505.00879](https://arxiv.org/abs/1505.00879), ALEA, Vol. XIII, 1–31, **2016**
- 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. Kpekpasi, 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*, [arXiv:1203.5546](https://arxiv.org/abs/1203.5546), Global and Stochastic Analysis: An International Journal (GSA), No. 1, 113–132, **2015**
- 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*, [arXiv: 1001.3373](#), Operators and Matrices, Vol. 5, No. 4, 619-632, **2011**,
- A.B. Cruzeiro and E. Shamarova, *On a forward-backward stochastic system associated to the Burgers equation*, [arXiv: 1001.3367](#), Stochastic Analysis with Financial Applications (A. Kohatsu-Higa, N. Privault, S.J. Sheu, eds.), Progress in Probability, Birkhäuser Verlag, Vol. 65, 43-59, **2011**
- E. Shamarova, *A mathematical approach to Jarzynski's identity in nonequilibrium statistical mechanics*, Infinite dimensional analysis, quantum probability and related topics, Vol. 12, No. 2, 213–229, **2009**
- 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, *Surface measures and the Stokes formula in locally convex spaces*, Ph.D. thesis, Moscow, **2005**, 102 pages
- 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**

CONTRIBUTIONS AT CONFERENCES AND SEMINAR TALKS

- [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)
- [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 Symposium](#) (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)
- XXV Conference “Lomonosov readings” at Lomonosov MSU, Moscow, Russia, March **2003** (talk)
- Seminar talk at the Mittag-Leffler seminar, Mittag-Leffler institute, Djursholm, Sweden, Jan 21, **2010**
- Seminar talk at the seminar of the Mathematics Ph.D. program UCoimbra-UPorto, Mathematics Department, University of Porto, Jun 21, **2010**

- Seminar talk at the Mathematics Center of the University of Porto, University of Porto, October **2009**
- Seminar talk at the center of Mathematics and Fundamental Applications, University of Lisbon, November **2008**
- Seminar talk at the *Mathematical Physics group, University of Lisbon*, September **2007**
- Seminar talk at the *Erwin Schrödinger Institute for Mathematical Physics*, Vienna, Austria, December **2006**
- Seminar talk at the Institute for Mathematical Physics, Technical University of Braunschweig, Germany, July **2006**
- Seminar talk at the *Department of Mathematical Physics of Steklov Mathematical Institute* of the Russian Academy of Sciences, Moscow, April **2005**
- Seminar talk at the Mathematics Department, University of Kaiserslautern, **2003**
- Seminar talk at the seminar “Infinite dimensional analysis and mathematical physics” at the faculty of Mechanics and Mathematics of Lomonosov MSU, Moscow, **2001**.

GRANTS AND SCHOLARSHIPS

- (15.01.2010 – 15.03.2010) & (01.06.2010 – 15.06.2010) Post-doctoral 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

WEBSITE

<http://evelina.shamarova.com>