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Hugh Roy and Lillie Cranz Cullen Distinguished Professor of Mathematics

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Professional Preparation

1989–1992	Ph.D. in Applied Mathematics at the State University of New York at Stony Brook (Adviser: Brad Plohr, co-adviser: James Glimm)
1984–1986	Ms.D. in Applied Mathematics at the University of Zagreb, Faculty of Mathematics, Croatia (Thesis adviser: Branko Najman)
1979–1984	B.S. in Mathematics at the University of Zagreb, Faculty of Mathematics, Croatia (Thesis adviser: Mirko Primc)

Professional Experience

2017-2018	2018 SIAM Annual Meeting Organizing Committee Member
2017	Member of the SIAM Fellows Canvassing Committee
Fall 2016	Visiting Professor, ICME, Stanford University
2015-present	Editor of the AMS Proceedings of Symposia in Applied Mathematics
2014-present	SIAM Fellow: Class of 2014
2015	Member of SIAM Reed Prize Selection Committee
Fall 2015	Member of Prize Selection Committee for AWM
Fall 2015	Member of Selection Committee for 2015 IMA Prize in Mathematics and Applications
2013-present	Editor of SIAM J Numerical Analysis
Jun 2014	Visiting Fellow at Cambridge University, UK
2015-2020	Member of Board of Governors of the Institute for Mathematics and its Applications (IMA)
2014-2016	Member of Selection Committee for SIAM Fellows
2013-2016	Program Director of SIAM Activity Group on Analysis of PDEs
2011-2015	Appointed Member of the NIH's College of Scientific Reviewers (CSR) (Serving 3 times/year on MABS Study Sections at NIH for 5 years)

2008-present	H. Roy and L. C. Cullen Distinguished Professor, University of Houston
2008-2012	Director, Center for the Mathematical Biosciences at UH
2008 (Spring)	Visitor at IPAM (UC Los Angeles)
2005-2006	Visiting Scientist, The Texas Heart Institute (Peripheral Vascular Research)
2003-present	Professor of Mathematics, University of Houston
2003 Sept.	Invited Visiting Professor, Université Claude Bernard Lyon 1, France
1998-2003	Associate Professor of Mathematics, University of Houston
2001 May	Invited Visiting Professor, Université Claude Bernard Lyon 1, France
1998-1999	Associate Professor of Mathematics, Iowa State University
1992–1998	Assistant Professor, Department of Mathematics, Iowa State University
1997	Visiting Assistant Professor, SUNY Stony Brook
1996	Visiting Assistant Professor, University of Houston, Texas
1993	Fields Institute Fellow, The Fields Institute, Waterloo, Canada
1992-1993	Visiting Assist. Professor, Department of Mathematics, U of Houston
1989–1992	Research Assistant, SUNY Sony Brook,

Honors and Awards

Jan 2014	**SIAM Fellow Class of 2014** (Society for Industrial and Applied Mathematics)
2012-2014	**Elected Program Director of the Society for Industrial and Applied Mathematics (SIAM) Activity Group** on Analysis of Partial Differential Equations
Oct 2014	Research featured in the **Houston Medical Times**. Article entitled: "Research may Lead to Reliable Alternative to Open Heart Surgery."
2013	**Esther Farfel Award Finalist**, University of Houston
12/6/11	**Selected by the American Mathematical Society to present Congressional Briefing, Capitol Hill, Washington DC** Title of the briefing: "Mathematics: Leading the way for new options in the treatment of coronary artery disease"
2014-2016	Elected **Member of the Selection Committee for SIAM Fellowship** (reviewing world-wide nominations for SIAM fellowship)
Sept 2012	Distinguished Public Rockwell Lecturer at the University of Iowa
April 2014	Distinguished Women in Science Lecture at the University of Minneapolis, NSF Institute for Mathematics and its Applications, MN

2011- 2016   Appointed **Member of the College of Scientific Reviewers at NIH**
              Reviewing NIH proposals 3 times per year, for 5 years

4/2/10   Research featured in the **Houston Business Journal**: Medical Devices

Sept 2010   **NIH Recognition**: Featured Report on news.science360.gov
              Live from Studio 8: "Math from the Heart: Simulating Stent Design
              and Coating," by S. Dutchen, NIH.
              http://news.science360.gov/obj/video/5ef536c2-27e2-4866-8492-
              3366910ce445

Aug 2010   **NSF Recognition**: Featured Report on www.lifescience.com
              LifeScience "Behind the Sciences: Scientists Use Math to Build Better
              Stents," by E. Carlson, NIH
              http://www.livescience.com/6874-scientists-math-build-stents.html

Jun 2008   **American Mathematical Society (AMS) Recognition: Elected
              to present mathematics research at the US Coalition for
              National Science Funding, Capitol Hill, Washington DC**

Oct 2008   **AMS Mathematical Moments**: Featured article "Improving Stents"
              http://www.ams.org/samplings/mathmoments/mm72-stent.pdf

09/17/07   **National Science Foundation, Invited to present the MPS
              Distinguished Lecture at NSF, Arlington, VA** "Mathematics
              and Cardiology: Partners for the Future"

2006   **US Congressional Recognition** "Top Women in Technology"

2005   **Award for Leadership in Technology** by the Association for Women
              in Computing, Houston Chapter

2001   **Research and Scholarship Award** University of Houston

Grant Support

2016-2018   **NSF DMS-1613757** (NSF Applied Mathematics)
              PI: Čanić
              "Fluid-elastic structure interaction with the Navier slip boundary condition"

2013-2017   **NSF DMS-1318763** (Computational Mathematics)
              PI: Čanić, co-PI: M. Bukac (University of Notre Dame)
              "Fluid-structure interaction with multi-layered structures: a new class of
              partitioned schemes"

2013-2017   **NSF DMS-1311709** (Applied Mathematics)
             PI: Čanić
             "Fluid-multi-layered-structure-interaction problems"

2013-2017   **NSF DMS-1263572** (NSF NIGMS)
             PI: Čanić, co-PIs: A. Quaini (UH) & Dr. S. Little (Methodist Hospital)
             Joint NSF-NIH funding for "Collaborative Research: Advancing the
             Diagnosis and Quantification of Mitral Valve Regurgitation with
             Mathematical Modeling"

2013-2014   **NSF DMS-1262385** (Applied Mathematics)
             PI: Čanić, co-PI: A. Quaini (UH)
             "Post-doctoral funding for Coanda Effect in Moving Domains"

2011-2013   **NSF DMS-1109189** (Applied Mathematics)
             PI: Čanić, co-PI: A. Quaini (UH)
             "Coanda Effect For Incompressible Fluids in Moving Domains"

2010-2012   **Texas High. Ed. Board ARP-003652-0023-2009**(Math)
             PI: Čanić, co-PI: R. Glowinski (UH), Dr. S. Little (Methodist Hospital)
             "Computational Modeling of Echocardiographic Assessment of Mitral
             Regurgitation"

2011-2013   **American Heart Association (AHA)**
             PI: Dr. S. Little (Methodist Hospital), Senior Investigator: Čanić
             "Multimodality 3D Imaging for the Quantification of Prosthetic
             Valve Function"

2008-2011   **NSF DMS-0806941** (Applied Mathematics)
             PI: Čanić
             "Moving-boundary problems in blood flow"

2005-2010   **NSF/NIH DMS-0443826** (NSF NIGMS)
             PI: Čanić, co-PIs: R. Glowinski, T.W. Pan (UH), Dr. D. Rosenstrauch
             (Texas Heart Institute) and Dr. C. Hartley (Baylor College of Medicine)
             "Collaborative Research on Cell Coating of Artificial Surfaces of
             Cardiovascular Devices;

2008-2009   **TLCC UH** PI: Azencott, co-PIs: Čanić and Guidoboni
             Post-doctoral Support for collaboration with the Methodist Hospital:
             "Modeling of Echocardiographic Assessment of Mitral Regurgitation"

2003-2007   **NSF DMS-0244343** (Focused Research Group Competition)

PI: D. Wang (Pittsburgh), co-PIs: G-Q. Chen (Northwestern),
S. Čanić, C. Dafermos (Brown), J. Hunter (UC Davis)
T-P Liu (Stanford), C-W Shu (Brown), M. Slemrod (Wisconsin)
Y. Zhang (Penn State)
"Multi-Dimensional Problems for the Euler Equations of Compressible
Fluid Flow and Related Problems in Hyperbolic Conservation Laws"

2006-2008 **Texas High. Ed. Board ARP-003652-0051-2006** (Math)
PI: Čanić, co-PI: Guidoboni (UH)
"Mathematics for Cardiovascular Stenting"

2007-2008 **University of Houston GEAR funding**
PI: Čanić, co-PI: Pan (UH)

2005 **NSF DMS-0503889** (Applied Mathematics)
PI: Čanić
Graduate Student Supplement

2003-2005 **NSF DMS-0337355** (REU-Mathematical Biology)
PI: Čanić
"Summer Research Experience for Undergraduates: Applied Math"

2003-2006 **NSF DMS-0245513** (Applied Mathematics)
PI: Čanić
"Hyperbolic Conservation Laws in Blood Flow"

2002–2004 **Texas High. Ed. Board ARP 003652-0112-2001** (Math)
PI: Čanić
"Multi-Dimensional Hyperbolic Conservation Laws"

2002–2003 **NSF DMS-0225948** (Analysis Program)
PI: Čanić
Supplement to DMS-9970310

1999–2002 **NSF DMS-9970310** (Classical Analysis Program)
PI: Čanić
"Nonlinear Hyperbolic Wave Interactions in Two Dimensions"

1999–2001 **University of Houston TLCC** graduate student support

1999–2002 **NSF REU Program** $60,000
PI: E. Dean (UH), co-PIs: Čanić, D. Bletcher, et al.
"Summer Research Experience for Undergraduates"

1996–1999   **NSF DMS-9625831** (Classical Analysis Program)
<u>PI:</u> Čanić
"Riemann Solutions to 1D Conservation Laws that Change Type"

1994–1996   **US Department of Energy DEFG0294ER25220**
<u>PI:</u> Čanić
"Riemann Problems for Nonlinear Conservation Laws"

Smaller Grants

1997   SUNY at Stony Brook Teaching Buy-Out for Spring 1997

March 1996 Office of Naval Research (through AWM)

1995   NSF and the Princeton Institute for Advanced Studies
Travel, meals and lodging support, May 15-25, 95
Invited to participate as Mentor in the
Mentoring Program for Women in Mathematics

1995   NSF Classical Analysis Program, Grant No. DMS-9413598,
foreign travel. Period: 1995.

1994   ISU Foreign Travel Grant for January 1995,

1994   NSF and Office of Naval Research (through AWM)
Travel Grant for SIAM '94, San Diego, $1,000.00

1992   NATO and Universite de Montreal Summer Support to participate in
Summer School on Bifurcations and Periodic Orbits of Vector Fields,
Montreal, Canada,

1991   NSF and Office of Naval Research (through Association for Women
in Mathematics, AWM) Graduate Student Award to participate in
ICIAM '91, Washington DC

Scientific Visits

Fall 2016   Visiting Professor, Stanford University, Institute for Computational
and Mathematical Engineering
June 2014   Visiting Fellow at Newton's Institute, Cambridge UK
June 2014   Oxford University Visit, UK
July-Aug. 2013 Lecturer at the IMA Summer School on Materials Science
June-July 2012 University of Padova, Italy

June 2011	University of Padova, Italy
May 2011	La Scuola Internazionale Superiore di Studi Avanzati di Trieste
June 2010	University of Lyon1, France
May-July 2009	University of Zagreb, Croatia
May 2008	University of Lyon 1, Lyon, France
May-June 2007	University of Zagreb, Croatia
July 2003	Mathematisches Forschugsinstitut Oberwolfach, Meeting on Multiscale Analysis, Numerics and Application
July 2001	Stanford University: Summer Workshop on Conservation Laws and Kinetic Theory
10/21-28/2000	Mathematisches Forschugsinstitut Oberwolfach, Meeting on Hyperbolic Systems of Conservation Laws
May 1996	Stanford University (visiting Tai-Ping Liu)
January 1996	Courant Institute, NYU (visiting Smadar Karni)
May 1995	Princeton Institite for Advance Study
January 1995	Instituto de Matematica Pura e aplicada (IMPA), Rio de Janeiro, Brazil
December 1994	University of Houston
Summer 1994	Department of Applied Mathematics and Statistics, State University of New York at Stony Brook
July 1993	Instituto de Matematica Pura e Aplicada (IMPA), Rio de Janeiro, Brazil

Publications

A. Refereed research articles, survey papers and conference proceedings.

Appeared and/or Accepted:

1.   Čanić S. and Plohr B., *"Shock Wave Admissibility for Quadratic Conservation Laws,"*, Journal of Differential Equations Vol. 118, No. 2 (1995), pp. 293–335

2.   Čanić S., *"The Role of Limit Cycles in the Stability of Shock Waves,"* Matematica Contemporanea, Vol 8 (1995), pp. 63–88

3.   Čanić S. and Keyfitz B.L., *"An Elliptic Problem Arising From the Unsteady Transonic Small Disturbance Equation,"* Journal of Differential Equations, Vol. 125 (2), pp. 548–574 (1996)

4.   Čanić S. and Keyfitz B.L., *"A Smooth Solution for a Keldysh Type Equation,"* Communications in Partial Differential Equations, Vol. 21 (1&2) (1996), pp. 319–341

5.   Čanić S., Keyfitz B.L. and Wagner D., *"A Bifurcation Diagram for Oblique*

Shock Interactions in the Unsteady Transonic Small Disturbance Equation," Hyperbolic Problems: Theory, Numerics, and Applications (Editors: J. Glimm, M. J. Graham, J. Grove, and B. J. Plohr), pp. 178–187, World Scientific Singapore, 1996

6. Čanić S. and Keyfitz B.L., *"Oblique Shock Interaction and the von Neumann Paradox,"* Shock Waves, Vol. I, (eds. Sturtevant, B., Schepherd J. E., Hornung H. G.), pp. 435-440, World Scientific, Singapore (1996)

7. Čanić S. and Keyfitz B.L., *"A Useful Class of Two-Dimensional Conservation Laws ",* Mathematical Research, Vol. 87, eds. K. Kirchgaessner, O. Mahrenholtz, R. Mennicken, Akademie Verlag Berlin (1996), pp. 133-137

8. Čanić S., *"Quadratic Systems of Conservation Laws with Generic Behavior at Infinity",* Journal of Dynamics and Differential Equations, Vol. 9, No. 3 (1997), pp. 401-426

9. Čanić S., *"On the Influence of Viscosity on Riemann Solutions,"* Journal of Dynamics and Differential Equations, Vol. 10, No. 1 (1998), pp. 109-149

10. Čanić S. and Keyfitz B.L., *"Riemann Problems for the Two–Dimensional Unsteady Transonic Small Disturbance Equation,"* SIAM Journal on Applied Mathematics, Vol 58, No. 2 (1998), 636-665

11. Karni S. and Čanić S., *"Computations of Slowly Moving Shocks,"* Journal of Computational Physics 136 (1997), no. 1, 132–139

12. Čanić S. and Mirković D., *"A Numerical Study of Riemann Problems for the Two-Dimensional Unsteady Transonic Small Disturbance Equation,"* SIAM Journal on Applied Mathematics 58(5) (1998), 1365–1393

13. Čanić S. and Keyfitz B.L., *"Quasi-One-Dimensional Riemann Problems and Their Role in Self-Similar Two-Dimensional Problems,",* Archive for Rational Mechanics and Analysis 144 (1998), 233-258.

14. Peters G. and Čanić S., *On the Oscillatory Solutions in Hyperbolic Conservation Laws,* Nonlinear Analysis: Real World Applications 1 (2000) 287–314

15. Čanić S., Keyfitz B.L. and Lieberman G., *A Proof of Existence of Perturbed Steady Transonic Shocks via a Free Boundary Problem,* Communications on Pure and Applied Mathematics, Vol. LIII, 484-511 (2000)

16. Čanić S., Keyfitz B.L. and Kim E.H., *"Free Boundary Problems for the Unsteady Transonic Small Distrubance Equation: Transonic Regular Reflection",*

Methods and Applications of Analysis (Issue dedicated to Cathleen Morawetz)
Vol 7(2) (2000) 313-336.

17.   Čanić S. and Mirković D., *A hyperbolic system of conservation laws arising in
        modeling endovascular treatment of abdominal aortic aneurysm,*
        Hyperbolic Problems: Theory, Numerics, Applications, 141 (2000) 227-236.

18.   Čanić S., Keyfitz B.L. and Kim E.H., *Weak shock reflection modeled by
        the UTSD equation,* Hyperbolic Problems: Theory, Numerics, Applications
        Vol. 141(1) (2000) 217-226.

19.   Čanić S. and Peters G., *Nonexistence of Riemann Solutions and Majda-Pego
        Instability,* Journal of Differential Equations, 172(1) (2001) 1-28.

20.   Čanić S., Keyfitz B.L. and Kim E.H., *Mixed Hyperbolic-Elliptic Systems
        in Self-Similar Flows,* Bulletin of the Brasilian Mathematical Society,
        Vol. 32(3) (2001) 377-399.

21.   Čanić S., *Blood flow through compliant vessels after endovascular repair:
        wall deformations induced by the discontinuous wall properties.*
        Computing and Visualization in Science. Springer-Verlag. 4(3) (2002) 147-155.

22.   Čanić S., Keyfitz B.L. and Kim E.H., *A Free Boundary Problem for a
        Quasilinear Degenerate Elliptic Equation: The Transonic Regular Reflection of
        of Weak Shocks",* Communications on Pure and Applied Mathematics,
        Vol. LV (2002) 71-92.

23.   Čanić S., *Nonexistence of Riemann solutions for a quadratic model deriving
        from petroleum engineering,* Nonlinear Analysis: Real World Applications,
        Vol. 3(4) (2002) 629-665.

24.   Čanić S. and Kim E.H., *A Class of Quasilinear Degenerate Elliptic Problems.*
        Journal of Differential Equations, 189(1) (2003)71-98.

25.   Čanić S. and Kim E.H., *Mathematical Analysis of the Quasilinear Effects in
        a Hyperbolic Model of Blood Flow through Compliant Axisymmetric Vessels,*
        Mathematical Methods in Applied Sciences, 26(14) (2003),1161 -1186.

26.   Čanić S. and Mikelic A., *Effective Equations Describing the Flow of a Viscous
        Incompressible Fluid Through a Long Elastic Tube,*
        Comptes Rendus Acad. Sci. Paris, 330(2002) pp.661-666.

27.   Čanić S. and Mikelic A., *Effective equations modeling the flow of a viscous
        incompressible fluid through a long elastic tube arising in the study of blood*

flow through small arteries. SIAM J. Appl. Dyn. Sys.2 (3) (2003)431 -463.

28.   Čanić S., B. L. Keyfitz and E-H. Kim,   *Self-similar Problems inMulti-dimensional Conservation Laws.* Proc. of IC-SEC Conference on Recent Advances in Computational Science and Engineering, Singapore (2002)

29.   Čanić S., J. Tambaca, A. Mikelic, C.J. Hartley, D. Mirkovic, D. Rosentrauch. *Blood flow through axially symmetric sections of compliant vessels: new effective closed models.* Proc. 26th Ann. Conf. EMBS: 379, San Francisco, Sept. 1-4, 2004.

30.   Čanić S., A. Mikelic, D. Lamponi, and J. Tambaca, *Self-Consistent Effective Equations Modeling Blood Flow in Medium-to-Large Compliant Arteries.* SIAM J. Multiscale Analysis and Simulation 3(3) (2005) 559-506.

31.   Čanić S., A. Mikelic and J. Tambaca. *A two-dimensional effective model describing fluid-structure interaction in blood flow: analysis, simulation and experimental validation* Special Issue of Comptes Rendus Mechanique Acad. Sci. Paris 333 867 - 883 (2005).

32.   Čanić S., K. Ravi-Chandar, Z. Krajcer, D. Mirkovic and S. Lapin. *A Comparison Between the Dynamic Responses of Bare-Metal Wallstent Endoprosthesis and AneuRx Stent-Graft: A Mathematical Model Analysis..* The Texas Heart Institute Journal 32(4) 19 – 23 (2005) .

33.   J. Tambaca, S. Canic, A. Mikelic. *Effective Model of the Fluid Flow through Elastic Tube with Variable Radius.* Grazer Mathematische Berichte Nr.3 1 -22 (2005).

34.   Čanić S., B.L. Keyfitz and E-H. Kim., *Free Boundary Problems for Nonlinear Wave Systems: Interacting Shocks.* SIAM J Math Anal 37 1947 -1977 (2006).

35.   K. Jegdic, B.L. Keyfitz and S. Čanić . *Transonic regular reflection for the nonlinear wave system.* Journal of Hyperbolic Differential Equations. 3(3) (2006), 443-375

36.   S. Čanić , C. J. Hartley, D. Rosenstrauch, J. Tambaca, G. Guidoboni and A. Mikelic. *Blood Flow in Compliant Arteries: An Effective Viscoelastic Reduced Model, Numerics and Experimental Validation.* Annals of Biomedical Engineering. 34(2006), pp.' 575-592.

37.   S. Čanić , Z. Krajcer MD, and S. Lapin. *Is the design and mechanical properties of the current generation of stent-grafts for AAA repair suboptimal? A mathematical design of optimal endoprosthesis.* Endovascular Today.

(Cover Story) May Issue (2006) 48-50.

38.   S. Čanić , J. Tambaca, G. Guidoboni, A. Mikelic, C.J. Hartley,
       D. Rosenstrauch. *Modeling viscoelastic behavior of arterial walls and
       their interaction with pulsatile blood flow.* SIAM J. Appl. Math.,
       Volume 67 Issue 1 (2006) Pages 164-193.

39.   S. Čanić . *Fluid-Structure Interaction in Blood Flow*
       Proceedings of the MSRI/AWM workshop "The Legacy of
       Ladyzhenskaya and Oleinik" pp. 11-15 (2006).

40.   K. Jegdic, B. L. Keyfitz, and S. Čanić . *A Riemann Problem for the
       isentropic gas dynamics equations.* Proceedings of the MSRI/AWM Workshop
       "The Legacy of Ladizhenskaya and Oleinik.", Berkeley, CA, (2006) 165-170.

41.   A Mikelic, G. Guidoboni, S. Čanić . *Fluid-Structure Interaction
       in a Pre-Stressed Tube with Thick Elastic Walls I: The Stationary Stokes
       Problem.* Networks and Heterogeneous Media Vol. 2(3) (2007) 397-423.

42.   K. Jegdic, B. L. Keyfitz, and S. Čanić . *Transonic regular reflection
       for the Unsteady Transonic Small Disturbance Equation - details of the
       subsonic solution.* Free and Moving Boundaries: Analysis, Simulation and
       Control (Glowinski and Zolesio editors), CRC Press, Boca Raton
       Vol 252 125-165 (2007)

43.   A. Mikelic and S. Čanić , *Homogenization Closure for a Two-Dimensional
       Effective Model Describing Fluid-Structure Interaction in Blood Flow.*
       Math Everywhere. Deterministic and Stochastic Modelling in Biomedicine,
       Economics and Industry, (G. Aletti, M. Burger, A. Micheletti, D. Morale (eds.))
       Springer Heidelberg (2007) p. 193-205.

44.   S. Čanić and D. Rosenstrauch. *Use of auricular chondrocytes in lining of
       artificial surfaces: A mathematical model.* IEEE Annals of Nanobioscience.
       Vol 7(3) (2008) 240-245.

45.   G. Guidoboni, R. Glowinski, N. Cavallini, S. Čanić and S. Lapin.
       *Kinematically coupled time-splitting scheme for fluid-structure interaction
       in blood flow.* Applied Math Letters. 22 (2009), pp. 684-688.

46.   J. Hao, T.W. Pan, S. Čanić , R. Glowinski, D. Rosenstrauch.
       *A Fluid-Cell Interaction and Adhesion Algorithm for Tissue-Coating of
       Cardiovascular Implants.* SIAM J. Multiscale Modeling and Simulation
       7(4) 1669-1694 (2009).

47.   T. Li and S. Čanić . *Critical Thresholds in a Quasilinear Hyperbolic Model of Blood Flow.*   Networks and Heterogeneous Media 4(3) 527-536 (2009).

48.   G. Guidoboni, R. Glowinski, N. Cavallini, S. Čanić . *Stable loosely-coupled type algorithm for fluid-structure interaction in blood flow.* Journal of Computational Physics. Vol. 228, Issue 18 6916-6937 (2009).

49.   J. Tambaca, M. Kosor, S. Čanić , D. Paniagua. *Mathematical Modeling of Endovascular Stents.* SIAM J Applied Mathematics 70(6) (2010) 1922-1952.

50.   T. Kim, S. Čanić and G. Guidoboni. *Existence and Uniqueness of a Solution to a Three-Dimensional Axially Symmetric Biot Problem arising in Modeling Blood Flow.* Comm. on Pure and Appl. Analysis 9(4) (2010) 839-865.

51.   J. Tambaca, S. Čanić and D. Paniagua. *A Novel Approach to Modeling Coronary Stents Using a Slender Curved Rod Model: A Comparison Between Fractured Xience-like and Palmaz-like Stents.*   Applied and Numerical PDEs: Scientific Computing. In Simulation, Optimization and Control and its Multiphysics Applications (eds. W. Fitzgibbon, Yu. Kuznetsov, et al.), Springer (2010) p. 41-58.

52.   A. Quaini, S. Čanić , G. Guidoboni, R. Glowinski, S. Igo, C. Hartley, W. Zoghbi, S. Little. *Numerical Simulation of an Ultrasound Imaging Model of Mitral Valve Regurgitation.* Cardiology 115 (2010) p. 251-293.

53.   J. Tambaca, S. Čanić and G. Guidoboni. Extended Abstract at the IEEE Engineering in Medicine and Biology 31st Annual International Conference: ”Engineering the Future of Biomedicine” 2010.

54.   S. Čanić , A. Mikelic, T.B. Kim, G. Guidoboni. Existence of a Unique Solution to a Nonlinear Moving-Boundary Problem of Mixed Type Arising in Modeling Blood Flow. IMA Publication on *Nonlinear Conservation Laws and Applications* (A. Bressan, G-Q. Chen, M. Lewicka and D. Wang eds.) pp 235-256 (2011)

55.   J. Tambaca, S. Čanić , M. Kosor, D. Paniagua, D. Fish. Mechanical Behavior of Fully Expanded Commercially Available Endovascular Coronary Stents in the United States. Texas Heart Institute Journal. 38(5) 495-501 (2011)

56.   A. Quaini, S. Čanić , G. Guidoboni, R. Glowinski, S. Igo, C. Hartley, W. Zoghbi, S. Little. Validation of a computational fluid dynamics model to study the assessment and severity of mitral regurgitation using echocardiography. *BMES Journal Cardiovascular Engineering and Technology.* Vol. 2 (no. 2), 77-89 (2011)

57. A. Quaini, S. Čanić , D. Paniagua. Numerical Characterization of Stagnation Zones near Aortic Valve after the Implantation of a Left Ventricular Assist Device. *Mathematical Biosciences and Engineering.* 8(3), 785-806 (2011).

58. O. Boiarkine, D. Kuzmin, S. Čanić , G. Guidoboni. A Positivity-Preserving ALE Finite Element Scheme for Convection-Diffusion Problems on Moving Domains. *Journal of Computational Physics.* 230: 2896-2914 (2011)

59. S. Čanić, J. Tambaca. Cardiovascular Stents as PDE Nets: 1D vs. 3D. IMA J. Appl. Math. (Special Issue) 77(6): pp 748-770 (2012).

60. A. Quaini, S. Čanić, R. Glowinski, S. Igo, C.J. Hartley, W. Zoghbi, S. Little. Validation of a 3D computational fluid-structure interaction model simulating flow through an elastic aperture. *J. Biomechanics* 45 (2) 310-318 (2012)

61. Martina Bukač, S. Čanić, R. Glowinski, J. Tambaca, A. Quaini. Fluid-structure interaction in blood flow capturing non-zero longitudinal structure displacement. *Journal of Computational Physics* 235, 515-541 (2013)

62. S. Čanić and M. Bukač. Capturing Both Radial and Longitudinal Displacement of Viscoelastic Arteries interacting with Blood Flow. *Journal Mathematical Biosciences and Engineering.* 10(2), pp. 258-388 (2013).

63. B. Muha and S. Čanić. Existence of a weak solution to a nonlinear fluid-structure interaction problem modeling the flow of an incompressible, viscous fluid in a cylinder with deformable walls. *Archive of Rational Mechanics and Analysis* 207(3) 919-968 (2013).

64. T. Passerini, A. Quaini, U. Villa, A. Veneziani, S. Čanić. Validation of an open source framework for the simulation of blood flow in rigid and deformable vessels. *International J. for Numerical Methods in Biomedical Engineering.* Vol 29(11) p. 1192-1213 (2013).

65. B. Muha and S. Čanić. "A Nonlinear, 3D Fluid-Structure Interaction Problem Driven by the Time-Dependent Dynamic Pressure Data: A Constructive Existence Proof." *Comm. in Information and Systems* (CIS). Vol 13 (3), 357-397 (2013).

66. T. Passerini, Quaini, A., Villa, U., Veneziani, A., Čanić, S. Validation of an open source framework for the simulation of blood flow. ASME 2013 Conference on Frontiers in Medical Devices: Applications of Computer Modeling and Simulation, FMD 2013. Article number FMD2013-16125 (2013).

67. S. Čanić and B. Muha. A nonlinear moving-boundary problem of parabolic-

hyperbolic-hyperbolic type arising in fluid-multi-layered structure interaction problems. *AIMS Applied Mathematics, Vol 8. Book title: Hyperbolic Problems: Theory, Numerics, Applications."* (F. Ancona et al., eds.) pp. 389-399 (2014).

68.   B. Muha, S. Čanić. Existence of a solution to a fluid-multi-layered-structure interaction problem. *Journal of Differential Equations.* 256, pp. 658-706 (2014)

69.   M. Bukac, S. Čanić, R. Glowinski, B. Muha, A. Quaini. A Modular, Operator Splitting Scheme for Fluid-Structure Interaction Problems with Thick Structures. *International Journal for Numerical Methods in Fluids.* Vol 74 (8) 577-604 (2014).

70.   A. Bressan, S. Čanić, M. Garavello, M. Herty, and B. Piccoli. Flows on networks: recent results and perspectives. *European Mathematical Society (EMS) Surveys in Mathematical Sciences.* Vol. 1, Issue 1, pp. 47-111 (2014)

71.   S. Čanić, B. Muha, and M. Bukač. Stability of the Kinematically Coupled Beta-Scheme for fluid-structure interaction problems in hemodynamics. *Journal for Numerical Analysis and Modeling* Vol 12, Number 1. pp 54-80 (2015)

72.   A Kheradvar, EM Groves, CA Simmons, BE Griffith, SH Alavi, RT Tranquillo, LP Dasi,, A Falahatpisheh, J Grande-Allen, CJ Goergen, MRK Mofrad, FPT Baaijens,, S Čanić, SH Little, M.D. Emerging Trends in Heart Valve Novel Technologies for mitral valve repair and replacement: Part III. *Annals of Biomedical Engineering* 43(4), 858–870, 2015.

73.   M. Bukač, S. Čanić, B. Muha. A partitioned scheme for fluid-composite structure interaction problems. *Journal of Computational Physics*, Volume 281, 493-517 (2015).

74.   S. Basting, A. Quaini, R. Glowinski and S. Čanić. Comparison of time discretization schemes to simulate the motion of an inextensible beam. Numerical Mathematics and Advanced Applications-ENUMATH 2013, *Lecture Notes in Computational Science and Engineering*, Vol. 103, (Abdulle et al. (eds.)) 2015.

75.   A Kheradvar, EM Groves, CA Simmons, BE Griffith, SH Alavi, RT Tranquillo, LP Dasi,, A Falahatpisheh, J Grande-Allen, CJ Goergen, MRK Mofrad, FPT Baaijens,, S Čanić, SH Little, M.D. Emerging Trends in Heart Valve Novel and Standard Technologies for Mitral Valve Replacement: Part II. *Annals of Biomedical Engineering* 43(4), 844–857, 2015.

76.   S. Canic, B. Muha, and M. Bukac. Fluid-Structure Interaction in Hemodynamics: Modeling, Analysis, and Numerical Simulation. **Book chapter** in Fluid-Structure Interaction and Biomedical Applications (Bodnar, Galdi, Necasova eds.) *Advances in Mathematical Fluid Mechanics* (Series Title), Birkhauser Basel 2014.

77.   A. Kheradvar, E.M. Groves, L.P Dasi, Ph.D.; S. H. Alavi, R.T. Tranquillo,
       K.J Grande-Allen, C.A. Simmons, B.E. Griffith, A. Falahatpisheh, C.J. Goergen,
       M.R.K. Mofrad, F.P.T Baaijens, S. H Little, S. Canic, Emerging Trends in Heart Valve
       Engineering: Part I. Solutions for Future. *Annals of Biomedical Engineering*,
       43(4), 833–843, 2015.

78.   S. Canic, B. Piccoli, J.-M. Qiu and T. Ren. Runge-Kutta Discontinuous Galerkin
       Method for Traffic Flow Model on Networks, *Journal of Scientific Computing*
       63, 233–255, 2015.

79.   M. Bukac, S. Canic, B. Muha, R. Glowinski. "An operator splitting approach to
       the solution of fluid structure interaction in hemodynamics." **Book Chapter** in
       Series in Scientific Computation (Eds. R. Glowinski, S. Osher, Y. Yin).
       ISBN 978-3-319-41589-5 Springer 2016.

80.   A. Kheradvar E.M. Groves, A. Falahatpisheh, M.K. Mofrad, S.H. Alavi, R. Tranquillo,
       L.P Dasi,, C.A. Simmons, K.J. Grande-Allen, C.J. Goergen, F.K Baaijens, S. H. Little,
       S. Canic, B. Griffith. Emerging Trends in Heart Valve Engineering: Part IV.
       Computational Modeling and Experimental Studies. *Annals of Biomedical Engineering*.
       43(10), 2314–2333, 2015.

81.   B. Muha, S. Canic. Fluid-structure interaction between an incompressible, viscous
       3D fluid and an elastic shell with nonlinear Koiter membrane energy. *Interfaces and
       Free Boundaries* 17(4) 465-495, 2015.

82.   P. Zunino, J. Tambaca, E. Cutri, S. Canic, L. Formaggia, F. Migliavacca.
       Integrated stent models based on dimension reduction. Review and future perspectives.
       Invited Review Manuscript in the *Special Issue of Annals of Biomedical Engineering*,
       entitled "Medical Stents: State of the Art and Future Directions." 44(2) 604-617, 2016.

83.   S. Mabuza, S. Canic, B. Muha. Modeling and analysis of reactive solute transport
       in deformable channels with wall adsorption-desorption, *Mathematical Methods in
       the Applied Sciences* 39(7) 1780-1802, 2016.

84.   A. Quaini, S. Canic, R. Glowinski. Symmetry breaking and Hopf bifurcation
       for incompressible viscous flow in an expansion channel. *International Journal
       of Computational Fluid Dynamics* 30(1), 7-19, 2016.

85.   M. Bukac, S. Canic, B. Muha. A nonlinear fluid-structure interaction problem
       in compliant arteries treated with vascular stents. *Applied Mathematics and
       Optimization* 73, 433-473, 2016.

86.   L. Shi, S. Canic, A. Quaini, T-W. Pan. A Study of Self-Propelled Elastic

Cylindrical Micro-swimmers using Modeling and Computation. *Journal of Computational Physics* 314, 264-286, 2016.

87. B. Muha and S. Canic. Existence of a weak solution to a fluid-structure interaction problem with the Navier slip boundary condition. *Journal of Differential Equations* 260(12), 8550-8589, 2016.

88. A. Quaini, R. Glowinski, S. Canic. A computational study on the generation of the Coanda effect in a mock heart chamber. *RIMS Kokyuroku series*, No. 2009-4 (2016)

89. C. Puelz, S. Canic, B. Rivière, C.G. Rusin. Comparison of reduced models for blood flow using Runge-Kutta discontinuous Galerkin methods. *Applied Numerical Mathematics.* Vol. 115, 114141 (2017)

90. S. Canic, M. Galovic, M. Ljulj, J. Tambaca. A dimension-reduction based coupled model of mesh-reinforced shells. SIAM J Applied Mathematics. Vol. 77 (2), 347-811 (2017)

91. D. Forti, A. Quaini, M. Bukac, S. Canic, S. Deparis, A monolithic approach to fluid-composite structure interaction. *Journal of Scientific Computing* Vol. 72(1), 396-421 (2017)

92. S. Basting, A. Quaini, S. Canic and R. Glowinski. " On the implementation and benchmarking of an extended ALE Method for FSI problems Fluid-Structure Interaction: Modeling, Adaptive Discretizations and Solvers." RICAM Publication by De Gruyter (Johann Radon Institute for Computational and Applied Mathematics) To appear 2017.

93. Y. Wang, A. Quaini, S. Canic, M. Vukicevic, SH Little. "3D experimental and computational analysis of eccentric mitral regurgitant jets in a mock imaging heart chamber." Cardiovascular Engineering and Technology (CVET) pp 1-20, First online 10 July 2017.

94. S. Basting, A. Quaini, R. Glowinski, S. Canic. An extended ALE method for fluid-structure interaction problems with large structural displacements, *J. Comput. Phys.*, 331, 312-336 (2017)

95. C. Puelz, S. Canic, B. Riviere, C.G. Rusin. Comparison of reduced models for blood flow using Runge-Kutta discontinuous Galerkin methods. *Applied Numerical Mathematics.* Vol. 115, 114-141 (2017)

96. Y. Wang, A. Quaini, S. Canic: A higher-order Discontinuous Galerkin/Arbitrary Lagrangian Eulerian partitioned approach to solving fluid-structure interaction

problems with incompressible, viscous fluids and elastic structures. *Journal of Scientific Computing.* Under revision. 2017

B. Nonrefereed research articles, survey papers and conference proceedings.

97.   Čanić S. and Plohr B., A Global Approach to Shock Wave Admissibility. *Anais do 19º Colóquio Brasileiro Matemática*, pp. 199–216 (1992).

C. Books and Book Chapters.

98.   Čanić S., B. Muha and M. Bukač. *Fluid-structure interaction in hemodynamics: Modeling, Analysis and Numerical Simulation.* Book chapter in Springer's Series *Advances in Mathematical Fluid Mechanics (Series Title)* (P. Galdi, R. Rannacher and J. Heywood Eds.) Springer Basel 2014.

99.   Čanić S., Bukač M. and Glowinski, R. *Operator splitting methods for the numerical simulation of fluid structure interaction in the cardio-vascular system. Chapter in the Springer's Scientific Computation Series: Splitting Methods in Communication and Imaging, Science, and Engineering* (R. Glowinski, S. Osher, W. Yin Eds.) pp. 732-772, Springer 2017.

100.   Čanić S., Delle Monache, M.L. , Piccoli, B., Qiu, J-M, and Tambaca, J. Title: *Numerical Methods for Hyperbolic Nets and Networks.* Chapter 16 in: *Handbook on Numerical Methods for Hyperbolic Problems*, Rémi Abgral and Chi-Wang Shu eds. Vol. 18, pp 435-463 Elsevier 2016.

101.   Čanić S. *Mathematical Hemodynamics.* Springer. Expected completion date: December 2017.

Theses

[1] Ph. D. Thesis, *Shock Wave Admissibility for Quadratic Conservation Laws*,
Thesis Advisor: Bradley J. Plohr, SUNY at Stony Brook (1992)

[2] Ms. D. Thesis, *A Splitting Method for a Stationary Bingham Fluid Flow*,
Thesis Advisor: Branko Najman, University of Zagreb, Croatia (1986)

Invited Lectures and Presentations

Plenary Talk at **Equadiff 2017** a bi-annual international conference on mathematical analysis, numerical approximation and applications of differential equations, **Bratislava, Slovakia**, July 24-28 2017

Plenary Talk at Workshop on Interdisciplinary Mathematics, **Penn State**, May 9-11, 2017.

Minisymposium talk at Computational and Mathematical Biomedical Engineering conference **CMBE 2017 University of Pittsburgh**, April 10-12, 2017.

Invited seminar talk at **UC Berkeley's Lawrence Berkeley Lab** Applied Mathematics seminar, March 15, 2017

Invited Special Session talk at the Regional AMS meeting, Charleston, NC, March 10-12, 2017. March 10-12, 2017.

Invited Applied Math Seminar talk at **Duke University**, Department of Mathematics, March 2-4, 2017.

Seminar talk at **Stanford University (ICME)**, November 3, 2017.

Seminar talk at **Stanford Univeristy** Department of Mathematics, November 2, 2017.

Invited talk at RIMS workshop on "Mathematical Analysis of Viscous Incompressible Fluids", November 14 - 16, 2016,**Kyoto University, Japan.**

Plenary Lectures (2 lectures) at Bio-Fluid Dynamics Day, Tokyo Japan at International Workshop on Multi-Phase Flow, **Waseda University,Tokyo, Japan** November 11, 2016.

Invited Seminar Talk at Lawrence Livermore and UC Berkeley Applied Math Seminar UC Berkeley, Sept 28, 2016.

Invited Graduate Students Special Lecture, Florida State University

Tallahassee, Sept 21, 2016.

Plenary Lecture at AIMS Conference, Florida, July 4, 2016

Opening Lecture at the 8th Mathematical Croatian Congress, Zagreb Croatia
June 14, 2016

Invited talk at PDE seminar, Princeton University, Department of Mathematics,
April 27-29, 2016

Colloquium talk at Carnegie Mellon University, Department of Mathematics,
April 18-20, 2016

Colloquium talk at the Center for Applied Mathematical Science,
University of Southern California, March 28-29, 2016

Public Lecture University of Alabama at Huntsville, Mathematics, March 19, 2016

Colloquium talk University of Utah, Department of Mathematics, March 9-10, 2016

Plenary talk Clemson University, Department of Mathematics, February 5-6, 2016

Colloquium Talk Tulane University, Department of Mathematics,
February 3-4, 2016

Invited Talk University of Notre Dame, Department of Applied Mathematics,
July 20-23, 2015.

Colloquium Talk in the Applied Mathematics Department at the New Jersey
Institute of Technology, February 6, 2015.

Invited Minisymposium talk at the SIAM Engineering Meeting, Salt Lake City,
UT, March 14, 2015.

Invited Special Session Talk at the AMS meeting in Athens, GA,
April 1, 2015.

Invited Special Session talk at the AMS meeting in Las Vegas, NV,
April 19, 2015.

Plenary Lecture at the Workshop on Interdisciplinary Mathematics,
Penn State, May 8-10, 2015.

Plenary Lecture at the Croatian Academy of Sciences Symposium,

Rijeka, Croatia, June 11, 2015.

Invited Lecture at the Mathematics Institute at Oxford University, UK, June 13, 2014
"Fluid-composite structure interaction"

Plenary Lecture at the Conference on Applied Partial Differential Equations
Dubrovnik, Croatia, May 27, 2014

Invited talk and extended visit at Cambridge University, England,
Workshop on Free and Moving Boundary Problems, June 1-15, 2014

Distinguished Women In Science Lecture at the University of Minnesota
Minneapolis, MN, April 23, 2014

Colloquium Presentation at St. Anothony's Falls Lab, University of
Minnesota, April 22, 2014.

Presentation of Research to Medtronics Medical Devices Company
Minneapolis, MN, April 22, 2014

Colloquium Talk at UC San Diego, Mechanical Engineering Department
April 9. 2014

Invited Talk at US Naval Postgraduate School, Monterey, CA
April 10, 2014

Scientific Computing Seminar Talk at University of Michigan, Ann Arbour
February 21, 2014

Colloquium Talk at Texas A&M University, Math Dept
February 5, 2014.

Plenary Lecture at Brown's ICERM Institute Conference on
Mathematics for Cardiovascular Interventions, January 23, 2014.

Main organizer and Minisymposim Speaker at the SIAM Conference on Partial
Differential Equations, Buena Vista, FL, November 9-11, 2013.

Organizer and Speaker of MBI Workshop on "Mathematics for Heart Valve
Interventions", October 2013

Colloquium at UC San Diego, Engineering Department, October 2013

Two Invited Lectures at "Equadiff 13", Prague, The Check Republic, August 26-30,

2013

Plenary Lecture at "PDEs and Dynamical systems in biology" at Bar Illan Univ., Tel-Aviv, Israel, October 2013.

Invited Lecture at IFIP: System Modelling and Optimization Conference, Klagenfurt, Austria, September 9-13, 2013.

Invited Lecture at Rice University's High School Program in Mathematics, April 16, 2013.

Invited Mini-symposium Presentation and the AMS Special Session on Partial Differential Equations,

AMS Sectional Meeting, Ames, IA, April 28, 2013.

Invited Lecture at St. John's High School (Math and Science Club), March 7, 2013

Colloquium talk in the Mathematics Department, University of Pittsburgh, February 21, 2013

Colloquium talk in the Mathematics Department, Tulane University, January 24, 2013

Colloquium talk in the Mathematics Department, University of Iowa, October 3, 2012

Applied Mathematics seminar at the University of Michigan, November 2, 2012

Invited Lecture at Special Session at ECCOMAS 2012, Vienna September 2012.

Invited Lecture at Workshop on Modeling and Simulation of Transport Phenomena, July 30-Aug 1, 2012, Moselle Valley, Germany

Plenary Lecture at the 2012 Midwest Numerical Analysis Conference

Colloquium Lecture at the University of Notre Dame, May 12 – 13, 2012

Opening Lecture at the NSF-NIH Math Biology Meeting at U of Maryland

Frontiers in Mathematical Biology, February 29-March 2, 2012.

Colloquium Lecture at UC Irvine, Mathematics Department, January 17-18, 2012

3 Invited Lectures at the SIAM PDE meeting, San Diego, Nov 14-17, 2011.

Keck Seminar Lecture at Rice University, Nov 11, 2011.

Colloquium Lecture at the University of Padova, Italy, June 1, 2011.

Plenary Lecture at the Workshop on Modelling and Control of Nonlinear
Evolution Equations SISSA, Trieste, Italy May 24-27, 2011.

Invited Panelist at the Women in Mathematics Symposium.
Institute for Pure and Applied Mathematics, UCLA, February 25-27, 2011.

PDE Seminar at GeorgiaTech University, February 1, 2011.

Special Session Lecture at the American Mathematical Society meeting
New Orleans, January 7-8, 2011.

ICES Lecture UT Austin, Nov 30, 2010.

Special Session Lecture at the American Mathematical Society meeting
Notre Dame University, Nov 5-7 2010.

Plenary Colloquium Lecture at the National Academy of Sciences of the Netherlands
KNAW Amsterdam, September 6-9, 2010.

Co-Organizer and Speaker in "Workshop in Interdisciplinary Mathematics",
May 10-12, 2010, Penn State University

Invited Speaker at the Heart Valve Society of America Scientific Meeting:
"Valves in the Heart of the Big Apple VI: Evaluation and Management of
Valvular Heart Disease." April 24-27, 2010.

Invited Speaker at the NSF/NIH PIs meeting at the University of Maryland,
"Frontiers in Mathematical Biology." April 14-17, 2010.

SIAM PDE Meeting in Miami, 12/7-9, 2009. Invited to present lectures in 3 Minisyposia:
"Multi-D Conservation Laws and Related Applications," by Gui-Q. Chen et al.
"Mathematical and Numerical Models for Coupled Multiphysics Problems," by Quarteroni;
"Analysis and Control of Fluid-Structure Interaction in Aeroelasticity and Blood Flows,"
by A. Tuffaha.

Colloquium Talk at the University of Zagreb, Croatia, June 22, 2009

Invited Presentation at the IMA "Workshop on Hyperbolic Conservation Laws",
July 27-31, 2009.

Invited Presentatation at the 31st Annual International Conference of the IEEE
Engineering in Medicine and Biology Society "Engineering the Future of Biomedicine,"
September 2-6, 2009.

Invited presentation at the Special Sessions "Nonlinear PDEs" at 2009 AMS
San Francisco, April 25-26, 2009.

Invited Lecture at May 28-29, 2009 - ERCIM spring meetings and 20th anniversary
Paris, France.

Plenary Talk at Texas Heart Institute's "Cardiovascular Regeneration Workshop"
6th and 17th of December 2008.

Organizer and Speaker   at the Workhop on Optimal Transport in the Human Body
IPAM, Los Angeles May 19-23, 2008.

Invited Lecture at the Workhop on Kinetic Theory and Related Problems
AMS Regional Meeting in Bloomington IN, April 4-6, 2008.

Invited Lecture at the Americal Institute for Mathematics (AIM), Palo Alto
Workshop on PDEs of Mixed Type, March 17-21, 2008.

Seminar Presentation at the Department of Applied Mathematics and
Statistics, SUNY Stony Brook, February 11, 2008.

Minisymposium Presentationa at the SIAM PDE Meeting in Mesa, Arizona
December 10-12, 2007.

Lecture in the Computational and Applied Mathematics Seminar at Penn State
December 7, 2007.

Minisymposium Presentating at the AMS Regional Meeting in Chigago
October 5-6, 2007.

Distinguished Lecture Series Presentation at the NSF's Division for
Mathematical and Physical Sciences, Bethesda MD, September 17, 2007 .

 Minisymposium Presentation at the SIAM Meeting on Control
San Francisco, June 27-July 1, 2007.

Invited Presentation at the NSF-FRG Workshop on Hyperbolic Conservation Laws
Stanford University, June 27-July 5, 2007.

Invited Presentation at the NSF-FRG Workshop on Hyperbolic Conservation Laws

Stanford University, June 27-July 1, 2007.

Invited Presentation at the NSF Workshop on Blood Flow Modeling
SAMSI, May 17, 2007.

Invited Presentation at the France-USA Conference on Applied and
Numerical PDEs (in Honor of Roland Glowinski's Birthday), March 9-10, 2007.

Minisymposium Presentation at the SIAM PDE Meeting in Boston, July 10-12, 2006
October 2006.

Invited Presentation in a Special Session at the American Institute for
Mathematical Sciences, Sixth International Conference on Dyn. Systems,
Diff. Equations and Applications, June 25-28. 2006, Poitiers, France

Invited Presentation at the SANDIA Lab Conference " Numerical PDEs for the
21st Century," April 20-23 2006.

Colloquium Talk at the University of Wyoming, April 27 2006.

Invited Presentation at the **Grand Rounds** Series, Texas Heart Institute,
April 25 2006.

Opening Address Joint SIAM meeting with the Austrian Mathematical Society,
Klagenfurt, Austria, Sep18 -23, 2005

Plenary Address Conference on Applied Mathematics and Scientific Computing,
Croatia, June19 -24, 2005

Plenary Address at the Focused Research Group Annual Meeting (FRG)
in Multi-dimensional Compressible Flows, Wisconsin, June8 -12, 2005

HSEMB (The Houston Society for Engineering in Medicine and Biology),
The22 nd Annual Houston Conference on Biomedical Engineering Research,
Thursday and Friday,10 - 11February 2005

Plenary Address at the SIAM Meeting on Partial Differential Equations,
December 2004

Plenary Address HYP 2004(Biannual Conference on Hyperbolic Problems),
Osaka, Japan, September 2004 (cancelled participation due to illness)

IEEE Engineering in Medicine and Biology Society (EMBS)26th Annual
International Conference, San Francisco1 -5,2004 , Symposium on Vessel Wall Mechanics

Endovascular Summit2004 , Jackson Hole, Wyoming, August2004 .

Plenary Presentation Conference on Analysis, Modeling and Computation of PDEs and Multiphase Flow, SUNY Stony Brook, August3 -5, 2004 (Invited Presentation)

Plenary Presentation at the Workshop on Multi-Dimensional Euler Equations and Shock Waves, Stanford University, California, July 2004

Plenary Talk at the Workshop on Multi-dimensional Euler equations and conservation laws, Pittsburgh, November6 -9, 2003

Invited Presentation at the Symposium on Modeling of Physiological Flows, Ecole Polytechnique Federale de Lausanne, Switzerland, September1 -3,2003

Oberwolfach Mathematical Institute: Workshop on Multiscale Methods and Applications, Oberwolfach, Germany, July27 -August2 ,2003 , Invited Talk.

ICIAM 2003, Invited presentation in the Minisymposium Mathematics in Medicine, July 7-11, 2003, Sidney, Australia.

Invited Talk at Ecole Polytechnique Fédérale de Lausanne, Switzerland March 2003

Colloquium Talk at the University of Washington, Department of Mathematics December 2002

Applied Mathematics Seminar Talk at the University of North Carolina, Department of Mathematics, November 15, 2002

Plenary Address at the "Workshop on Aspects of Shock Wave Theory", European Programmme on Hyperbolic and Kinetic Equations, October 7-9, 2002, Leipzig, Germany

Colloquium Talk at SUNY Stony Brook, Department of Applied Mathematics and Statistics, September 16, 2002

Scientific Computing Seminar Talk at Brown University, September 13, 2002

2002-SIAM Annal Meeting, Invited presentation at the Minisymposium "Hyperbolic Systems of Conservation Laws" Philadelphia, July 8-12, 2002

Invited Address at the Conference "Nonlinear Differential Equations,

Mechanics and Bifurcation", Duke University, May 2002

Joint AMS-Italian Mathematical Society Meeting, Pisa, Italy, June 2002
Invited presentation at the Minisymposium "Mixed Systems of PDEs"
(talk presented by Eun Heui Kim)

International Conference on Dynamical Systems and Differential Equations,
Wilmington, NC, May 24-27, 2002. Minisymposium talk: "Shock waves in
hemodynamics".

Invited Address at the International Conference on Hyperbolic Problems,
HYP2002, California Institute of Technology, March 2002

AMS Annual Meeting in San Diego, January 2001
Minisymposium talk "The two-dimensional wave equation: global Riemann
solution with noninteracting rarefaction waves"

SIAM Life Sciences 2001, Boston September 2001. Minisymposium talk
"A model of blood flow through compliant vesssels
before and after endovascular repair"

Invited presentation at the conference "New Frontiers in Cardiovascular Medicine",
at the Houston Medical Center, April 20, 2001

Colloquium Talk at UH Downtown "A hyperbolic conservation law
in modeling blood flow before and after endovascular repair"
March 2001

Joint Mathematics Meetings (AMS) in New Orleans, January 2001,
Invited talk in the Special Session on Conservation Laws

Pacific Rym Dynamical Systems Conference (SIAM), August 2000
Minisymposium talk on Nonexistence of Riemann solutions satisfying
the viscous profile entropy criterion

SIAM Anual Meeting: Free boundary problems minisymposium, July 2000

Second Croatian Mathematical Congress, June 2000
Plenary Address: "Nonlinear Systems of Conservation Laws"

REU talk: Hyperbolic Systems of Conservation Laws in Medicine
July 2000

"Mathematics Research" presented as a part of the undergraduate course

"Research Concepts" at the University of Houston, April 20, 2000.

2nd Annual Research and Scholarship Day, University of Houston
April 7, 2000. Research presentation: Quasilinear Systems of Conservation Laws
in Transonic Gas Dynamis and Modeling of Endovascular Treatement of
Abdominal Aneurysm

HYP2000: International Conference on Hyperbolic Problems 2000, March 2000
Invited Address: "Proving Existence of Transonic Shocks using Free Boundary
Problems Techniques"

2000 AMS Southeastern Section Meeting, Lafayette April 14-16, 2000
Invited talk in a Special Session on Fluid Dynamics
"Proving Stability of Transonic Shocks and Free Boundary Problems"

Second Croatian Mathematical Congress, Zagreb, June 15-17, 2000
Invited Address

2000 SIAM Annual Meeting in Puerto Rico, July 10-14, 2000
Invited talk in a Minisymposium: "Regular Reflection of Weak Shocks"
Cancelled.

Pacific Rim Dynamical Systems Conference, Maui, August 9-13, 2000.
Invited talk in the minisymposium on Conservation Laws: traveling waves
and other self-similar solutions
Talk title: Nonexistence of Riemann solutions for which shocks satisfy the viscous
profile entropy criterion"

University of Houston, PDE Seminar, March 2000,
Talk title: "Free Boundary problems in Proving Stability of Transonic Shocks"

University of Houston, Research for Underaduates Class, April 2000
Talk title: "Research in Applied Mathematics"

1999 AMS Annual Meeting, Atlanta, May 12-15, 1999
Invited talk in the minisymposium entitled
"Boundary value problems for degenerate elliptic equations,"
Talk title: "On a Degenerate Elliptic Equation Arising in
Weak Shock Reflection"

SIAM Geosciences meeting, San Antonio, March 24-27, 1999
invited talk in the minisymposium entitled
"Mathematics of multiphase flow in porous media"

Colloquium talk at the Department of Mathematics, University of Houston,
"Two-Dimensional Systems of Conservation Laws: an overview", November 18, 1998

PDE seminar talk at the Department of Mathematics, University of Houston,
" Oscillatory Solutions of Riemann problems and nonexistence", October 23, 1998

Fourth SIAM Conference on Applications of Dynamical Systems, May 19-22, 1997,
"On the influence of viscosity on Riemann solutions"

North Carolina State University, Department of Mathematics, April 1, 1997
"Two-dimensional Burgers equation and the von Neumann reflection",

American Mathematical Society Annual Meeting, January 1997, San Diego
"Wave Interactions in Self-Similar Two-Dimensional Flows"

European Conference on Mathematics in Industry, Kopenhagen, Denmark, June'96
"A Study of Shock Reflection Modeled by the UTSD Equation"

Stanford University, Department of Mathematics, May 10, 1996,
"On the Existence of a Solution of a Boundary Value Problem for a
Quasilinear Degenerate Elliptic PDE Arising in Weak Shock Reflection"

Caltech, Department of Applied Mathematics, April 27, 1996
"Weak Shock Reflection and von Neumann Paradox",

University of California at Irvine, April 29, 1996
"A Free-Boundary Problem Arising in Weak Shock Reflection"

University of Delaware, Dept. of Mathematics, January 30, 1996
"A Study of Shock Reflection Modeled by the UTSD Equation",

Brown University, Dept. of Mathematics, January 26, 1996
"Shock Reflection Modeled by the UTSD Equation"

Courant Institute, NYU, January 29, 1996
"Shock Reflection Modeled by the UTSD Equation"

Indiana University, Bloomington, Dept. of Mathematics, November 1995
"A Theoretical Study of Shock Reflection"

Princeton University, May 1995, "Shock Waves"

State University of New York at Stony Brook.
"A Riemann Problem For the Transonic Small Disturbance Equation",

November 1993.

IMPA (Instituto de Matematica Pura e Aplicada), Rio de Janeiro, Brazil,
"The Role of the Unfoldings of Singularities With Nilpotent Linear Parts
in the Admissibility of Shock Waves", July 1993.

Rice University, Houston.
"On the Admissibility of Viscous Profilable Shock Waves", October 1992.

Iowa State University, Ames, Iowa
"Global Admissibility of Shock Waves", February, 1992.

Teaching

2016-2017	Fall	Mathematical Hemodynamics (Graduate Course) (6 students plus 4 auditing) Math 6398 (UH): Special Problems (Independent Study) (1 student) Math 8398 (UH): Doctoral Research (1 student)
2016-2017	Spring	Math 3363 (UH): Introduction to PDEs (79 students) Math 6398 (UH): Special Problems (Independent Study) (1 student)) Math 8398 (UH): Doctoral Research (1 student)
2016-2017	Fall	FSI in Hemodynamics (at Stanford University)
2015-2016	Spring	Teaching buy out.
2014-2015	Fall	Math 3363 (UH): Introduction to PDEs (77 students)
2013-2014	Fall	Math 6397 (UH): Mathematical Hemodynamics(Graduate Course) (7 students plus 3 auditing))
2013-2014	Spring	Math 8398 (UH): Doctoral Research (2 students) Math 8699 (UH): Doctoral Dissertation (2 students)
2012-2013	Fall	Math 8699 (UH): Doctoral Dissertation (2 students) Math 6398 (UH): Special Problems (Independent study) (1 student) Math 8398 (UH): Doctoral Research (1 student)
2012-2013	Spring	Math 8399 (UH): Doctoral Research (2 student) Math 8398 (UH): Doctoral Dissertation (1 students) Math 8699 (UH): Doctoral Dissertation (1 students)

2011-2012	Fall	Math 6398 (UH): Special Problems (1 student)
		Math 8699 (UH): Doctoral Dissertation (2 students)
2011-2012	Spring	Math 6397 (UH): Selected Topics in Math (6 students)
		Math 8398 (UH): Doctoral Research (2 students)
		Math 8699 (UH): Doctoral Dissertation (2 students)
2010-2011	Fall	Math 6397 (UH): Selected Topics in Math (11 students)
		Math 8398 (UH): Doctoral Research (1 students)
		Math 8399 (UH): Doctoral Dissertation (2 students)
		Math 6398 (UH): Special Problems (1 students)
2009-2010	Spring	Partial Differential Equations (Graduate Course)(11 students)
		Math 6398 (UH): Special Problems (1 students)
2009-2010	Fall	Math 8399 (UH): Doctoral Dissertation (1 students)
2008-2009	Fall	Math 8399 (UH): Doctoral Dissertation (1 students)
2008-2009	Spring	Math 8399 (UH): Doctoral Dissertation (1 students)
2007-2008	Fall	Math 8399 (UH): Doctoral Dissertation (1 students)
2007-2008	Spring	Math 6327 (UH): Partial Differential Equations (Graduate Course) (8 students)
		Math 8699 (UH): Doctoral Dissertation (1 students)
2006-2007	Fall	Math 6327 (UH): Partial Differential Equations (Graduate Course) (13 students)
		Math 8399 (UH): Doctoral Dissertation (1 students)
2006-2007	Spring	Math 6397 (UH): Mathematical Hemodynamics (Graduate Course) (6 students)
		Math 8399 (UH): Doctoral Dissertation (1 students)
		Math 8699 (UH): Doctoral Dissertation (1 students)
2004-2005	Fall	Mathematical Hemodynamics (Graduate Course)
	Spring	Mathematical Hemodynamics (Graduate Course)
2002-2003	Fall	M3331 (UH) (Differential Equations with MATLAB) (37 students; sec. 09429)
		M3331 (UH) (Differential Equations with MATLAB) (33 students; sec. 09430)

2001-2002	Fall	M2431 (UH) (Linear Algebra)(46 students)
		M6326 (UH) (Partial Differential Equations) (6 students)
	Spring	M2431 (UH) (Linear Algebra) (36 students)
		M6398 (UH) (Special Problems in PDEs) (5 students)
		M7315 (UH) (Masters Tutorial) (1 student)
2000-2001	Fall	M3431 (UH) (Differential Equations)
	Spring	M3331 (UH) (Differential Equations)
		M4336 (UH) Partial Differential Equations
1999-2000	Fall	M3431 (UH) (Differential Equations) (47 students)
		6360 (UH) (Applicable Analysis) (8 students)
	Spring	M3397 (UH) (Differential Equations) (48 students)
		M2431 (UH) (Linear Algebra and Differential Equations)
		(48 students)
1998-99	Fall	M2431 (UH) (Linear Algebra and Differential Equations)
		(47 students)
	Spring	M3431 (UH) (Differential Equations) (4 cr) (8 students)
		(2.33; 19 out of 30 students)
1997-98	Fall	M585 (Graduate PDE course, first semester of two)
		(2:00; 7 out of 9 students)
	Spring	M586 (Graduate PDE course, second semester of two)
		(1.20; 5 out 5 students)
		M266 (Differential Equations) (2.33; 19 students out of 30)
1996-97	Fall	M267 (1.84; 32 students)
		Graduate Course: Nonlinear Systems of Conservation Laws
	Spring	teaching buy-out
1995-96	Fall	M166 (1.46; Dept. 2.13) M166 (1.63; Dept. 2.13)
	Spring	teaching buy-out
1994-95	Fall	M165(1.50; Dept 1.95) M265 (1.37; Dept. 2.08)
	Spring	M690 P (1.00)
1993-94	Fall	M165 (1.35; Dept. 1.93) M265 (1.74; Dept. 2.24)
	Spring	M166
1992-93	Fall	Math 1314 (Elements of Calculus) University of Houston
1991-92	Spring	AMS691 (Computer Literacy) SUNY at Stony Brook
1986-1991	Fall	Real Analysis I (two sections) University of Zagreb,
		Complex Analysis

	Spring	Numerical Analysis (two sections) Real Analysis II	University of Zagreb,
1984-1986	Fall Spring	Combinatorics Numerical Analysis	University of Zagreb,

Curriculum Development

2004-2005: **Mathematical Hemodynamics**: graduate course on modeling, simulation and experimental validation of problems related to blood flow through human arteries

Spring, 1995: **"An Introduction to Systems of Conservation Laws" (Math 690P)**, (Department of Mathematics, Iowa State University) a one semester graduate course on nonlinear hyperbolic systems of conservation laws

1984–1986: **"Combinatorics"**, (Department of Mathematics, University of Zagreb, Croatia) a one semester undergraduate course on graph theory and combinatorics.

1984–1986: **"Numerical Analysis"** (Department of Mathematics, University of Zagreb, Croatia) a one semester undergraduate course on numerical methods for solving nonlinear equations, ODEs, and finite difference method for PDEs.

Supervising Post-doctoral Associates:

Yifan Wang(2014-present) (PhD from Louisiana Tech, PhD Adviser: Don Liu)

Lingling Shi(2014-present) (PhD from UH, PhD Adviser: TW Pan)

Steffen Basting(2013-2014) (PhD from U of Erlangen, PhD Adviser: Eberhard Bänsch)

Boris Muha (2009-2010 & 2011-2012) (PhD from U of Zagreb, PhD Adviser: Z. Tutek)
Currently: Assistant Professor at the University of Zagreb, Croatia

Maroje Marohnic (20010-2011) (PhD from U of Zagreb, PhD Adviser: J. Tambaca)
Currently: Assistant Professor at the University of Zagreb, Croatia

Annalisa Quaini (2009-2010) (PhD from EPFL, PhD Adviser: A. Quarteroni)
Currently: Assistant Professor at UH

Oleg Boiarkine (2008-present) (PhD from UH, PhD Adviser: J. Kuznetsov)
Currently: Researcher at the University of Aachen

Giovanna Guidoboni (2006-2008) co-superviser with R. Glowinski
(PhD from University of Ferrara, PhD Adviser: G. Padula)
Currently: Associate Professor at IUPUI

Jian Hao (2007-2008) (PhD. from U of Houston, PhD Adviser: T.W. Pan)
Current position unknown.

Serguei Lapin (co-advisor with Glowinski, Timoffeyev) (2006-2007)
(Ph.D. from U of Houston; PhD Advisers: R. Glowinski & S. Canic)
Currently: Assistant Professor at U of Washington, Pullman

Fabien Marpeau (2008 - 2009) (PhD. from U of Bordeaux, PhD Adviser: M. Langlais)
Currently: Research Associate at a Geophysics Company in Houston

Jegdic Katarina (2006-2008) co-superviser with B. Keyfitz
(Ph.D. from U of Illinois at Urbana-Champaign, PhD Adviser: R.L. Jerrard)
Currently: Associate Professor at U of Houston, Downtown

Supervising Graduate and Undergraduate Students:

Ph.D. Adviser for **Prajakta Bedekar**, Department of Mathematics, UH, 2015-present

Co-supervising Ph.D. student **Charles Puelz**, Department of Mathematics, Rice
University (Adviser: Prof. Beatrice Riviere), 2014-2017

Ph.D. Adviser for **Lan Zhang**, Department of Mathematics, UH, 2010-2014
(Employed as Scientific Computing Specialist by EMERSON Engineering, Houston)

Ph.D. Adviser for **Sibusiso Mabuza**, Department of Mathematics, UH, 2010-2014
(Employed as Postdoctoral Fellow at the University of Wuerzburg, Germany 2014)

Ph.D. Adviser for **Martina Bukac**, Department of Mathematics, UH, 2009-2012
(Employed as Postdoctoral Fellow at the University of Pittsburgh 2013;
Became Assistant Professor at Notre Dame 2014)

Ph.D. Adviser for **Yao Yu**, Department of Mathematics, UH, 2010

Ph.D. Adviser for **Taebom Kim**, Department of Mathematics, UH, 2004-2009
Currently: Research Associate at UT Health Science Center Houston.

Ph.D. Adviser for **Mate Kosor**, Department of Mathematics, UH, 2004-2008
Currently:Assistant Prof. at University of Zadar, Croatia

Ph.D. Adviser for **George Peters**, Department of Mathematics, ISU, 1995-1998
Currently: Chair of the Department of Mathematics at Greenville College, IA
Ph.D. thesis work was awarded J. J. L. Henrichsen Mathematics
Graduate Student Award for the best Ph. D. thesis in Applied Mathematics

at Iowa State University for the academic year 1997/98.

M.S. Adviser for **Ramae Hamrin**, Department of Mathematics, ISU, 1994-1996;
Currently: Bemindji State University

M.S. Adviser for **Kelly Buss**, Department of Mathematics, UH, 2000-2002;
Current position unknown.

M.S. Adviser for **Cynthia Chmielewski**, Department of Mathematics, UH, 2004-2006.
Currently: at MD Anderson Cancer Center

Ph.D. co-Adviser for **Serguei Lapin** (Advisor Dr. Roland Glowinski) 2004-2006
Currently: Assistant Prof. at the University of Washington, Pulman

Research Adviser for Undergraduate Student Acara Elaine Turner
              Department of Mathematics, UH, 2013-2017.

Research Adviser for Undergraduate Student Thomas Scott (Cornell University)
              Summer REU Program at the Department of Mathematics, UH, 2013.

Research Adviser for Undergraduate Student Joy Chavez (Honors Program)
              Department of Mathematics, UH, 2004-2007.

Research Mentor for REU students: Hassan Khalil and Rickin Patel
              Department of Mathematics, UH, 2003-2004

Research Advisor for undergraduate student Darryl Roy,
              Department of Mathematics, University of Houston
              Graduated May 2000 in Computer Science Department

Research Advisor for undergraduate student Jimmy Pritts ,
              Department of Mathematics, University of Houston, 2000

Research Advisor for undergraduate student Alysa Burns,
              Department of Mathematics, University of Houston
              Graduated May 2001.

Mentor (and PI) for the NSF-Funded Summer Research Program for
              Undergraduates Research Mentor for undergraduates A. Burns (UH) and
              Andrea Young (Penn State) in the Department of Mathematics, UH
              Summer 2001. Research reports available.

Research Mentor for undergraduate students Elyse Delavaud and
              Jerome Coulon (Université Claude Bernard Lyon 1)

in the Department of Mathematics, UH, June - August 2002.
Summer research project: "A numerical study of the reduced equations
for creeping flow in small, compliant, axi-symmetric arteries,"
Research reports available.

Research Mentor for undergraduate student Yafis Barlas
Graduated May 2002 (jointly with the Physics Department)
Undergraduate Publication "On the accuracy of the finite difference methods
for the hyperbolic equations with discontinuous coefficients"
Research reports available.

Contributed Talks in Mathematical Conferences

HYP2000: International Conference on Hyperbolic Problems 2000,
Feb 28-March 3, 2000, Contributed Lecture: "Hyperbolic Conservation Laws in Modeling
Endovascular Treatement of Abdominal Aortic Aneurysm"

Applied Mathematics for Industrial Flows; Biomathematics Section, 12-14 October, 2000,
Il Ciocco, Italy.
Lecture: "Pulsaltile blood flow modeled by a hyperbolic conservation law:
When and why the shock waves do not appear?"

HYP2000: International Conference on Hyperbolic Problems 2000, Feb 28-March 3, 2000
Contributed Lecture: "Hyperbolic Conservation Laws in Modeling
Endovascular Treatement of Abdominal Aortic Aneurysm"

AMS Annual Meeting (1999), San Antonio, January 1999
PAMS Editorial Board meeting

SIAM Annual Meeting (1997), Stanford, May 1997
Chair of a session. Co-authored paper presented by Peters entitled:
"Oscillation Wave in Hyperbolic Conservation Laws"

European Conference on Mathematics in Industry, Denmark, June 1996
Talk: "A Study of Shock Reflection Modeled by the
Unsteady Transonic Small Disturbance Equation"

SIAM Annual Meeting in Kansas City, July 1996,
Organizer of a Minisymposium on Multidimensional Systems of Conservation Laws
Talk: "On the structure of Riemann Solutions for the two–dimensional Burgers
equation"

Recent Advances in Partial Differential Equations and Application
Venice, Italy, June 10-14, 1996,

"On the Structure of Solutions in Weak Shock Reflection"

Texas Partial Differential Equations Seminar, San Marcos, March 30, 1996
"Riemann Problems for the 2-dimensional Burgers Equation"

American Mathematical Society Regional Meeting in Iowa City, March 22-23, 1996,
Invited organizer of a special session on Nonlinear Conservation Laws
Talk: "On the Role of Viscosity on Riemann Solutions"

Minnesota Center for Industrial Mathematics, School of Mathematics, Minneapolis,
Workshop on Mathematics in Industry, November 1995

Midwest Partial Differential Equations Seminar, Northwestern University,
Evanston, November 3-5. 1995

International Symposium on Shock Waves, Caltech, Pasadena, July 1995
Talk: "Oblique Shock Interactions and the von Neumann Paradox"

ICIAM 95, Hamburg, Germany, Minisymposium on Multidimensional Riemann Problems,
July 1995, Organizer

Mentoring Program for Women in Mathematics, Princeton Institute for Advance Study,
May 1995, Talk: "Shock Waves "

Symposium on Advances and Trends in Computational and Applied Mathematics
University of Texas, Austin, April 21-23 1995
Talk: "On the influence of viscoisty on Riemann solutions"

AMS Meeting, Minisymposium on Nonlinear Boundary Value Problems,
Hartford, March 1995,
Talk: " A Boundary Value Problem Arising from
the Unsteady Transonic Small Disturbance Equation"

DOE Principal Investigator's Meeting, February 1995, Sandia Natnl. Lab., Albuquerque
Talk: "A Two–Dimensional Riemann Problem Arising in Weak Shock Reflection,"
Poster: "Quadratic Systems of Conservation Laws"

SIAM Geosciences Meeting, February, 1995,
Talk to be presented: *"On the Role of Viscosity in the Stability of Shock Waves"*

1994 SIAM Annual Meeting, July 25–29, 1994,
Minisymposium on "Conservation Laws in Two Dimensions"
Talk presented:*"Two–Dimensional Riemann Problems for the 2-D Burgers Equation"*

AWM Workshop, July 24, 1994, San Diego,
Talk presented: *"Multidimensional Wave Interactions"*

Fifth International Conference on Hyperbolic Problems:
Theory, Numerical Methods, and Application
Stony Brook, June 13–17, 1994.
Talk presented: *"Free–Boundary Value Problem for Weak Shock Reflection"*

Iowa Partial Differential Equations Conference
March 25–27, 1994, University of Iowa, Iowa City
Presented talk: *"A Free-Boundary Value Problem Arising
in Weak Shock Reflection"*

Joint PDE Meeting: Iowa State University & Univ. of Iowa
February 12, 1994, Iowa State University
Presented talk: *"Mach Reflection for Weak Shock Waves"*

3rd Workshop on Partial Differential Equations:
Theory, Computation and Applications
July 19-23, 1993, IMPA, Rio de Janeiro, Brazil
Presented talk: *"On the Elliptic Problem Related to the 2-D Burgers Equation"*

Pattern Formation
March 21-27, 1993, Fields Institute, Waterloo, Canada
Presented Talk: *"Structural Stability of Viscous Profilable Shock Waves"*

ICIAM'91 - Second International Conference on Industrial and Applied Mathematics,
July 8 - 12, 1991, Work presented in Poster Session
Poster Title: *"A Global Approach to Shock Wave Admissibility"*

Conference on Numerical Analysis, Ljubljana, Slovenia, September 1986.
Title of talk: *"Splitting method for the sum of two maximal
monotone operators and application on the stationary Bingham fluid flow."*

Service:

1. Most Recent General Service to Mathematics Community

2016-2018	Member of Organizing Committee for the 2018 SIAM Annual Meeting, July 2018
2017-2018	Member of the **Scientific Committee** for HYP 2018 International Conference on Hyperbolic Problems: Theory, Numerics, and Applications, Penn State University, June 25-29, 2018.
2016-2018	Member of AWM **Scientific Advisory Committee**
2014-2018	Member of the **Board of Governors of IMA**

2015-2016	Lee Segel **Award Selection Committee** at the American Society for Mathematical Biology (declined due to time constraints)
2015-2019	**Selection committee for SIAM's** W.T. and Idalia Read Prize
2015-2016	**Selection Committee for SIAM Fellows**
2013-2015	Elected **Director of Programs** for SIAG on PDEs
2013-2015	Program Director for SIAM activity group on Analysis of Partial Differential Equations
2013-present	Associate Editor for the SIAM Journal on Numerical Analysis
2012-2013	Chair of the SIAM PD13 Conference (with K. Promislow)
2010-2011	Member of Organizing Committee for SIAM PD11 Conference
2014-2019	Member of the AMS Proceedings of Symposia in Applied Mathematics Editorial Committee
1998-2008	Associate editor for the Proceedings of the AMS

2. Editorial Boards:

Multiscale and Multidisciplinary Modeling, Experiments, and Design (Springer) 2017-2020

AMS Proceedings of Symposia in Applied Mathematics 2017-2022

SIAM Journal on Numerical Analysis 2013-present

Proceedings of the American Mathematical Society 1998-2008

Matematički Glasnik (Croatian Mathematical Society) 2002- present

Networks and Heterogeneous Media 2005-present

Inequalities 2006-present

Frontiers in Computational Physiology and Medicine 2011-present

Communications in Applied and Industrial Mathematics, 2015-present

3. Reviewer for:

Member of Review Committee of MBI (Mathematical Biosciences Institute)

National Institutes of Health (NIH)

National Science Foundation (NSF)

National Science Foundation of Portugal

Math Reviews (Reviewer) 2002-

Research Grants Council of Hong Kong, University Grants Committee

Physics of Fluids

Communication on Pure and Applied Math

SIAM J. Appl. Math.

Proceedings of the AMS

Matematica Contemporanea

SIAM J. Math. Analysis

ZAMP (J. of Applied Math and Physics)

4. Conference Organizing Committees:

Member of Organizing Committee for the 2018 SIAM Annual Meeting, July 2018

Member of the Scientific Committee of the 16th International Conference on
Hyperbolic Problems HYP2018, Penn State

Chair of Organizing Committee for SIAM Conference on Analysis of PDEs, Dec 2013

Main organizer of the Workshop on Recent Advances in Valve Modeling
Mathematical Biosciences Institute, May 2013

American Mathematical Society Meeting
Organizing Committee of the Annual Meeting, 2010&2011

SIAM Conference of Partial Differential Equations
Organizing Committee, 2011.

co-Organizer of the Workshop on Transport in the Human Body
UCLA Institute for Pure and Applied Mathematics (IPAM), May 2008

Organizer with T. Kim of Minisymposium on Blood Flow Modeling
at the SIAM PDE Meeting in Mesa, AR, November 2007.

Main Organizer (Katarina Jegdic, co-organizer) of the FRG Meeting on

Multi-Dimensional Hyperbolic Conservation Laws, Houston March 1-5, 2006

Member of Scientific Committee for HYP 2006 Bi-annual International
Conference on Hyperbolic Problems (to be held in 2006, Lyon, FR)

Organizer of a Session on Cardiovascular Flows at the Houston Society
for Engineering in Medicine and Biology Annual Meeting 2005.

Organizer (co-organizer) of several SIAM conference minisymposia;

Organizer of several American Mathematical Society special sessions;

Organizer of a Symposium at the American Association for the Advancement
of Sciences (AAAS), 2003.

1999, March 24-27, 5th SIAM Conference on Computational and
Mathematical Issues in Geosciences, San Antonio;
with Barbara Keyfitz, co-organizer of the minisymposium entitled
"Porestructure Level Modeling of Porous Media and its Relation
to Macroscopic Modeling"

1997, November 7-9, ISU PDE Conference in Honor of Olga Oleinik
co-organizer

1996 SIAM Annual Meeting in Kansas City, July 1996
(with Keyfitz) co-organizer of a minisymposium "Multidimensional Systems
of Conservation Laws"

American Mathematical Society Regional Meeting in Iowa City, March 22-23, 1996
Invited to organize a special session on "Current Issues in Nonlinear
Conservation Laws"

ICIAM '95, (with Brent Lindquist) co-organizer of a Minisymposium on
"Multidimensional Conservation Laws", Hamburg, July 23-27, 1995,

SIAM Annual Meeting, 1994, Organizer of a Minisymposium on
"Conservation Laws in Two Dimensions," San Diego, July 25-26, 1994.

5. Departmental and University Committees

Member of Hiring Committees, Math UH, 2014, 2015, 2016, 2017

Member of various Ad Hoc Committees at UH, 2014-2017

Member of Promotion and Tenure Committees and Merit Review Committees at UH 2014-2017

Member of Ph.D. Committees at various institutions

Member of Departmental Review Committees (IUPUI, Iowa State-declined due to conflict)

Member of the Executive Committee, Math UH 2006-2011

Member of the Hiring Committee (Mech. Eng. Department) UH 2008

Member of the Hiring Committee, Math UH 2006, 2009, 2010, 2011, 2012

Member of the Research Council of the University of Houston, 2003-2004.

Chair of Hiring Committee for Junior Positions (UH) 2001, 2002

Member of Executive Committee (UH) 2000-2002 and 2004-2006.

Member of Graduate Program Committee (UH), 1999-2000 and 2004-2006.

Member of Graduate Program Committee (ISU)

Member of Ad Hoc Committee on the Applied Mathematics Program (ISU)

Member of Ad Hoc Committee on Differential Equations Courses (UH)

Member of Search Committee (1999; UH)

Member of Commission on the Status of Women at UH (1999)

Research Interests

Partial Differential Equations
Mathematical Biology (Cardiovascular Research)
Numerical Analysis
Computational Fluid Dynamics
Mathematical Physics
Ordinary Diff. Equations and Dynamical Systems