CURRICULUM VITAE

ALEXANDER KURGANOV

AFFILIATIONS

Department of Mathematics, Southern University of Science and Technology, Shenzhen, China
Phone: +86-755-88018788, e-mail: alexander@sustc.edu.cn

PERSONAL DATA

Date & place of birth:	February 18, 1969, Odessa, USSR
Citizenship:	Israeli and US
Languages:	Russian (native), English (fluent), Hebrew (fluent)

ACADEMIC EDUCATION

1991–1997 Ph.D. in Applied Mathematics (earned in 1998)
School of Mathematical Sciences, Tel Aviv University, Israel
Thesis: *Conservation Laws: Stability of Numerical Approximations and Nonlinear Regularization*
Advisor: *Professor E. Tadmor*

1984–1989 MS (Diploma of Higher Education) in Mathematics
Faculty of Mechanics and Mathematics, Lomonosov Moscow State University, USSR
Thesis: *Numerical Solution of Problems of Self-focusing*
Advisors: *Professor N. Bakhvalov, Senior Researcher M. Vladimirov*

ACADEMIC EXPERIENCE

2019–present Chair Professor, Department of Mathematics,
Southern University of Science and Technology, China
Courses: `Scientific Computing`

2016–2019 Professor, Department of Mathematics,
Southern University of Science and Technology, China
Courses: `Calculus, Numerical Methods for PDEs, Scientific Computing`

2010–2019 Professor, Mathematics Department, Tulane University, USA
Courses: `Calculus, Numerical Analysis, Numerical Linear Algebra, Numerical Methods for ODEs and PDEs, Applied Mathematics, ODEs, Numerical Methods for Geophysical Fluid Dynamics`

2009–2012 Mathematics Department Graduate Coordinator, Tulane University, USA

Summer 2012 Visiting Professor, Institute of Natural Sciences,
Shanghai Jiao Tong University, China
Course: `Numerical Methods for Nonlinear Time-Dependent PDEs`

May 2012 Visiting Professor, Institute of Mathematics,

Univeristy of Bordeaux I, France

Summer 2011 Mercator Guest Professor, Institute of Mathematics,
Johannes Gutenberg University, Mainz, Germany
Course: `Numerical Methods for Nonlinear Time-Dependent PDEs`

2004–2010 Associate Professor, Mathematics Department, Tulane University, USA
Courses: `Calculus, ODEs, PDEs, Numerical Analysis, Numerical Linear Algebra, Numerical Methods for ODEs and PDEs, Numerical Methods for Nonlinear Time-Dependent PDEs`

Summer 2009 Visiting Associate Professor, Institute of Mathematics,
Paul Sabatier University, Toulouse, France

Fall 2005 Visiting Associate Professor, Department of Mathematics,
University of Michigan, USA
Course: `Numerical Methods for Hyperbolic Conservation Laws`

2001–2004 Assistant Professor, Mathematics Department, Tulane University, USA
Courses: `Calculus, ODEs, Introduction to Numerical Analysis, Numerical Methods for Geophysical Fluid Dynamics, Numerical Methods for Hyperbolic Conservation Laws`

1998–2001 Assistant Professor, Department of Mathematics, University of Michigan, USA
Courses: `Applied Honors Calculus, Numerical Linear Algebra, Introduction to Numerical Methods`

Spring 1998 Postdoctoral Fellow, Institute of Applied & Computational Mathematics
Foundation for Research and Technology, Heraklion, Greece

Fall 1997 Postdoctoral Fellow, Mittag-Leffler Institute, The Royal Academy of
Sciences, Djursholm, Sweden

1994–1997 Instructor, School of Mathematical Sciences, Tel Aviv University, Israel
Courses: `Calculus, Complex Analysis, ODEs, PDEs`

1996–1997 Tutor, Department of Mathematics, Open University, Israel
Course: `Calculus`

1992–1994 Teaching Assistant, School of Mathematical Sciences
Tel Aviv University, Israel
Courses: `Calculus, Complex Analysis, ODEs, PDEs`

1989–1991 Assistant Lecturer, Department of Applied and Computational Mathematics
Odessa State Academy of Civil Engineering and Architecture, USSR
Courses: `PDEs, Numerical Methods, Programming,`

AWARDS

2021–2022 NSFC-Russian Science Foundation Research Grant, PI
Southern University of Science and Technology, China

2018–present 1000 Talents Program for Foreign Experts sponsored by the State Administration of Foreign Experts Affairs of China

2018–2021 NSFC Research Grant, PI, Southern University of Science and Technology, China

2018–2019 NSF Research Grant, PI, Tulane University, USA

2015–2019 NSF Research Grant, PI, Tulane University, USA

2012–2015 NSF Research Grant, PI, Tulane University, USA

2012–2015 ONR Research Grant, PI, Tulane University, USA

2011–2014 NSF Research Grant, PI, Tulane University, USA

2011 German Research Foundation (DFG) Grant, University of Mainz, Germany

2006–2009 NSF Research Grant, PI, Tulane University, USA

2003–2006 NSF Research Grant, PI, Tulane University, USA

2000–2003 NSF Research Grant, PI, University of Michigan/Tulane University, USA

1998–2001 Supported in part by a Group Infrastructure Grant, University of Michigan, USA

1999 Rackham Graduate School Faculty Fellowship for Research, University of Michigan, USA

1997 The Rosset Prize (for excellence in mathematics), School of Mathematical Sciences
Tel Aviv University, Israel

POST-DOCTORAL RESEARCHERS MENTORED

2021–present Yangyang Cao, Southern University of Science and Technology
2018–2020 Naveen Garg, Southern University of Science and Technology
2017–2019 Xin Liu, Southern University of Science and Technology

GRADUATE STUDENTS SUPERVISED

2019–present Shaoshuai Chu, Southern University of Science and Technology, PhD
2019–present Ruixiao Xin, Southern University of Science and Technology, M.Sc.
2018–present Xi Chen, Southern University of Science and Technology, PhD
2017–present Yongle Liu, Southern University of Science and Technology, PhD

2013–2016 Yuanzhen Cheng, Tulane University, PhD
2013–2016 Tong Wu, Tulane University, PhD
2013–2016 Zhuolin Qu, Tulane University, PhD
2012–2015 Shumo Cui, Tulane University, PhD
2011–2015 Dmitry Kurochkin, Tulane University, PhD
2007–2013 Jeremy Dewar, Tulane University, PhD
2012 Minlan Lei, Tulane University, M.Sc.
2012 Yunlong Chen, Tulane University, M.Sc.
2010–2012 Anthony Polizzi, Tulane University, PhD
2010–2012 Jason Miller, Tulane University, PhD
2009–2012 Yu Liu, Tulane University, PhD
2009–2012 Michael Pollack, Tulane University, PhD
2009–2010 Michael Levinson, Tulane University
2003–2005 Lucian A. Constantin, Tulane University

UNDERGRADUATE STUDENTS SUPERVISED

2007–2009 Maren Leopold, Tulane University
2006–2007 Anthony Polizzi, Tulane University (senior thesis, 2007)

PROFESSIONAL ACTIVITIES

2020–present Associate editor of Mathematical and Statistical Physics (specialty section within Frontiers in Physics and Frontiers in Applied Mathematics and Statistics)
2019–present Associate editor of Communications in Mathematical Research
2017–present Associate editor of Applied Numerical Mathematics
2013–present Associate editor of Advances and Applications in Fluid Mechanics
2008–present Associate editor of International Journal of Differential Equations
2006–present Associate editor of Mathematical Modelling and Applied Computing
Associate editor of International Journal of Computing Science and Mathematics

2016–2020 Associate editor of Computational Physics (specialty section within Frontiers in Physics)

2020 Member of the Advisory/Scientific Committee of the conference on *Modern Mathematical Methods and High Performance Computing in Science and Technology*, Ghaziabad, India

2019 Member of the Organizing Committee of the *SIAM Conference on Analysis of Partial Differential Equations*, La Quinta, CA, USA
Co-organizer of the mini-symposium *Asymptotic Preserving Schemes for Multiscale Hyperbolic and Kinetic Equations* at SIAM Conference on Analysis of Partial Differential Equations, La Quinta, CA, USA
Member of PhD Dissertation Committee of Neelabja Chatterjee, University of Oslo, Norway
Organizer of the conference *Structure Preserving Numerical Methods for Hyperbolic PDEs* Southern University of Science and Technology, China
Co-organizer of the mini-symposium *Multiscale and Stochastic Numerical Methods for Hyperbolic Conservation Laws* at International Congress on Industrial and Applied Mathematics, Valencia, Spain
Program Committee of the *11th Conference of the Euro-American Consortium for Promoting*

the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria

2018 Organizer of *The Second Conference on Numerical Methods for Shallow Water Equations and Related Models*, Southern University of Science and Technology, China
Co-organizer of the mini-symposium *Theoretical and Numerical Aspects of Mathematical Geophysical Dynamics* at the AIMS Conference on Dynamical Systems and Differential Equations, Taipei, Taiwan

2017 Organizer of the conference *Numerical Methods for Shallow Water Equations and Related Models*, Southern University of Science and Technology, China
Co-organizer of the mini-symposium *Recent Advances on Numerical Methods for Shallow Water Models* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences, Erlangen, Germany
Organizer of the Clifford Lectures Conference, Tulane University, USA
Served on the National Science Foundation Panel, USA

2016 Technical Program Committee of the *2nd Conference on Ordinary Differential Equations and Dynamical Systems (CODEDS 2016)*, Suzhou, China
Served on the National Science Foundation Panel, USA

2015 Co-organizer of the session on *Numerical Analysis* at the First Joint International Meeting of the Israel Mathematical Union and the Mexican Mathematical Society, Oaxaca, Mexico
Co-organizer of the mini-symposium *Recent Developments in Modeling and Numerical Simulations of Geophysical Flows* at the Eighth International Congress on Industrial and Applied Mathematics, Beijing, China

2014 Co-organizer of the mini-symposium *Mathematical Methods for Biological Systems at the 5th* International Conference on Scientific Computing and Partial Differential Equations. On the Occasion of Eitan Tadmor's 60th Birthday, Hong Kong
Co-organizer of the mini-symposium *Recent Advances in Numerical Methods for Shallow Water Equations and Related Models* at 2014 SIAM Conference on Nonlinear Waves and Coherent Structures, Cambridge, UK
Co-organizer of the conference *Modern Perspectives in Applied Mathematics: Theory and Numerics of PDEs. In honor of Eitan Tadmor's 60th birthday, Bethesda, MD, USA*

2007–2014 Associate editor of The Open Applied Mathematics Journal

2013 Co-organizer of the mini-symposium *Asymptotically Preserving Numerical Methods for Time-Dependent PDEs* at 2013 SIAM Conference on Analysis of PDEs, Orlando, FL, USA

Spring 2013 Organizer of the Clifford Lectures Conference, Tulane University, USA

2011 Co-organizer of the mini-symposium *Numerical Methods for Shallow Water Equations and Related Models* at the Seventh International Congress on Industrial and Applied Mathematics, Vancouver, Canada
Co-organizer of the workshop on *Pedestrian Transport Flows* at the Statistical and Applied

Mathematical Sciences Institute (SAMSI), Research Triangle Park, NC, USA

2004–2011 Associate editor of SIAM Journal on Scientific Computing

2010 Organizer of the special session on *Numerical Methods for Hyperbolic Problems* at the conference on Computational and Mathematical Methods in Science and Engineering University of Wisconsin–Madison, WI, USA

2007 Co-organizer of the mini-symposium *Numerical Methods for Multicomponent Flows* at the Sixth International Congress on Industrial and Applied Mathematics, Zürich, Switzerland
Organizer of the Clifford Lectures Conference, Tulane University, USA

2005 Co-organizer of the mini-symposium *Numerical Methods for Multicomponent Flows* at the Second International Conference on Scientific Computing and PDEs & First East Asia SIAM Symposium, Hong Kong Baptist University, Hong Kong
Co-organizer of two mini-symposia: *Computational Aspects of Transport Phenomena* and *Numerical Methods for Geophysical Flows* at 2005 SIAM Annual Meeting New Orleans, LA, USA
Served on the National Science Foundation Panel, USA

2000 Co-organizer of the Michigan Interdisciplinary Mathematics Meeting III University of Michigan, USA

INVITED AND PLENARY TALKS

2021 Meeting at Mathematisches Forschungsinstitut Oberwolfach on Hyperbolic Balance Laws: Modeling, Analysis, and Numerics, Oberwolfach, Germany(Zoom)

2020 International Conference on Recent Progresses in Applied and Computational PDEs Beijing International Center for Mathematical Research, Peking University, China (Zoom)

2019 TIANFU International Conference on Partial Differential Equations, Chengdu, China
International Conference on Mathematical Modeling and Numerical Mehods, Qingdao, China
Meeting at Mathematisches Forschungsinstitut Oberwolfach on Nonlinear Hyperbolic Problems: Modelling, Analysis, Numerics, Oberwolfach, Germany

2018 International Conference Advances in Applied Mathematics in memoriam of Professor Saul Abarbanel, Tel Aviv University, Tel Aviv, Israel
KI-Net Conference on Multiscale Computations for Kinetic and Related Problems North Carolina State University, Raleigh, NC, USA
Advances in PDEs: Theory, Computation and Application to CFD workshop at ICERM, Brown University, Providence, RI, USA
Numerical Aspects of Hyperbolic Balance Laws and Related Problems, Ferrara, Italy
2nd International Symposium on Computational & Applied Mathematics, Sanya, China

2017 12th Annual Meeting of the Bulgarian Section of SIAM, Sofia, Bulgaria

Conference on Numerical Methods for Shallow Water Equations and Related Models
Southern University of Science and Technology, Shenzhen, China
Workshop on Numerical Methods for Hyperbolic Conservation and Balance Laws and Applications, Hong Kong Baptist University, Hong Kong
International Conference on Numerical Simulation for Multimaterial and Multiphysics Flows
IAPCM, Beijing, China
Clifford Lectures Conference, Tulane University, New Orleans, LA, USA
10th International Conference on Computational Physics, Macao

2016 KI-Net Conference on New Trends in Quantum and Classical Kinetic Equations and Related PDEs, University of Wisconsin, Madison, WI, USA
3rd International Conference Supercomputer Technologies of Mathematical Modelling
Steklov Mathematical Institute of Russian Academy of Science, Moscow, Russia
Two Plenary Talks at the Eighth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria
Third International Conference on Signal Processing and Integrated Networks
Amity University, Noida, Delhi, India

2015 KI-Net Conference on Collective Dynamics in Biological and Social Systems
Duke University, Durham, NC, USA
Two Invited Talks at the International Workshop on Numerical Simulation for Multimaterial and Multiphysics Flows, IAPCM, Beijing, China
Mini-course: `Robust Finite-Volume Methods for Nonlinear Hyperbolic PDEs`
at the Summer School on Kinetic Theory and Gas Dynamics, Shanghai, China
Workshop on Kinetic Theory and Gas Dynamics, Shanghai, China
KI-Net Conference on Asymptotic Preserving and Multiscale Methods for Kinetic and Hyperbolic Problems, University of Wisconsin, Madison, WI, USA
Invited talk at the Special Session on Nonlinear Conservation Laws and Applications at AMS Spring Western Sectional Meeting, University of Nevada, Las Vegas, NV, USA
9th International Conference on Computational Physics, Singapore

2014 IMA Hot Topics Workshop on Impact of Waves Along Coastlines
University of Minnesota, Minneapolis, MN, USA
Workshop on Analysis and Numerical Approximation of PDEs, ETH, Zürich, Switzerland
Plenary Talk at the XV International Conference on Hyperbolic Problems: Theory, Numerics, Applications, Rio de Janeiro, Brazil
KI-Net Workshop on Asymptotic-Preserving Methods for Kinetic Equations
North Carolina State University, Raleigh, NC, USA

2013 International Conference on Difference Schemes and Applications in Honor of the 90-th Birthday of Prof. V. S. Ryaben'kii, Moscow, Russia
KI-Net Conference on Transport Models for Collective Dynamics in Biological Systems
North Carolina State University, Raleigh, NC, USA

2012 17th International Conference on Mathematical Modelling and Analysis, Tallinn, Estonia

The Second International Conference on Scientific Computing, Nanjing, China
Meeting at Mathematisches Forschungsinstitut Oberwolfach on Recent Developments in the Numerics of Nonlinear Hyperbolic Conservation Laws and their Use in Science and Engineering, Oberwolfach, Germany

2011 Workshop on Efficient Mesh Adaptation Methods for Evolution Problems: Theory and Applications, Wolfgang Pauli Institute (WPI), Vienna, Austria
6th International Conference on Mathematical Modeling, Yakutsk, Russia
Pre-AMS Workshop on PDEs, University of Iowa, Iowa City, IA, USA

2010 CSCAMM Workshop on Modeling and Computations of Shallow-Water Coastal Flows
Center for Scientific Computation and Mathematical Modeling
University of Maryland, College Park, MD, USA
First International Workshop on Mathematical Methods in System Biology
Tel Aviv University, Tel Aviv, Israel

2009 4th Russian-German Advanced Research Workshop on Computational Science and High Performance Computing, University of Freiburg, Germany
First International Workshop on Numerical Approximations of Hyperbolic Systems with Source Terms and Applications, International Center for Mathematical Meetings, Castro-Urdiales, Spain

2008 Meeting at Mathematisches Forschungsinstitut Oberwolfach on Hyperbolic Conservation Laws, Oberwolfach, Germany
Banff International Research Station for Mathematical Innovation and Discovery
Workshop on Recent Developments in Numerical Methods for Nonlinear Hyperbolic Partial Differential Equations and their Applications, Banff, AB, Canada
The Fifth World Congress of Nonlinear Analysts, Orlando, FL, USA
Nonlinear Approximation Techniques Using L^1, College Station, TX, USA

2006 Banff International Research Station for Mathematical Innovation and Discovery
Workshop on Numerical Methods for Degenerate Elliptic Equations and Applications
Banff, AB, Canada
Banff International Research Station for Mathematical Innovation and Discovery
Workshop on Nonlinear Diffusions: Entropies, Asymptotic Behavior and Applications
Banff, AB, Canada

2005 Foundations of Computational Mathematics conference, Workshop on Foundations of Numerical PDEs, Universidad de Cantabria, Santander, Spain
The International Symposium on Finite Volumes for Complex Applications IV: Problems and Perspectives, Marrakesh, Morocco
International Conference on Scientific Computing, Nanjing, China
American Institute of Mathematics (AIM) Research Conference Center Workshop on Stiff Sources and Numerical Methods for Conservation Laws, Palo Alto, CA, USA

2004 Tenth International Conference on Hyperbolic Problems: Theory, Numerics and Applications

Osaka, Japan
Meeting at Mathematisches Forschungsinstitut Oberwolfach on Hyperbolic Conservation Laws, Oberwolfach, Germany

2003 Geometrically Based Motions the Second Reunion Conference
Institute for Pure & Applied Mathematics (IPAM), UCLA, USA

2002 Geometrically Based Motions Reunion Conference, IPAM, UCLA, USA

2001 Culminating Workshop at Lake Arrowhead; Geometrically Based Motions Program
IPAM, UCLA, USA
Meeting on Image Processing, Computer Vision, Computer Graphics, Adaptive and Fast Algorithms; Geometrically Based Motions Program, IPAM, UCLA, USA

2000 Meeting at Mathematisches Forschungsinstitut Oberwolfach on Hyperbolic Conservation Laws, Oberwolfach, Germany
TMR Workshop on Numerical Methods for Hyperbolic Conservation Laws, Valencia, Spain

1999 Mini-course: `Central Schemes for Hyperbolic Conservation Laws and Related Problems`, University of Freiburg, Germany
Meeting at Mathematisches Forschungsinstitut Oberwolfach on Hyperbolic Aspects of Fluid Dynamics, Oberwolfach, Germany

COLLOQUIUM TALKS

2018 Shanghai Jiao Tong University, Department of Mathematics and Institute of Natural Sciences
Shanghai, China

2017 The University of Hong Kong, Department of Mathematics

2016 Southern University of Science and Technology, Department of Mathematics, Shenzhen, China

2014 Moscow State University, Faculty of Mechanics and Mathematics, Russia
University of Tennessee, Department of Mathematics, USA

2013 Tulane University, Department of Mathematics, Graduate Student Colloquium, USA

2011 Johannes Gutenberg University, Institute of Mathematics, Mainz, Germany

2008 University of Louisiana at Lafayette, Mathematics Department, USA
University of New Orleans, Department of Mathematics, USA

2007 Iowa State University, Department of Mathematics, USA
Tsinghua University, Department of Mathematics, Beijing, China

2005 Hong Kong Baptist University, Department of Mathematics, Hong Kong

2002 University of New Orleans, Department of Mathematics, USA

2001 Michigan Technological University, Department of Mathematical Sciences, USA

SELECTED SEMINAR TALKS

2017 Tsinghua University, Yau Mathematical Sciences Center, China
Würzburg University, Oberseminar Mathematische Strömungsmechanik, Germany
Gutenberg University, Mainz, Institute of Mathematics, Germany
National University of Singapore, Temasek Laboratories

2016 Texas A&M University, Department of Mathematics, USA
University of Utah, Department of Mathematics, USA
Johannes Gutenberg University, Mainz, Institute of Mathematics, Germany
University of Ottawa, Department of Civil Engineering, Canada

2015 Univeristy Bordeaux I, Institute of Mathematics, Bordeaux, France
Arizona State University, School of Mathematical and Statistical Sciences, USA
University of Innsbruck, Department of Mathematics, Austria
University of Ottawa, Department of Civil Engineering, Canada

2014 Tel Aviv University, School of Mathematical Sciences, Israel
University of Ottawa, Department of Civil Engineering, Canada
University College Dublin, School of Mathematical Sciences, Ireland
University of Ottawa, Department of Mathematics and Statistics, Canada
Würzburg University, Oberseminar Mathematische Strömungsmechanik, Germany

2013 Claremont McKenna College, Center for Mathematical Sciences, USA
I3MS-Seminar Series at RWTH Aachen University, Germany
University of Malaga, Department of Mathematical Analysis, Spain
Georgia Institute of Technology, School of Mathematics, USA

2012 University of Ottawa, Department of Civil Engineering, Canada
University of Wisconsin–Madison, Department of Mathematics, USA
Univeristy Bordeaux I, Institute of Mathematics, Bordeaux, France
Cornell University, Scientific Computing and Numerics Seminar, USA
North Carolina State University, Department of Mathematics, USA

2011 University of Freiburg, Department of Applied Mathematics, Germany
Johannes Gutenberg University, Mainz, Institute of Mathematics, Germany
Texas A&M University, Department of Mathematics, USA
University of Houston, Department of Mathematics, USA
University of Utah, Department of Mathematics, USA

2010 California State University at Northridge, Department of Mathematics, USA
Politecnico di Torino, Department of Mathematics, Turin, Italy

2009 University of Catania, Italy
University of Maryland, Center for Scientific Computation and Mathematical Modeling, USA
University of Cambridge, Department of Applied Mathematics and Theoretical Physics
Cambridge, United Kingdom
Paul Sabatier University, Institute of Mathematics, Toulouse, France

2008 Hamburg University of Technology, Scientific Computing seminar, Germany
Carnegie Mellon University, Center for Nonlinear Analysis, USA
Ohio State University, Department of Mathematics, USA
Brown University, Division of Applied Mathematics, USA
North Carolina State University, Department of Mathematics, USA
Paul Sabatier University, Institute of Mathematics, Toulouse, France
Tokyo Institute of Technology, Department of Mathematical and Computing Sciences, Japan

2007 University of California at Merced, School of Natural Sciences, USA
North Carolina State University, Department of Mathematics, USA

2006 Texas A&M University, Department of Mathematics, USA
University of Wisconsin–Madison, Department of Mathematics, USA

2005 Keldysh Institute of Applied Mathematics of the Russian Academy of Science, Moscow, Russia
University of Michigan, Department of Mathematics, USA
East China Normal University, Department of Mathematics, China
Hong Kong University of Science and Technology, Department of Mathematics
Brown University, Division of Applied Mathematics, USA
North Carolina State University, Department of Mathematics, USA

2004 University of Washington, Department of Atmospheric Sciences, USA

2003 University of Tokyo, Department of Aeronautics and Astronautics Aerospace Propulsion, Japan
Tel Aviv University, School of Mathematical Sciences, Israel
University of Maryland, Department of Mathematics, USA

2002 North Carolina State University, Department of Mathematics, USA
Center for Computational Science, Tulane University, USA
Academia Sinica, Institute of Mathematics, Taipei, Taiwan
National Taiwan University, Department of Mathematics, Taipei, Taiwan
National Center for Theoretical Sciences, Hsinchu, Taiwan
University of Provence, Center for Mathematics and Informatics, Marseilles, France
Würzburg University, Institute of Applied Mathematics, Germany
Pacific Institute for the Mathematical Sciences, Centre for Scientific Computing Seminar
Simon Fraser University, Canada
University of Washington, Department of Applied Mathematics, USA
University of Houston, Department of Mathematics, USA

2001 Texas A&M University, Department of Mathematics, USA

Los Alamos National Laboratory, USA
North Carolina State University, Department of Mathematics, USA
University of Technology in Aachen, Division of Mathematics, Germany
University of Geneva, Department of Mathematics, Switzerland
Tulane University, Department of Mathematics, USA

2000 University of Michigan, Department of Mathematics, USA
Tel Aviv University, School of Mathematical Sciences, Israel

1999 University of California at Santa Barbara, Department of Mathematics, USA
University of California at Irvine, Department of Mathematics, USA
University of California at Los Angeles, Department of Mathematics, USA
University of Wisconsin–Madison, Department of Mathematics, USA
Bonn University, Institute of Applied Mathematics, Geramny
Tel Aviv University, School of Mathematical Sciences, Israel
University of Michigan, Department of Mathematics, USA
University of Houston, Department of Mathematics, USA
University of California at Berkeley, Lawrence Berkeley National Laboratory, USA

1998 University of Michigan, Department of Mathematics, USA

1997 Mittag-Leffler Institute, Program on Computational Methods for Differential Equations
Sweden

LIST OF PUBLICATIONS (in the reversed chronological order)

[118] A. Kurganov, Y. Liu and M. Lukáčová-Medviďová,

A Well-Balanced Asymptotic Preserving Scheme for the Two-Dimensional Rotating Shallow Water Equations with Nonflat Bottom Topography,

submitted to SIAM Journal on Scientific Computing.

[117] A. Chertock, S. Chu and A. Kurganov,

An Accurate Deterministic Projection Method for Stiff Detonation Waves,

submitted to Journal of Computational Physics.

[116] A. Chertock, S. Chu and A. Kurganov,

Hybrid Multifluid Algorithms Based on the Path-Conservative Central-Upwind Scheme,

submitted to Journal of Scientific Computing.

[115] B.-S. Wang, W. S. Don, A. Kurganov and Y. Liu,

Fifth-Order A-WENO Finite-Difference Schemes Based on the Central-Upwind Rankine-Hugoniot Fluxes,

submitted to Communications on Applied Mathematics and Computation.

[114] A. Chertock, A. Kurganov, T. Wu and J. Yan,

Well-Balanced Numerical Method for Atmospheric Flow Equations with Gravity,

submitted to Communications in Computational Physics.

[113] A. Chertock, S. Jin and A. Kurganov,

A Well-Balanced Operator Splitting Based Stochastic Galerkin Method for the One-Dimensional Saint-Venant System with Uncertainty,

submitted to Communications in Computational Physics.

[112] A. Chertock, S. Jin and A. Kurganov,

An Operator Splitting Based Stochastic Galerkin Method for the One-Dimensional Compressible Euler Equations with Uncertainty,

submitted to SIAM/ASA Journal on Uncertainty Quantification.

[111] A. Kurganov and M. Pollack,

Semi-Discrete Central-Upwind Schemes for Elasticity in Heterogeneous Media,

submitted to IMA Journal of Numerical Analysis.

[110] A. Kurganov, Y. Liu and V. Zeitlin,

Numerical Dissipation Switch for Two-Dimensional Central-Upwind Schemes,

to appear in Mathematical Modelling and Numerical Analysis.

[109] A. Kurganov, Z. Qu, O. S. Rozanova and T. Wu,

Adaptive Moving Mesh Central-Upwind Schemes for Hyperbolic System of PDEs. Applications to Compressible Euler Equations and Granular Hydrodynamics,

to appear in Communications on Applied Mathematics and Computation.

[108] A. Chertock, A. Kurganov, J. Miller and J. Yan,

Central-Upwind Scheme for a Non-Hydrostatic Saint-Venant System,

to appear in Proceedings of the XVII International Conference on Hyperbolic Problems: Theory, Numerics, Applications (University Park, 2018).

[107] N. K. Garg, A. Kurganov and Y. Liu,

Semi-Discrete Central-Upwind Rankine-Hugoniot Schemes for Hyperbolic Systems of Conservation Laws,

Journal of Computational Physics, 428 (2021), p. 110078.

[106] A. Kurganov, Y. Liu and V. Zeitlin,

Thermal vs Isothermal Rotating Shallow Water Equations: Comparison of Dynamical Processes in Two Models by Simulations with a Novel Well-Balanced Central-Upwind Scheme,

Geophysical and Astrophysical Fluid Dynamics, 115 (2021), pp. 125–154.

[105] A. Kurganov and P. N. Vabishchevich,

Monotonization of a Family of Implicit Schemes for the Burgers Equation,

in Modeling, Simulation and Optimization of Complex Processes HPSC 2018, pp. 247–256, Springer, 2020.

[104] B.-S. Wang, W. S. Don, N. K. Garg and A. Kurganov,

Fifth-Order A-WENO Finite-Difference Schemes Based on a New Adaptive Diffusion Central Numerical Flux,

SIAM Journal on Scientific Computing, 42 (2020), pp. A3932–A3956.

[103] A. Chertock, A. Kurganov and T. Wu,

Operator Splitting Based Central-Upwind Schemes for Shallow Water Equations with Moving Bottom Topography,

Communications in Mathematical Sciences, 18 (2020), pp. 2149–2168.

[102] C. Klingenberg, A. Kurganov, Y. Liu and M. Zenk,

Moving-Water Equilibria Preserving HLL-Type Schemes for the Shallow Water Equations,

Communications in Mathematical Research, 36 (2020), pp. 247–271.

[101] X. Liu, X. Chen, S. Jin, A. Kurganov, T. Wu and H. Yu,

Moving-Water Equilibria Preserving Partial Relaxation Scheme for the Saint-Venant System,

SIAM Journal on Scientific Computing, 42 (2020), pp. A2206–A2229.

[100] M. A. Ghazizadeh, A. Mohammadian and A. Kurganov,

An Adaptive Well-Balanced Positivity Preserving Scheme on Quadtree Grids for Shallow Water Equations,

Computers and Fluid, 208 (2020), p. 104633.

[99] A. Kurganov, Y. Liu and V. Zeitlin,

Moist-Convective Thermal Rotating Shallow Water Model,

to appear in Physics of Fluids, 32 (2020), p. 066601.

[98] A. Kurganov, Y. Liu and V. Zeitlin,

A Well-Balanced Central-Upwind Scheme for the Thermal Rotating Shallow Water Equations,

Journal of Computational Physics, 411 (2020), p. 109414.

[97] A. Chertock, A. Kurganov and Y. Liu,

Finite-Volume-Particle Methods for the Two-Component Camassa-Holm System,

Communications in Computational Physics, 27 (2020), pp. 480–502.

[96] X. Liu, A. Chertock, A. Kurganov and K. Wolfkill,

One-Dimensional/Two-Dimensional Coupling Approach with Quadrilateral Confluence Region for Modeling River Systems,

Journal of Scientific Computing, 81 (2019), pp. 1297–1328.

[95] A. Chertock, A. Kurganov, M. Lukáčová-Medviďová, P. Spichtinger and B. Wiebe,

Stochastic Galerkin Method for Cloud Simulation,

Mathematics of Climate and Weather Forecasting, 5 (2019), pp. 65–106.

[94] A. Chertock and A. Kurganov,

High-Resolution Positivity and Asymptotic Preserving Numerical Methods for Chemotaxis and Related Models,

Active Particles. Volume 2. Modeling and Simulation in Science, Springer International Publishing, Birkhäuser (2019), pp. 109–148.

[93] M. J. Castro Diaz, A. Kurganov and T. Morales de Luna,

Path-Conservative Central-Upwind Schemes for Nonconservative Hyperbolic Systems,

Mathematical Modelling and Numerical Analysis, 53 (2019), pp. 959–985.

[92] Y. Cheng, A. Chertock, M. Herty, A. Kurganov and T. Wu,

A New Approach for Designing Moving-Water Equilibria Preserving Schemes for the Shallow Water Equations,

Journal of Scientific Computing, 80 (2019), pp. 538–554.

[91] X. Liu, A. Chertock and A. Kurganov,

An Asymptotic Preserving Scheme for the Two-Dimensional Shallow Water Equations with Coriolis Forces,

Journal of Computational Physics, 391 (2019), pp. 259–279.

[90] A. Chertock, A. Kurganov, M. Ricchiuto and T. Wu,

Adaptive Moving Mesh Upwind Scheme for the Two-Species Chemotaxis Model,

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