

Curriculum Vitae

Susan Friedlander

Professional Addresses:

Department of Mathematics
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Education:

1967	B.SC.	London University
1970	M.S.	M.I.T.
1972	Ph.D	Princeton University

Employment:

1972-74	Visiting Member, Courant Institute of Mathematical Sciences
1974-75	Instructor, Princeton University, Mathematics Department
1975-82	Assistant Professor, University of Illinois at Chicago, Math, Stat., and Comp. Sci. Dept.
1982-89	Associate Professor, University of Illinois at Chicago, Math, Stat., and Comp. Sci. Dept.
1989-08	Professor, University of Illinois at Chicago, Math, Stat., and Comp. Sci. Dept.
2007-	Professor, University of Southern California
2008-	Director, Center for Applied Mathematical Sciences, USC

Academic honors / Awards / Recognition:

1967-69	Kennedy Memorial Scholarship
1985	Lecturer in a series of seven distinguished women scientists, Science Museum of Minnesota
1991	Plenary lecturer at the Cambridge Conference in honor of Dame Mary Cartwright
1993	Invited hour address at AMS regional meeting in DeKalb, IL.
1993	N.S.F. Visiting Professorship for Women Award
1995	Elected Honorary Member, Moscow Mathematical Society
1998	Medal of Institut Henri Poincare
1998	Gauthier Villars Prize for Nonlinear Analysis
1999	Plenary lecturer at the SIAM Annual Meeting, Atlanta
2003	University of Illinois Senior Scholar Award
2012	Elected Fellow, SIAM
2012	Elected Fellow, AMS
2012	Elected Fellow, American Association for the Advancement of Science

Grant Support:

1975-2019	N.S.F. summer grants
1982-83	N.S.F. sabbatical grant
1988	N.S.F. U.S.-Swiss Cooperative Science Program
1991-92	N.S.F. U.S.-U.S.S.R. Cooperative Science Program
1993-96	N.S.F. U.S.-Russian Program
1993-95	N.S.F. Special Projects (with R. MacPherson)
1993-95	N.S.F. Visiting Professorship for Women
2002-03	Indo- U.S. Forum Grant (with Kalyan Sinha)
2006	N.S.A. Workshop Grant
2007-09	C.R.D.F. U.S.-Russian Grant (with V. Yudovich)
2011-14	XSEDE supercomputer grant (with F. Jacobitz)

Editorial Positions:

1991-96	Editorial Board, Geophysical and Astrophysical Fluid Dynamics
1992-98	Editorial Board, SIAM Journal of Mathematical Analysis
1993-16	Editorial Committee, Notices of the AMS
1996-05	Chair, Colloquium Publications of the AMS
2010-	Associate Editor, Journal of Mathematical Fluid Mechanics
2014-	Editorial Board, SIAM J. of Multiscale Modeling and Simulation
2005-	Editor in Chief, Bulletin of the AMS

Visiting Positions:

1977-78	Visiting Lecturer, Oxford University
1978	Visitor at D.A.M.T.P., Cambridge University
1982-83	Professeur Associe, University of Paris VI
1982-83	Visiting Member, I.H.E.S., Paris
1983	Visiting Fellow, Max Planck Institute, Bonn
1984	Visiting Fellow, E.T.H., Zurich
1985	Visiting Member, I.H.E.S., Paris
1985-86	Visiting Fellow, Princeton University
1986	Visiting Fellow, E.T.H., Zurich
1986	Visiting Scholar, M.S.R.I., Berkeley
1987	Visiting Member, I.H.E.S., Paris
1988	Visiting Fellow, E.T.H., Zurich
1988	Visiting Member, I.H.E.S., Paris
1988	Visitor, Institute of Physics of the Earth, Acad. Of Sciences USSR, Moscow
1989	Visiting Member I.H.E.S., Paris
1989	Visitor, I.P.E., Academy of Sciences, U.S.S.R., Moscow
1990	Visiting Member, I.H.E.S., Paris
1991	Visiting Fellow, E.T.H., Zurich
1992	Visiting Member, Newton Institute, Cambridge
1993	Visiting Member, I.H.E.S., Paris
1994	Visiting Professor, Brown University
1994	Visiting Professor, Northwestern University
1995	Visiting Member, MSRI, Berkeley
1996, 97, 01	Visitor, Center for Interdisciplinary Science, Heidelberg

1997 Research in Pair Program, Oberwolfach
 1998 Visiting Member, I.H.E.S., Paris
 1999 Member, I.A.S., Princeton
 1999 Research Professor, M.S.R.I., Berkeley
 2000 Visiting Member, ETH, Zurich
 2000 Senior Visiting Fellow, Newton Institute, Cambridge
 2002 Visiting Member, I.H.E.S., Paris
 2003 Visiting Fellow, E.T.H., Zurich
 2004 Visiting Member, I.H.E.S., Paris
 2004 Professeur Invite, E.N.S.-Cachan, Paris
 2005 Member, IAS, Princeton
 2006 Visiting Member, I.H.E.S., Paris
 2007 Visiting Member, Fields Institute, Toronto
 2007 Visiting Member, M.S.R.I., Berkeley
 2009 Visiting Fellow, Trinity College, Cambridge

Professional Activities:

Officer of A.M.S.

Associate Secretary, American Mathematical Society, 1996-2010
 Member, Council of the American Mathematical Society, 1996-

Committees and Evaluation Panels

Member-at-large, American Mathematical Society Council, 1983-85
 Regional Coordinator for Committee on Special Funds for I.C.M, 1984-86
 AMS, Committee on Membership, 1990-95
 AMS fSU Aid Committee, Chairman of library subcommittee, 1992-97
 International Science Foundation Grants Selection Panel, Co-chairman, 1993-94
 Member, External Review Committee of the Mathematics Department, University of Maine, 1997
 NSF Applied Math Proposal Review Panel, 1997-1998, 2013
 Member, Joint Policy Board for Mathematics, 1998-2000
 Member, Scientific Advisory Committee, MSRI, 2001-2006
 CRDF Proposal Review Panel, 2005
 Member, External Review Committee, Math Department, Georgia Tech, 2007
 Member, External Review Committee, Math Department, Yale University, 2008
 Member, Board of Mathematical Sciences and their Applications of the National Academies, 2008-2011
 Member, Scientific Advisory Committee, CRM, Montreal, 2010-2014
 Reviewer, Radcliffe Institute Fellowship Program, 2010
 Reviewer, Simons Foundation, Math and Physical Sciences, 2010-14
 Nominating Committee, American Math Society, 2012-2015
 Member, Scientific Program Committee, ICIAM 2012-2015
 Steering Committee, Mathematical Congress of the Americas, 2011-2013
 Member, Section A Steering Committee, American Association for the Advancement of Science, 2013-2016
 Chair, Executive Committee, Mathematical Council of the Americas, 2013-2019
 Member, MIT Math Department Visiting Committee, 2013-2021
 Member, Computer Science Department Review, USC 2014
 Member, External Review, Math Department UCSC, 2014
 Member, External Review, Math Department University of Nebraska, 2014
 Member, External Review, Math Department, VaTech, 2015

Professional Organization:

Conference Organization

AMS - Benelux Meeting Program Committee, 1995-96
AMS - South Africa Joint Meeting Program Committee, 1996-97
AMS - Australia Joint Meeting Program Committee, 1998-99
AMS - Spain Joint Meeting Program Committee, 2001-03
AMS - India Joint Meeting Program Committee, 2001-03
AMS - German-Austrian Joint Meeting Program Committee, 2002-05
AMS - Poland Joint Meeting Program Committee, 2005-07
AMS - Winter Meeting (New Orleans) Program Committee, 2006-07
AMS - Shanghai Joint Meeting Program Committee, 2006-08
AMS - Mexican Joint Meeting Program Committee, 2009-10
MCA 2013 - Mathematical Congress of the Americas, Program Committee, 2013
ICIAM - Program Committee, 2013-15
MCA 2017 - Mathematical Congress of The Americas, Steering Committee, 2017

Workshop Organization

Co-organizer, U.S.-Swiss conference “Internal waves in geophysical contexts”, 1988
Co-organizer, U.S.-Russian conference “MHD stability and dynamics”, 1992
Co-organizer, Research Lectures, Par City Program on Nonlinear Waves, 1995
Co-organizer, Mini-symposium of Mathematical Fluid Dynamics, IMACS, Berlin, 1997
Co-organizer, Session on Fluid Dynamics, AMS-SAMS International Meeting, 1997
Co-organizer, Session on Fluid Dynamics, AMS-AuMS International Meeting, 1999
Co-organizer Session on Jean Leray, AMS Austin Meeting, 1999
Co-organizer, Session on Mathematical Fluids, AMS-SMF International Meeting, 2001
Co-organizer, Session on Fluid Dynamics, AMS-RSME International Meeting, 2003
Co-organizer, Session on PDE and applications, AMS-India International Meeting, 2003
Co-organizer, Session of Spectral Theory, AMS Northwestern Meeting, 2004
Co-organizer, Analytical and Stochastic Fluid Dynamics, MSRI 2005
Co-organizer, Session on PDE of evolution type, AMS-Polish International Meeting, 2007
Co-organizer, Fluids Thematic Year, TIFR Bangalore, 2007
Co-organizer, Session of the Euler equations, AMS DePaul Meeting, 2007
Co-organizer, Session on Mathematical Fluids, AMS-Brazil International Meeting, 2008
Co-organizer, Southern California Workshop on the Mathematics of Fluids, 2008
Co-organizer, Conference for 85th Birthday of Cathleen Morawetz, Fields Institute, 2008
Co-organizer, Conference on Analysis of Fluid Stability, Maxwell Institute, Edinburgh, 2009
Co-organizer, Session on PDE and Harmonic Analysis, Baylor University, 2009
Co-organizer, Southern California Symposium on Fluids, Caltech, 2010
Co-organizer, Session on Nonlinear PDE and Applications, UCLA, 2010
Co-organizer, Workshop on Mathematical Fluids, Oberwolfach, 2012
Co-organizer, Workshop on Climate Change, Natural Hazards and Risks, Mexico, 2013
Co-organizer, Workshop on Mathematical Fluid Dynamics, Oberwolfach, Germany, 2015
Co-organizer, Southern California SIAM Symposium Claremont Colleges, 2016, 2017, 2018
Co-organizer, Workshop on Probabilistic Perspectives in Nonlinear PDEs. ICMS, Edinburgh, 2017

Mentoring Activities

Organizer: “Celebration of Women in Mathematics” Conference, M.I.T., 1994
Mentoring program for women graduate students, Institute for Advanced Study Program, 1995
Panel discussion, Berkeley / Mills College College summer program for women, 1995

Panel discussion, “Launching a career in mathematics”, Association for Women in Mathematics
Workshop, Winter Meeting, AMS, 1996
AWM representative to the Joint Committee on Women, 2003-05
Co-principal speaker, Nebraska Conference for Women, 2005
Co-organizer, Celebration of Ladyzhenskaya and Oleinik, MSRI, 2006
Co-organizer, 85th Birthday Fest for Cathleen Morawetz, Fields Institute 2008

Selected Invited Lectures:

seminars- international universities

1994 University of Stockholm
1996 University of Exeter
1996 University of Bayreuth
1996 Academy of Sciences, Beijing
1996 University of Heidelberg
1996 University of Stuttgart
1997 University of Heidelberg
1997 I.C.T.P. Trieste
1997 U. of Witswatersand, Johannesburg
1997 Analysis Nonlinear, UNAM, Mexico City
1998 College de France Seminar of J.-L. Lions
1998 Institut Henri Poincare, Paris
1998 Ecole Normal Superieure, Paris
1998 University of Paris VI
1998 Max Planck Institut, Bonn
1998 University of Utrecht, Netherlands
1998 University of Paris- Orsay
1998 Lab. Dynamic Meteorology, ENS, Paris
1998 Observatoire de France, Toulouse
1999 University of Sidney, Sidney
2001 University of Gottingen, Graduate Colloquium
2001 University of Heidelberg, Heidelberg
2001 University of Stuttgart, Stuttgart
2001 Institut Henri Poincare, Paris
2002 Ecole Normal Supereirure, Lyon
2003 ETH, Zurich
2003 TIFR, Bangalore
2004 University of Zurich
2004 University of Paris - 7
2004 ENS- Lyon
2004 University of Paris-Nord
2004 ENS- Paris
2004 University of Edinburgh
2004 University of Paris-Orsay
2006 University of Lund
2006 R.I.M.S., University of Kyoto
2006 Graduate Center, University of Tokyo
2007 University of Toronto/Fields Institute
2007 University of Paris-Nord
2008 East China Normal University, Shanghai

2009 University of Cambridge
 2009 University of Nottingham
 2009 ENS - Paris
 2011 Oxford University
 2011 University of Campinas, Brazil
 2011 Federal University, Rio de Janeiro, Brazil
 2012 University of Sydney
 2012 Australian National University
 2012 Melbourne University
 2013 Prague University
 2015 University of Palermo
 2018 University of Vienna

seminars - American universities

1994 Brown University, Analysis Seminar
 1994 University of Virginia, Joint Pure- Applied Colloquium
 1994 Brown University, Fluid Mechanics Seminar
 1994 Yale University, Analysis Seminar
 1994 Brown University, Applied Math Colloquium
 1994 U.S.C., Center for Applied Math Sciences
 1994 University of Houston, Nonlinear Analysis Seminar
 1994 University of Illinois, Urbana, Theoretical Mechanics Colloquium
 1994 University of Arizona, Applied Math Seminar
 1995 University of California, Berkeley, Colloquium
 1996 Brown University, P.D.E. Seminar
 1996 Notre Dame University, Colloquium
 1996 University of Missouri, Colloquium
 1996 Northwestern University, PDE Seminar
 1996 University of Illinois, Urbana, Math in Science Series
 1997 University of Texas, Austin Applied Math Seminar
 1997 University of Chicago, Applied Math Seminar
 1997 Kansas State University, Colloquium
 1998 University of Michigan, P.D.E. Seminar
 1998 Northwestern University, Nonlinear Science Seminar
 1999 Ohio State University, Applied Math Seminar
 1999 University of California at Irvine, P.D.E. Seminar
 1999 Purdue University, Colloquium
 1999 Princeton University, Fluid Dynamics Seminar
 1999 Institute for Advanced Study, Turbulence Seminar
 1999 Courant Institute, MHD Seminar
 1999 Princeton University, Applied Math Colloquium
 1999 Brown University, Applied Math Colloquium
 1999 University of Pittsburgh, Math Colloquium
 1999 U.C. Irvine, PDE Seminar
 1999 Notre Dame University, Colloquium
 2000 University of Wisconsin, PDE Seminar
 2000 Brown University, PDE Seminar
 2000 University of Missouri, "Show me" Lecture
 2000 Washington University, Colloquium
 2000 University of Missouri, Colloquium

2000 University of Missouri, PDE Seminar
 2000 University of Indiana, PDE Seminar
 2000 University of Indiana, Colloquium
 2001 University of Chicago, Colloquium
 2001 University of Utah, Applied Math Seminar
 2002 University of Texas at Austin, Applied Math Seminar
 2002 North Carolina State, Colloquium
 2002 USC, Colloquium
 2002 IIT, Colloquium
 2002 University of Michigan, PDE Seminar
 2003 Princeton University, Analysis Seminar
 2004 Notre Dame, Applied Math Seminar
 2004 Concordia University, Analysis Seminar
 2004 USC, Colloquium
 2005 IAS, Members Seminar
 2005 Rutgers, Colloquium
 2005 Princeton, Joint Princeton-IAS-Rutgers Analysis Seminar
 2005 Courant, NYU, Analysis Seminar
 2005 Princeton University, Noetherian Ring
 2005 Penn State University, Colloquium
 2005 Yale, Analysis Seminar
 2006 U.C. Irvine, Colloquium
 2006 Indiana University, Colloquium
 2006 University of Southern California, Colloquium
 2007 Northwestern, PDE Seminar
 2007 UCLA, Applied Colloquium
 2008 U.C. Irvine, Colloquium
 2008 U.C. Santa Barbara, Colloquium
 2008 Cal Poly, San Luis Obsipo, Colloquium
 2008 California Institute of Technology, Applied Colloquium
 2008 University of Texas, Austin, Analysis Seminar
 2009 Arizona State University, Colloquium
 2009 University of Texas, Austin, Distinguished Women in Math Lecture.
 2010 U.C. Riverside, Colloquium
 2010 UIC, Applied Math Seminar
 2011 Ohio State, PDE seminar
 2011 U.C. Irvine, Colloquium
 2011 Penn State University, Applied Math Seminar
 2012 U.C. Santa Cruz, Colloquium
 2012 Claremont Center for Math Sciences, Colloquium
 2012 University of Memphis, Colloquium
 2012 University of Pittsburgh, PDE Seminar
 2012 Pomona College, Colloquium
 2012 U.C. Santa Cruz, Colloquium
 2013 Tulane University, Colloquium
 2013 University of Illinois, PDE Seminar
 2013 Princeton University, Math Fluids Seminar
 2013 Courant Institute, NYU, Analysis Seminar
 2014 University of Texas, Austin, Colloquium

2015 Oregon State, Analysis Seminar
 2015 UCLA, Analysis Seminar
 2015 Oregon State, Colloquium
 2015 University of Houston, Colloquium
 2017 Brigham Young University, Laurent Schwarz Lecture
 2017 Vanderbilt University, Shanks Fluid Dynamics Lecture
 2018 Brown University, Probability Seminar

invited conference lectures

1992 Dynamo Theory Workshop, Newton Institute, Cambridge
 1994 Special Session, AMS meeting at Manhattan
 1994 Waves in the Ocean Workshop, M.S.R.I.
 1995 Course of four lectures on non-linear waves at IAS, Princeton
 1996 International Conference on Hyperbolic P.D.E., Hong Kong
 1996 Special Session, A.M.S. meeting at Columbia, Missouri
 1996 Oberwolfach meeting on Mathematical Fluid Dynamics
 1997 Special Session, Joint A.M.S. - S.A.M.S. meeting
 1997 Oberwolfach meeting on Fluid Stability
 1997 IMACS mini-symposium, Berlin
 1998 A.M.S. Special Session, Temple University
 1999 Conference on M.H.D. Instabilities, I.H.P. Paris
 1999 Dynamical Systems Workshop, IAS, Princeton
 1999 Fluids Mimi-symposium, SIAM annual meeting, Atlanta
 1999 Fluids Special Session, Joint AMS-AuMS meeting in Australia
 1999 Fluids Special Session, AMS meeting in Austin
 2000 Conference in honour of Roger Temam, Paris
 2000 French-Czech Conference on Fluid Dynamics, CIRM, France
 2000 Conference in honor of John Heywood, Naples
 2000 Newton Institute Workshop on Topological Fluids, Cambridge
 2001 Contemporary Challenges in Fluid Mechanics Conference, Italy
 2001 Dynamics and Geophysics Workshop, IMA
 2001 Applied PDE Special Session, AMS meeting in Irvine
 2001 CNRS Workshop on Shear Flow and Turbulence, Paris
 2003 Directions in Applied Math, U. of Illinois-Urbana
 2003 Workshop on Wavelets, Banff Center, Canada
 2003 Conference on PDE and Fluid Dynamics, Northwestern University
 2003 Mathematical Fluids Session, AMS-Spain Meeting
 2003 PDE and Applications Session, AMS-India Meeting
 2004 Fluids Workshop, ENS-Cachan, Paris
 2004 SIAM minisymposium Houston
 2004 Annual Nebraska Conference for Women in Mathematics
 2005 Mathematics Fluid Dynamics Workshop, AIM
 2005 Stability and Control Workshop, Oberwolfach
 2005 Conference on PDE, Poznan, Poland
 2006 Geophysical Fluids Workshop, A.I.M.
 2006 Chicago PDE Days, Northwestern University
 2006 Conference for 70th Birthday of Ya. Sinai, U. of Maryland
 2006 Conference on Mathematical Fluid Dynamics, Steklov Institute, Moscow
 2006 Conference in honor of Ladyzhenskaya and Oleinik, MSRI
 2006 Mathematical Fluid Dynamics Workshop, Bernoulli Institute, Lausanne

2007 Conference in honor of Paulo Galdi, Lisbon
 2007 300th Euler Centenary, Euler Institute, St. Petersburg
 2007 Nonlinear Conservation Laws Session, AMS DePaul Meeting
 2007 PDEs of Evolution Type Session, AMS Warsaw Meeting
 2008 Geophysical Fluid Dynamics Session, AMS-Indiana Meeting
 2008 Conference for 85th Birthday of Cathleen Morawetz, Fields Institute
 2008 Conference for 70th Birthday of George Sell, York University
 2008 Session on Nonlinear PDE, joint AMS-Shanghai Meeting, China
 2009 Southern California Meeting on Fluid Dynamics, UCSB
 2009 PIMS conference on Regularity Problems in Hydrodynamics, Vancouver, Canada
 2009 Maxwell Institute Conference on Fluid Stability, Edinburgh, Scotland
 2009 AIM Workshop on the Euler and SQG equations, Palo Alto
 2009 Deterministic and Stochastic PDE Session, AMS-Baylor Meeting
 2010 Conference on PDE of Fluids, University of Warwick
 2010 Interdisciplinary PDE Session, AMS-Notre Dame Meeting
 2011 Southern California Fluids Conference, U.C. Riverside
 2011 SIAM PDE Conference, San Diego
 2011 Conference in honor of Peter Constantin, Carnegie-Mellon University
 2012 CRM Workshop on geometry and dynamics of fluids, Montreal
 2012 IAS Workshop on symplectic dynamics and fluid dynamics, Princeton
 2012 Advances in mathematical analysis of PDEs, Mittag-Leffler Institute, Stockholm
 2012 Workshop on topological fluid mechanics, Isaac Newton Institute, Cambridge
 2012 Mathematical aspects of hydrodynamics, Oberwolfach, Germany
 2012 Midwest PDE Conference, Memphis
 2013 AIM Workshop, Stochastic Fluid Dynamics, Palo Alto
 2013 Analysis of dynamics of fluids, AMS-Colorado Meeting
 2013 Mathematical Fluids Session, Guanajuato, Mexico
 2013 Mathematical Fluids Workshop, Stanford
 2013 Red Raider Symposium, Texas Tech
 2014 Topics in PDE session, Joint Meetings, Baltimore
 2014 Mathematical Fluids, AIMS Conference, Madrid
 2014 Nonlinear PDE session, AMS Meeting, San Francisco
 2015 AWM Research Symposium, University of Maryland
 2015 Mathematical Fluids, AMS Meeting, Las Vegas
 2015 Deterministic and Stochastic Fluids, SIAM Meeting, Arizona
 2016 PDEs of Fluids, JMM Meeting, Seattle
 2016 Advances in Hydrodynamics, BIRS, Banff
 2016 Mixing and Nonlinear Stability, AIM Workshop
 2016 Nonlinear and Stochastic PDEs, AMS Meeting, Denver
 2017 Turbulent Dissipation, Mixing and Predictability, IPAM Workshop
 2017 Regularity, Instabilities and Turbulence, ICERM Workshop
 2017 Nonlinear and Stochastic PDE Session, MCA2017, Montreal
 2017 Equations of Fluid Mechanics Session, MCA 2017, Montreal
 2017 Incompressible Fluid Dynamics Session, MCA 2017, Montreal
 2017 Geometrical and Statistical Fluid Dynamics Workshop, Simon Center for Geometry and Physics
 2018 Analysis of Nonlinear PDE session, JMM, San Diego
 2018 HYP-2018, Penn State Conference
 2018 Georgia Tech Conference in honor of Jalal Shatah
 2018 SEAPED, UCSB
 2018 Regularity and Blow-up of Navier-Stokes Type PDE, BIRS, Banff

Major departmental committees:

UIC:

1975-	Applied Mathematics Committee
1978-82, 84-89	Advisory Committee
1983-85, 88-89	Colloquium Chairman
1984-89, 94-97, 00-03	Faculty Appointments Committee Chair, 1995-96, 1999-00, 2005-06

USC:

07-08	Faculty Appointments Committee
08-12	College Promotion and Tenure Committee
08-09	Department Merit Committee
09-11	Faculty Appointments Committee
11-12	Department Merit Committee
11-18	Faculty Search Committee
2014	Review Committee, USC Computer Science Department

Ph.D Students Supervised:

Natasa Pavlovic	Ph.D 2002, UIC
Yevegeny Goncharov	Ph.D 2003, UIC
Natalya Popova	Ph.D 2005, UIC
David St John	Ph.D 2009, UIC

Thesis Committees:

Nathan Glatt-Holtz	Ph.D 2008, USC
George Chamoun	Ph.D 2009, USC
Vlad Vicol	Ph.D 2009, USC
Michaela Ignatova	Ph.D 2010, USC
Fangxu Jing	Ph.D 2011, USC
Vitalli Ostrovsky	Ph.D 2013, USC
Gregory Sokolov	Ph.D 2014, USC
Giusy Mazzone	PhD 2015, U. Pitt
Yangyang Huang	PhD 2016, USC

Postdoctoral Fellows Mentored:

Andrei Lyashenko, UIC
Roman Shvydkoy, UIC
Alexey Cheskidov, UIC
Alexsey Polunchenko, USC
Walter Rusin, USC
Anthony Suen, USC
Christian Zillinger, USC
Gerrit Welper, USC
Tam Do, USC

Publications

1. Spin-down in a rotating stratified fluid, Part I, *Stud. Appl. Math.* LIII, 111-136 (1974).
2. Interaction of vortices on the surface of a rotating sphere, *Tellus* 27, 15-24 (1975).
3. Quasi-steady flows of a rotating stratified fluid in a sphere, *J. Fluid Mech.*, 76, 209-228 (1976).
4. Limits to tidal control on lunar asymmetry, (with J.V. Smith), *Lunar Science VIII*, 322-324 (1977).
5. Hydrostatic tidal model for lunar asymmetry, *Geophysical and Astrophysical Fluid Dynamics*, 15, 105-122 (1980).
6. *An Introduction to the Mathematical Theory of Geophysical Fluid Dynamics*, Mathematics Studies 41, North-Holland, 282pp (1980).
7. Internal waves in the ocean stratified with variable buoyancy frequency, (with W.L. Siegmann), *An. Acad. Brasil Cienc.* 53, 213-221 (1981).
8. Internal waves in a contained rotating stratified fluid, (with W.L. Siegmann), *J. Fluid Mech.*, 114, 123-156 (1982).
9. Internal waves in a rotating stratified fluid in an arbitrary gravitational field, (with W. Siegmann), *Geophys. and Astrophys. Fluid Dynamics*, 19, 267-292 (1982).
10. Turning surface behavior for internal waves subject to general gravitational fields, *Geophys. and Astrophys. Fluid Dynamics*, 22, 189-200 (1982).
11. Effects of dissipation on internal waves in a contained rotating stratified fluid, (with W.L. Siegmann), *Geophys. and Astrophys. Fluid Dynamics*, 27, 183-216 (1983).
12. Ordinary differential equations and internal waves, *Differential and Integral Equations*, Proc. 13th Midwest Conf., 36-54 (1985).
13. Internal oscillations in the Earth's fluid core, *Geophys. J. of the Roy. Astr. Soc.*, 80, 345-361 (1985).
14. Stability of the subseismic wave equation for the Earth's fluid core, *Geophys. and Astrophys. Fluid Dynamics*, 31, 151-167 (1985).
15. Internal oscillations in a rotating stratified spherical shell: asymptotic solutions. *Geophys. J. of the Roy. Astr.*, 89, 637-657 (1987).
16. Hydromagnetic waves in the Earth's fluid core, *Geophys. and Astrophys. Fluid Dynamics*, 39, 315-333 (1987).
17. Hydromagnetic waves in the Earth's fluid core. Proceedings of the symposium U 2, 19th General Assembly of I.U.G.G., U2-28, 1510 (1987).
18. Stability and waves in the Earth's fluid core, *Proc. Energy Stability and Convection*, Pitman Research Notes in Mathematics 168, 325-345 (1988).
19. Asymptotic behaviour of decay rates of internal waves in a rotating stratified spherical shell, *Geophys. J. Roy. Astr. Soc.*, 96, 245-252 (1989).

20. Conditions for hydromagnetic instabilities in a contained rotating stratified fluid. *Geophys. and Astrophys. Fluid Dynamics*, *46*, 245-260 (1989).
21. Viscous decay of core oscillations. *Proceedings of the S.E.D.I. Symposium, Terra Cognita* (1989).
22. Hydromagnetic waves in a differentially rotating stratified spherical shell, *Geophys. and Astrophys. Fluid Dynamics*, *48*, 53-67 (1989).
23. Nonlinear stability for stratified magnetohydrodynamics, (with M.M. Vishik), *Geophys. and Astrophys. Fluid Dynamics*, *55*, 19-45 (1990).
24. Lax pair formulation for the Euler equation, (with M.M. Vishik), *Physics Letters A*, *148* no. 6, 7 313-319 (1990).
25. Instability criteria for the flow of an inviscid incompressible fluid, (with M.M. Vishik), *Phys. Rev. Lett.*, *66* no. 17, 2204-2206 (1991).
26. Dynamo theory, vorticity generation and exponential stretching, (with M.M. Vishik), *Chaos*, vol. 1, no. 2, 198-205 (1991).
27. Instability criteria in fluid dynamics, (with M.M. Vishik), *Topological Methods in Fluid Dynamics*, ed. H.K. Moffatt, *NATO ASI 218*, 535-549 (1992).
28. Instability criteria for steady flows of a perfect fluid, (with M.M. Vishik), *Chaos*, vol. 2, no. 3, 455-460 (1992).
29. An inverse scattering treatment for the flow of an ideal fluid in two dimensions, (with M.M. Vishik), *Nonlinearity*, *6*, 231-249 (1993).
30. Dynamo theory methods for hydrodynamical stability, (with M.M. Vishik), *J. Math Pure et Appliques*, *72*, 145-180 (1993).
31. Hydrodynamic instability for certain ABC flows (with A.D. Gilbert and M.M. Vishik), *Geophys Astrophys. Fluid Dyn.*, *73*, 97-107 (1993).
32. On stability and instability criteria for magnetohydrodynamics, (with M.M. Vishik), *Chaos*, vol. 5, no. 2, 416-423 (1995).
33. Nonlinear instability in hydrodynamics of an ideal fluid (with W. Strauss and M.M. Vishik), *Annales I.H.P. J. Nonlineaire*, *14*, 2, 187-209 (1997).
34. Instability in parallel flow revisited (with L.N. Howard), *Studies in Applied Math.*, *101*, no. 1, 1-21 (1998).
35. Asymptotic methods for magnetohydrodynamic stability, (with M.M. Vishik), *Quarterly Applied Math.*, *56* no. 2, 377-398 (1998).
36. *Lectures on Stability and Instability of an Ideal Fluid. IAS/Park City Lecture Series*, ed. L. Caffarelli & Weinan E., vol. 5, 227-299 (1998).
37. Nonlinear instability of a precessing body with a cavity filled by an ideal fluid (with A.A. Lyashenko), *SIAM J. Math. Analysis*, *29*, no. 2, 600-618 (1998).
38. A sufficient condition for instability in the limit of vanishing dissipation (with A. Lyashenko). *J. math Analysis & Applications*, *221* 544-558 (1998).

39. The unstable spectrum of oscillating shear flows (with L. Belenkaya and V. Yudovich), *SIAM J. Applied Math*, *59*, no. 5 1701-1715 (1999).
40. Robustness of instability for the 2-D Euler equations (with W. Strauss and M.M. Vishik), *SIAM J. Math Analysis*, *30*, no. 6, 1343-1355 (1999).
41. Instabilities in fluid motion (with V. Yudovich), *Notices of AMS* *46* no. 11, 1358-1367 (1999).
42. Unstable eigenvalues associated with inviscid fluid flows (with M. Vishik and V. Yudovich), *J. Math Fluid Mech.*, *2*, no. 4, 365-380 (2000).
43. On nonlinear instability and stability for stratified shear flow, *J. Math Fluid Mech.*, *3*, no. 1, 82-97 (2001).
44. Instability of steady flows of an ideal incompressible fluid (with A. Shnirelman). "Mathematical Fluid Mechanics - Recent Results and Open Questions", Editors Neustupa and Penel, *Advances in Mathematical Fluid Mechanics*, Birkhauser, 143-172 (2001).
45. On vortex tube stretching and instabilities in an inviscid fluid, *J Math Fluid Mech.*, *4* no. 1, 30-44 (2002).
46. On the unstable spectrum of the Euler equation. *Nonlinear PDE and Applications, Seminaire du College de France vol. 14, Stud. Math. Appl.*, *31*, 351-365, North-Holland (2002).
47. Localized instabilities in fluids (with A. Lipton-Lifchitz). *Handbook on Mathematical Fluid Dynamics*, vol. 2, 289-354, North-Holland (2003).
48. Navier: blow up and collapse (with M. Cannone), *Notices A.M.S.* *50*, no. 1, 7-13 (2003).
49. Nonlinear instability in two dimensional ideal fluids: the case of a dominant eigenvalue (with M. Vishik). *Comm. Math Physics*, *243*, 261-273 (2003).
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