Djordjevic Jasmina

Curriculum Vitae

PERSONAL DETAILS

Adress	Višegradska 33, 18000 Nis, Serbia
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EDUCATION

PhD in Mathematics
`2006-2013`

Faculty of Science and Mathematics, University of Niš

My research interests are in theory of probability and stochastic processes, and their applications to stochastic control and optimization. I wanted to expand my knowledge in this field. I started my PhD studies in 2006 and completed them in 2013 with the highest possible GPA 10.00 (ten).

Exams passed:
Measure and Integration (grade: 10),
Methodology of Scientific Research (grade: 10),
Probability Theory (grade: 10),
Theory of Martingales (grade: 10),
Stochastic Processes (grade: 10),
Risk Management (grade: 10),
Stochastic Differential Equations (grade: 10),
Stochastic Models in Finance (grade: 10),
Risk Theory (grade: 10).

PhD Thesis: *Backward Stochastic Differential Equations with Perturbations*, defended on June 20th, 2013, Faculty of Sciences and Mathematics, University of Niš, Serbia, supervised by Professor Svetlana Janković.

MSc in Mathematical Finance
`2004-2006`

Faculty of Science and Mathematics, University of Niš

My interest in stochastic processes began during my undergraduate studies when I first got acquainted with this topic. During my studies in this field, I decided that my professional orientation should be in the theory of stochastic processes. I earned my BSc degree from the Faculty of Sciences and Mathematics, University of Niš.

During my masters studies, I got a scholarship from the Norwegian Government and the City of Niš on the merit of a high GPA. In November 2004, I attended the course

Financial Mathematics held in Plovdiv, Bulgaria, and the course Graph Theory in Chemistry and Engineering held in May 2005. I completed the undergraduate with a GPA of 9.67 (10.00 being the maximum) and was declared the "student of the generation" at Mathematics Department. In the same year I got a one-month travel through Europe as an award from the Austrian Embassy in Serbia, the European Youth Movement in Serbia, and the Serbian Ministry of Education. I got my MSc degree on June 12th, 2006, by defending the thesis titled *Stochastic Models for Interest Rates*, marked with the highest possible grade, 10.00. My interest in the application of mathematics in finance has already started in this work. As a natural continuation to my studies, I enrolled in the PhD program and expanded my knowledge in stochastic analysis and finance.

BSc in Mathematician   2001-2004
Faculty of Science and Mathematics, University of Nis

My interest in mathematics goes back to elementary school, and ever since then it has been my only scientific and professional commitment.

WORK EXPERIENCE

Postdok position   september 2020-present
Department of Mathematics, University of Oslo

STORM - Stochastics for Time-Space Risk Models project

Associate Professor   2018-present
Department of Mathematics, Faculty of Sciences and Mathematics, University of Niš

Full-time Courses: Probability; Theory of Mass Service (Queueing Theory), Financial Modeling 1 (deterministic case); Financial Modeling 2 (stochastic case), Theory of Martingales (Phd level), Probability in biology, Mathematics for Biology Students.

Assistant Professor   2013-2018
Department of Mathematics, Faculty of Sciences and Mathematics, University of Niš

Full-time Courses: Probability; Theory of Mass Service (Queueing Theory), Financial Modeling 1 (deterministic case); Financial Modeling 2 (stochastic case).

Teaching Assistant   2006-2013
Department of Mathematics, Faculty of Sciences and Mathematics, University of Niš

Full-time Courses: Introduction to Probability, Mathematics for Chemistry Students, Mathematics for Biology Students, Differential Equations, Modeling in Finance 1 (deterministic case), Modeling in Finance 2 (stochastic case).

Teacher of Mathematics   2008-2011, 2013-2016
Svetozar Marković High School, Niš, a special class for students gifted in mathematics

Part-time Subjects: Algebra and Analysis.

Honors   2013-2018
Faculty of Sciences and Mathematics, University of Niš

Coordination of preparatory classes for the entrance examination for Department of Mathematics. (Actively involved in teaching at preparatory classes.)

Honors   october 2011 -january 2012
Faculty of Sciences and Mathematics, University of Niš

Secretary of the Department of Mathematics and Informatics.

Honors

Faculty of Sciences and Mathematics, University of Niš
    Secretary of the Department of Mathematics.

Honors

Bank of Niš, Niš
    Practice during undergraduate studies.

Honors

HVB Bank, Niš
    Practice during undergraduate studies.

SKILLS

Languages	Serbian (mother tongue)
	English (fluent)
	French (basic)
Software	MATLAB, Mathematica, LaTeX, ANSYS, COMSOL , R etc.

REFERENCES

I took part in following meetings:

CONFERENCES:

- SYM-OP-IS Conference, Banja Koviljača, Serbia, October 3 - 6, 2006. Papers presented: "Binomial models for interest rates" and "Vasicek's model".

- Sozopol Conference, XIII International Summer Conference on Probability and Statistic (ISCPS), Sozopol, Bulgaria, June 21-28, 2008. Paper presented: "Backward stochastic differential equations with perturbations";

- 12TH SERBIAN MATHEMATICAL CONGRESS, Novi Sad, Serbia, August 28-September 2, 2008. Paper presented: "Backward-forward stochastic differential equations with perturbations";

- First Mathematical Conference, Pale, Bosnia and Herzegovina, May, 2011. Paper presented: "Backward doubly stochastic differential equations with generalized coefficients";

- 13th Serbian Mathematical Congress, Vrnjačka banja, Serbia, May 22-25, 2014. Paper presented: "Perturbed backward stochastic Volterra integral equations";

- 7th European Congress of Mathematics, Berlin, Germany, July 18 - 22, 2016. Paper presented: "On a class of backward stochastic Volterra integral equations".

- Mini symposium "Stochastic vibrations and Fatigue: Theory and Applications", Belgrade, Serbia, July 4th, 2017. I gave a lecture as an invited speaker with the title "Some effects of perturbations on solutions of backward stochastic differential equations."

- The 39th Conference on Stochastic Processes and their Applications (SPA2017), Moscow, Russia, July 24-28, 2017. Paper presented: "A class of solutions of Backward Stochastic Differential Equations ".

- A Probability Summer School, Centro di Recerca Mathematica Ennio De Giorgi, Univerisity of Pisa, September 13-15, 2017. Paper presented: "Kneser type of problem for backward doubly stochastic differential equations".

- The Training School on Optimal Control Theory and Mosquito Control Strategies, Department of Mathematics of the University of Aveiro, Portugal, from 19th to 21th April 2018, under the COST Action CA16227 - Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech-Repellents and as part of the activities of the new Thematic Line on BioMath of CIDMA (Center for Research Development in Mathematics and Applications). I gave a lecture as an invited speaker with a title: "A stochastic SICA epidemic model for HIV transmission".

- Special Working Group Meeting for WG1 and WG2 in Aveiro/Portugal 19th July 2018, under the COST Action CA16227 - Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech-Repellents and as part of the activities of the new Thematic Line on BioMath of CIDMA (Center for Research Development in Mathematics and Applications). I gave a lecture as an invited speaker with a title: "A stochastic SICA epidemic model for HIV transmission".

- European Women in Mathematics General Meeting 2018 Celebrating 30 years of the EWM, Karl-Franzens-Universitat Graz, Austria, 3-7 September 2018. Paper presented: "Z-algorithm for backward stochastic differential equations".

- 2.General Scientific Meeting (2.GSM) of COST Action 16227, congress Centre - Ohrid, Hotel Of St Cyril And Methodious University, Ohrid, fYR Macedonia, 1-3 October 2018, presented paper: "A stochastic SICA epidemic model for HIV transmission".

- 2nd Training School on Optimal Control Theory, Epidemiological Mathematical Modelling and Mosquito Control Strategies, Finnish Meteorological Institute (FMI), Kumpula district, 4-7 March 2019, presented paper: "Stochastic SICAE model for HIV transmission".

- CONFERENCE: Perturbation Techniques in Stochastic Analysis and Its Applications (Techniques perturbatives en analyse stochastique et applications) CIRM, Marseill, France, 11 - 15 March 2019, presented a summary of a few papers under the title: "Some effects of perturbations on solutions of backward doubly stochastic differential equations".

- "Biology, Analysis, Geometry, Energies, Links [bagel19]: A Program on Low-dimensional Topology, Geometry, and Applications", Institute for Mathematics and its Applications, University of Minneapolis, Minnesota, 17-28 June 2019, presented: "Some stochastic SICA epidemic models for HIV transmission".

- "Edinburgh Slow-Fast-Ival", International Center for Mathematical Sciences, Edinburgh, UK, July 4 − 5, 2019. I gave a lecture as an invited speaker with the title "Reflected Backward Stochastic Differential Equations with Perturbations".

- "CSA2019 - Conference in Stochastic Analysis and Applications", Risor, Norway, 25.-30.8.2019., presented a summary of a few papers under the title: "Perturbed backward stochastic differential equations".

- "Susret matematičara Srbije i Crne Gore", Budva, Crna Gora, 11.-14.10.2019., Paper presented: "Effects of perturbations on the applications of reflected backward stochastic differential equations".

- Actively involved in the seminar "Theory of Stochastic processes", organized by Academy of Sciences, Kiev, Ukrain, from February 2020-still. Presentations:
1. "Notes about Backward Stochastic Differential Equations, May 2020 (online).
2. "Connection of BSDEs with SPDEs, Feymann Kac formula", September 2020 (online).
- Actively involved in STAR seminars, organized by the STORM project on the Department of Mathematics, University of Oslo, Norway. Presentations:
1." Perturbation problems of BSDEs their application", October 2nd, 2020 (online).

SUMMER SCHOOLS, WORKSHOPS AND MATHEMATICAL EVENTS:

- Winter School in Stochastic Processes, Bitola, Macedonia, November 2006 (two weeks), organized by DAAD;

- Bio-Math Summer School and Workshop 2008 *Stochastic Differential Equation Models with Applications to the Insulin-Glucose System and Neuronal Modeling Middelfart, Denmark* (Summer school, August 3-12, 2008; Workshop, August 13-16, 2008);

- 22th International Summer School of the Swiss Association of Actuaries, Lausanne, Switzerland, August 10-14, 2009;

- 2009 Summer School on Parameter Estimation in Physiological Models, Third Event of the EC Marie Curie Conferences Series Mathematical Modeling of Human Physiological Systems with Biomedical Application, Island of Lipari, Sicily, Italy, September 13-26, 2009;

- "Summer School in Quantitative Finance ", Prague, Czech in June 7-9, 2010;

- Intensive Course Chaos, Expansions and Ito Calculus, Novi Sad, Serbia, September 23-30, 2010;

- Spring School Stochastic Analysis in Finance, organized within the FP7 PEOPLE Marie Curie ITN network Deterministic and Stochastic Controlled Systems and Applications (PITN-GA-2008-213841), University of Brest, Roscoff, France, March 6-15, 2012;

- ITE.LAB MathEconomics Open Course Mathematical Models in Economics Finance, Perm State University, Russia, November18-29, 2013; (Received the certificate for the attended course.)

-FinMod (Financial Modeling Conference) 2013, Perm State University, Faculty of Economics, ISMME Department , November 28, 2013;

- Junior Female Researchers in Probability, Berlin, Germany, October 22-23, 2015.

- I participated in several events linked to Erasmus Plus Project "Re@WBC" - Enhancement of HE research potential contribution to further growth of the WB region (Mapping HR management strategies at EU universities 18-22 April 2016, Liege), and was included in the same projects.

- "EMC for Future Highly Integrated Systems", Prague, Czech Republic, April 1-2, 2019.

- "1st International conference on Political Decision Making and - Diseases - Interdisciplinary Research, Complexity and Bio-Mathematics", Valenca, Portugal, April 4-5, 2019.

- Erasmus staff week "Workshop-discovering Spain", 15.7.-19.7.2019., Jaén, Spain.

- Chairman at 21st European Young Statisticians Meeting, Belgrade 29 July - 02 August 2019.

- Participation in *Workshop on High-Dimensional Stochastics*, 7-9. September 2020 (online).

SCIENTIFIC VISITS:

- Short scientific and research visitor on Cost Action 16227 to Department of Mathematics and Statistics Campus 2 at Kist Misirkov No 10.A Campus 2, Stip 2000, Republic of Macedonia, from 24.04. until 30.04.2018.
- Short scientific and research visitor on Cost Action 16227 to Department of Mathematics at the University of Aveiro, University Campus of Santiago 3810-193 Aveiro, Portugal, from 23.01. until 01.02.2019.
- One month visit to Institute for Mathematics and its Applications, University of Minneapolis, Minnesota, United States, June 2019.
- Scientific visit to Faculty of Mathematics, University of Vienna, Austria, week in November, 2019.
- Scientific visit to Faculty of Mathematics, University of Vienna, Austria, week in February, 2020.

REVIEWS MADE FOR JOURNAL ARTICLES:

1. Applied Mathematics and Computation,

2. Filomat,

3. Thermal Science.

PROJECT:

1. "Functional and stochastic analysis and applications" 2006-2010, PMF Nis, ProjectNo. 144003, MNTRS.

2. Member at Erasmus Plus Project "Re@WBC" - Enhancement of HE research potential contribution to further growth of the WB region (Finished.)

3. "Functional analysis and applications", 2011-, PMF Nis, Project 174007, MNTRS.

4. MC Substitute at COST Action CA16227, COST Association, "Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech-Repellents".

5. MC at COST Action CA17137, COST Association, "A network for Gravitational Waves, Geophysics and Machine Learning".

6. Leader of bilateral project with University of Osjek, Croatia, "Applied stochastic models with short term and long term structure of dependence", 2019.-2020.

BOOKS

- "Probability – exercises with basics of theory", Jasmina Djordjević, Faculty of Sciences and Mathematics in Niš, 2018.

PUBLICATIONS

[1] M. Jovanović, **J. Djordjević**, *Binomial interest rates models*, Sym-op-is 2006, Banja Koviljača, Zbornik radova, (2006) 145-148.

[2] **J. Djordjević**, M. Jovanović, S. Janković, *One-factor interest rates stochastic models - Vasicek model*, Sym-op-is 2006, Banja Koviljača, Zbornik radova, (2006) 429-432.

[3] S. Janković, **J. Djordjević**, M. Jovanović, *On a class of backward doubly stochastic differential equations*, Applied Mathematics and Computation, 217 (2011), 8754-8764, Corrigendum to On a class of backward doubly stochastic differential equations, Appl. Math. Comput. 218 (2012) 9033-9034.

[4] S. Janković, M. Jovanović, **J. Djordjević**, *Perturbed backward stochastic differential equations*, Mathematical and Computer Modeling, 55 (2012), 1734-1745.

[5] **J. Djordjević**, S. Janković, *On a class of backward stochastic Volterra integral equations*, Applied Mathematics Letters, 26 (2013), 1192-1197.

[6] **J. Djordjević**, S. Janković, *Backward stochastic Volterra integral equations with additive perturbations*, Applied Mathematics and Computation, 265 (2015), 903-910.

[7] **J. Djordjević**, *On a class of backward doubly stochastic differential equations with continuous coefficients*, IMA Journal of Applied Mathematics, 81 (2016), 26-41.

[8] **J. Djordjević**, L^p-estimates of solutions of backward doubly stochastic differential equations, Filomat 31:8(2017) 2356-2379, Vol. 31.

[9] **J. Djordjević**, S. Janković, *Reflected backward stochastic differential equations with perturbations*, Discrete and Continuous Dynamical System - A, 38(4)(2018) 1833-1848, DOI 10.3934/dcds.2018075.

[10] **J. Djordjević**, Cristiana J. Silva; Delfim F. M. Torres, *A stochastic SICA epidemic model for HIV transmission*, Applied Mathematics Letters, 84 (2018), 168-175.

[11] **J. Djordjević**, Cristiana J. Silva, *A stochastic analysis of the impact of fluctuations in the environment on pre-exposure prophylaxis for HIV infection*, Soft Computing, 10.1007/s00500-019-04611-1.

[12] M. Zdravković, **J. Djordjević**, A. Catić-Djordjević, S. Pavlović, Miodrag Ivković, *Case study: univariate time series analysis and forecasting of pharmaceutical products' sales data at small scale*, ICIST 2020 Proceedings, accepted for publication.

[13] Beti Andonovic, Vesna Andova, Tatjana Atanasova Pacemska, Perica Paunovic, Viktor Andonovic, **Jasmina Djordjevic**, Aleksandar T. Dimitrov *DISTANCE BASED TOPOLOGICAL INDICES ON MULTIWALL CARBON NANOTUBES SAMPLES OBTAINED BY ELECTROLYSIS IN MOLTEN SALTS* , BALKAN JOURNAL OF APPLIED MATHEMATICS AND INFORMATICS, Volume III, No 1, 2020.

[14] **J. Djordjevic**, *Some analytic approximations for backward stochastic differential equations*, Filomat, accepted.

[15] **J. Djordjevic**, Kristina Rognlien Dahl, *Stochastic optimal control of pre-exposure prophylaxis for HIV infection*, Preprint.

ADVISED MASTER THESIS UNDER SUPERVISON

1. *"Embedded Markov chain in queing theory"*, May 2019.
2. *"Application of packet MATHEMATICA in theory of life insurance"*, October 2019.