

Anton Savostianov

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Research Interests

Infinite dimensional dynamical systems generated by nonlinear partial differential equations.

Employment

Jan 2017 – **Assistant Professor in Applied Mathematics**, *Durham University, UK.*
Present

Oct 2015 – **Postdoctoral Researcher**, *The University of Cergy-Pontoise, France.*
Oct 2016

Education

Jan 2012 – **PhD Research in Mathematics and Statistics**, *The University of Surrey,*
Sep 2015 Guildford, Surrey, UK.

Thesis *Strichartz estimates and smooth attractors of dissipative hyperbolic equations*

Supervisor Sergey Zelik

July 2011 **MSc in Mathematics with Honours**, *V. N. Karazin Kharkiv National University, Kharkiv, Ukraine.*

Thesis *Asymptotic dynamics to a class of systems with non-local non-linearity*

Supervisor Igor Chueshov

July 2010 **BSc in Mathematics with Honours**, *V. N. Karazin Kharkiv National University, Kharkiv, Ukraine.*

Thesis *A parabolic problem with the attractor that contains a homoclinic orbit*

Supervisor Igor Chueshov

Scholarships and Awards

- Jul 2014 Vice-Chancellor's Award 2014 Finalist, University of Surrey, Guildford, UK.
- Description Each year Vice-Chancellor's Award recognises exceptional performances by members of staff of the University. Only 4 Postgraduate students from the whole University became finalists of Vice-Chancellor's Award in recognition of their exceptional contribution made to research.
- Jul 2014 First Place Student Paper Competition Award of AIMS, Madrid, Spain.
- 2012 - 2015 University Research Scholarship from The University of Surrey, Guildford, UK.
- 2012 - 2015 Overseas Research Scholarship from The University of Surrey, Guildford, UK.
- 2011 Scholarship of N. I. Akhiezer Fund, Kharkiv, Ukraine.

Grants

- 2018 London Mathematical Society Grant (Scheme 2), Ref. 21707.

Talks

- Oct 2018 Cardiff Analysis Seminar, Cardiff University, UK.
- Sep 2018 Dynamics of Dissipative PDEs Workshop, University of Surrey, UK.
- Jul 2018 IFIP TC7 Conference on System Modelling and Optimization, University of Duisburg-Essen, Germany.
- Jun 2018 Workshop "Recent advances in homogenisation theory", Durham University, UK.
- Feb 2018 Conference "Infinite-dimensional Analysis and Control Theory" dedicated to the centenary of S. V. Fomin, Lomonosov Moscow State University, Russia.
- Jul 2017 Conference "Dynamics, Bifurcations and Strange Attractors", Workshop IDDSA2, Nizhny Novgorod, Russia.
- May 2017 Applied Mathematics Seminar, Durham University, UK.
- Mar 2017 The 5th Bremen Winter School and Symposium "Dynamical systems and fluids", University of Bremen, Germany.
- May 2016 Séminaire d'Analyse, Laboratoire de Mathématiques et Modélisation d'Évry, France.
- May 2016 Séminaire EDP et Applications, Université de Poitiers, France.
- Jul 2015 Conference-School "Infinite-dimensional dynamics, dissipative systems, and attractors", Nizhny Novgorod, Russia.
- Jun 2015 Workshop: Longtime Behaviour of Nonlinear Waves, Bielefeld, Germany.
- Jul 2014 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain.
- Mar 2014 University of Surrey Analysis Seminar, Guildford, UK.
- Aug 2013 Equadiff 13, Prague, Czech Republic.
- Dec 2010 International Young Scientists' Conference "70 years of KNU's mechanics and mathematics faculty", Kiev, Ukraine.

Teaching

- Oct 2018 – to be delivered "Partial Differential Equations";
Dec 2018 to be conducted tutorials in Linear Algebra.
Durham University, UK.
- Oct 2017 – Delivered the course "Continuum Mechanics";
Dec 2017 Conducted tutorials in Linear Algebra.
Durham University, UK.
- Jan 2017 – Delivered the course "Numerical Methods in PDEs";
Mar 2017 Conducted tutorials in Linear Algebra.
Durham University, UK.
- Jan 2012 – Marking of assignments in Linear Algebra, Calculus, Linear PDEs, Complex
May 2014 Analysis; Consultations in Linear Algebra, Function Spaces, Operator Theory.
University of Surrey, UK.
- Sep 2010 – Consultations on Numerical Methods.
Dec 2010 V. N. Karazin Kharkiv National University, Ukraine.
- Sep 2009 Mathematics lessons conduction, home task marking.
Kharkiv Lyceum of Physics and Mathematics no. 27, Ukraine.

Projects Supervision

- 2018 **Functional Analysis and PDEs (Masters Projects),
Durham University:**
Tianrui Bayles-Rea (admitted to a PhD Program at the University of Oxford);
James Bower (admitted to a PhD Program at the University of Bath);
Jeniffer Williamson (above average grade).

Publications

- [1] A. Savostianov and S. Zelik, "Smooth attractors for the quintic wave equations with fractional damping," *Asymptotic Analysis*, vol. 87, no. 3–4, pp. 191–221, 2014. original, arXiv:1306.2294.
- [2] A. Savostianov and S. Zelik, "Recent progress in attractors for quintic wave equations," *Mathematica Bohemica*, vol. 139, no. 4, pp. 657–665, 2014. original, arXiv:1311.3290.
- [3] A. Savostianov, "Strichartz estimates and smooth attractors for a sub-quintic wave equation with fractional damping in bounded domains," *Advances in Differential Equations*, vol. 20, no. 5–6, pp. 495–530, 2015. original, arXiv:1403.7476.
- [4] V. Kalantarov, A. Savostianov, and S. Zelik, "Attractors for damped quintic wave equations in bounded domains," *Ann. Henri Poincaré*, vol. 17, no. 9, pp. 2555 – 2584, 2016. original, arXiv:1309.6272.
- [5] A. Savostianov and S. Zelik, "Global well-posedness and attractors for the hyperbolic Cahn-Hilliard-Oono equation in the whole space," *Mathematical Models and Methods in Applied Sciences*, vol. 26, no. 7, pp. 1357–1384, 2016. original, arXiv:1407.5890.

- [6] A. Savostianov and S. Zelik, “Finite dimensionality of the attractor for the hyperbolic Cahn-Hilliard-Oono equation in \mathbf{R}^3 ,” *Math. Meth. Appl. Sci.*, vol. 39, no. 5, pp. 1254–1267, 2016. original, arXiv:1502.02156.
- [7] A. Savostianov, “Infinite energy solutions for critical wave equation with fractional damping in unbounded domains,” *Nonlinear Analysis: Theory, Methods & Applications*, vol. 136, pp. 136–167, 2016. original, arXiv:1511.04952.
- [8] S. Cooper and A. Savostianov, “Homogenisation with error estimates of attractors for damped semi-linear anisotropic wave equations,” 2018. arXiv:1804.09947. Submitted.
- [9] A. Savostianov and S. Zelik, “Smooth uniform attractors for measure-driven quintic damped wave equation on 3d torus,” 2018. to be finished shortly.