Vladimir Lapin

Personal Data

Address:	Dept. of Applied Mathematics University of Leeds Leeds, LS2 9JT United Kingdom	Web:	www.maths.leeds.ac.uk/~amtvl
Date of Birth:	05 April 1987	Phone:	0044 7712 672 023
Nationality:	Russian	Email:	v.lapin@leeds.ac.uk

Employment

2011 - Pres. Research Fellow
University of Leeds
Project: "High-resolution global numerical modelling of ocean tides"
Advisor: Dr Stephen D Griffiths

Education

2008 - 2011 Ph.D. in Applied Mathematics
University of Limerick
Thesis: "Resonant over-reflection of waves by jets in a rotating ocean"
Supervisor: Prof. Eugene Benilov

2003 - 2008 B.Sc., M.Sc. in Applied Mathematics and Mechanics
Moscow State University
Thesis: "On the stability of the plane flows of visco-plastic fluids"
Supervisor: Prof. Dmitri V. Georgievskii
GPA 4.85/5*, *1st Honours* *Detailed List of Exams*

Publications

Research Articles

VN Lapin & SD Griffiths (Forthcoming). "Improved accuracy of finite difference ocean models with irregular boundaries". *Ocean Model.*
ES Benilov & VN Lapin (Forthcoming). "Hydrolic jumps in a viscous flow down an inclined plane: breakdown of the lubrication theory". *J. Fluid Mech.*

2013
ES Benilov & VN Lapin (2013a). "Inertial instability of flows on the inside or outside of a rotating horizontal cylinder". *J. Fluid Mech.* **736**, 107–129.
ES Benilov & V Lapin (2013b). "On resonant over-reflection of waves by jets". *Geophys. Astrophys. Fluid Dyn.* **107**, 304–327.
ES Benilov, VN Lapin & SBG O'Brien (2011). "On rimming flows with shocks". *J. Eng. Math.* **75**, 49–62.

2011
ES Benilov & VN Lapin (2011). "Shock waves in Stokes flows down an inclined plate". *Phys. Rev. E* **83**, 66321.
VN Lapin (2011). "Stability of the Couette flow of ideal rigid-plastic bodies". *Moscow Univ. Mech. Bull.* **66**, 1–7.

Proceedings

JA Ward, VN Lapin & W Lee (2009). "The Effect of Mechanical Loading on the Frequency of an Oscillator Circuit". In: *Proc. 70th Eur. Study Gr. with Ind.*

Teaching / Work Experience

2012 - Pres.	Teaching assistant at University of Leeds *Department of Applied Mathematics* ► Calculus of Variations (MATH2650, 2nd year) – Spring 2014 ► Calculus and Mathematical Analysis (MATH1050, 1st year) – Autumn 2013 ► Modelling with Differential Equations (MATH1400, 1st year) – Spring 2012, 2013
2008 - 2011	Teaching assistant at University of Limerick *Department of Mathematics and Statistics* ► Engineering Mathematics I/II (MA4001, 1st year) – Autumn/Spring 2009, 2010, 2011 ► Vector Analysis (MS4613, 2nd year) – Autumn 2010 ► Mathematical Modeling (MS4408, master's students) – Spring 2011 ► Math Tutor in Maths Learning Center – Autumn 2008 - Spring 2011
Jun - Oct 2007	Junior Statistician at ACNielsen, Moscow *Measurement Science Department* ► Creating, analyzing and reporting consumer data using various statistical tools. ► Analysing quality of samples in use and designing instructions for the Field Department. ► Specialized statistical studies for the Client Services and Sales Departments.

Skills

Computer	Matlab, COMSOL Multiphysics, Fortran, C, Maple, LaTeX Basic Knowledge: MPI & OpenMP, Linux, html, Java, mysql
Languages	English, Russian (mothertongue)

Additional Information

Membership	American Meteorological Society European Geosciences Union

References

Postdoc Advisor: Dr. Stephen Griffiths
Dept. of Applied Mathematics
University of Leeds
sdg@maths.leeds.ac.uk

Ph.D. Supervisor: Prof. Eugene Benilov
Dept. of Mathematics & Statistics
University of Limerick
eugene.benilov@ul.ie

Director of MACSI: Prof. Stephen B.G. O'Brien
Dept. of Mathematics & Statistics
University of Limerick
stephen.obrien@ul.ie

M.Sc. Advisor: Prof. Dmitri V. Georgievskii
Dept. of Mathematics and Mechanics
Moscow State University
georgiev@mech.math.msu.su

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EXTRA

Conference Presentations and Talks

Apr 2014	"Global modelling of surface and internal tides", EGU2014, Vienna, Austria
Mar 2014	Same title, Applied seminars, University of Leeds, UK
Jan 2014	"Numerical modelling of surface and internal tides", Applied seminars, University of Birmingham, UK
Oct 2013	"Numerical modelling of stranger tides", MACSI seminars, University of Limerick, Ireland
Jun 2013	"Global modelling of surface and internal tides", 19th Conference on Atmospheric and Oceanic Fluid Dynamics of the AMS, Rhode Island, USA
Apr 2013	"Challenges in global modelling of ocean tide", BAMC2013, Leeds, UK
May 2012	"Rimming and coating flows: examples of problems beyond the lubrication theory", Applied Mathematics Seminars, Keele University, UK
Nov 2011	"Shocks in thin film flows and resonant over-reflection of waves in GFD", Fluids and MHD seminars, University of Leeds, UK
Apr 2011	"Resonant over-reflection of waves as a marginally stable solution", 4^{th} meeting of the Wave-Flow Interactions Network, University of Cambridge, UK
Apr 2011	"Shocks in coating flows within a rotating horizontal cylinder", BAMC 2011, University of Birmingham, UK
Aug 2010	Same title, SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia, USA
Jul 2010	Same title, ECMI 2010, Bergische Universität, Germany
Dec 2009	"Radiating instabilities and hyper-reflection of waves by jets in a rotating ocean", MACSI colloquium, University of Limerick, Ireland
Apr 2008	"Spectral analysis of the stability of perfectly plastic Couette flow", Lomonosov's readings, Moscow State University, Russia

Academic Activities

Apr 2014	ESGI 100, University of Oxford, UK
Jan 2014	The Dynamics of Rotating Fluids Meeting, UCL, UK
Sep 2013	3^{rd} DNVA-RSE Norway-Scotland Waves Symposium, Oslo, Norway
Dec 2012	PDEs on the sphere, Isaac Newton Institute, UK (poster)
Sep 2012	Nonlinear Waves in Fluids, Loughborough University, UK
Jun 2011	ESGI 82, University of Limerick, Ireland
Oct 2010	1st Russian Study Group with Industry, Moscow, Russia
Jun 2010	ESGI 75, University of Limerick, Ireland
Jun 2010	3^{rd} Wave-Flow Interactions Network meeting, University of St Andrews, UK
Sep 2009	CISM Workshop "Asymptotic Methods in Fluid Mechanics: Survey and Recent Advances", Udine, Italy
Jul 2009	CIME-EMS Summer School "Multiscale and Adaptivity: Modeling, Numerics and Applications", Cetraro, Italy
Jul 2009	ESGI 70, University of Limerick, Ireland
Jun 2009	Workshop "Nonlinear PDE & Free Boundary Problems", University of Warwick, UK
May 2009	2^{nd} Wave-Flow Interactions Network meeting, Edinburgh, UK (poster)
May 2009	Workshop "Variational and Topological Methods and Water Waves", University of Bath, UK (poster)
Apr 2009	Workshop "Mathematics of Weather and Climate Prediction", Met Office, UK

Scholarships and Certificates

Sep 2008	SFI PhD Studentship (€18,000)
Apr 2008	GRE Subject Test in Mathematics: 830 (92% below)

B.Sc., M.Sc. in Applied Mathematics and Mechanics, *1st Honours*

M.Sc. at the Department of the **Composites Mechanics**

Course	Hours per Term	Grade*
Mathematical Analysis I, II, III, IV	144/128/144/96	5/4/5/5
Complex Analysis I, II	72/64	5/5
Functional Analysis I, II	72/64	5/5
Abstract Algebra	108	5
Discrete Mathematics I, II	72/64	5/5
Analytic Geometry	144	5
Linear Algebra and Geometry	128	5
Differential Geometry and Topology I, II	72/64	5/5
Ordinary Differential Equations I, II	72/64	P/5
Partial Differential Equations I, II	72/64	P/4
Numerical Methods I, II	90/64	P/5
Theory of Probability and Mathematical Statistics	72	5
Theory of Random Processes	64	5
General Physics I, II	48/72	P/5
Theoretical Mechanics I, II, III	90/96/72	5/P/4
Mechanics of Continua I, II, III	96/90/80	5/5/5
Optimal Control of Mechanical Systems I, II	54/48	P/4
Statistical Physics	36	4
Laboratory Practice‡ I, II, III, III	54/48/54/48	P/5
Programming (C/C++) I-VI	54/80/90/32/36/32	P/P/5/P/P/P
History of Mathematics and Mechanics	54	P
English Language	72/64/72/64	P/P/P/5
National History I, II	54/54	P/5
Civil Defence	32	P
Economics I, II	64/54	P/5
Sociology	54	P
Philosophy I, II	54/48	P/4
Physical Training (4 years)	476	P
Modeling and distance control of robots†	36	5
Geometry in Quantum Mechanics†	36	5
Applied Optimal Control†	32	5
Averaging Methods†	36	5
Tensor analysis†	36	5
Advanced Solid Mechanics†	64	5
Composite Mechanics†	36	5
Theory of viscoelasticity†	32	5
Stability Problems in Mechanics of Continua†	32	5
Degree Thesis		5
Total Hours and Gpa	4866	**4.85/5****

* Russian universities implement a five point grading system, where "5" is "Excellent" and "2" is "Fail". Some courses are graded on "Pass/Not pass" basis and here "P" stands for "Pass".

** Equivalent US Gpa is 3.88 (when crudely converted to Gpa 4.0 scale).

† Indicates an optional course; other courses are part of the compulsory curriculum for the degree.

‡ In the laboratories of the Institute of Mechanics, MSU.