

CONTACT INFORMATION

Department of Mathematics
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RESEARCH INTERESTS

Mathematical theory of complex systems and their applications; infinite-dimensional and stochastic analysis; probability theory and point processes; scaling limits and related meso- and macroscopic equations; front propagation and travelling waves.

EXPERIENCE

- Swansea University, United Kingdom
Senior Lecturer, Department of Mathematics March 2017 – Present
Lecturer, Department of Mathematics September 2013 – February 2017
- Bielefeld University, Germany
Scientific Fellow, Department of Mathematics March 2013 – August 2013
- Institute of Mathematics, Kiev, Ukraine
Senior Research Fellow, Department of Fractal Analysis September 2009 – Present
Research Fellow, Department of Fractal Analysis January 2008 – August 2009
Junior Research Fellow, Department of Mathematical Physics December 2003 – December 2007
- Dragomanov National Pedagogical University, Kiev, Ukraine
Leading Research Fellow January 2015 – Present
Senior Research Fellow August 2013 – December 2014
Associate Professor September 2008 – June 2013

DEGREES AND EDUCATION

- DSc (Doctor of Sciences, Habilitation) June 2014
Title: Stochastic dynamics of continuous systems
Host: Institute of Mathematics, Kiev, Ukraine
- PhD in Mathematics November 2004
Title: Some classes of measures and related operators on configuration spaces
Advisor: Prof. Dr. Yuri Kondratiev
Host: Institute of Mathematics, Kiev, Ukraine
- MSc in Mathematics, *graduated with distinction* June 2000
Title: Gauss formula and symmetric extensions of the Laplacian on configuration spaces
Advisor: Dr. Alexei Konstantinov
Host: Taras Shevchenko National University of Kiev
- BSc in Mathematics, *graduated with distinction* June 1999
Title: On exponential model of Poisson spaces
Advisor: Dr. George Us
Host: Taras Shevchenko National University of Kiev

HONORS AND AWARDS

- Winner of the Mathematical Competition for young mathematicians in Ukraine (\$ 6000) 2012
- The Ukraine President Prize for young scientists (~£1000) 2009
- George Soros' Prize for Students (\$ 800) 1996

GRANTS AND FELLOWSHIPS

- LMS, Research in Pairs, Scheme 4 (£500) 2016
- College of Science (Swansea University) Research Funds (£730, £400, £450) 2014, 2015, 2016
- LMS, Joint Research Groups in the UK, Scheme 3, Co-Investigator (£2000) 2015–2016
- IRSES (Marie Curie Actions) Project, Grant number PIRSES-GA-2013-612669
Co-Investigator, Ukrainian team leader (€74100) 2014–2017
- The Ukraine President Grant for young scientists (~£5800) 2012
- The Ukraine President Fellowship for young scientists 2011–2013
- Individual research grant of the Ukrainian National Academy of Sciences (~£1600) 2011
- Fellowship of the Ukrainian National Academy of Sciences 2008–2010
- Grant of the Ukrainian National Academy of Sciences (~£1000) 2006–2007

RESEARCH VISITS

- Faculty of Mathematics, Bielefeld University, Germany 2001–2012, 2014–2016
- Department of Statistics, Warwick University, UK December 2016
- Faculty of Mathematics, Technische Universität Kaiserslautern, Germany June 2016
- Department of Biosciences, Helsinki University, Finland December 2012, April 2015
- Centro de Ciências Matemáticas, University of Madeira, Portugal July 2008, August 2009
- Institute for Applied Mathematics, Bonn University, Germany April 2000

RECENT PREPRINTS

- D. Finkelshtein, Y. Kondratiev, and P. Tkachov. “Accelerated front propagation for monostable equations with nonlocal diffusion”. arXiv: 1611.09329 (66 pages).
- D. Finkelshtein, Y. Kondratiev, and P. Tkachov. “Traveling waves and long-time behavior in a doubly nonlocal Fisher–KPP equation”. arXiv:1508.02215 (100 pages).

CONFERENCES AND WORKSHOPS

- *Modelling Tumour Evolution: Initiation, Growth and Progression*, Bielefeld, Germany, 11–17/9/2016
- *Stochastic Analysis and Applications*, Beijing, China, 1–6/4/2016
- *Nonlocal Aspects in Mathematical Biology*, Bedlewo, Poland, 26–30/1/2016
- *Micro and Macro Systems in Life Sciences*, Bedlewo, Poland, 8–13/4/2015
- *Probability, Reliability and Stochastic Optimization*, Kyiv, Ukraine, 7–10/4/2015
- *Stochastic and Infinite Dimensional Analysis*, Bielefeld, Germany, 24–28/6/2013
- *Fusion of Knowledge in Stochastic Modelling of Large Complex Systems*, Bielefeld, Germany, 10–14/6/2013
- *Modern Stochastics: Theory and Applications I–III*, Kiev, Ukraine, 19–23/6/2006, 7–11/9/2010, 10–14/9/2012
- *Quantitative Behavior of Stochastic Systems and Applications*, Bielefeld, Germany, 18–22/6/2012
- *Stochastic analysis and applications*, Kiev, Ukraine, 29–30/3/2011
- Minisymposium *Interacting Particle Systems and related non-linear (stochastic) Evolution Equations*, DMV-Jahrestagung (Annual Conference of German Mathematical Society), Cologne, Germany, 19–22/9/2011
- *Functional Methods in Probability Theory and Probabilistic Number Theory*, Kiev, Ukraine, 28–30/9/2011
- *Stochastic Population Dynamics and Applications in Spatial Ecology*, Edinburgh, UK, 15–20/6/2009
- *Particle Systems, Feynman Integrals, Stochastic Analysis*, Funchal, Madeira, Portugal, 24/7–7/8/2009
- Ukrainian Mathematical Congress, Kiev, Ukraine, 27–29/8/2009

- *Infinite Particle Systems 1–5*, Kazimierz Dolny, Poland, 22–27/10/2005, 8–11/10/2006, 23–28/6/2007, 8–12/9/2008, 21–25/9/2009
- *IDA and Applications to Feynman Integrals and Particle Systems*, Funchal, Madeira, Portugal, 15/7–8/8/2008
- *Skorokhod Space. 50 Years on*, Kiev, Ukraine, 17–23/6/2007
- *Stochastic Analysis and Applications*, Hammamet, Tunisia, 5–10/11/2007
- *Symmetry in Nonlinear Mathematical Physics*, Kiev, Ukraine, 23–29/6/2003, 20–26/6/2005
- *Modern Problems And New Trends In Probability Theory*, Chernivtsi, Ukraine, 19–26/6/2005
- Conference dedicated to 90th anniversary of B. V. Gnedenko, Kiev, Ukraine, 3–7/6/2002
- Ukrainian mathematical congress, Kiev, Ukraine, 22–26/8/2001

RECENT TALKS ON SEMINARS AND ONE-DAY MEETINGS

- University of Birmingham, UK, 16/12/2016
- Durham University, UK, 27/9/2016
- Kaiserslautern University of Technology, Germany, 8/6/2016
- University of Dundee, UK, 18/1/2016
- Institute of Mathematics, Kiev, Ukraine, 16/12/2015
- University of York, UK, 10/12/2015
- University of Reading, UK, 1/12/2015
- University of Bielefeld, Germany, 18/11/2015
- Cardiff University, UK, 25/9/2015
- University of York, UK, 17/11/2014
- Aix-Marseille University, France, 4/3/2013

PROFESSIONAL MEMBERSHIPS

- London Mathematical Society since 2015
- Kiev Mathematical Society since 2008

TEACHING QUALIFICATION

- Fellow of the Higher Education Academy, recognition reference number: PR110110 July 2016

ADMINISTRATIVE RESPONSIBILITIES (SWANSEA UNIVERSITY)

- Head of the Foundation Year 2014–2016
- Web officer (seminars, past exam papers, compliance) 2013–Present

TEACHING PRACTICE

- Regular Courses taught at Swansea University, UK
Year 0: Fundamental Geometry, Fundamental Mathematics;
Year 1: Calculus for Physicists, Classical Mechanics of Particles;
Years 3/M: Differential Equations, Functional Analysis
- Special Course taught at Taras Shevchenko National University of Kiev, Ukraine
MSc: Statistics of Stochastic Point Processes
- Regular Courses taught at Dragomanov National Pedagogical University, Kiev, Ukraine
Final Year: Probability Theory, Mathematical Statistics, Introduction to Stochastic Processes
MSc: Mathematical modelling, Risk Theory, Actuary computations, Mathematical Structures

STUDENT SUPERVISION

- Swansea University, UK
MPhil: Youngseo Chi (current)
MSc (Taught Masters): J. Nkemachor, L. Fulgoni (2014); Y. Liu, K. Rohbani-Eivazi (2015), J. Guo, E. A. Abrahams (2016)
MMath: A. Howat, J. L. Kent (2015)
BSc: A. E. Lawrence, C. Osborne, L. J. Massie, A. I. Bailey, R. Miles-Hewinson (2014); S. Telford, M. Morris, X. Li (2015); R. E. Bowers-James, D. Declan, R. K. Zafar (2016)
- Dragomanov National Pedagogical University, Kiev, Ukraine
I. Polushina, I. Omelchenko, R. Bobovsky, V. Mazurenko (2009); O. Savych, S. Chalyuk, V. Karabanov, D. Karnauch (2010); N. Procyuk, O. Tilchenko, S. Grynyuk, A. Gumenyuk (2011); P. Donchenko Petr, D. Isaenko, O. Maiboroda, P. Naumenko (2012)

SOFTWARE SKILLS

- Computer Programming: Visual Basic, VBA, VBScript, Pascal, Delphi, Python
- Internet Technologies: HTML, CSS, PHP, MySQL, JavaScript
- Mathematical Computing: Mathematica, Maple, Matlab
- T_EX-world: (L^A)T_EX, B_IB_TE_X, PGF/TikZ, most common packages
- Scientific Graphics: METAPOST, Asymptote, GeoGebra, Gnuplot
- Operating systems: Microsoft Windows family, Ubuntu, Android, OS X
- Desktop Publishing: Adobe InDesign, Corel Ventura, Quark XPress

LANGUAGES

Russian - Mother tongue, Ukrainian - Native, English - Fluent, German - Reading&Listening