

Curriculum Vitae

Tatiana A. Belkina

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Belkina Tatiana Andreyevna (Konyukhova, T.A. formerly, up to 1995), birth 19.05.1966, Moscow, Russia

Education

Moscow Institute of Electronics and Mathematics (Moscow Institute of Electronic Engineering formerly, up to 1992), 1983–1989, Diploma (MSc) in Applied Mathematics, 1989; post-graduate studentship in the same Institute, 1990–1992.

Degrees

Candidate of Sciences in Mathematics and Physics, Probability Theory and Mathematical Statistics, Moscow Institute of Electronics and Mathematics, 1993.

Academic rank

Docent, Chair of Mathematical Economics, Moscow Institute of Electronics and Mathematics, 2000.

Employment

Central Economics and Mathematics Institute of RAS, Senior Research Scientist, October 1995 - January 2008, Leading Research Scientist, February 2008 - February 2009, Head of Laboratory, March 2009 - present.

Moscow Institute of Electronics and Mathematics, Chair of Mathematical Economics, Head of Laboratory, March 1993 - June 1995; Docent, July 1995 - September 1995;

Part-time Employment

Laboratory of Quantitative Finance, National Research University Higher School of Economics (NRU HSE), Moscow, September 2014 - July 2015;

Moscow Institute of Electronics and Mathematics (MIEM; MIEM HSE from January 2012), Docent, October 1995 - December 2012;

Higher School of Economics (HSE), Moscow, Department of Risk Management and Insurance, Docent, September 2005 - August 2009.

New Economic School, Moscow, Assistant, September 2001 - Oktober 2003;

Short-term visiting position

University of Bonn, Hausdorff Research Institute for Mathematics, Germany, Hausdorff Trimester Program "Stochastic Dynamics in Economics and Finance", May 2013, associate professor.

University of Karlsruhe, Institute of Finance, Banking and Insurance, Germany, June-July 2008, visiting scholar.

Research interests

Stochastic optimization, Risk Theory, Mathematical Insurance, Stochastic Models and Stochastic Control.

Grants

Russian Fund of Basic Research (RFBR), 1996 - present;

RF government grant, ag. 14.A12.31.0007, 2014 - 2015;

Russian Academy of Sciences (RAS), Fund for Support of the Science of our Country, program "The Best Economists of RAS, Candidates of Sciences", 2004-2005, personal grant;

RAS, 6th Competition: Projects of Young Scientists on Fundamental and Applied Investigations, 2001-2003, Principal Investigator;

INTAS, 1999-2001;

RAS, State Scientific Stipend for Young Scientists, 1997-1999;

Russian Foundation for Humanitary Science Research, 1995-1997;

International Science Foundation (Grant of G.Soros), 1994-1995.

Current research projects

RFBR, project 13-01-00784, Controlled Stochastic Processes.

Teaching

Mathematical Economics, Modeling and Methods of Macroeconomic Dynamics, Probability Theory, Stochastic Analysis and Modeling, Actuarial Models

Dissertation supervision

Ekaterina Palamarchuk, 2013, Probabilistic criteria of optimality for the linear controlled systems and their applications to models with temporal preferences of economic agents;

Anna Kurkina, 2011, Stochastic Models of Investment Control for Insurance Company without borrowing;

Maria Levochkina, 2006, Stochastic Optimality in the Problem on Linear Regulator perturbed by a Sequence of Dependent Random Variables.

Participation in scientific meetings

The Eleventh Bachelier Colloquium on Mathematical Finance and Stochastic Calculus, Metabief, France, January 16-21, 2017;

Third Russian Economic Congress, Moscow, Russia, December 19-23, 2016;

V International Youth Research and Practice Conference "Mathematical and Computer Modelling in Economics, Insurance and Risk Management" Saratov, Russia, November 9-12, 2016;

VIII Moscow International Conference on Operations Research (ORM-2016), Moscow, October 17-22, 2016;

Second Russian Economic Congress, Suzdal, Russia, February 2013;

International Conference on Probability Theory and its Applications (Conf. in commemoration of the centennial of Boris Vladimirovich Gnedenko), Moscow, June 26-30, 2012;

International Conference on Differential and Difference Equations and Applications (Conf. in honour of Prof. Ravi P. Agarwal), Ponta Delgada, Portugal, July 2011;

The Fourth Bachelier Colloquium, Metabief, France, January 2010;

First Russian Economic Congress, Moscow, Russia, December 2009;

5th International Fergana Conference "Limit Theorems of Probability Theory and its Applications", Fergana, Uzbekistan, May 2005;

Fifteenth International Conference "Spectral and Evolution Problems" (Crimean Autumn Mathematical School-Symposium), Sevastopol, Ukraina, September 2004;

6th International Petrozavodsk Conference "Probabilistic Methods in Discrete Mathematics", Petrozavodsk, Russia, June 2004;

All Russian Symposium on Applied and Industrial Mathematics: VIII, Sochi-Adler, Russia, October 2007; IV, Sochi, Russia, 2003; III, Sochi, Russia, 2002; I, Sochi, Russia, 2000;

All Russian School-Colloquium on Stochastic Methods: V, Yoschkar-Ola, Russia, December 1998; IV, Ufa, Russia, August-September 1997.

Publications

More than 60 publications since 1987 (as Koyukhova, T.A. up to 1995); among them 18 papers are in the refereed journals and transactions, namely in: Scandinavian Actuarial Journal, Markov Processes and Related Fields, Journal of Mathematical Sciences, Teoriya Veroyatn. i ee Primenen. (English transl. in: Theory of Probability and its Applications), Discretnaya Matematika (Discrete Mathematics and Applications), Avtomatika i Telemekhanika (Automation and Remote Control), Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (Computational Mathematics and Mathematical Physics) Obozrenie Prikladnoi i Promyshlennoi Matematiki (in Russian), Proceedings of the First Russian Economic Congress, Proceedings of the International Conference on Differential and Difference Equations and Applications, Proceeding of the 5th International Fergana Conference "Limit Theorems of Probability Theory and its Applications", etc.

List of selected publications

Asymptotic investment behaviors under a jump-diffusion risk process. - North American Actuarial Journal, 2017 (to appear) (with Sh.Luo).

Viscosity solutions of integro-differential equations for nonruin probabilities. - Theory of Probability and its Applications, 2016, v. 60, Issue 4, p. 671-679 (with Kabanov Yu.).

Singular initial-value and boundary-value problems for integrodifferential equations in dynamical insurance models with investments. - Journal of Mathematical Sciences. 2016. Vol.218. No.4. P.369-394 (with Konyukhova, N.B. and Kurochkin, S.V.).

Dynamic insurance models with investment: constrained singular problems for integrodifferential equations. - Comput. Math. Math. Phys., 2016, v.56, No.1, p. 43-92 (with Konyukhova, N.B. and Kurochkin, S.V.).

Survival probability in the life annuity insurance model with stochastic return on investments. - CEUR-WS, Vol. 1726. The proceedings of the Workshop on Computer Modelling in Decision Making (CMDM 2016). P. 1-12 (with Konyukhova, N.B. and Slavko, B.V.).

Asymptotic investment behaviors under a jump-diffusion risk process. Cornell University Library, preprint. arXiv:1502.02286 [q-fin.PM], 2015 (with Sh.Luo).

Risky investment for insurers and sufficiency theorems for the survival probability. - Markov Processes and Related Fields, 2014, v. 20, Issue 3, p. 505-525.

Optimal constrained investment in the Cramer-Lundberg model. - Scandinavian Actuarial Journal, 2014, v. 2014, Issue 5, p. 383-404 (with C.Hipp, Sh.Luo, M.Taksar).

On stochastic optimality for a linear controller with attenuating disturbances. - Automation and Remote Control, 2013, v. 70, No 4, p. 628-641 (with E.S.Palamarchuk).

Singular problems for integro-differential equations in dynamic insurance models. Springer Proceedings in Mathematics. Proc. Intern. Conf. on Differential and Difference Equations and Applications (in honour of Prof. Ravi P. Agarwal) (Azores University, Ponta Delgada, Portugal, July 4-8, 2011), Springer, 2013, v. 47, p. 27-44 (with Konyukhova, N. and Kurochkin, S.)

Singular boundary value problem for the integrodifferential equation in an insurance model with stochastic premiums: analysis and numerical solution, 2012, Comput. Math. Math. Phys., v. 52, No 10, p. 1384-1416 (with N.B. Konyukhova and S.V. Kurochkin).

Optimal constrained investment in the Cramer-Lundberg model. - Cornell University Library, arXiv:1112.4007v1 [q-fin.PM], 2011 (with C.Hipp, Sh.Luo and M.Taksar).

Optimal Investment Problem in the Dynamic Insurance Models: II. Cramer-Lundberg Model with the Exponential Claims, 2010, Obozrenie Prikladnoi i Promyshlennoi Matematiki (Surveys on Applied and Industrial Mathematics), v. 17, 1, 3-24 (with N.B.Konyukhova and A.O. Kurkina) [in Russian].

Optimal Investment Problem in the Dynamic Insurance Models: I. Investment Strategies and the Ruin Probability, 2009, Obozrenie Prikladnoi i Promyshlennoi Matematiki (Surveys on Applied and Industrial Mathematics), v. 16, No 6, 961-981 (with N.B.Konyukhova and A.O. Kurkina) [in Russian].

Dynamic Insurance Models: Various Investment Strategies and the Ruin Probability, 2009, Proceedings of the First Russian Economic Congress. Moscow: IE RAS, e-print (with A.O. Kurkina) [in Russian].

Stochastic Optimality in the Problem on Linear Regulator perturbed by a Sequence of Dependent Random Variables, 2006, Discrete Mathematics and Applications, v.16, No 2, 135-153 (with M.S.Levochkina).

On Optimality in Probability and Almost Surely for Processes with a Communication Property. II. The Continuous Time Case, 2005, Theory of Probability and its Applications, v. 50, No 2, 187-198 (with V.I. Rotar').

On Optimality in Probability and Almost Surely for Processes with a Communication Property. I. The Discrete Time Case, 2005, Theory of Probability and its Applications, v. 50, No 1, 16-33 (with V.I. Rotar').

On Asymptotic Probabilistic Optimality Criteria in the Pension Fund Control Problem, 2005, Proceeding of the 5th International Fergana Conference "Limit Theorems of Probability Theory and its Applications Tashkent, 82-86 (with M.S.Levochkina) [in Russian].

On a Stochastic Optimality of the Feedback Control in the LQG-Problem, 2004, Theory of Probability and its Applications, v. 48, No 4, 592-603 (with Yu.M.Kabanov and E.L. Presman,).

The Controlled Diffusion Process Model: Conditions for Asymptotic Optimality in Probability and Almost Sure Asymptotic Optimality, 1999, Automation and Remote Control, v. 60, No 2, Part 1, 183-190 (with V.I. Rotar').

Asymptotically-Optimum-in-Distribution Control Actions for a Linear Stochastic System with a Quadratic Functional, 1997, Automation and Remote Control, v. 58, No 3, Part 1, 413-421 (with E.L. Presman).

The Probability-Asymptotically Optimal Controls In the Problem on a Linear Controller with Variable Parameters, 1994, Automation and Remote Control, v. 55, No 2, Part 2, 237-246.

The Asymptotic Optimality in Probability and Almost Surely for Controls in the Linear Regulator Problem, 1992, Automation and Remote Control, v. 53, No 6, Part 1, 839-850 (with V.I. Rotar').