

Curriculum Vitae

Office Address

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Main interests: Theory of polymer dynamics, stochastic equations and computer simulations, flow instabilities and constitutive equations in nonlinear fluid dynamics.

Education

1994-1996	Ph.D. in Physics and Mathematics. Physics Department, Moscow State University.
1988-1994	Diploma in physics with honours Physics Department, Moscow State University Pre-Diploma examination mark: excellent

Employment

05/2007 – now	Professor of Mathematical Physics, Department of Mathematics, University of Reading. ⇒ Creating a new group of theoretical polymer physics, which will focus on microscopic foundations of the tube theory
03/2005 – 04/2007	University Fellow and Advanced EPSRC Fellow, Department of Applied Mathematics, University of Leeds. ⇒ Supervising 3 postdoctoral researchers working on molecular dynamics simulations of polymer melts, slip-links model of entanglements and experimental rheology
10/2002 – 03/2005	Advanced EPSRC Fellow, IRC in Polymer Science and Technology School of Physics and Astronomy, University of Leeds. ⇒ Developing new models of polymer dynamics, simultaneous description of rheology, neutron spin-echo, neutron scattering, diffusion, dielectric spectroscopy and NMR experiments, theory of chemical reactions in polymers, computer simulations

- 01/1999 – 10/2002 **Research assistant**, IRC in Polymer Science and Technology
Department of Physics and Astronomy, University of Leeds.
Supervisor: Prof. T.C.B.McLeish.
⇒ Theories of fast flow of entangled polymer melts, theory and simulations of convective constraint release model. This work was funded by EPSRC "Microscale Polymer Processing" programme.
- 01/1998 – 01/1999 **Research assistant**, Department of Applied Mathematics,
University of Leeds. Position is provided by the Royal Society/NATO postdoctoral fellowship programme. Supervisor: Dr. A.N.Semenov.
⇒ Developing the theory of surface waves in polymer brushes, analytical calculations on corrections to the strong segregation theory of microphase separation
- 11.96 - 01.98 **Scientific Fellow**, Moscow State University, Russia.
⇒ Developing the theory of strong segregation for diblock copolymers including phases of complex geometry. Theoretical investigation of depolarised light scattering on homopolymer mixtures. Teaching.

Research activities and interests

My current interests include

- Linear and non-linear tube theories of entangled polymers
- Stochastic single chain models of entanglements
- First passage problems in many dimensions
- Molecular dynamics simulations of polymeric fluids
- Hierarchical modelling of complex fluids

Current grants

I am taking part in the following grants

- Advanced EPSRC Fellowship "Quantitative theory for dynamics of entangled polymer melts.", £250K, October 2002 - September 2007
- Principal Investigator, EPSRC research grant "Fundamental model for dynamics of entangled polymers", £120K, January 2005 - May 2007, PDRA Sathish Sukumaran.
- Co-Investigator, EPSRC "Microscale Polymer Processing 2" consortium grant, £5M, March 2005 - March 2009, I supervise 2 PDRA's: Jorge Ramirez and Dietmar Auhl.

- European Union Framework VI network “SoftComp”, co-investigator, the value varies from year to year and covers travel and workshops.

Invited lectures and seminars

- Session organizer, Annual European Rheology Conference, Naples, April 2007
- University of Wales Institute of non-Newtonian Fluid Mechanics annual conference, April 2007
- External PhD examiner, Institut Charles Sadron, Strasbourg 2006
- "Statistical Mechanics of Polymers:New Developments", international workshop, Moscow, June 2006
- Session organizer, Annual European Rheology Conference, Crete, April 2006
- CECAM workshop on Modeling and simulation of entangled polymeric liquids, Lyon July 2005
- 5-th International Discussion meeting on Relaxation in Complex Fluids, Lille July 2005
- AERC, Grenoble, April 2005 - keynote lecture
- ”Julich Soft matter days 2004”, Kerkrade October 2004
- Workshop at Yamagata University, Japan, August 2004
- ”Computational modelling and simulations of materials”, Sicily, May 2004
- ”Dynamics of complex and macromolecular fluids” program, KITP, UCSB, Feb-June 2002
- invited seminars
 - Danish Technical University, Copenhagen 2006
 - Institut Charles Sadron, Strasbourg 2006
 - FORTH, Crete, Greece 2006
 - Applied Mathematics, Leeds, December 2005
 - Mainz, Germany, December 2005
 - Eindhoven, Netherlands, March 2005
 - Reading, January 2005
 - FORTH, Crete, Greece, July 2004
 - FORTH, Crete, Greece 2003

- Institut Charles Sadron, Strasbourg 2003
- Moscow State University, Moscow 2002
- IFF Forschungszentrum Jülich 2001
- Universite de Paris-Sud, Orsay 2001

Supervision of Research assistants and Postgraduate students

- Richard Graham, PhD student 2000-2003. I played a role of informal supervisor.
- Sathish Sukumaran, EPSRC project “Fundamental model for dynamics of entangled polymers”, January 2005 - May 2007
- Jorge Ramirez, EPSRC consortium “Microscal Polymer Processing 2”, March 2005 – August 2007
- Dietmar Auhl, EPSRC consortium “Microscal Polymer Processing 2”, July 2005 – July 2009

Referee for the journals:

- Physical Review Letters
- Physical Review E
- Macromolecules
- Journal of Chemical Physics
- Journal of Rheology
- Journal of Non-Newtonian Fluid Mechanics
- Polymer

Awards

I have obtained the following awards and personal fellowships

2004-2005	Journal of Rheology "best paper of 2004 and 2005" award (ref.18)
10/2002	5-year Advanced EPSRC Fellowship (£250K)
04/2000	Third prize for oral presentation in Royal Society of Chemistry Young researchers meeting
01/1998	Royal Society/NATO research fellowship.
02/1997	The award of the dean of Physics Department, Moscow State University "For Prominent Young Scientists".