

Athanasios E. Tzavaras

Curriculum Vitae

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Personal Data

Born in Athens, Greece in 1958; married two children;
Greek and U.S. (naturalized) Citizen

Research Interests

Nonlinear Analysis, Continuum Physics, Kinetic Theory

Education

1985, May Ph.D. in Applied Mathematics, Brown University.
1983, May M.Sc. in Applied Mathematics, Brown University.
1981, Nov Diploma in Naval Architecture and Marine Engineering,
National Technical University of Athens, Greece.

Professional Appointments

Academic Positions

2008-present, 2002-04	Professor, Department of Applied Mathematics, University of Crete, and Institute of Applied and Comp. Math., FO.R.T.H, Greece
2005-2010	Professor, Department of Mathematics, University of Maryland.
1987-2005	Department of Mathematics, University of Wisconsin-Madison. Professor 1996-2005 Associate Professor 1992-96 Assistant Professor 1989-92 Van Vleck Assistant Professor 1987-89
1985-87	Research Assistant Professor, Department of Mathematics, Purdue University.

Visiting Positions - long-term

- 1996-97 Visiting Professor, Centre Math. Appliquées, Ecole Polytechnique
and Laboratoire Analyse Numérique, Université Paris VI
- 1992-93 Visiting Associate Professor, Department of Mathematics,
Stanford University
- 1989, Jan-May Research Fellow, Institute for Mathematics and its Applications,
University of Minnesota

Visiting Positions - short-term

- 2012, Apr-May Laboratoire J.L. Lions, Paris VI, France
- 2010, Sep-Oct Visiting Fellow, Newton Institute, Cambridge, UK
- 2009, May Professeur Invité, Université P. Sabatier, Toulouse, France
- 2006, May Professeur Invité, Université de Nice, France
- 2003, March Newton Institute, Cambridge, UK
- 1998, May Professeur Invité, Laboratoire Analyse Numérique, Paris VI, France
- 1994, June Department of Mathematics, University of Crete, Greece
- 1986, Summer Mathematics Research Center, University of Wisconsin
- 1985, Summer Research Associate, LCDS, Applied Mathematics, Brown University

Professional Societies

- American Mathematical Society
International Society for the Interaction of Mechanics and Mathematics

Awards

- Marie Curie Fellowship, 2002-03

Scientific Activity

Invited Lectures at Conferences

Special Session on "Differential Equations", 826th Meeting of AMS, Indiana Univ.-Purdue Univ., Indianapolis IN, Apr 86.

Special Session on "Volterra Integral Equations", Combined Midwest-Southeast Differential Equations Conference, Vanderbilt Univ., Nashville TN, Oct 87.

Special Session on "Qualitative Theory of Nonlinear Partial Differential Equations", 843rd Meeting of AMS, Univ. of Maryland, College Park MD, Apr 88.

Meeting on "Hyperbolic Systems of Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, Jul 88.

Minisymposium on "Plasticity", Institute for Mathematics and its Applications, Univ. of Minnesota, Minneapolis MN, Feb 89.

Special Session on "Partial Differential Equations", 849th Meeting of AMS, Loyola University, Chicago IL, May 89.

Summer School on "Partial Differential Equations", Univ. of Crete, Heraklion, Greece, Aug 89.

Special Session on "Differential Equations", 852nd Meeting of AMS, Ball State Univ., Muncie IN, Oct 89.

Workshop on "Shock Induced Transitions and Phase Structures in General Media" (contributed talk), Institute for Mathematics and its Applications, Univ. of Minnesota, Minneapolis MN, Oct 90.

Special Session on "Differential Equations", 861st Meeting of AMS, Univ. of North Texas, Denton TX, Nov 90.

Minisymposium on "Nonlinear Systems of Conservation Laws and Shock Waves", ICIAM 91, Washington DC, Jul 91.

Special Session on "Material Instabilities", 22nd Midwestern Mechanics Conference, University of Missouri-Rolla, Rolla MO, Oct 91.

Workshop on "Shear Bands", Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh PA, Mar 92.

Meeting on "Hyperbolic Systems of Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, Jun 92.

Symposium on "Shear Instabilities and Viscoplasticity Theories", 29th Annual Meeting of the Society of Engineering Science, University of California, San Diego, Sep 92.

Workshop on "Methods of Shock Capturing and Image Processing", U.S. Naval Academy, Annapolis, Apr 93.

Meeting on "Mathematical Problems in Viscoelastic Flows", Mathematisches Forschungsinstitut Oberwolfach, Germany, May 93.

Symposium on "Applications of Mathematical Analysis in Mechanics", Aristotle Univ. of Thessaloniki, Greece, Sep 93.

Workshop on "Hyperbolic Problems", Indiana Univ.-Purdue Univ., Indianapolis IN, Nov 93.

Workshop on "Nonlinear Hyperbolic-Parabolic Partial Differential Equations", Stanford Univ., Stanford CA, Aug 94.

"II International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems", Sanremo, Italy, Sep 94.

Midwest PDE Meeting, Univ. of Wisconsin-Milwaukee, Apr 96.

Meeting on "Hyperbolic Systems of Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, May 96.

VI International Conference on Hyperbolic Problems, Hong-Kong, June 96.

"1996 Workshop on Nonlinear Analysis", Chi-Tou, Taiwan, June 96.

Euro-Conference on "Hyperbolic Systems of Conservation Laws - Theory and Applications", Ecole Normale Supérieure de Lyon, France, Feb 97.

Workshop on "Kinetic Approximation of Conservation Laws", Istituto per le Applicazioni del Calcolo "M. Picone", Rome, Italy, Apr 97.

Colloquium de Mathématiques Appliquées on "Hyperbolic Conservation Laws", Ecole Polytechnique, Paris, France, May 97.

The 1997 NSF-CBMS Regional Conference on "Shock Wave Theory", Georgia Institute of Technology, Atlanta GA, June 97.

"International School on Theory and Numerics for Conservation Laws", Freiburg, Germany, Oct 97. (4 lectures)

Workshop on "Hyperbolic aspects of moment closure problems", FORTH, Crete, Greece, Apr 98.

"Symposium on Trends in Applications of Mathematics to Mechanics, STAMM 98", Nice, France, May 98.

Program on "Theoretical and Numerical Aspects of Hyperbolic Systems", FORTH, Crete, Greece, Jun-Jul 98.

Conference "PDE Prague 1998", Prague, Aug 98.

Special Session on "Nonlinear partial differential equations", 935th Meeting of AMS, Chicago IL, Sep 98.

Workshop on "Analytical techniques and asymptotic methods for kinetic problems", Erwin Schroedinger Institute, Vienna, Austria, Oct 98.

Workshop on "Hyperbolic Systems of Conservation Laws", Nonlinear PDE and Applications 99, Lisbon, Portugal, Apr 99.

Meeting on "Hyperbolic Aspects of Fluid Dynamics", Mathematisches Forschungsinstitut Oberwolfach, Germany, May 99.

International Conference on Nonlinear Partial Differential Equations in memory of S.N. Kruzhkov, Besancon, France, Jun 99.

Minisymposium on "Kinetic and Relaxation Methods for Hyperbolic Conservation Laws", ICIAM99, Edinburgh, Scotland, Jul 99.

Minisymposium on "Nonlinear Conservation Laws", ICIAM99, Edinburgh, Scotland, Jul 99.

Sixth School on "Mathematical Theory in Fluid Mechanics", Paseky, Czech Republic, Sep 99. (5 h. lectures)

Special Session on "Mathematical Problems in Transport Phenomena", 948th Meeting of AMS, Austin TX, Oct 99.

Minisymposium on "Kinetic Models in Applied Sciences", 2000 SIAM Annual meeting, Puerto Rico, Jul 00.

International Conference "Mathematical Analysis and its Applications", Athens, Greece, Aug 00.

Meeting on "Hyperbolic Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, Oct 00.

Special Session on "Nonlinear Partial Differential Equations and Applications", 960th Meeting of AMS, Birmingham AL, Nov 00.

"Hellenic Conference on Applied Mathematics", Heraklion, Greece, Jun 01.

Workshop on "Conservation Laws and Kinetic Theory", Stanford CA, Jul 01.

"Ninth International Conference on Hyperbolic Problems", Pasadena CA, Mar 02.

Special session on "Nonlinear evolution equations", 1st joint Italian-American meeting UMI-AMS, Pisa, Italy, Jun 02.

Special session on "Scaling limits and homogenization problems in physics and applied sciences", 1st joint Italian-American meeting UMI-AMS, Pisa, Italy, Jun 02.

International Conference on Differential, Difference Equations, Patras, Greece, Jul 02.

Workshop "Analysis of Linear and Nonlinear Hyperbolic Systems of Partial Differential Equations", Potsdam, Germany, Oct 02.

Workshop "Aspects of shock wave theory", Leipzig, Germany, Oct 02.

Workshop "Mathematical theory of hyperbolic systems of conservation laws", Newton Institute, Cambridge, UK, Mar 03.

Symposium on "Mathematical modeling in new technologies and economics", National Technical University, Athens, Greece, May 03.

International Silk Road Conference "Quantum theory, partial differential equations of mathematical physics and their applications", Tashkent, Uzbekistan, Oct 03.

Scientific Colloquium "Mathematical Analysis and its Applications", National Technical University, Athens, Oct 03.

Workshop on "Multi-dimensional Euler equations and conservation laws", Pittsburgh, PA, Nov 03.

Meeting on "Hyperbolic Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, Apr 04.

2nd annual meeting of the HYKE network "Hyperbolic and kinetic equations", ENS Paris, Apr 04.

International Workshop on "Wave Propagations" - on the occasion of George Papanicolaou's 60th birthday, Tsinghua University, Beijing, China, Jun 04.

4th International Meeting of the Hellenic Society of Rheology (HSR 2004), Athens, Greece, Jun 04.

Special Session on "Nonlinear Partial Differential Equations and Applications", 1001st meeting of the AMS, Evanston, Oct 04.

Minisymposium on "Conservation Laws" at SIAM Conference on "Analysis of PDEs", Houston, TX, Dec 04.

Mini-workshop "Particle systems with several conservation laws: fluctuations and hydrodynamic limit", Mathematisches Forschungsinstitut Oberwolfach, Germany, May 05.

Workshop on "Multi-dimensional hyperbolic conservation laws", Madison, WI, Jun 05.

FRG workshop on "Multi-dimensional systems of hyperbolic conservation laws", Houston, TX, Mar 06.

Workshop on "Large scale stochastic dynamics and interaction with kinetic theory", Heraklion, Greece, Jun 06.

2nd interdisciplinary symposium on "Mathematical modeling in modern technologies and economics", NTUA, Athens, Greece, Sep 06.

4th international workshop on "Non-equilibrium thermodynamics and complex fluids", Rhodes, Greece, Sep 06.

Workshop on "Hyperbolic systems of conservation laws and related problems", Banff, Canada, Nov 06.

Workshop on "Multiscale modeling and simulation for complex fluids", CSCAMM, Univ. of Maryland, Apr 07.

INdAM workshop on "Nonlinear Hyperbolic Problems", Rome, Italy, May 07.

XVth International workshop on "Numerical methods for non-Newtonian flows", Rhodes, Greece, Jun 07.

Annual meeting 2007 "DEASE Summer School", Vienna, Jul 07.

Special Session on "Nonlinear conservation laws and related problems", 1030th meeting of AMS, Chicago, IL, Oct 07.

Minisymposium on "Kinetic theory and interacting particle systems", 3rd SIAM Conference on Analysis of PDE, Mesa, AZ, Dec 07.

Minisymposium on "Recent Progress in Compressible Fluid Flow", 3rd SIAM Conference on Analysis of PDE, Mesa, AZ, Dec 07.

Spessial Session on "Partial Differential Equations", 12th Panhellenic Conference on Mathematical Analysis", Athens, Greece, May 08.

Meeting on "Hyperbolic Conservation Laws", Mathematisches Forschungsinstitut Oberwolfach, Germany, Dec 08.

Workshop on "Classical and Quantum Kinetic Theory", Banff, Canada, Jun 09.

Summer Program "Nonlinear Conservation Laws and Application", IMA, MN, Jul 09.

Workshop on "Nonlinear Conservation Laws and Related Problems", Banff, Canada, Oct 09.

Minisymposium "Kinetic Approaches in Material Science", Miami, Dec 09.

Workshop on "Hyperbolic Conservation Laws and Fluid Dynamics", Parma, Italy, Feb 10.

2010 KAIST-NIMS Conference on "Nonlinear Partial Differential Equations", Deajeon, Korea, Apr 10.

DEASE QUATRRAIN meeting on "PDEs for Engineering NanoScience and Biology", Hammamet, Tunisia, May 10.

Fourth workshop on "Nonlinear Partial Differential Equations: Analysis, Computation and Applications", National Taiwan University, Taipei, Jun 10.

13th International Conference on Hyperbolic Problems (HYP 2010), Beijing, Jun 10.

Seminars for high-scool teachers on "Mathematics and their fundamental applications", Patra, Greece, Jul 10.

Symposium on "Trends and Applications of Mathematics in Mechanics" STAMM2010, Berlin, Germany, Aug 10.

Workshop on "Fluid-Kinetic Modeling in Biology, Physics and Engineering", Newton Institute, Cambridge, UK, Sep 10.

Workshop "PDEs in kinetic theories: kinetic description of biological models", ICMS, Edinburgh, UK, Nov 10.

Workshop on "Mathematical Methods and Modeling of Biophysical Phenomena", Foz do Iguazu, Brazil, Mar 11.

2nd Annual Meeting of the Lebanese Society for Mathematical Sciences, Lebanese American University, Beirut, Lebanon, Apr 11.

Conference on "Hyperbolic Conservation Laws and Continuum Mechanics". In honor of Constantine Dafermos' 70th birthday, Brown University, Providence, RI, May 11.

"Kinetic Description of Multiscale Phenomena" - The 2011 annual kinetic FRG meeting, University of Wisconsin, Madison, WI, May 11.

Minisymposium on "Micromechanics and modeling of multifunctional materials", Aristotle University, Thessaloniki, Greece, Jul 11.

Ninth meeting on "Hyperbolic Conservation Laws, Fluid Dynamics, and Transport Equations", SISSA, Trieste, Italy, Jul 11.

Minisymposium on "Hyperbolic, Conservation Laws", 6th European Congress of Mathematics, Krakow, Poland, Jul 12.

International Conference on "Modern Mathematical Methods in Science and Technology, M3ST 2012", Kalamata, Greece, Aug 12.

"2012 International Conference on Nonlinear Analysis, Evolutionary P.D.E. and Kinetic Theory", Taipei, Taiwan, Oct 12.

DGF-CNRS Workshop "Two-phase fluid flows - Modeling, Analysis and Computational Methods", Weierstrass Institute, Berlin, Feb 13.

Meeting on "Hyperbolic techniques for phase dynamics", Mathematisches Forschungsinstitut Oberwolfach, Germany, Jun 13.

International Conference on "Conservation Laws and Applications", TIFR Bangalore, India, Jul 13.

50th Technical Meeting of the Society for Engineering Science, Section on "Crack initiation, propagation and growth", Brown University, Providence, RI, Jul 13.

Workshop on "Evolution Problems for Material Defects: Dislocations, Plasticity, and Fracture", SISSA, Trieste, Italy, Oct 13.

University Seminars and Colloquia

- 1985 Rensselaer Polytechnic (Colloquium), North Carolina State, University of Iowa
- 1986 University of Wisconsin-Madison
- 1987-89 University of Michigan, Georgia Tech, US Naval Academy, Brown University (2 lectures)
- 1989-90 Brown University, University of Maryland
- 1991-92 University of Maryland, Comenius University-Bratislava, ETH-Zurich (Appl Math Colloquium), University of Zurich
- 1992-93 UC Berkeley, UC Davis (Colloquium), Stanford University, UC Los Angeles, RWTH Aachen-Germany
- 1993-94 University of Crete (seminar course - 6 lectures)
- 1994-95 Indiana University, Courant Institute, University of Maryland, Brown University, Université Paul Sabatier-Toulouse, University of Bonn-Germany

- 1995-96 University of Massachusetts-Amherst, Carnegie Mellon University, Northern Illinois University (Colloquium), University of Athens, Ecole Polytechnique-Paris, Academia Sinica-Beijing (2 lectures)
- 1996-97 Université d'Orléans, Université Paris VI, Université de Rennes, Università dell'Aquila, University of Crete, Universität Magdeburg, Technische Universität Berlin
- 1997-98 University of Massachusetts-Amherst (Colloquium), Ecole Normale Supérieure-Ulm
- 1998-99 Caltech (Appl. Math. Colloquium), UCLA
- 1999-2000 Brown University, Northwestern University, Princeton University (Appl. Math. Colloquium), University of Maryland (Colloquium)
- 2000-01 University of Massachusetts-Amherst
- 2001-02 University of Pittsburgh (Colloquium), University of Athens, Rheology Research Center - Univ. of Wisconsin
- 2002-03 University of Thessaloniki (Civil Engin.), Imperial College, University of Athens (Colloquium)
- 2003-04 Brown University, Georgia Tech, University of Bonn
- 2004-05 University of Maryland (Colloquium), University of Chicago, University of Maryland, Georgia Tech, University of Brescia
- 2005-06 Université de Nice, University of Bonn
- 2006-07 Penn State (2 lectures)
- 2007-08 University of Oslo
- 2008-09 Georgia Tech, Université P. Sabatier Toulouse, University of Thessaly-Greece (Mechanical Engin.)
- 2009-10 Brown University, University of Brescia, Seoul National University, Korean Advanced Inst. of Science and Tech., Pohang Science and Tech. University, University of Hamburg
- 2010-11 University of Athens, American University of Beirut
- 2011-12 University of Bath, Università dell'Aquila
National Technical University of Athens, Laboratoire J.L. Lions - Paris VI
- 2012-13 KAUST Saudi Arabia, Institute of Mathematics-Academia Sinica Taiwan, University of Warwick (Colloquium), Cambridge University, Séminaire Schwartz - IHES Paris, KAUST Saudi Arabia, National Technical Univ. of Athens

Conference Organization

Euroconference on "Hyperbolic Conservation Laws and Numerical Analysis", Anogeia Academic Village in Crete, Greece, Jul 31 - Aug 4, 95. Co-organizer: P.-A. Raviart.

Workshop on "Hyperbolic aspects of moment closure problems", FORTH, Crete, Greece, April 1-4, 98. Co-organizers: G. Kossioris, B. Perthame.

Scientific and organizing committees for summer program on "Theoretical and Numerical aspects of Hyperbolic Systems", FORTH, Crete, Greece, Jun 15 - Jul 18, 98.

Scientific committee for "Joint TMR Conference on Hyperbolic and Kinetic Problems", S. Margherita Ligure, Italy, Apr 12-16, 99.

Conference on "Continuum Mechanics and Conservation Laws - in honor of C.M. Dafermos", Brown University, RI, Apr 27-29, 01. Co-organizers: Y. Guo, W. Strauss.

Organizing Committee of "Hellenic Conference on Applied Mathematics", Heraklion, Crete, Greece, Jun 22-24, 01.

Organizing Committee for meeting on "Continuum Mechanics and Mathematical Analysis", Heidelberg, Germany, Dec 3-6, 01.

Special Session on "Hyperbolic and Kinetic Equations", 980th meeting of AMS, Madison, WI, Oct 12-13, 02. Co-organizers: S. Jin, M. Slemrod

Summer School on "Modeling and Numerical Methods for Multiscale Problems", FORTH, Heraklion-Crete, Jun 2-7, 03. Co-organizer: Ch. Makridakis.

International Conference on "Mechanics and PDEs" in honor of M. Slemrod, Madison, WI, Apr 30 - May 2, 04. Co-organizer: S. Jin.

Scientific Committee of 6th International Workshop on "Mathematical Aspects of Fluid and Plasma Dynamics (MAFPD)", Kyoto, Japan, Sep 19 - 23, 04.

Workshop on "Large scale stochastic dynamics and interactions with kinetic theory", Heraklion, Crete, Greece, June 11-15, 06. Co-organizers: C. Landim, M. Loulakis.

Scientific Committee of 11th International Conference on Hyperbolic Problems (HYP2006), ENS Lyon, France, Jul 17 - 21, 06.

Organizing Committee for "4th International Workshop on Non-Equilibrium Thermodynamics and Complex Fluids", Rhodes, Greece, Sep 3 - 7, 06.

Workshop on "Multiscale modeling and simulation for complex fluids", CSCAMM, Univ. of Maryland, Apr 07. Co-organizers, A. Beris, W. E, E. Tadmor.

Organizing Committee of HYP2008 - "12th International Conference on Hyperbolic Problems, College Park, MD, Jun 9-13, 08. Co-organizers: J.-G. Liu, E. Tadmor.

Kinetic Description of Multiscale Phenomena: Young Researchers Workshop. College Park, MD, March 2-5, 2009 Co-organizers: D. Margetis, A. Mellet, E. Tadmor.

Annual meeting 2009 'DEASE Summer School", Heraklion, Greece, May 27-30, 09. Co-organizers: G. Makrakis, Ch. Makridakis.

Annual Kinetic FRG Meeting, College Park, MD, Sep 21-25, 09. Co-organizers: Shi Jin, E. Tadmor.

Minisymposium "Kinetic Approaches in Material Science" in SIAM Conference on Analysis of Partial Differential Equations, Miami, Dec 9, 09. Co-organizers: Maria Emelianenko, Dio Margetis.

Workshop "Continuum and kinetic methods in the theory of shocks, fronts, dislocations and interfaces", ACMAC, Heraklion, Jun 20-24, 11. Co-organizers: F. Otto, Ph. Rosakis.

Workshop "Semi-classical and stochastic aspects of wave propagation", ACMAC, Heraklion, May 28 - Jun 2, 2012. Co-organizers: G. Makrakis, P. Markowich, Th. Paul.

Scientific Committee of HYP2012 - "14th International Conference on Hyperbolic Problems", University of Padua, Padova, Italy, Jun 25-29, 2012.

Workshop "Kinetic description of multiscale phenomena", ACMAC, Heraklion, Jun 17-29, 2013. Co-organizer: D. Tsagkarogiannis.

Organizing Committee of "International Conference on Applied Mathematics", ACMAC, University of Crete, Sep 16-20, 2013.

Minisymposium "Multidimensional Hyperbolic Problems in Mechanics and Related Applications", in SIAM Conference on Analysis of PDE's, Orlando, Dec 7-10, 2013. Co-organizers: Ch. Tsikkou, D. Wang.

Scientific Committee of HYP2014 - "15th International Conference on Hyperbolic Problems", IMPA, Rio de Janeiro, Brazil, (planned for) Jul 28 - Aug 1, 2014.

Professional Activity

Referree work for numerous journals. Review work for proposals originating from NSF, ARO and Italian, Austrian, and Saudi Arabian Science Foundations.

Steering Committee of the European Union IHP project "Hyperbolic and Kinetic Equations", May 2001 - July 2005.

International Jury Committee of 45th IMO, Athens, Jul 2004.

External Review Committee of the Graduate Program "Mathematical Modeling in New Technologies and Economics", National Technical University of Athens, 2008.

Chairman of the Steering Committee "Archimedes Center for Modeling, Analysis and Computation", Univ. of Crete, Apr 2010-present.

Member of the Sectional Scientific Council on "Mathematics and Computer Science" of the National Research Council of Greece, Apr 2011-Mar 2013.

Editorial work

Editorial Boards

Communications on Applied Nonlinear Analysis, Jan 06 - present.

Mathematics (MDPI - open access publishing), Dec 12 - present

SIAM Journal on Mathematical Analysis (SIMA), Associate editor Feb 09 - Feb 13, Coresponding editor Mar 13 - present.

Zeitschrift für Analysis und Anwendungen (ZAA), Jan 06 - present

Guest editor. V. Mavrantzas, A. Beris and A. Tzavaras, *Journal of Non-Newtonian Fluid Mechanics*, Vol. 152, Issues 1-3, p. 1-202 (June 2008).

Graduate Students

Yong Jung Kim, Ph.D. May 99, University of Wisconsin
"Scaling invariance and hyperbolic conservation laws"
First position: Postdoctoral associate at the IMA, Univ. of Minnesota.
Current position: Prof, KAIST, Korea.

Seok Hwang, Ph.D. May 02, University of Wisconsin
"Kinetic decomposition for approximate solutions of conservation laws"
First position: Vis. Asst. Prof., Univ. of Southern California.
Current position: Assoc. Prof, LaGrange College, GA.

Caroline v. Dresky, Ph.D. June 10, University of Hamburg, (co-advised w. Ingo Gasser).
"Bioremediation modeling and traveling wave analysis"
First position: Research Mathematician, Fraunhofer MEVIS, Bremen

Alexey Mirosnikov, Ph.D. May 12, University of Maryland.
"A variational approximation scheme for radial polyconvex elasticity that preserves the positivity of determinants"
First position: Visiting Assistant Professor, Dept of Mathematics and Statistics, University of Massachusetts, Amherst

Postdoctoral Researchers supervised

Markos Katsoulakis, University of Wisconsin, 1993

Laurent Gosse, IACM-FORTH, Crete, 1997-99

Seung-Yeal Ha, University of Wisconsin, 2001-02

Govind Menon, University of Wisconsin, 2001-02

Manuel Portilheiro, IACM-FORTH, Crete, Mar 2002 - Sep 2003

Pierre-Emmanuel Jabin, IACM-FORTH, 2 mo in 2002, 2 mo in 2003

Corrado Lattanzio, IACM-FORTH, Mar-Jun 2004

Theocharis Baxevanis, Applied Math, Crete, 2004-2006.

Carlotta Donadello, ACMAC, Applied Math, Crete, Jan-Aug 2011

Julien Olivier, ACMAC, Applied Math, Crete, Sep 2011 - Aug 2012

Amic Frouvelle, ACMAC, Applied Math, Crete, Sep 2011 - Aug 2012

Jan Giesselman, ACMAC, Applied Math, Crete, Nov -Apr 2012, Apr-Jun 2013.

Nguyet-Minh Mach, ACMAC, Applied Math, Crete, Sep 2012 - Sep 2013.

Mariapia Palombaro, ACMAC, Applied Math, Crete, Feb-Aug 2013.

Research Grants

Past

National Science Foundation, Jul 1987 - Jul 1990, Jul 1992 - Jun 1995, Jul 1995 - Jun 1999, Aug 1999 - Jul 2002, Jun 2002 - Jun 2005, Jun 2005 - Jun 2009.

Army Research Office, Sep 1988 - Feb 1992

Office for Naval Research (with M. Slemrod, P. Souganidis), Nov 1992 - Oct 1995, Jan 1996 - Jan 1999.

National Science Foundation: US-France cooperation project (with G.-Q. Chen, J. Greenberg and M. Slemrod), Apr 1998 - Jan 2002

European Union TMR Programme "Hyperbolic Conservation Laws" (through FORTH team, Crete), Oct 1996 - Sep 2000.

ONR International Field Office, Conference Support Program 2004.

European Union IHP project "Hyperbolic and Kinetic Equations" (team organizer of the FORTH team, Greece), Jul 2002 - Jul 2005.

European Union MC development host fellowships "Modeling and Computation in Wave Propagation" (FORTH, Greece), Jul 2002 - Aug 2006.

"Pythagoras" program of the Greek Secretariat for Research, "Analysis and computation of multiscale problems", Mar 2004 - Dec 2007.

European Union Early Stage Training project "Differential Equations with Applications to Science and Engineering" (FORTH team, Greece), July 2006 - Aug 2010.

National Science Foundation, FRG Collaborative Research "Kinetic description of multiscale phenomena" (with E. Tadmor, S. Jin, C. Ringhoffer, I. Gamba), Sep 2008-Aug 2011.

Current

"Archimedes Center for Modeling, Analysis and Computation", Regpot 2009-I Program of European Commission, Apr 2010-Mar 2014. (Budget: Euro 2500 K)

"Discrete, Kinetic and Continuum methods in Mathematics of Materials", Greek Secretariat of Research, Sep 2012- Aug 2015, (Budget: Euro 175K)

Teaching Experience

Teaching Assistant, Division of Applied Mathematics, Brown University, 1982-84.

Undergraduate courses:

Linear Algebra, Finite Mathematics, Calculus, Multivariable Calculus,
Real Analysis, Complex analysis, Ordinary Differential Equations,
Methods of Applied Mathematics, Partial Differential Equations.
Advanced Calculus, Fluid Mechanics, Stochastic Processes.

Graduate courses:

Methods of Applied Mathematics

Real Analysis

Functional Analysis

Mathematical Fluid Mechanics

Partial Differential Equations I (Green's functions, Scalar conservation laws, Hamilton-Jacobi equations)

Partial Differential Equations II (Theory of weak solutions, Sobolev spaces)

Topics courses in Partial Differential Equations:

PDE techniques in Continuum Mechanics

Hyperbolic Systems of Conservation Laws

Weak convergence techniques and Homogenization

Kinetic Theory of Gases and Polymers

List of Publications

Books edited

1. *Hyperbolic Problems: Theory, Numerics, Applications* (with E. Tadmor and J.-G. Liu). Proceedings of HYP2008 held at the University of Maryland, College Park, June 9-13, 2008, AMS Proc. Symp. Appl. Math., 2009 Vol. 67.1: Plenary & Invited Talks; Vol. 67.2: Contributed Talks.

Chapters in Books (Lecture Notes)

2. Viscosity and relaxation approximation for hyperbolic systems of conservation laws. In *An Introduction to Recent Developments in Theory and Numerics for Conservation Laws*, D. Kroener, M. Ohlberger and C. Rohde, eds.; Lecture Notes in Computational Science and Engineering, Vol. 5, Springer, Berlin/Heidelberg, 1998, pp. 73-122.
3. On the mathematical theory of fluid dynamic limits to conservation laws. In *Advances in Mathematical Fluid Mechanics*, J. Malek, J. Necas and M. Rokyta, eds.; Springer, New York 2000, pp 192-222.

Articles

4. Shearing of materials exhibiting thermal softening or temperature dependent viscosity. *Quart. Appl. Math.* **44** (1986), 1-12.
5. Plastic shearing of materials exhibiting strain hardening or strain softening. *Arch. Rational Mech. Anal.* **94** (1986), 39-58.
6. A quasilinear parabolic system arising in modelling of catalytic reactors (with A. Friedman). *J. Differential Equations* **70** (1987), 167-196.
7. Effect of thermal softening in shearing of strain rate dependent materials. *Arch. Rational Mech. Anal.* **99** (1987), 349-374.
8. Combustion in a porous medium (with A. Friedman). *SIAM J. Math. Anal.* **19** (1988), 509-519.
9. Weak solutions for a nonlinear system in viscoelasticity (with J.A. Nohel and R.C. Rogers). *Comm. Partial Differential Equations* **13** (1988), 97-127.
10. Hyperbolic conservation laws in viscoelasticity (with J.A. Nohel and R.C. Rogers). In *Volterra Integrodifferential Equations in Banach Spaces and Applications*, G. Da Prato and M. Iannelli, eds.; Pitman Res. Notes Math. Ser., 190, Longman Sci. Tech., Harlow, 1989, pp. 320-338.
11. A limiting viscosity approach for the Riemann problem in isentropic gas dynamics (with M. Slemrod). *Indiana Univ. Math. J.* **38** (1989), 1047-1074.

12. Effect of thermal softening on the response of shearing motions. In *Transactions of the Seventh Army Conference on Applied Mathematics and Computing (West Point 1989)*, ARO Rep., 90-1, U.S. Army Res. Office, Research Triangle Park, NC, 1990, pp 581-587.
13. Stability of discontinuous steady states in shearing motions of a non-Newtonian fluid (with J.A. Nohel and R.L. Pego). *Proc. Roy. Soc. Edinburgh Sect. A* **115** (1990), 39-59.
14. Nonlinear stability in non-Newtonian flows (with J.A. Nohel and R.L. Pego). In *Multi-dimensional Hyperbolic Problems and Computations*, J. Glimm and A. Majda, eds.; IMA Vol. Math. Appl., 29, Springer, New York, 1991, pp. 251-260.
15. Strain softening in viscoelasticity of the rate type. *J. Integral Equations Appl.* **3** (1991), 195-238.
16. Nonlinear analysis techniques for shear band formation at high strain rates. *Appl. Mech. Reviews* **45** (1992), S82-S94.
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