

HUI MENG, PHD

UB Distinguished Professor of Mechanical, Aerospace & Biomedical Engineering and Neurosurgery
University at Buffalo, The State University of New York

Co-Director Canon (Toshiba) Stroke and Vascular Research Center
Director Hemodynamics and Vascular Biology Laboratory
Director Laser Flow Diagnostics Laboratory

ADDRESS

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EDUCATION

NIH K25 Training	Neurovascular Biology	University at Buffalo and UCSF	2004-09
	<i>Co-Mentors: L.N. Hopkins, MD and William L. Young, MD</i>		
PhD	Mechanical Engineering	University of Houston	1990-94
	<i>Mentor: Professor Fazle Hussain, PhD</i>		
DAAD Scholar	Applied Physics	Technische Universität Berlin	1987-90
MS	Optical Engineering	Zhejiang University	1984-87
B.S.	Optical Engineering	Zhejiang University	1980-84

POSITIONS

08.2004 - Present	Professor of Mechanical & Aerospace Engineering, University at Buffalo
02.2010 - Present	Adjunct Professor of Biomedical Engineering, University at Buffalo
08.2004 - Present	Research Professor of Neurosurgery, University at Buffalo
10.2010 - 03.2011	Visiting Professor, Institute of Fluid Sciences, Tohoku Univ., Sendai, Japan
08.1999 - 08.2004	Associate Professor of Mechanical & Aerospace Eng., University at Buffalo
01.1995 - 08.1999	Assistant Professor of Mechanical Engineering, Kansas State University
05.1996 - 08.1996	Visiting Professor, Wright Lab, Wright-Patterson Air Force Base

AWARDS AND HONORS

UB Distinguished Professor, 2018

Fellow, American Society of Mechanical Engineers (ASME), 2018

SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities, 2016

William L. Young/Allison Raaen Lectureship, Center for Cerebrovascular Research, UCSF, 2015

Fellow, American Institute for Medical and Biological Engineering (AIMBE), 2014

Invited Plenary Speaker, 10th International IntraCranial Stent Meeting, Buenos Aries, Argentina, 2013

Invited Speaker, 8th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease, Rotterdam, The Netherlands, 2013

Invited Speaker, 9th International IntraCranial Stent Meeting, Madison, WI, 2012

Best Presentation Award, 7th International Conference in Biomechanics in Vascular Biology and Cardiovascular Disease, Atlanta, GA, 2012

Invited Speaker, 8th International IntraCranial Stent Meeting, Shanghai, China, 2011

UB Distinguished Scholar—Sustained Achievement Award, University at Buffalo, 2011

Best Presentation Award, Live Interventional Neuroradiology Conference/7th International Intracranial Stent Meeting, Houston, 2010
Invited Speaker, First International Symposium on Biorehology, Wako, Japan, 2010
Invited Speaker, 6th International IntraCranial Stent Meeting, Sendai, Japan, 2009
Journal Covers of Stroke (June 2007; August 2010), Neurosurgery (November 2006) and J NeuroIntervent Surg (August 2012)
Invited Speaker, US-Japan Symposium on Biofluids, American Physical Society-DFD, 2005
National Institutes of Health Quantitative Research Career Award, 2004-2008
Keynote Speaker, International Symposium on Holographic Metrology in Fluid Mechanics, 2003
AIAA Best Paper Award, 2000
Invited Speaker, 30th AIAA Fluid Dynamics Conference, 1999
National Science Foundation CAREER (Presidential Young Investigator) Award, 1996
AFOSR Summer Faculty Research Award, 1996
Keynote Speaker, Sixth Asian Congress of Fluid Mechanics, Singapore, 1995
Sloan Fellow, 1995
German Academic Exchange Agency (DAAD) Fellowship, 1987-1990

RESEARCH INTEREST

Hemodynamics, Biofluids and biomechanics in vascular diseases, Image-based computational fluid dynamics modeling, Endovascular interventions, Cerebral aneurysm pathophysiology, Turbulence and complex flows, particle flow dynamics, Holographic particle image velocimetry

Specific Topics:

- Risk assessment for intracranial aneurysms
- Patient-specific hemodynamics and virtual intervention using finite element analysis and computational fluid dynamics simulations
- Neurovascular stents and flow diverters
- Role of hemodynamics in the initiation, growth and rupture of intracranial aneurysms
- Molecular mechanisms of intracranial aneurysms
- Endothelial cell responses to fluid shear stress
- Digital holographic particle image velocimetry
- 3D particle dynamics in turbulent flows

PROFESSIONAL SOCIETIES

American Society of Mechanical Engineering (ASME), Biomedical Engineering Society (BMES), American Heart Association (AHA), American Stroke Association (ASA), American Physical Society (APS), Society for Women Engineers (SWE)

PROFESSIONAL ACTIVITIES

National Institute of Health (NIH) scientific review boards (study sections):

- NIH Study Section – *Small Business: Clinical Neurophysiology, Devices, Neuroprosthetics, and Biosensors*, ZRG1 ETTN-C (10), 03/2018
- NIH Study Section – *Neuroscience and Ophthalmic Imaging Technologies (NOIT)*, 02/2016
- NIH Special Emphasis Review Panel ZRG1 ETTN-L 53 R, PAR13-137: Bioengineering Research, 02/2016
- NIH Special Emphasis Review Panel for *National Heart, Lung, and Blood Institute*, ZHL1 CSR-I (O1), 08/2014
- NIH Special Review Panels for *Mentored Research Career Award*, ZEB1 OSR-B (M2) S, ZEB1 OSR-B (J2) S, 05/2012, 01/2013
- NIH Study Section – *Surgical Sciences, Biomedical Imaging and Bioengineering (SBIB)*, Special Review Panel ZRG1 SBIB-X (02) M, 06/2013
- NIH Special Review Panel for *Bioengineering*, IMST-13, 10/2011

NIH Study Section – *Modeling and Analysis of Biological Systems (MABS)*, 3/2006, 2/2007, 7/2007-6/2011 (**Standing Member for 4 Years**)

NIH Special Emphasis Review Panel for *National Institute of Biomedical Imaging and Bioengineering*, ZEB1 OSR-D(A1), 5/2010

Review panels for the National Science Foundation

ASME Bioengineering Division Fluids Committee and Solids Committee

Proposal Reviewer, NSF, NASA, Institute for Petroleum Research, Foundation for Fundamental Research on Matter, etc.

Associate Editor, *Journal of Applied Fluid Mechanics*

Journal Reviewer for

Mechanical Engineering Discipline: *Journal of Fluid Mechanics, Physics of Fluids, Experiments in Fluids, ASME Journal of Fluids Engineering, ASME Journal of Biomechanical Engineering, ASME Journal of Medical Devices, International Journal of Computational Fluid Dynamics, Computer Methods in Applied Mechanics and Engineering, Journal of Fluids and Structures, Journal of Turbulence, Measurement Science and Technology*

Biomedical Engineering Discipline: *Annals of Biomedical Engineering, Journal of Biomechanics, Biomechanics and Modeling in Mechanobiology, Biorheology, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Medical Imaging, IEEE J Translational Engineering in Health and Medicine, Physics in Medicine and Biology, Medical Engineering & Physics, Medical & Biological Engineering & Computing, Computers in Biology and Medicine, Computer Methods in Biomechanics and Biomedical Engineering, International Journal for Numerical Methods in Biomedical Engineering*

Optical Engineering Discipline: *Applied Optics, Optics Letters, Optics Express, Optical Engineering, Optics Communications, Advances in Optics and Photonics*

Clinical Disciplines: *Circulation, Stroke, Arteriosclerosis Thrombosis and Vascular Biology, AJNR American Journal of Neuroradiology, Neuroradiology, Neurology, Neurosurgery, J Neurosurgery, J NeuroInterventional Surgery, World Neurosurgery, Acta Neuropathologica Communication, Clinical Neurology and Neurosurgery, Expert Review of Neurotherapeutics, Heart and Vessels, Technology and Health Care, J of Neuropathology and Experimental Neurology*

Multidisciplinary: *Scientific Reports, PLoS ONE*

SERVICES

Department: Administrating PhD Qualifying Exam (yearly since 2007), Faculty Marshal (2006, 2007, 2008, 2009, 2011, 2012, 2013, 2015, 2016, 2017, 2018), Graduate Committee (2012), Coordinator of Biomechanical Engineering (2002-2009), Undergraduate Committee, Graduate Committee, Scholarship Committee, Chair Search Committees, Faculty Search Committees

School: Hosting Women in Science and Engineering (WISE) camp for incoming freshmen (a program for females in STEM (Aug 21-22, 2014), Senior Faculty Panel for Future Faculty Workshop (May 13 2013), Dean's Search Committee (2012), Biomedical Engineering Faculty Search Committee (2009-2010), Faculty Personnel Committee (2008-2010), Dean's Research Advisory Committee (2002-2006), Bioengineering program development core group (2005-2007), Department Head Search Committee, Dean's Ambassador to Zhejiang University, Dean's Delegation to PNNL

University: President's Review Board (2013-2015), Steering Committee of the Association of Women Full Professors (2008-), Planning/design team for creating a new Biomedical Engineering Department (2007-2008), UB2020 Scholar Fund Review Panel (2007), J.D. Watson Award Review Panel (2004),

Science Coalition UB delegation (2001), Co-founder, Kansas Program for Complex Fluid Flows (1998)

Community: Fluids Committee, Bioengineering Division, ASME, Fund Usage Committee, Division of Fluid Dynamics, American Physical Society; Scientific Advisory Committee, International Workshop on PIV, '97, '99, '01, '03, '05, '07, '09, '11; Advisory Committee of the 14th Int'l Symposium on Applications of Laser Techniques to Fluid Mechanics, 2008;
Co-organizer, Aneurysm Joint Sessions, ASME Summer Bioengineering Conferences, 2011;
Session Co-Chair, Cerebral Aneurysms, ASME Summer Bioengineering Conferences, 2013;
Session Chair, 9th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease, 2014;
Co-organizer, Symposium on Cerebral Aneurysm, World Congress of Biomechanics, 2014

ENTREPRENEURSHIP ACTIVITIES

Co-founded **Neurovascular Diagnostics, Inc.** in May 2016

The startup company is developing a blood test for detecting unruptured brain aneurysms. This advance could save lives by enabling doctors to identify and provide preventative treatment to patients who have such aneurysms but exhibit no symptoms.

Participated in NSF I-Corps Short Course, UB and the UNY I-Corps Node Program, May 2017

Company received grants from Brain Aneurysm Foundation:

Feasibility of Detecting Brain Aneurysm Biomarkers in Whole Blood on a Diagnostic Platform
09/2017-09/2018, \$45,000

Prototype Blood Test for Detecting Unruptured Brain Aneurysms
09/2018-09/2019, \$50,000

Company received Small Business Innovation Research (SBIR) award from NSF:

SBIR Phase I: A Blood-Based Test to Identify Patients with Intracranial Aneurysm
01/2018-01/2019, \$225,000

News: <http://www.buffalo.edu/ubnow/stories/2018/02/spinoffs.html>

COURSES TAUGHT

Undergraduate: MAE204 Thermodynamics, MAE400 Intermediate Biofluid Mechanics, MAE409 Introduction to Biofluids, MAE400ST Intermediate Biofluid Mechanics, MAE 338 Fluids and Heat Transfer Lab, MAE 431 Energy Systems, MAE 478 Cardiovascular Biomechanics, ME 513 (KSU) Thermodynamics I, ME 571 (KSU) Fluid Mechanics

Graduate: NRS520 Neuroscience 1, MAE 578 Cardiovascular Biomechanics, MAE 519 Turbulent Flows, MAE 513 Advanced Diagnostics, ME 720 (KSU) Intermediate Fluid Mechanics, ME 773 (at KSU) Intermediate Heat Transfer, ME 831 (KSU) Boundary Layer Theory, ME 815 (KSU) Gas Dynamics, ME 920 (KSU) Laser Techniques for Thermo-Fluids Diagnostics

RESEARCH TRAINING ACTIVITIES

Graduate Students Mentored (Current)

Robert Damiano (PhD), Nikhil Paliwal (PhD), Hamid Rajabzadeh (PhD), Tatsat Patel (PhD), Kerry Poppenberg (PhD), Adam Hammond (PhD), Sricharan Veeturi (PhD), Seyyed Mostafa Mousavi Janbeh Sarayi (PhD), Saeb Ragani Lamooki (PhD), Armin Abdehkakha (PhD), Palak Patel (MS)

Postdoctoral Fellows Mentored

Jianping Xiang, PhD (2012-2016), Jennifer Dolan, PhD (2013-2014), Markus Tremmel, PhD (2006-2009), Eleni Metaxa, PhD (2008-2009), Ling Gao, PhD (2005-2009), Xiangqun Song, PhD (1999-2001), Ram Elavarasan, PhD (1997-1999)

Medical Fellows Mentored

Hoon Choi, MD, MS, SUNY Upstate Medical University Fellowship (2012)
Ken Snyder, MD, PhD, Congress of Neurological Surgeons Fellowship (2010)
J Mocco, MD, Brain Aneurysm Foundation Award (2009)
Omar Tanweer, MD, American Association of Neurological Surgeons (AANS) Scholarship (2008)

Graduate Students Mentored (Graduated)

*Students who produced publications in peer-reviewed journals based on their thesis work

Doctorate Students

Nicole Varble*	PhD 2018, Application of Patient Image-based CFD to Intracranial Aneurysm Rupture Risk Analysis
Vincent Tutino*	PhD 2018, Development of Blood-Based Biomarkers to Detect Brain Aneurysm
Zhongwang Dou*	PhD 2017, Experimental Study of Inertial Particle-Pair Relative Velocity in Isotropic Turbulence
Nicholas Liaw*	MD/PhD 2015, Hemodynamics Induced Intracranial Aneurysm Initiation: Mechanism Exploration and Model Optimization
Ding Ma*	PhD 2013, Computer Modeling of Neurovascular Flow Diverter
Max Mandelbaum*	MD/PhD 2013, The Role of Smooth Muscle Cells in a Model of Hemodynamic Intracranial Aneurysm Initiation
Jennifer Dolan*	PhD 2012, Endothelial Cells under High Wall Shear Stress and Spatial Gradients
Jianping Xiang*	PhD 2012, Intracranial Aneurysm Rupture Risk Prediction and Endovascular Virtual Intervention
Eleni Metaxa*	PhD 2008, Endothelial Cells under High Flow
Yiemeng Hoi*	PhD 2008, Correlating In Vivo Hemodynamics with Vascular Responses
Zhijie Wang*	PhD 2008, Flow-induced Aneurysm-Type Remodeling near an Arterial Bifurcation Apex
Jeremy de Jong*	PhD 2008, Dynamic Particle Field Experiments with Holographic Imaging
Minsouk Kim*	PhD 2007, Computational Fluid Dynamic Studies of Endovascular Stents for Treating Cerebral Aneurysms
Lujie Cao*	PhD 2007, Experimental Study of Aerosol Clustering in Isotropic Turbulence by Holographic Imaging
Gang Pan*	PhD 2004, Digital Holographic Imaging for 3D Particle and Flow Measurements
Ye Pu*	PhD 2002, Holographic Particle Image Velocimetry: Theory to Practice
Suchuan Dong*	PhD 2001, Direct Numerical Simulation of Mixing Tab Flow

Master Students

Adam Hammond*	MS 2018, Measuring Electric Charge on Individual Aerosol Particles Using In-line Holography
Tushar Kailu	MS2018, Experimental investigation of triboelectric charge on particles in helical gas/solids pipe flow systems
Sricharan Veeturi	MS 2017, Evaluation of two CFD solvers for potential clinical use
Rahul Sanal	MS 2016, A Fast Spring-based Geometric Constraint Algorithm for Simulating Endovascular Coil Treatment of Cerebral Aneurysms

Anjun Tripathy	MS 2015, Improved non-invasive method for aerosol particle charge measurement employing in-line digital holography
Chris Martensen	MS 2015, A Particle Image Velocimetry Study for Verification and Validation of a Computational Fluid Dynamics Tool
Jessica Utzig	MS 2015, Coculture Flow System for Study Endothelial and Smooth Muscle Cell Interactions under High Wall Shear Stress
Robert Damiano*	MS 2015, Finite Element Modeling of Endovascular Intervention Enables Hemodynamic Characterization of Intracranial Aneurysm Treatment Strategies
Vincent Tutino*	MS 2014, Analysis of Vascular Remodeling in the Circle of Willis after Hemodynamic Insult due to Carotid Occlusion
Fan Yang	MS 2014, Measurement and Application of Charge on Aerosols Using Inline Holographic Particle Tracking Velocimetry
Gabriel Trylesinski*	MS 2014, Vortex Dynamics in Ruptured and Unruptured Intracranial Aneurysms
Jaelyn Alfano*	MS 2011, Identification of Critical Hemodynamic Parameters that Correlate to Bifurcation Sites with High Rates of Intracranial Aneurysm Occurrence
V. C. Madhu	MS 2010, Image-Based CFD Analysis of Intracranial Aneurysms
Jun Zha	MS 2010, Experiments of Particle Dispersion in Isotropic Turbulence Using Hybrid Digital Holographic Imaging System
Shashi Kaluvala	MS 2010, Endothelial Cell Apoptosis at High Wall Shear Stress and Wall Shear Stress Gradient Environment
Sukhjinder Singh*	MS 2009, An In Vitro Flow System to Study Endothelial Cell Response to Positive and Negative Wall shear Stress Gradients
Dayle Hodge	MS 2008, Ex Vivo Model for Studying Vascular Remodeling
Sujan Dhar*	MS 2008, Rupture Risk Assessment of Human Intracranial Aneurysms: Morphological and Hemodynamic characterization
Michael Szymanski*	MS 2007, Endothelial Cell Layer Subjected to Flow Mimicking the Apex of an Arterial Bifurcation
Andrew Jennings	MS 2007, Blood Flow Measurement from Digital Angiography
Ling Ye	MS 2006, Three-dimensional Measurement of Bubble Growth Using Digital HPIV with Statistical Analysis
Suxian Huang	MS 2005, Four-Dimensional Holographic Microscopy
Yiemeng Hoi*	MS 2003, Correlation of Hemodynamics Forces and Aneurysm Geometry: Results of Computational Fluid Dynamics study
Stephanie Harvey	MS 2003, Transcatheter Delivery of Fibrin Gel for Treatment of Intracranial Aneurysms: An In Vitro Study
Zhijie Wang*	MS 2003, Stenting Effectiveness Assessment on Curved Vessel Aneurysm
Gaelle Campagne	MS 2003, Three-dimensional Measurement of Benchmark Flows Using Digital Holographic Particle Image Velocimetry
Jonathan Dudley	MS 2003, A Biomechanical Study of Intracranial Aneurysm
Amol Mulay	MS 2003, Computational Modeling of Cerebral Aneurysm Hemodynamics: Effect of Stenting
Yixiang Feng*	MS 2003, A Biomechanical Model of Rupture of Intracranial Aneurysms
Dib Mukherjee	MS 2001, Fluid-Phase Characterization in Particle-Laden Isotropic Turbulence
Matthieu Delahaye	MS 2000, Application of PIV to Studying Particulate Flows

Weiwei Jia*	MS 1999, Development of PIV for Large Area Air Flow Measurement
Mike Richardson	MS 1999, PIV Measurements of Interaction of Air Motion and the Human Body in Confined Spaces
Vishal Khosla	MS 1999, Flow Visualization Study of High Efficiency Vortab Mixer
Jian Sheng*	MS 1998, Development of Data Processing Systems, Algorithms, and Application for PIV and Holographic PIV
Ye Pu*	MS 1998, An Advanced Holographic PIV System
Wei Jin	MS 1998, Laser Doppler Velocimetry Calibration of a Water Tunnel
Wenming Yang*	MS 1997, A Study of Coherent Structures in the Wake of a Passive Mixing Tab Using Particle Image Velocimetry

GRANTS RECEIVED (TOTAL \$20,156,333)

<i>Project Title, Funding Agency, Period, Collaborators</i>	<i>Amount</i>
Virtual Intervention of Intracranial Aneurysms, National Institutes of Health/National Institute of Neurological Disorder and Stroke (1R01NS091075-01), 04/01/2015 – 03/31/2020, PI: H. Meng , Co-I: A. Siddiqui, J. Xu, J. Yu	\$1,696,730
MRI: Acquisition of a High-Speed 3D Velocimetry System to Study Complex Flows, NSF (CBET-1828544), 09/01/2018– 08/31/2019, PI: M. Ringuette, Co-PI: H. Meng , Co-I: J. Yoo, S.J. Bennett, .F. Atkinso	\$413,082
Image-based CFD Analysis Tools: Clinical Utility and Virtual Intervention, Canon (Toshiba) Medical System, 11/1/2015-10/31/2019, PI: H. Meng	\$274,000
Biomarkers for Ischemic Stroke Origin, Clinical and Translational Science Institute (CTSI) Translational Pilot Program, UB, 4/1/2018-3/31/2019, PI: A. Siddiqui, Co-PIs: H. Meng, V. Tutino	\$50,000
UB CAT: Blood-Based Biomarkers for Cerebral Aneurysms, UB Center for Advanced Technology (UB CAT), 01/01/2018-06/30/2018, PI: H. Meng	\$58,300
Development of Blood-Based Biomarkers for Brain Aneurysm Detection, The Brain Aneurysm Foundation, 10/01/2014-9/30/2017, PI: H. Meng	\$107,100
AView: A Bedside Simulation Tool for Neurovascular Intervention, National Institutes of Health/National Institute of Neurological Disorder and Stroke (1R03NS090193-01A1), 09/01/2015 – 08/31/2017, PI: H. Meng , Co-I: A. Siddiqui.	\$157,318
Development of Virtual Expansion of Enterprise Stent in Cerebral Aneurysms, Zhongbei Tianyi Science and Technology, 11/01/2013-5/31/2014, PI: H. Meng , Co-I: Adnan Siddiqui	\$25,000
Rapid Assessment of Patient-Specific Hemodynamics from Angiographic and CTA Images, Toshiba Medical Systems, 11/01/2009-10/31/2015, PI: H. Meng , LN Hopkins	\$600,000
Hemodynamic Induction of Pathologic Remodeling Leading to Intracranial Aneurysms, National Institutes of Health/National Institute of Neurological Disorder and Stroke (5R01 NS064592), 02/15/2009- 02/14/2015, PI: H. Meng , Co-Is: John Kolega, Dan Swartz, Adnan Siddiqui	\$1,733,595

Collaborative Research: Integrated investigation of inertial particle pair dynamics in turbulence (CBET-0967407), National Science Foundation, 07/15/2010-06/30/2015, PI: H. Meng (in collaboration with CBET- 0967349 awarded to Lance Collins of Cornell U.)	\$203,685
A New Parameter for Prediction of Intracranial Aneurysm Hemodynamics and Risk of Rupture, National Institutes of Health/National Institute of Biomedical Imaging and Bioengineering (1 R03 EB014860-01), 09/01/13-08/31/16, PI: I. Borazjan, Co-I: H. Meng	\$152,863
Evaluation of Pipeline Embolization Device Using Virtual Deployment in Patient-Specific Aneurysms, Covidien (VTGCC053012-009), 9/1/2012-8/31/2013, PI: H. Meng , Co-Is: A. Siddiqui, E. Levy	\$90,295
Computing Infrastructure to Advance Biomedical Research, National Institutes of Health /NCRR (1S10RR028863), 06/24/2010-06/23/2011, PI: Thomas Furlani, Co-Is: H. Meng et al. (10 total)	\$2,566,410
Computational Fluid Dynamics Analysis of Neuro-endovascular Flow Diverters, Micrus Endovascular Corporation, 12/01/09-4/30/10, PI: H. Meng	\$40,000
Mechanical forces exerted on an ex vivo vascular bifurcation, American Society of Quality, in support of mentoring research by Dayle Hodge, Jennifer Dolan, Jianping Xiang, 04/01/2008-12/31/2010 PI: H. Meng ,	\$26,401
Investigation of Particle Clustering Using 3D Digital Holographic Imaging and Direct Numerical Simulation, NASA (NRA 02 OBPR 03C), 6/2005-9/2009, PI: H. Meng	\$157,607
Hemodynamic Intervention of Intracranial Aneurysm, NIH/NINDS (5K25 NS047242), 02/01/2004-01/31/2009, PI: H. Meng	\$766,555
Intracranial Aneurysm Model for Neurointervention, UB2020 Inter-disciplinary Research Development Fund, 02/01/2007-01/31/2008, PI: H. Meng , Co-Is: John Kolega, Adnan Siddiqui	\$36,500
Radiographic Guidance of New Cerebral Aneurysm Stent, NIH/NINDS (R01 NS043924), 4/15/2004-3/31/2008, PI: Stephen Rudin, Co-I's: H. Meng , D. Bednarek, K. Hoffmann, L. N. Hopkins, L. Guterman	\$2,589,418
Microradiographic Guidance of Flow Modifying Stents, NIH/NIBIB (R01 EB002873), 09/20/2003-07/31/2008, PI: Stephen Rudin, Co-I's: H. Meng , D. Bednarek, K. Hoffmann, L. N. Hopkins, L. Guterman	\$3,199,913
Understanding and Characterization of Hemodynamics in Non-stented and Stented Cerebral Aneurysms, National Science Foundation (BES-0302389), 07/01/2003-6/30/2006, PI: H. Meng , Co-PI's: Dale Taulbee, L.N. Hopkins	\$333,363
Holographic Measurement of Particle-Turbulence Interaction in Isotropic Turbulence, NSF, 12/12/2001-11/30/2004, PI: H. Meng	\$200,000
Dynamics of Aerosol particles in Stationary, Isotropic Turbulence, NASA Microgravity Fluid Physics Program, 2000-2004. PI: Lance Collins, Co-PI: H. Meng	\$350,000
New York Environmental Quality Systems Center, NYSTAR, 2002-2003 (Lead Institution: Syracuse University, total funding \$15.9M), UB Co-PIs: Bob Baier, H. Meng , Lisa Stephan	\$1,273,000

Hemodynamics of Cerebral Aneurysms, The Cummings Foundation, 2002-2003, PI: H. Meng	\$100,000
Hemodynamics Laboratory for Intracranial Aneurysm Study, Western New York Foundation, 2002-2003, PI: H. Meng	\$100,000
Nonequilibrium Turbulence Study using Holographic PIV, AFOSR (DEPSCoR), 1998-2001, PI: H. Meng	\$213,000
Industrial Match for CAREER Award, The Dow Chemical Company. 1996-2001, PI: H. Meng	\$125,000
New Approaches of Holographic Particle Velocimetry for Studying Turbulence, National Science Foundation CAREER Award, 1996-2001, PI: H. Meng	\$385,000
Non-Contact Diagnostics in Manufacturing: A New Precision Measurement Lab, NSF-EPSCoR, 1998-2000, PI: S. Madanshetty, Co-PIs: H. Meng and 4 others	\$499,541
CAREER Supplement: Stereo PIV Measurement for Stirred Tank, National Science Foundation, 1998-1999, PI: H. Meng	\$23,100
Equipment Upgrade for Development of Holographic PIV, National Science Foundation-REG, 1997-1998, PI: H. Meng	\$98,613
Acquisition of Major Research Equipment (PIV) for Kansas Universities, National Science Foundation -EPSCoR, 1998. PI: M. Hosni, Co-PIs: H. Meng , BW Jones	\$150,000
Interaction of Air Motion and Human Body in Confined Spaces, ASHRAE, 1997-1999. PI: B. W. Jones, Co-PIs: H. Meng , M. Hosni	\$97,331
Kansas Program for Complex Fluid Flows, National Science Foundation -EPSCoR: 1997-1998, PI: C. Sorensen, Co-PIs: H. Meng and 8 others	\$902,000
Development of a Comprehensive Research Initiative in Complex Fluid Flows, KSU, 1996-1998. PI: R. O. Fox, Co-PIs: H. Meng and 3 others	\$243,200
Non-Contact On-Line Surface Measurement Using OptoStylus, Advanced Manufacturing Institute, 1995-1998, PI: H. Meng	\$75,000
Holographic Visualization and Velocimetry Techniques for Combustion Studies, AFOSR, 1997. PI: H. Meng	\$25,000
Development of HPIV for Studying Vortex-Flame Interaction, AFOSR - Summer Faculty, 1996, PI: H. Meng	\$10,000
New Approaches of Holographic Particle Velocimetry for Studying Turbulence, K*STAR - First Award, 1996. PI: H. Meng	\$48,313
Investigation of PIV Application in Wright Lab, Chemineer, Inc., Ford Research Laboratory, K*STAR - RSI, 1995-1996, PI: H. Meng	\$10,500
Development of Holographic Particle Image Velocimetry for Environmental Research, Sloan Foundation, 1995-1996, PI: H. Meng	\$9,600
TOTAL	\$20,156,333

PEER-REVIEWED JOURNAL PUBLICATIONS

Google Scholar <https://scholar.google.com/citations?user=pURzYmUAAAAJ&hl=en>

ResearcherID <http://www.researcherid.com/rid/F-7929-2010>

ResearchGate https://www.researchgate.net/profile/Hui_Meng2

Total Peer-Reviewed Journal Publications: 130

Google Scholar: h-Index 47, Total Citation 8,121

ISI Web of Science: h-Index 36, Total Citation 4544

Journal Articles in Hemodynamics, Biofluid Dynamics, Aneurysm, Vascular Biology:

1. Paliwal N, Tutino VM, Shallwani H, Beecher JS, Damiano J, Shakir HJ, Atwal GS, Fennell VS, Natarajan SK, Levy EI, Siddiqui AH, Davies JM, **Meng H**: Ostium Ratio and Neck Ratio Could Predict the Outcome of Sidewall Intracranial Aneurysms Treated with Flow Diverters. *AJNR Am J Neuroradiol* (epub January 24, 2019). PMID 306792216. PMCID: PMC6375759. <http://doi.org/10.3174/ajnr.A5953>
2. Tutino VM, Poppenberg KE, Li L, Shallwani H, Jiang K, Jarvis JN, Sun Y, Snyder KV, Levy EI, Siddiqui AH, Kolega J, **Meng H**: Biomarkers from Circulating Neutrophil Transcriptomes Have Potential To Detect Unruptured Intracranial Aneurysms. *J Transl Med*. 2018 Dec 28;16(1):373 PMID: 30593281. PMCID: PMC6310942. <http://doi.org/10.1186/s12967-018-1749-3>
3. Paliwal N, Jaiswal P, Tutino VM, Shallwani H, Davies JM, Siddiqui AH, Rai R, **Meng H**: Outcome prediction of intracranial aneurysm treatment by flow diverters using machine learning. *Neurosurg Focus* 45 (5):E7, 2018. PMID: 30453461. <http://doi.org/10.3171/2018.8.FOCUS18332>
4. Berg P, Rajabzadeh Oghaz H, Paliwal N, **Meng H**, et al, Beunig O. Multiple Aneurysms AnaTomy CHallenge 2018 (MATCH) - Phase I: Segmentation. *Cardiovascular Engineering and Technology 2018 Dec;9(4):565-581*. PMID: 30191538. <http://doi.org/10.1007/s13239-018-00376-0>
5. Rajabzadeh-Oghaz H, Varble N, Shallwani H, Tutino VM, Mowla A, Shakir HJ, Vakharia K, Atwal GS, Siddiqui AH, Davies JM, **Meng H**: Computer-Assisted 3D Morphology Evaluation of Intracranial Aneurysms. *World Neurosurg*. 2018 Nov;119:e541-e550. PMID: 30075262. PMCID: PMC6383522. <http://doi.org/10.1016/j.wneu.2018.07.208>
6. Jiang K, Poppenberg KE, Wong L, Chen Y, Borowitz D, Goetz D, Sheehan D, Frederick C, Tutino VM, **Meng H**, Jarvis JN: RNA sequencing data from neutrophils of patients with cystic fibrosis reveals potential for developing biomarkers for pulmonary exacerbations. *J Cyst Fibros*. 2018 Jun 22. pii: S1569-1993(18)30619-2. PMID: 29941318. <http://doi.org/10.1016/j.jcf.2018.05.014>
7. Botti L, Paliwal N, Conti P, Antiga L, **Meng H**: Modeling hemodynamics in intracranial aneurysms: Comparing accuracy of CFD solvers based on finite element and finite volume schemes. *Int J Numer Method Biomed Eng*. 2018 Jun 1:e3111. PMID: 29858530. <http://doi.org/10.1002/cnm.3111>
8. Chen Z, Chen D, Wang X, Damiano RJ, **Meng H**, Xu J: Novel geometric approach for virtual coiling. *Theor Comput Sci*. 2018 Jul 22;734:3-14. PMID: 30250355 PMCID: PMC6150465. <http://doi.org/10.1016/j.tcs.2018.02>
9. Varble N, Tutino VM, Yu J, Sonig A, Siddiqui AH, Davies JM, **Meng H**: Shared and Distinct Rupture Discriminants of Small and Large Intracranial Aneurysms. *Stroke*, 49(4):856-864, 2018. PMID: 29535267 PMCID: PMC5871584. <http://doi.org/10.1161/STROKEAHA.117.019929>
10. Zhang Q, Jing L, Liu J, Wang K, Zhang Y, Paliwal N, Meng H, Wang Y, Wang S, Yang X: Predisposing factors for recanalization of cerebral aneurysms after endovascular embolization: a multivariate study. *J*

- Neurointerv Surg*. 2018 Mar;10(3):252-257. PMID: 28377443. PMCID: PMC5826759.
<http://doi.org/10.1136/neurintsurg-2017-013041>
11. Varble N, Kono K, Rajabzadeh-Oghaz H, **Meng H**: Rupture resemblance models may correlate to growth rates of intracranial aneurysms: preliminary results, *World Neurosurg*. 2018 Feb;110:e794-e805. PMID: 29180083. <http://doi.org/10.1016/j.wneu.2017.11.093>
 12. Zhang Q, Liu J, Zhang Y, Zhang Y, Tian Z, Li W, Chen J, Mo X, Cai Y, Paliwal N, **Meng H**. Efficient simulation of a low-profile visualized intraluminal support device: A novel fast virtual stenting technique. *Chinese Neurosurgical Journal*. 2018, 4:6. <https://doi.org/10.1186/s41016-018-0112-0>
 13. Tutino VM, Poppenberg KE, Jiang K, Jarvis JN, Sun Y, Sonig A, Siddiqui AH, Snyder KV, Levy EI, Kolega J, **Meng H**: Circulating neutrophil transcriptome may reveal intracranial aneurysm signature. *PLoS ONE*, 2018 Jan 17;13(1):e0191407. PMID: 29342213. PMCID: PMC5771622.
<http://doi.org/10.1371/journal.pone.0191407>
 14. Chen Z, Chen D, Wang X, Damiano RJ, **Meng H**, Xu J: Novel geometric approach for virtual coiling, *Theoretical Computer Science* 734: 3-14, 2018. PMID: 30250355 PMCID: PMC6150465.
<http://doi.org/10.1016/j.tcs.2018.02.013>
 15. Zhang Q, Jing L, Liu J, Wang K, Zhang Y, Paliwal N, **Meng H**, Wang Y, Wang S, Yang X: Predisposing factors for recanalization of cerebral aneurysms after endovascular embolization: a multivariate study. *J Neurointerv Surg*. 2018 Mar;10(3):252-257. PMID: 28377443. PMCID: PMC5826759. <http://doi.org/10.1136/neurintsurg-2017-013041>
 16. Paliwal N, Damiano RJ, Varble NA, Tutino VM, Dou Z, Siddiqui AH, **Meng H**: Methodology for CFD Validation for Medical Use: Application to Intracranial Aneurysm. *J Biomech Eng*. 2017 Dec 1;139(12). PMID: 28857116. PMCID: PMC5686786. <http://doi.org/10.1115/1.4037792>
 17. Xiang J, Varble N, Davies JM, Rai AT, Kono K, Sugiyama SI, Binning MJ, Tawk RG, Choi H, Ringer AJ, Snyder KV, Levy EI, Hopkins LN, Siddiqui AH, **Meng H**: Initial Clinical Experience with AView—A Clinical Computational Platform for Intracranial Aneurysm Morphology, Hemodynamics, and Treatment Management. *World Neurosurg* 2017 Dec; 108:534-542. PMID 28919570. PMCID: PMC5705258. <http://doi.org/10.1016/j.wneu.2017.09.030>
 18. Varble N, Rajabzadeh-Oghaz H, Wang J, Siddiqui A, **Meng H**, Mowla A: Differences in Morphological and Hemodynamic Characteristics for “PHASES-Based” Intracranial Aneurysm Locations. *AJNR Am J Neuroradiol* 2017 Nov;38(11):2105-2110. PMID 28912279. PMCID: PMC5819012.
<http://doi.org/10.3174/ajnr.A5341>
 19. Varble N, Trylesinski G, Xiang J, Snyder K, **Meng H**: Identification of vortex structures in a cohort of 204 intracranial aneurysms. *J R Soc Interface*. 2017 May; 14(130). pii: 20170021. PMID: 28539480. PMCID: PMC5454289. <http://doi.org/10.1098/rsif.2017.0021>
 20. Damiano RJ, Tutino VM, Paliwal N, Ma D, Davies JM, Siddiqui AH, **Meng H**: Compacting a Single Flow Diverter versus Overlapping Flow Diverters for Intracranial Aneurysms: A Computational Study. *AJNR Am J Neuroradiol*. 2017; 38(3):603-610. PMID 28057633. PMCID: PMC5352494.
<http://doi.org/10.3174/ajnr.A5062>
 21. Han X, Sakamoto N, Tomita N, **Meng H**, Ohta M: Influence of shear stress on phenotype and MMP production of smooth muscle cells in a co-culture model. *J Biorheol* (2017) 31(2):50–56.
<http://doi.org/10.17106/jbr.31.50>

22. Zhang Q, Meng Z, Zhang Y, Yao K, Liu J, Zhang Y, Jing L, Yang X, Paliwal N, **Meng H**, Wang S: Phantom-based experimental validation of fast virtual deployment of self-expandable stents for cerebral aneurysms. *Biomed Eng Online*. 2016 Dec 28;15(Suppl 2):125. PMID: 28155680. PMCID: PMC5260011. <http://doi.org/10.1186/s12938-016-0250-6>
23. Mahajan SD, Tutino VM, Redae Y, **Meng H**, Siddiqui A, Woodruff TM, Jarvis JN, Hennon T, Schwartz S, Quigg RJ, Alexander JJ: C5a induces caspase dependent apoptosis in brain vascular endothelial cells in experimental lupus. *Immunology*. 2016 Aug;148(4):407-19. PMID: 27213693. PMCID: PMC4948033. <http://doi.org/10.1111/imm.12619>
24. Varble N, Xiang J, Lin N, Levy E, **Meng H**: Flow Instability Detected by High-Resolution CFD in Fifty-Six Middle Cerebral Artery Aneurysms. *J Biomechanical Eng*. 2016 Jun 1;138(6). PMID: 27109451. PMCID: PMC4871011. <http://doi.org/10.1115/1.4033477>
25. Paliwal N, Yu H, Xu J, Xiang J, Siddiqui AH, Yang X, Li H, **Meng H**: Virtual Stenting Workflow with Vessel-Specific Initialization and Adaptive Expansion for Neurovascular Stents and Flow Diverters, *Comput Methods Biomech Biomed Eng*. 2016 Oct;19(13):1423-1431. PMID: 26899135. PMCID: PMC4945427. <http://doi.org/10.1080/10255842.2016.1149573>
26. Wang C, Tian Z, Liu J, Jing L, Paliwal N, Zhang Y, Xiang J, Siddiqui AH, **Meng H**, Wang S, Yang X: Hemodynamic Alterations for Various Stent Configurations in Idealized Wide-neck Basilar Tip Aneurysm. *J Med Biol Eng*. June 2016, 36(3), 379-385. <http://doi.org/10.1007/s40846-016-0139-7>
27. Jing L, Zhong J, Liu J, Yang X, Paliwal N, **Meng H**, Wang S, Zhang Y: Hemodynamic Effect of Flow Diverter and Coils in the Treatment of Large and Giant Intracranial Aneurysms. *World Neurosurg*. 2016 May;89:199-207. PMID: 26852712. <http://doi.org/10.1016/j.wneu.2016.01.079>
28. Wang C, Tian Z, Liu J, Jing L, Paliwal N, Wang S, Zhang Y, Xiang J, Siddiqui AH, **Meng H**, Yang X: Hemodynamic alterations after stent implantation in 15 cases of intracranial aneurysm. *Acta Neurochir (Wien)*. 2016 Apr;158(4):811-9. PMID: 26746828. PMCID: PMC4918465. <http://doi.org/10.1007/s00701-015-2696-x>
29. Tutino VM, Liaw N, Sperryak J, Ionita C, Siddiqui AH, Kolega J, **Meng H**: Assessment of Vascular Geometry for Bilateral Carotid Artery Ligation to Induce Early Basilar Terminus Aneurysmal Remodeling in Rats. *Current Neurovascular Research* 2016;13(1):82-92. PMID: 26503026. PMCID: PMC5388353. <http://doi.org/10.2174/1567202612666151027143149>
30. Xiang J, Yu J, Snyder KV, Siddiqui AH, Levy EI, Siddiqui AH, **Meng H**: Hemodynamic-Morphological Discriminant Models for Intracranial Aneurysm Rupture Remain Stable with Increasing Sample Size. *J Neurointerv Surg*. 2016 Jan;8(1):104-10. PMID: 25488922. PMCID: PMC4791310. <http://doi.org/10.1136/neurintsurg-2014-011477>
31. Berg P, **Meng H** et al.: The Computational Fluid Dynamics Rupture Challenge 2013 – Phase II: Variability of Hemodynamic Simulations in Two Intracranial Aneurysms, *J Biomech Eng*. 2015 Dec; 137(12):121008. PMID: 26473395. <http://doi.org/10.1115/1.4031794>
32. Liu J, Jing L, Wang C, Paliwal N, Wang S, Zhang Y, Xiang J, Siddiqui A.H, **Meng H**, Yang X: Effect of hemodynamics on outcome of subtotally occluded paraclinoid aneurysms after stent-assisted coil embolization. *J Neurointerv Surg*. 2016 Nov;8(11):1140-1147. PMID: 26610731. PMCID: PMC4882272. <http://doi.org/10.1136/neurintsurg-2015-012050>
33. Tutino VM, Mandelbaum M, Takahashi A, Pope LC, Siddiqui AH, Kolega J, **Meng H**: Hypertension and Estrogen Deficiency Augment Aneurysmal Remodeling in the Rabbit Circle of Willis in Response

- to Carotid Ligation. *Anatomical Record*. 2015 Nov;298(11):1903-10. PMID: 26248728. PMCID: PMC4776638. <http://doi.org/10.1002/ar.23205>
34. Damiano RJ, Ma D, Xiang J, Snyder KV, Siddiqui AH, **Meng H**: Finite Element Modeling of Endovascular Intervention Enables Hemodynamic Prediction of Complex Treatment Strategies of Coiling and Flow Diversion. *J Biomech*. 2015; 48, 3332–3340. PMID: 26169778. PMCID: PMC4801175. <http://doi.org/10.1016/j.jbiomech.2015.06.018>
 35. Xiang J, Antiga L, Varble N, Snyder KV, Levy EI, Siddiqui AH, **Meng H**: AView: An Image-based Clinical Computational Tool for Intracranial Aneurysm Flow Visualization and Clinical Management. *Ann Biomed Eng* 2016 Apr;44(4):1085-96. PMID 26101034. PMCID: PMC4801175. <http://doi.org/10.1007/s10439-015-1363-y>
 36. Xiang J, Damiano RJ, Lin N, Snyder KV, Siddiqui AH, Levy EI, **Meng H**: High-Fidelity Virtual Stenting: Modeling of Flow Diverter Deployment for Hemodynamic Characterization of Complex Intracranial Aneurysms. *J Neurosurg* 2015 Oct;123(4):832-40. PMID: 26090829. PMCID: PMC4792250. <http://doi.org/10.3171/2014.11.JNS14497>
 37. Xiang J, Yu J, Choi, H., Dolan Fox JM, Snyder KV, Levy EI, Siddiqui AH, **Meng H**: Rupture Resemblance Score (RRS) – Toward Risk Stratification of Unruptured Intracranial Aneurysms Using Hemodynamic-Morphological Discriminants. *J Neurointerv Surg*. 2015 Jul;7(7):490-5. PMID: 24811740. <http://doi.org/10.1136/neurintsurg-2014-011218>
 38. Tanweer O, Wilson TA, Metaxa E, Riina HA, **Meng H**: A Comparative Review of the Hemodynamics and Pathogenesis of Cerebral and Abdominal Aortic Aneurysms: Lessons to Learn From Each Other. *J Cerebrovasc Endovasc Neurosurg*. 2014 Dec;16(4):335-49. PMID: 25599042 <http://doi.org/10.7461/jcen.2014.16.4.335>
 39. Xiang J, Siddiqui AH, **Meng H**: The effect of inlet Waveforms on computational hemodynamics of patient-specific intracranial aneurysms, *J Biomech*. 2014 Dec 18;47(16):3882-90. PMID: 25446264 <http://doi.org/10.1016/j.jbiomech.2014.09.034>
 40. Liu J., Xiang J, Zhang Y, Wang Y, Li, H, **Meng H**, Yang X: Morphologic and Hemodynamic Analysis of Paraclinoid Aneurysms: Ruptured vs Unruptured. *J NeuroIntervent Surg*. 2014 Nov;6(9):658-63. PMID: 24220206. <http://doi.org/10.1136/neurintsurg-2013-010946>
 41. Xiang J, Tutino VM, Snyder KV, **Meng H**: CFD: Computational Fluid Dynamics or Confounding Factor Dissemination? The Role of Hemodynamics in Intracranial Aneurysm Rupture Risk Assessment. *AJNR Am J Neuroradiol*. 2014 Oct;35(10):1849-57. PMID: 24029393. <http://doi.org/10.3174/ajnr.A3710>
 42. Ma D, Xiang J, Choi H, Dumont TM, Natarajan SK, Siddiqui AH, **Meng H**: Enhanced Aneurysmal Flow Diversion using a Dynamic Push-Pull Technique: An Experimental and Modeling Study. *AJNR Am J Neuroradiol*. 2014 Sep;35(9):1779-85. PMID: 24763414. <http://doi.org/10.3174/ajnr.A3933>
 43. Xiang J, Ma D, Snyder KV, Levy EI, Siddiqui AH, **Meng H**: Increasing Flow Diversion for Cerebral Aneurysm Treatment Using a Single Flow Diverter. *Neurosurgery*. 2014 Sep;75(3):286-94; discussion 294. PMID: 24867201. <http://doi.org/10.1227/NEU.0000000000000409>
 44. Liaw N, Fox JD, Siddiqui AH, **Meng H**, Kolega J: Endothelial Nitric Oxide Synthase and Superoxide Mediate Hemodynamic Initiation of Intracranial Aneurysms, *PLoS One* 2014 Jul 3;9(7):e101721. PMID: 24992254. <http://doi.org/10.1371/journal.pone.0101721>

45. Tutino VM, Mandelbaum M, Choi H, Pope LC, Siddiqui A, Kolega J, **Meng H**: Aneurysmal Remodeling in the Circle of Willis Following Carotid Occlusion in an Experimental Model. *J Cereb Blood Flow Metab* (A Nature Publication). 2014 Mar;34(3):415-424. PMID: 24326393. PMCID: PMC3948116. <http://doi.org/10.1038/jcbfm.2013.209>
46. **Meng H**, Tutino VM, Xiang J, Siddiqui AH: High WSS or Low WSS? Complex interactions of hemodynamics with intracranial aneurysm initiation, growth, and rupture: Toward a unifying hypothesis. *AJNR Am J Neuroradiol* 2014 Jul;35(7):1254-62. PMID: 23598838. <http://doi.org/10.3174/ajnr.A3558>
47. Dolan JM, **Meng H**, Sim FJ, Kolega J: Differential Gene Expression by Endothelial Cells Under Positive and Negative Streamwise Gradients of High Wall Shear Stress. *Am J Physiol Cell Physiol*. 2013 Oct 15; 305(8):C854-66. PMID: 23885059. PMCID: PMC3798684. <http://doi.org/10.1152/ajpcell.00315.2012>
48. Mandelbaum M, Kolega J, Dolan JM, Siddiqui AH, **Meng H**: A Critical Role for Proinflammatory Behavior of Smooth Muscle Cells in Hemodynamic Initiation of Intracranial Aneurysm. *PLoS One* 2013 Sep 2;8(9):e74357. PMID: 24023941. PMCID: PMC3759467. <http://doi.org/10.1371/journal.pone.0074357>
49. Kono K, Masuo O, Nakao N, **Meng H**: De Novo Cerebral Aneurysm Formation Associated with Proximal Stenosis, *Neurosurgery*. 2013; 73(6):E1080-90. PMID: 23839522. <http://doi.org/10.1227/NEU.0000000000000065>
50. Wang Y, Li Y, Jiang C, Wu Z, Jiang F, **Meng H**, Siddiqui AH, Yang X: Could the types of paraclinoid aneurysm be used as a criterion in choosing endovascular treatment? Neuro-radiologists' view. *Acta Neurochir*. 2013 155:2019-2027. PMID 23925860. <http://doi.org/10.1007/s00701-013-1830-x>
51. Alfano AM, Kolega J, Natarajan SK, Xiang J, Paluch RA, Levy EI, Siddiqui AH, **Meng H**: Intracranial aneurysms occur more frequently at bifurcation sites that typically experience higher hemodynamic stresses, *Neurosurgery* 73(3):497-505, 2013. PMID: 23756745. PMCID: PMC5388353. <http://doi.org/10.1227/NEU.0000000000000016>
52. Wang Y, Li Y, Jiang C, Jiang F, **Meng H**, Siddiqui AH, Yang X: Endovascular Treatment of Paraclinoid Aneurysms: 142 Aneurysms in One Centre. *J NeuroIntervent Surg* 2013 Nov;5(6):552-6. PMID: 23087381. <http://doi.org/10.1136/neurintsurg-2012-010494>
53. Ma D, Dumont T, Kosukegawa H, Ohta M, Yang X, Siddiqui, A, **Meng H**: High Fidelity Virtual Stenting (HiFiVS) for Intracranial Aneurysm Flow Diversion: In Vitro and In Silico, *Ann Biomed Eng*. 2013 Oct;41(10):2143-56. PMID:23604850. PMCID: PMC3766425. <http://doi.org/10.1007/s10439-013-0808-4>
54. Dolan JM, Kolega J, **Meng H**: High Wall Shear Stress and Spatial Gradients in Vascular Pathology: A Review. *Annals of Biomedical Eng*. 2013 Jul;41(7):1411-27. PMID: 23229281 PMCID: PMC3638073. <http://doi.org/10.1007/s10439-012-0695-0>
55. Steinman DA, Hoi Y, Xiang J, **Meng H** et al: Variability of CFD Solutions for Pressure and Flow in a Giant Aneurysm: The SBC2012 CFD Challenge. *J. Biomech. Eng*. 2013 Feb; 135(2):021016. PMID: 23445061. <http://doi.org/10.1115/1.4023382>
56. Ma D, Dargush G, Natarajan SK, Levy EI, Siddiqui AH, **Meng H**: Computer Modeling of Deployment and Mechanical Expansion of Neurovascular Flow Diverter in Patient-Specific Intracranial Aneurysms, *J Biomech* 45(13): 2256-63, 2012. PMID: 22818662. <http://doi.org/10.1016/j.jbiomech.2012.06.013>

57. Xiang J, Tremmel M, Kolega J, Levy EI, Natarajan SK, **Meng H**: Newtonian Viscosity Model Could Overestimate Wall Shear Stress in Intracranial Aneurysm Domes and Underestimate Rupture Risk. *J NeuroIntervent Surg.* 4 2012 Sep;4(5):351-7. PMID: 21990529. <http://doi.org/10.1136/neurintsurg-2011-010089> (Featured as Editor's Choice and on Cover of *J NeuroIntervent Surg*, Issue 5)
58. Cebal J, **Meng H**: Counterpoint: Realizing the Clinical Utility of Computational Fluid Dynamics—Closing the Gap. *AJNR Am J Neuroradiol*, 2012 Mar;33(3):396-8. PMID: 22282452. <http://doi.org/10.3174/ajnr.A2994>
59. Dolan JM, Sim FJ, **Meng H**, Kolega J: Endothelial Cells Express a Unique Transcriptional Profile under Very High Wall Shear Stress Known to Induce Expansive Arterial Remodeling. *Am J Physiol Cell Physiol.* 2012 Apr 15;302(8):C1109-18. PMID: 22173868 PMCID: PMC3330730. <http://doi.org/10.1152/ajpcell.00369.2011>
60. **Meng H**, Xiang J, Liaw N: The Role of Hemodynamics in Intracranial Aneurysm Initiation. *International Review of Thrombosis* 7(1): 40-57, 2012.
61. Sugiyama S, **Meng H**, Funamoto K, Inoue T, Fujimura M, Nakayama T, Omodaka S, Shimizu H, Takahashi A, Tominaga, T: Hemodynamic Analysis of Growing Intracranial Aneurysms Arising from a Posterior Inferior Cerebellar Artery. *World Neurosurg* 78, 5: 462–468, 2012. PMID: 22120259. <http://doi.org/10.1016/j.wneu.2011.09.023>
62. Huang Q, Lu H, Wu Y, Xiang J, **Meng H**, Wang S, Liu J: Numerical simulation study of hemodynamics of the recurrent intracranial aneurysms after endovascular treatment. *Chinese J Cerebrovascular Diseases*, 09(3): 142-145, 2012. <http://doi.org/10.3969/j.issn.1672-5921.2012.03.007>
63. Wu Y, Shen J, Hunag Q, Xiang J, **Meng H**, Liu J: Impact of different coil packing densities on intra-aneurysmal hemodynamics during embolization of intracranial aneurysm: a numerical simulative study. *Academic Journal of Second Military Medical University*, 33(2): 195-199, 2012. <http://doi.org/10.3724/SP.J.1008.2012.00195>
64. Kolega J, Gao L, Mandelbaum M, Natarajan SK, Mocco J, Siddiqui AH, **Meng H**: Cellular and molecular responses of the basilar terminus to hemodynamics during intracranial aneurysm initiation in a rabbit model. *J Vasc Res.* 2011;48(5):429-42. PMID: 21625176. PMCID: PMC3121554. <http://doi.org/10.1159/000324840>
65. Dolan JM, **Meng H**, Sigh S, Paluck RA, Kolega J: High Fluid Shear Stress and Spatial Shear Stress Gradients Affect Endothelial Proliferation, Survival, and Alignment. *Ann Biomed Eng.* 2011 Jun;39(6):1620-31. PMID: 21312062. PMCID: PMC4809045. <http://doi.org/10.1007/s10439-011-0267-8>
66. Xiang J, Natarajan SK, Tremmel M, Ma D, Mocco J, Hopkins LN, Siddiqui AH, Levy EI and **Meng H**: Hemodynamic-Morphologic Discriminants for Intracranial Aneurysm Rupture, *Stroke* 2011 Jan;42(1):144-52. PMID: 21106956. PMCID: PMC3021316. <http://doi.org/10.1161/STROKEAHA.110.592923>
67. **Meng H**, Metaxa E, Gao L, Liaw N, Natarajan SK, Swartz DD, Siddiqui AH, Kolega J, Mocco J: Progressive Aneurysm Development Following Hemodynamic Insult. *J Neurosurg* 2011 Apr;114(4):1095-103. PMID: 20950086. <http://doi.org/10.3171/2010.9.JNS10368>
68. Tanweer O, Metaxa E, Liaw N, Sternberg DS, Siddiqui AH, Kolega J, **Meng H**: Inhibition of Stretch-activated Ion Channels on Endothelial Cells Disrupts Nitric Oxide-mediated Arterial Outward Remodeling. *J Biorheology* 24:77-83, 2010. <http://doi.org/10.1007/s12573-010-0025-9>

69. Tremmel M, Xiang J, Natarajan SK, Hopkins LN, Siddiqui AH, Levy EI, **Meng H**: Alteration of Intra-aneurysmal Hemodynamics for Flow Diversion Using Enterprise and Vision Stents. *World Neurosurgery* 2010 Aug-Sep;74(2-3):306-15. PMID: 21197155. PMCID: PMC3011938. <http://doi.org/10.1016/j.wneu.2010.05.00>
70. Metaxa E, Tremmel M, Natarajan SK, Xiang J, Paluch RA, Mandelbaum M, Siddiqui AH, Kolega J, Mocco J, **Meng H**: Characterization of Critical Hemodynamics Contributing to Aneurysmal Remodeling at the Basilar Terminus in a Rabbit Model, *Stroke* 2010 Aug;41(8):1774-82. PMID: 20595660. PMCID: PMC2913882. <http://doi.org/10.1161/STROKEAHA.110.585992> (**Featured on Cover of *Stroke*, August 2010 issue**)
71. Tremmel M, Xiang J, Hoi Y, Kolega J, Siddiqui AH, Mocco J, **Meng H**: Mapping Vascular Response to In Vivo Hemodynamics: Application to Increased Flow at the Basilar Terminus. *Biomech Model Mechanobiol* 2010 Aug;9(4):421-34. PMID: 20054605. <http://doi.org/10.1007/s10237-009-0185-y>
72. Rahman M, Smietana J, Hauck EF, Hoh B, Hopkins LN, Siddiqui AH, Levy EI, **Meng H**, Mocco J: Size Ratio Correlates with Intracranial Aneurysm Rupture Status: A Prospective Study. *Stroke*: 2010 May;41(5):916-20. PMID: 20378866. <http://doi.org/10.1161/STROKEAHA.109.574244>
73. **Meng H**, Natarajan SK, Gao L, Ionita C, Kolega J, Mocco J, Siddiqui AH: Aneurysmal Changes at the Basilar Terminus in the Rabbit Elastase Aneurysm Model. *AJNR Am J Neuroradiol*, 2010 Mar;31(3):E35-6; author reply E37. PMID: 20053800. <http://doi.org/10.3174/ajnr.A2012>
74. Ma D, Tremmel M, Paluch R, Levy EI, **Meng H**, Mocco J: Size Ratio for Clinical Assessment of Intracranial Aneurysm Rupture Risk. *Neurol Res*. 2010 Jun;32(5):482-6. PMID: 20092677. <http://doi.org/10.1179/016164109X12581096796558>
75. Wang ZJ, Kolega J, Hoi Y, Gao L, Swartz DD, Levy EI, Mocco J, **Meng H**: Molecular alterations associated with aneurysmal remodeling are localized in the high hemodynamic stress region of a created bifurcation, *Neurosurgery*. 2009 Jul;65(1):169-77; discussion 177-8. PMID: 19574839. PMCID: PMC2754173. <http://doi.org/10.1227/01.NEU.0000343541.85713.01>
76. Tremmel M, Dhar S, Levy EI, Mocco J, **Meng H**: Influence of Intracranial Aneurysm to Parent Vessel Size Ratio on Hemodynamics and Implication for Rupture: Results from a Virtual Experimental Study. *Neurosurgery*. 2009 Apr;64(4):622-30; discussion 630-1. PMID: 19349824. PMCID: PMC2775481. <http://doi.org/10.1227/01.NEU.0000341529.11231.69>
77. Dhar S, Tremmel M, Mocco J, Yamamoto J, Siddiqui AH, Hopkins LN, Kim M, **Meng H**: Morphology Parameters for Intracranial Aneurysm Rupture Risk Assessment. *Neurosurgery*. 2008 Aug;63(2):185-96; discussion 196-7. PMID: 18797347. PMCID: PMC2570753. <http://doi.org/10.1227/01.NEU.0000316847.64140.81>
78. Hoi Y, Ling G, Paluch, RA, Siddiqui A, **Meng H**, Mocco J: In Vivo Assessment of Rapid Cerebrovascular Morphological Adaptation Following Acute Blood Flow Increase. *J Neurosurg*. 2008 Dec;109(6):1141-7. PMID: 19035734. PMCID: PMC2775477. <http://doi.org/10.3171/JNS.2008.109.12.1141>
79. Szymanski MP, Metaxa E, **Meng H**, Kolega J: Endothelial Cell Layer Subjected to Impinging Flow Mimicking the Apex of an Arterial Bifurcation, *Annals of Biomedical Eng*. 2008 Oct;36(10):1681-9. PMID: 18654851. PMCID: PMC2570750. <http://doi.org/10.1007/s10439-008-9540-x>
80. Metaxa E, **Meng H**, Kaluvala SR, Paluch RA, Szymanski MP, Kolega J: Nitric oxide-dependent stimulation of endothelial cell proliferation by sustained high flow. *Am J Physiol Heart Circ Physiol* 2008 Aug;295(2):H736-42. PMID: 18552158. PMCID: PMC2519227. <http://doi.org/10.1152/ajpheart.01156.2007>

81. Gao L, Hoi Y, Swartz DD, Kolega J, Siddiqui A, **Meng H**: Nascent Aneurysm Formation at Basilar Terminus by Hemodynamics. *Stroke* 2008 Jul;39(7):2085-90. PMID: 18451348. PMCID: PMC2559803. <http://doi.org/10.1161/STROKEAHA.107.509422>
82. Kim M, Taulbee DB, Tremmel M, **Meng H**: Comparison of Two Stents in Modifying Cerebral Aneurysm Hemodynamics. *Ann Biomed Eng.* 2008 May;36(5):726-41. PMID: 18264766 PMCID: PMC2698293. <http://doi.org/10.1007/s10439-008-9449-4>
83. Kim M, Levy EI, **Meng H**, and Hopkins LN: Quantification of Hemodynamic Changes Induced by Virtual Placement of Multiple Stents across a Wide-Necked Basilar Trunk Aneurysm. *Neurosurgery* 2007 Dec;61(6):1305-12; discussion 1312-3. PMID: 18162911 PMCID: PMC2756037. <http://doi.org/10.1227/01.neu.0000306110.55174.30>
84. **Meng H**, Wang ZJ, Hoi Y, Gao L, Metaxa E, Swartz DD, Kolega J: Complex Hemodynamics at the Apex of an Arterial Bifurcation Induces Vascular Remodeling Resembling Cerebral Aneurysm Initiation, *Stroke* 38:1924-1931, 2007. PMID: 17495215. PMCID: PMC2714768. <http://doi.org/10.1161/STROKEAHA.106.481234> (Featured on Cover of *Stroke*, June 2007)
85. **Meng H**, Swartz DD, Wang ZJ, Hoi Y, Kolega J, Metaxa E, Szymanski MP, Yamamoto J, Sauvageau E, Levy EI: A Model System for Mapping Vascular Responses to Complex Hemodynamics at Arterial Bifurcations In Vivo. *Neurosurgery* 59, 1094-1101. 2006. PMID: 17143243. PMCID: PMC2754158. <http://doi.org/10.1227/01.NEU.0000245599.92322.53> (Featured on Cover of *Neurosurgery*, November 2006)
86. **Meng H**, Wang Z, Kim M, Ecker RD, Hopkins LN: Saccular Aneurysms on Straight and Curved Vessels Are Subjected to Different Hemodynamics: Implications of Intravascular Stenting. *AJNR Am J Neuroradiol* 27: 1861-1865, 2006. PMID: 17032857. PMCID: PMC2754164. <http://www.ajnr.org/content/27/9/1861.long>
87. Hoi Y, Woodward SH, Kim M, Taulbee DB and **Meng H**: Validation of CFD results using in vitro model with implication of geometric variations in cerebral aneurysms. *J. Biomech. Eng.* 128: 844-851, 2006. PMID: 17154684. PMCID: PMC2754174. <http://doi.org/10.1115/1.2354209>
88. Hashimoto T, **Meng H**, Young WL: Intracranial Aneurysms: links between inflammation, hemodynamics and vascular remodeling. *Neurological Research* 28, 372-380, 2006. PMID: 16759441. PMCID: PMC2754184. <http://doi.org/10.1179/016164106X14973>
89. Wang Z, Hoffmann KR, Wang Z, Rudin S, Guterman LR, and **Meng H**: Contrast Settling in Cerebral Aneurysm Angiography. *Physics in Medicine and Biology* 50: 3171-3181, 2005. PMID: 15972988. <http://doi.org/10.1088/0031-9155/50/13/014>
90. **Meng H**, Feng Y, Woodward SH, Bendok BR, Hanel RA, Guterman LR, Hopkins LN: Mathematical Model of the Rupture Mechanism of Intracranial Saccular Aneurysms through Daughter Aneurysm Formation and Growth. *Neurological Research* 27: 459-467, 2005. PMID: 15978170. <http://doi.org/10.1179/016164105X25171>
91. Hoi Y, **Meng H**, Woodward SH, Bendok BR, Hanel RA, Guterman LR, Hopkins LN: Effects of Arterial Geometry on Aneurysm Growth: Three-Dimensional Computational Fluid Dynamics Study. *J Neurosurg* 101:676-681, 2004. PMID: 15481725. <http://doi.org/10.3171/jns.2004.101.4.0676>
92. Rudin S, Wang Z, Kyprianou I, Hoffmann KR, Wu Y, **Meng H**, Guterman LR, Nemes B, Bednarek DR, Dmochowski J, Hopkins LN: Measurement of flow modification in phantom aneurysm model: comparison of coils and a longitudinally and axially asymmetric stent—initial findings. *Radiology* 231: 272-6, 2004. PMID: 15068953. <http://doi.org/10.1148/radiol.2311021741>

Journal Articles in Turbulence, Particulate Flow, Holography:

93. Dou Z, Bragg AD, Hammond AL, Liang Z, Collins L, **Meng H**: Effects of Reynolds Number and Stokes Number on Particle-pair Relative Velocity in Isotropic Turbulence: A Systematic Experimental Study, *J. Fluid Mech.* (2018) 839: 271–292. <http://doi.org/10.1017/jfm.2017.813>
94. Dou Z, Ireland PJ, Bragg AD, Liang Z, Collins L, **Meng H**: Particle-Pair Relative Velocity Measurement in High-Reynolds-Number Homogeneous and Isotropic Turbulence Using 4-Frame Particle Tracking Velocimetry, *Exp. Fluids*, (2018) 59:30. <http://doi.org/10.1007/s00348-017-2481-0>
95. Dou Z, Pecenak ZK, Cao L, Woodward SH, Liang Z, **Meng H**: PIV Measurement of High-Reynolds-Number Homogeneous and Isotropic Turbulence in an Enclosed Flow Apparatus with Fan Agitation, *Measurement Science and Technology*, 27(3): 35305-35305, 2016. <http://doi.org/10.1088/0957-0233/27/3/035305>
96. de Jong J, Salazar J, Woodward SH, Collins LR, **Meng H**: Measurement of inertial particle clustering and relative velocity statistics in isotropic turbulence using holographic imaging, *Int J Multiphase Flow*, 36:324-332, 2010. <http://doi.org/10.1016/j.ijmultiphaseflow.2009.11.008>
97. de Jong J, Woodward SH, Cao L, Salazar J, Collins LR, **Meng H**: Dissipation rate estimation from PIV in zero-mean isotropic turbulence. *Exp. Fluids*, 46:499-515, 2009. <http://doi.org/10.1007/s00348-008-0576-3>
98. Salazar J, de Jong J, Cao L, Woodward S, **Meng H**, Collins L: Experimental and numerical investigation of inertial particle clustering in isotropic turbulence. *J. Fluid Mech.* 600: 245-256, 2008. <http://doi.org/10.1017/S0022112008000372>
99. Cao L, Pan G, Woodward S, de Jong J, **Meng H**: Hybrid Digital Holographic Imaging System for 3D Dense Particle Field Measurement, *Appl. Opt.*, 47: 4501-4508, 2008. <http://doi.org/10.1364/AO.47.004501>
100. de Jong J, **Meng H**: Digital Holographic Particle Validation via Complex Wave. *Appl. Opt.* 46: 7652-7661, 2007. <http://doi.org/10.1364/AO.46.007652>
101. Pu Y, **Meng H**: Four-Dimensional Dynamic Flow Measurement by Holographic Particle Image Velocimetry. *Appl. Opt.* 44:7697-708, 2005. <http://doi.org/10.1364/AO.44.007697>
102. S. Dong and **H. Meng**: Flow Past a Trapezoidal Tab. *J. Fluid Mech.* 510, 219-242, 2004. <http://doi.org/10.1017/S002211200409486>
103. **H. Meng**, G. Pan, Y. Pu, and S. Woodward: Holographic Particle Image Velocimetry: From Film to Digital Recording. *Measurement Science & Technology* 15: 673-685, 2004. <http://doi.org/10.1088/0957-0233/15/4/009>
104. Y. Pu and **H. Meng**: Intrinsic speckle noise in off-axis particle holography. *J. Opt. Soc. Am. A* 21, 1221-1230, 2004. <http://doi.org/10.1364/JOSAA.21.001221>
105. G. Pan and **H. Meng**: Digital Holography of Particle Fields: Reconstruction using Complex Amplitude. *Applied Optics*, 42, 827-833, 2003. <http://doi.org/10.1364/AO.42.000827>
106. Y. Pu and **H. Meng**: Intrinsic aberrations due to Mie scattering in particle holography. *J. Opt. Soc. Am. A*, 20, 1920-1932, 2003. <http://doi.org/10.1364/JOSAA.20.001920>
107. S. Dong, **H. Meng** and R. O. Fox: Application of fractional-step scheme and finite volume method for simulating the flow past a surface-mounted mixing tab. *Numerical Heat Transfer A*, 41, 469-490, 2002. <http://doi.org/10.1080/104077802753570329>
108. W. Jia, B. W. Jones, M. H. Hosni and **H. Meng**: Data Processing of large-scale particle image velocimetry measurement around the human body. *ASHRAE Transactions*, 108: 243, 2002.

109. G. Pan and **H. Meng**: Experimental study of turbulent mixing in a tee mixer using PIV and PLIF. *AIChE Journal*, 47, 2653-2665, 2001. <http://doi.org/10.1002/aic.690471205>
110. W. Yang, **H. Meng** and J. Sheng: Dynamics of hairpin vortices generated by a mixing tab in a channel flow. *Experiments in Fluids*, 30, 705-722, 2001. <http://doi.org/10.1007/s003480000252>
111. S. Dong and **H. Meng**: Chebyshev spectral method and Chebyshev noise processing procedure for vorticity calculation in the post-processing of PIV data. *Exp Therm Fluid Sci*, 24, 47-59, 2001. [http://doi.org/10.1016/S0894-1777\(00\)00057-1](http://doi.org/10.1016/S0894-1777(00)00057-1)
112. Y. Pu, X. Song and **H. Meng**: Off-axis holographic particle image velocimetry for diagnosing particulate flows. *Exp Fluids*, 29, S117-S128, 2000. <http://doi.org/10.1007/s003480070014>
113. Y. Pu and **H. Meng**: An advanced off-axis holographic particle image velocimetry system. *Exp Fluids*, 29, 184-197, 2000. <http://doi.org/10.1007/s003489900088>
114. J. Sheng, **H. Meng**, and R. O. Fox, A large eddy PIV method for turbulence dissipation rate estimation, *Chem Eng Sci*, 55, 4423-4434, 2000. [http://doi.org/10.1016/S0009-2509\(00\)00039-7](http://doi.org/10.1016/S0009-2509(00)00039-7)
115. R. Elavarasan and **H. Meng**: Flow visualization study on the role of coherent structures in a tab wake. *Fluid Dyn Res*, 27, 183-197, 2000. [https://doi.org/10.1016/S0169-5983\(00\)00003-4](https://doi.org/10.1016/S0169-5983(00)00003-4)
116. R. Krepki, Y. Pu, **H. Meng** and K. Obermayer: A new algorithm for the interrogation of 3D holographic PTV data based on deterministic annealing and EM-optimization. *Exp Fluids*, 29, S099-S107, 2000. <http://doi.org/10.1007/s003480070012>
117. J. Sheng and **H. Meng**: A Genetic Algorithm approach for 3D velocity field extraction in holographic particle image velocimetry. *Exp Fluids*, 25, 461-473, 1998. <http://doi.org/10.1007/s003480050252>
118. **H. Meng**, J. Estevadeordal, S. Gogeneni, L. Goss, and W. M. Roquemore: Holographic flow visualization as a tool for studying 3D coherent structures and instabilities. *J. Visualization*, 1, 51-63, 1998. <http://doi.org/10.1007/BF03182507>
119. J. Sheng, **H. Meng**, and R. O. Fox., Validation of CFD simulations of a stirred tank using particle image velocimetry data, *Canadian J. of Chemical Engineering*, 76, 711-725, 1998. <http://doi.org/10.1007/s003480050252>
120. Estevadeordal, J., **H. Meng**, S. Gogineni, L. P. Goss and W. M. Roquemore: 3D visualization of vortex-ring and bag-shaped instabilities using holography. *Physics of Fluids (Gallery of Fluid Motions)*, 9(9,) S5-S5, 1997. <http://doi.org/10.1063/1.4739134>
121. **H. Meng** and F. Hussain: Instantaneous flow field in an unstable vortex ring measured by holographic particle velocimetry. *Physics of Fluids*, 7, 9-11, 1995. <http://doi.org/10.1063/1.868741>
122. **H. Meng** and F. Hussain: In-line recording and off-axis viewing technique for holographic particle velocimetry. *Applied Optics*, 34, 1827-1840, 1995. <http://doi.org/10.1364/AO.34.001827>
123. **H. Meng**, W. L. Anderson, F. Hussain and D. Liu: Intrinsic speckle noise in in-line particle holography. *J Opt Soc Am A*, 10, 2046-2058, 1993. <http://doi.org/10.1364/JOSAA.10.002046>
124. V. Zimin, **H. Meng** and F. Hussain: An innovative holographic particle velocimeter: multibeam technique. *Optics Letters*, 18, 1101-1103, 1993. <https://doi.org/10.1364/OL.18.001101>
125. **H. Meng**, V. Aboites, and H. J. Eichler, Characterization of a Nd:YAG phase conjugated laser, *Rev. Mex. Fis.* 38, 427- 431, 1992.
126. **H. Meng** and F. Hussain: Holographic particle velocimetry, a 3D measurement technique for vortex interactions, coherent structures and turbulence. *Fluid Dynamics Research*, 8, 33-52, 1991. [http://doi.org/10.1016/0169-5983\(91\)90029-1](http://doi.org/10.1016/0169-5983(91)90029-1)

127. **H. Meng** and H. J. Eichler: Nd:YAG laser with a phase-conjugating mirror based on stimulated Brillouin scattering in SF₆ gas. *Optics Letters*, 16, 569-571, 1991.
<http://doi.org/10.1364/OL.16.000569>
128. A. Kummrow and **H. Meng**: Pressure dependence of stimulated Brillouin backscattering in gases. *Optics Communications*, 83, 342-348, 1991. [http://doi.org/10.1016/0030-4018\(91\)90069-P](http://doi.org/10.1016/0030-4018(91)90069-P)
129. **H. Meng**, V. Aboites and H. J. Eichler: SBS Q-switched Nd:YAG laser. *Revista Mexicana de Fisica*, 36, 335-339, 1990.
130. H. Eichler, J., **H. Meng**, M. Glotz and J. Chen: Effective generation of 3μm pulsed radiation by Raman scattering in a capillary. *Optics Communications*, 77, 80-84, 1990.
[https://doi.org/10.1016/0030-4018\(90\)90465-6](https://doi.org/10.1016/0030-4018(90)90465-6)

BOOK CHAPTERS

131. Pu Y and **Meng H**: Intrinsic Noise in Whole-field Three-Dimensional Imaging of Small Particles and Holographic Particle Image Velocimetry, in *New Directions in Holography and Speckles*. Caulfield John and Vikram Chandra (ed), American Scientific Publishers (2006), ISBN-10: 1588831019.
132. Hoffmann KR, Rudin S, **Meng H**, Hopkins LN, Guterman L, Levy E: Three-dimensional analysis of the cerebral vasculature: Concepts and applications, in *Multidimensional image processing, analysis, and display*. Armato SG, Brown MS, eds. Radiological Society of North America Publishing, Oak Brook, IL, 2005, pp. 173-1
133. Z. K. Lu and **H. Meng**: Holography of semi-transparent droplets, in *Selected Papers on Holographic Particle Diagnostics*, SPIE Milestone Series Vol. MS 21, C. S. Vikram ed., 339-345, 1990.

PEER-REVIEWED CONFERENCE PAPERS

134. Paliwal N, Damiano RJ, Davies JM, Siddiqui AH, **Meng H**: Association between Hemodynamic Modifications and Clinical Outcome of Intracranial Aneurysms Treated Using Flow Diverters. *Proc SPIE Int Soc Opt Eng 10135, Medical Imaging 2017: Image-Guided Procedures, Robotic Interventions, and Modeling*, 10135:101352F, February 11, 2017 (epub March 3, 2017 DOI 10.1117/12.2254584). PMID 28515570. PMCID: PMC5431582.
135. Paliwal N, Damiano RJ, Davies JM, Siddiqui AH, **Meng H**: Computer-Assisted Adjuncts for Aneurysmal Morphologic Assessment: Toward More Precise and Accurate Approaches. *Proc SPIE Int Soc Opt Eng*. 2017 Feb 11;10135. pii: 101352F. doi: 10.1117/12.2254584. Epub 2017 Mar 3. PMID: 28515570
136. Rajabzadeh-Oghaz H, Varble N, Davies JM, Mowla A, Shakir HJ, Sonig A, Shallwani H, Snyder KV, Levy EI, Siddiqui AH, **Meng H**: Computer-Assisted Adjuncts for Aneurysmal Morphologic Assessment: Toward More Precise and Accurate Approaches. *Proc SPIE Int Soc Opt Eng*. 2017 Feb 11;10134. pii: 101341C. doi: 10.1117/12.2255553. Epub 2017 Mar 3. PMID: 28867867
137. Paliwal N, Damiano R, Davies J, Siddiqui A, **Meng H**. Modeling of hemodynamics in intracranial aneurysm patients treated by flow diverters. *5th International Conference on Computational and Mathematical Biomedical Engineering*, April 12, 2017, Pittsburgh.
138. Zhao L, Chen D, Chen Z, Wang X, Paliwal N, Xiang J, **Meng H**, Corso JJ, Xu J: Rapid virtual stenting for intracranial aneurysms *Proc SPIE Int Soc Opt Eng., Medical Imaging 2016: Image-Guided Procedures, Robotic Interventions, and Modeling*, 2016 Feb 27; 9786. pii: 97860V. Epub 2016 Mar 18.
139. Paliwal N, Davies J, Siddiqui A, **Meng H**: Hemodynamic Modifications and its Association with Outcome in Intracranial Aneurysms Treated using Flow Diverters. *Proceedings of the 2016 Summer*

- Biomechanics, Bioengineering and Biotransport Conference*, National Harbor, MD, June 29–July 2, 2016.
140. Damiano R, Varble N, Sanal R, Davies J, Siddiqui A, **Meng H**: Aneurysmal flow modifications by coils and flow diverters and long-term treatment outcome, *Proceedings of the 2016 Summer Biomechanics, Bioengineering & Biotransport Conference*, National Harbor, MD, June 29-July 2, 2016.
141. Sanal R, Damiano R, Tutino V, Siddiqui A, Xu J, **Meng H**. A virtual coiling algorithm to simulate endovascular coil deployment in cerebral aneurysms using a spring based geometric constraint model, *Proceedings of the 2016 Summer Biomechanics, Bioengineering & Biotransport Conference*, National Harbor, MD, June 29-July 2, 2016.
142. Damiano R, Ma D, Xiang J, Siddiqui AH, Snyder KV, **Meng H**. Endovascular Treatment of Intracranial Aneurysms: Finite Element Modeling of Various Intervention Strategies, *Proceedings of the 2015 Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C-2015)*, Snowbird, Utah, June 17-20, 2015.
143. Paliwal N, Martensen C, Varble N, Damiano R, Siddiqui AH, Levy EI, Xiang J, **Meng H**. Validation of CFD Solver Of A Clinical Tool Using PIV On A Patient-Specific Intracranial Aneurysm, *Proceedings of the 2015 Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C-2015)*, Snowbird, Utah, June 17-20, 2015.
144. **Hui Meng**, Jianping Xiang, Vincent Tutino, Jennifer Dolan Fox Adnan Siddiqui: Cerebral Aneurysm Risk Prediction: Role of Heterogeneous Hemodynamic Mechanisms, *7th World Congress of Biomechanics*, Boston, July 7-11, 2014 (**Invited Presentation**).
145. Nicole A. Varble, Jianping Xiang, Ning Lin, Kenneth Snyder, **Hui Meng**. Intracranial Aneurysm Rupture Stratification Based on Flow Stability Analysis of High Resolution CFD. *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014. (PhD Student Podium Presentation Award – Third Place)
146. Jianping. Xiang, Nicole Varble, Kenneth Snyder, Elad Levy, Adnan Siddiqui, **Hui Meng**. Does Unified Low and High WSS Cerebral Aneurysm Rupture Risk Model Better Predict Aneurysm Rupture Status than Low WSS Alone Model? *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
147. Christopher D. Martensen, Nicole Varble, Jianping Xiang, **Hui Meng**. Validation of a Clinical Aneurysm Flow Visualization Tool with Stereo-PIV. *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
148. Robert Damiano, Jianping Xiang, Elad Levy, **Hui Meng**; Evaluation of Flow-Diverter Assisted Endovascular Coiling using Virtual Deployment and Computational Fluid Dynamics in Patient-Specific Aneurysms. *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
149. Nikhil Paliwal, H Yu, Jianping Xiang, X Yang, Adnan Siddiqui, H. Li, **Hui Meng**; Rapid Virtual Deployment of Flow-Diverter in Patient Specific Aneurysm. *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
150. S Dhar, M Tremmel, J Mocco, **Hui Meng**. Intracranial Aneurysm Morphology and Flow Dynamics: Importance of Parent Vessel Anatomy. *7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
151. Ionita CN, Mokin M, Varble N, Bednarek DR, Xiang J, Snyder KV, Siddiqui AH, Levy EI, **Meng H**, Rudin S: Challenges and limitations of patient-specific vascular phantom fabrication using 3D Polyjet printing, *Proc SPIE Int Soc Opt Eng*. 2014 Mar 13;9038:90380M. PMID: 25300886

152. Jianping Xiang, Nicole Varble, Adnan Siddiqui, Luca Antiga, **Hui Meng**: AView: a Clinical Tool for Hemodynamic and Morphological Analysis of Intracranial Aneurysms, *Proceedings of the ASME 2013 Summer Bioengineering Conference (SBC-2013)*, Sunriver, Oregon, June 26-29, 2013.
153. **Hui Meng**, Jianping Xiang: Bring Blood Flow Simulations into Clinical World: *Proceedings of the ASME 2013 Summer Bioengineering Conference (SBC-2013)*, Sunriver, Oregon, June 26-29, 2013.
154. Robert Damiano, Chris Martensen, Ding Ma, Jianping Xiang, Adnan Siddiqui, **Hui Meng**: Comparison of flow diverter Deployment strategies for Cerebral Aneurysm Treatment: Evaluation of hemodynamic modifications, *Proceedings of the ASME 2013 Summer Bioengineering Conference (SBC-2013)*, Sunriver, Oregon, June 26-29, 2013.
155. Jianping Xiang, Ding Ma, Adnan Siddiqui, **Hui Meng**: Flow Modification of Cerebral Aneurysm by Flow Diverter (Pipeline) with Different Packing Densities, *Proceedings of the ASME 2012 Summer Bioengineering Conference (SBC-2012)*, Fajardo, Puerto Rico, June 20-23, 2012. (PhD Student Podium Presentation Award -Finalist)
156. Jianping Xiang, **Hui Meng**: CFD Challenge: Solutions Using the Commercial Finite Volume Solver, STAR-CD, *Proceedings of the ASME 2012 Summer Bioengineering Conference (SBC-2012)*, Fajardo, Puerto Rico, June 20-23, 2012.
157. Ding Ma, Jianping Xiang, Adnan Siddiqui, Sabareesh Natarajan, **Hui Meng**: Finite Element Study of Conformity of Flow Diverter With Intracranial Aneurysmal Vasculatures - *Proceedings of the ASME 2011 Summer Bioengineering Conference SBC2011-53772*, Farmington, PA, June 22-26, 2011.
158. Jennifer Dolan, Frasier Sim, **Hui Meng**, John Kolega: Positive and Negative Wall Shear Gradients Have Different Effects on Endothelial Phenotype Under High Wall Shear Stress, *Proceedings of the ASME 2011 Summer Bioengineering Conference SBC2011-53490*, Farmington, PA, June 22-26, 2011.
159. Jianping Xiang, Adnan Siddiqui, Sabareesh K. Natarajan, **Hui Meng**: Size Ratio of Intracranial Aneurysms Predicts Rupture-Prone Hemodynamics - *Proceedings of the ASME 2011 Summer Bioengineering Conference SBC2011-53712*, Farmington, PA, June 22-26, 2011. (PhD Student Podium Presentation Award –Third Place)
160. **Hui Meng**, Sabareesh Natarajan, Elenia Metaxa, Markus Tremmel, Ling Gao, Max Mandelbaum, Jianping: Role of Hemodynamics in Initiation of Aneurysmal Remodeling, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19537*, Naples, FL, June 16-19, 2010.
161. Jennifer Dolan, Sukhjinder Singh, **Hui Meng**, John Kolega: Differential Responses of Endothelial Cells to Positive and Negative Wall Shear Stress Gradients, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19535*, Naples, FL, June 16-19, 2010. (PhD Student Podium Presentation Award – Second Place)
162. Ling Gao, Max Mandelbaum, Nicholas Liaw, Sabareesh Natarajan, Adnan Siddiqui, J. Mocco, John Kolega, **Hui Meng**: Early Cellular and Molecular Changes During Hemodynamic Initiation of Intracranial Aneurysms in a Rabbit Model, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19598*, Naples, FL, June 16-19, 2010.
163. Ding Ma, Sabareesh Natarajan, Jianping Xiang, Siddiqui Adnan, Levy Elad, **Hui Meng**, J Mocco: 2D and 3D Morphologic Metrics Associated Intracranial Aneurysm, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19633*, Naples, FL, June 16-19, 2010. (PhD Student Poster Presentation Award)

164. Jennifer Dolan, **Hui Meng**, John Kolega, Song Liu: Differential Gene Expression of Endothelial Cells Under High Wall Shear Stress and Spatial Gradients, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19662*, Naples, FL, June 16-19, 2010.
165. Jianping Xiang, Sabareesh Natarajan, Markus Tremmel, Ding Ma, Adnan Siddiqui, Levy Elad, J Mocco, **Hui Meng**: Hemodynamic Metrics Correlate With Intracranial Aneurysm Rupture Status Better Than Morphologic Metrics, *Proceedings of the ASME 2010 Summer Bioengineering Conference SBC2010-19664*, Naples, FL, June 16-19, 2010.
166. Eleni Metaxa, Markus Tremmel, Jianping Xiang, John Kolega, Max Mandelbaum, Adnan Siddiqui, J Mocco, **Hui Meng**: High Wall Shear Stress and Positive Wall Shear Stress Gradient Trigger the Initiation of Intracranial Aneurysms, *Proceedings of the ASME 2009 Summer Bioengineering Conference (SBC2009)*, Lake Tahoe, CA, June 17-21, 2009.
167. Jianping Xiang, Markus Tremmel, Ding Ma, J Mocco, Adnan Siddiqui, **Hui Meng**: Intracranial Aneurysm Morphology and Flow Dynamics to Assess Rupture Risk, In: *Proceedings of the ASME 2009 Summer Bioengineering Conference (SBC2009)*, Lake Tahoe, CA, June 17-21, 2009.
168. Cao L, Pan G, Woodward S, **Meng H**: Hybrid digital holographic imaging system for 3D dense particle field measurement, *7th Int'l Sym on Particle Image Velocimetry*, Rome, Italy, Sept. 11-14, 2007.
169. Kim M, Rangwala HS, Ionita C, Hoffmann KR, Taulbee DB, **Meng H**, and Rudin S: Evaluation of the effect of partial asymmetric stent coverage on neurovascular aneurysm hemodynamics using computer fluid dynamics (CFD) calculations, in *Proceedings of SPIE - Volume 6509, Medical Imaging 2007: Visualization and Image-Guided Procedures*, Kevin R. Cleary, Michael I. Miga, Editors, 65092I (Mar. 22, 2007).
170. **Meng H**, Kim M, Hoi Y, Taulbee D, Woodward S, Hopkins LN: Stenting for the Treatment of Cerebral Aneurysm. 5th World Congress of Biomechanics, Munich (Germany), July 29-August 4, 2006. In Liepsch D (ed): *International Proceedings G729C1888:573-578*, MEDIMOND Monduzzi Editore (Bologna, Italy), 2006.
171. **Meng H**, Swartz DD, Wang Z, Hoi Y, Kolega J, Metaxa E, Szymanski MP, Gao L, Paciorek AM, Yamamoto J, Sauvageau E, Levy EI, Hopkins LN: In Vivo Hemodynamics Correlated with Vascular Responses Associated with Cerebral Aneurysm Development. *5th World Congress of Biomechanics*, Munich (Germany), July 29-August 4, 2006. In Liepsch D (ed): *International Proceedings G729C1618:479-483*, MEDIMOND Monduzzi Editore (Bologna, Italy), 2006.
172. Metaxa E, Kolega J, Szymanski MP, Wang Z, Hoi Y, Swartz DD, **Meng H**: Distinguishing Endothelial Responses to Impinging Flow, Elevated Wall Shear Stress and Wall Shear Stress Gradient. *5th World Congress of Biomechanics*, Munich (Germany), July 29-August 4, 2006. In Liepsch D (ed): *International Proceedings G729C1366:395-399*, MEDIMOND Monduzzi Editore (Bologna, Italy), 2006.
173. **H Meng**, DD Swartz, Z. Wang, Y Hoi, J. Kolega, E. Metaxa, MP Szymanski, L Gao, AM Paciorek, J Yamamoto, E Sauvageau, EI Levy, LN Hopkins, "Vascular Response to Complex Hemodynamics in the Apex of a Created Arteriel Bifurcaiton Indicating Aneurysm Development", ASME 2006 Summer Bioengineering Conference, Amelia Island, FL, June 21 - 25, 2006.
174. E Metaxa, J Kolega, MP Szymanski, Z Wang, L Gao, Y, SH Woodward, DD Swartz, MP, **H Meng**, "Endothelial Cell Proliferation under High Wall Shear Stress", ASME 2006 Summer Bioengineering Conference, Amelia Island, FL, June 21 - 25, 2006.
175. **H Meng**, M Kim, Y Hoi, DB Taulbee, SH Woodward, LR. Guterman, LN Hopkins, "Effect of Struct Pattern on Hemodyanmics of Stented Cerebral Aneurysm: a 3D Direct Stent Simulation", ASME 2006 Summer Bioengineering Conference, Amelia Island, FL, June 21 - 25, 2006.

176. M Kim, C Ionita, KR Hoffmann, DB Taulbee, S Rudin, **H Meng**, "Aneurysm Flow Modification by an Asymmetric Stent Patch Designed for a Patient Specific Intracranial Aneurysm", ASME 2006 Summer Bioengineering Conference, Amelia Island, FL, June 21 - 25, 2006.
177. Y Hoi, CN Ionita, RV Tranquebar, KR Hoffmann, SH Woodward, DB Taulbee, **H Meng**, S Rudin, "Flow modification in canine intracranial aneurysm model by an asymmetric stent: studies using digital subtraction angiography (DSA) and image-based computational fluid dynamics (CFD) analyses", *SPIE International Symposium on Medical Imaging: Physiology, Function, and Structure from Medical Images*, San Diego, Feb. 11-16, 2006.
178. M Kim, C Ionita, R Tranquebar, KR Hoffmann, DB Taulbee, **H Meng**, S Rudin, "Evaluation of an asymmetric stent patch design for a patient specific intracranial aneurysm using Computational Fluid Dynamic (CFD) calculations in the Computed Tomography (CT) derived lumen", *SPIE International Symposium on Medical Imaging: Physiology, Function, and Structure from Medical Images*, San Diego, Feb. 11-16, 2006.
179. Y Hoi, S Woodward, LR Guterman, LN Hopkins, **H Meng**, "The 3D correlation of intracranial aneurysm geometry and hemodynamic stresses: An In Vitro Study", *International Conference on Biomedical Engineering*, Kuala Lumpur, Malaysia, September 1-4, 2004.
180. CN Ionita, Y Hoi, **H Meng**, S Rudin, "Particle image velocimetry (PIV) evaluation of flow modification in aneurysm phantoms using asymmetric stents, *Physiology, Function, and Structure from Medical Images*, A. A. Amini and A. Manduca (editors), *Proceedings of SPIE Vol. 5369*: 295-306 (2004).
181. L. Cao, G. Pan and **H. Meng**, "Three-Dimensional Measurement of Aerosol Particle Clustering in Homogeneous Isotropic Turbulence", *Proceedings of ASME HT2003: ASME Summer Heat Transfer Conference*, Las Vegas, NV, HT2003-47435, July 20-23, 2003.
182. G. Pang, Y. Pu and **H. Meng**, "Holographic PIV: from Analogue to Digital", Keynote Lecture, *International Workshop on Holographic Metrology in Fluid Mechanics*, Loughborough, UK, May 28-30, 2003.
183. G. Pang and **H. Meng**, "Digital Holographic PIV for 3D flow measurement", *Proc. 2002 ASME International Mechanical Engineering Congress and Exposition*, New Orleans, LA, Nov. 17-22, 2002.
184. Y. Pu, L. Cao, and **H. Meng**, "Fundamental Issues and Latest Development in Holographic Particle Image Velocimetry", *Proc. 2002 ASME International Mechanical Engineering Congress and Exposition*, New Orleans, LA, Nov. 17-22, 2002.
185. S. Rudin, Z Wang, I Kyprianou, KR Hoffmann, Y Wu, **H Meng**, LR Guterman, B Nemes, DR Bednarek, "Optical measurement of changes in flow in coiled and stented aneurysm models", *88th Annual Meeting of Radiological Society of North America*, Chicago, December 1-6, 2002.
186. Y. Pu, X. Song and **H. Meng**, "Holographic PIV for Diagnosing particulate Flows", *Proceedings of the Third Int'l Workshop on PIV'99*, p. 351-364, Santa Barbara, September 16-18, 1999.
187. **H. Meng**, "Tackling Turbulence with Holographic Particle Image Velocimetry (HPIV)", Keynote Lecture, *30th AIAA Fluid Dynamics Conference & Exhibit*, June 28 - July 1, 1999, Norfolk, VA; AIAA Paper #99-3755 (AIAA Best Paper Award).
188. Y. Pu, Z. Huang and **H. Meng**, "An Advanced Off-axis Holographic Particle Image Velocimetry (HPIV) System", *The 9th Int'l Symposium for Applications of Laser Techniques to Fluid Mechanics*, Lisbon, Portugal, July 13-16, 1998.

189. W. Yang, J. Sheng and **H. Meng**, "Study of Hairpin Vortex Dynamics and Turbulence Statistics of a Surface-mounted Mixing Tab Wake Using PIV", *The 9th Int'l Symposium for Applications of Laser Techniques to Fluid Mechanics*, Lisbon, Portugal, July 13-16, 1998.
190. **H. Meng**, J. Esteveordal, S. Gogeneni, L. Goss, and W. M. Roquemore, "Holographic flow visualization as a tool for studying 3D coherent structures and instabilities", *Proceedings of the Second International Workshop on Particle Image Velocimetry*, Fukui, Japan, July 9-11, 1997.
191. J. Sheng and **H. Meng**, "A 3D Velocity Field Extraction Technique Using Genetic Algorithm", *Proceedings of the Second International Workshop on Particle Image Velocimetry*, Fukui, Japan, July 9-11, 1997.
192. S. Gogineni, J. Esteveordal, **H. Meng** and L. Goss, "Investigation of jet diffusion flames using holographic visualization (HFV) and holographic PIV (HPIV) techniques", *The 7th Int'l Conference on Laser Anemometry – Advances and Applications*, Karlsruhe, Germany, Sept. 8-11, 1997.
193. J. Esteveordal, **H. Meng**, S. Gogeneni, L. Goss, D. Trump, and B. Sarka, "Investigation of holographic visualization and holographic PIV for fluid flows and flames", *ASME Fluids Engineering Division Summer Meeting, FEDSM97-3093*, Vancouver, BC, June 22-26, 1997.
194. **H. Meng** and F. Hussain, "Holographic particle image velocimetry: a new frontier of fluid dynamics research", (Invited) *Proceedings of the Sixth Asian Congress of Fluid Mechanics*, May 22 - 26, 1995, Singapore, 160-164 Y. T. Chew and C. P. Tso (ed.) ISBN 981-00-6560-4.
195. **H. Meng** and F. Hussain, "IROV holographic particle image velocimetry for 3D turbulent flow measurement", in *Optical Techniques in Fluid, Thermal, and Combustion Flow*, S. S. Cha and J. D. Trolinger (ed.), SPIE Vol. 2546, pp.413-419, 1995.
196. S. Simmons, **H. Meng**, D. Liu and F. Hussain, "Advances in Holographic Particle Velocimetry", in *Optical Diagnostics in Fluid and Thermal Flow*, SPIE Proceedings Vol. 2005 (eds. S. S. Cha and J. D. Trolinger), 1993.
197. **H. Meng**, F. Hussain, W. L. Anderson, and D. Liu, "Theoretical and Experimental Studies of Speckle Noise in In-line Holography of Particles", *FED* Vol. 148, p. 57-65, *ASME Fluids Eng. Conference, Washington D.C.*, June 20-24, 1993.
198. F. Hussain, D. Liu, Simmons, and **H. Meng**, "Holographic Particle Velocimetry: Prospects and Limitations", *FED* Vol. 148, p. 1-12, *ASME Fluids Engineering Conference* Washington D.C., June 20-24, 1993.

CONFERENCE ABSTRACTS

1. Paliwal N, Damiano R, Davies J, Siddiqui A, **Meng H**: Flow diverter treatment outcome of intracranial aneurysms is associated with blood flow modifications: In silico computational analysis of clinical cases. *13th World Congress in Computational Mechanics*, July 22-27, 2018, New York City, NY.
2. Damiano R, Varble N, Paliwal N, Siddiqui A, **Meng H**: Hemodynamic factors associated with recurrence of coiled intracranial aneurysms: a computational study. *8th World Congress of Biomechanics*, July 8-12, 2018, Dublin, Ireland.
3. Paliwal N, Damiano R, Varble N, Tutino V, Dou Z, Siddiqui A, **Meng H**: A novel validation methodology for CFD solvers in medical use: Application to intracranial aneurysm. *8th World Congress of Biomechanics*, July 8-12, 2018, Dublin, Ireland.
4. Paliwal N, Patel P, Damiano R, Davies J, Siddiqui A, **Meng H**: Flow diverter treatment outcome of intracranial aneurysms is associated with blood flow modifications: In silico computational analysis of clinical cases. *8th World Congress of Biomechanics*, July 8-12, 2018, Dublin, Ireland.

5. Paliwal N, Damiano R, Davies J, Siddiqui A, **Meng H**: Computer modeling of endovascular devices can enable outcome prediction of endovascularly-treated intracranial aneurysms. *15th Interdisciplinary Cerebrovascular Symposium*, June 6–8, 2018, Magdeburg, Germany.
6. Paliwal N, Rajabzadeh Oghaz H, Varble N, Siddiqui A, **Meng H**: AView—A streamlined clinical platform for intracranial aneurysm management. *15th Interdisciplinary Cerebrovascular Symposium*, June 6–8, 2018, Magdeburg, Germany.
7. P Hammond A., Dou Z., Kailu, T., Liang Z., Meng H: Preliminary investigation of the effect of electric charge on particle-pair relative velocity in isotropic turbulence”. Oral Presentation, American Physical Society—Division of Fluid Dynamics 70th Annual Meeting, Nov. 19-21 2017.
8. Paliwal N, Damiano R, Davies J, Siddiqui A, **Meng H**: Modeling of hemodynamics in intracranial aneurysm patients treated by flow diverters. *5th International Conference on Computational and Mathematical Biomedical Engineering*, April 10-12, 2017, Pittsburgh, PA.
9. Paliwal N, Damiano R, **Meng H**: Results for the aneurysm FD CFD Challenge 2016. *14th Interdisciplinary Cerebrovascular Symposium*, November 26–27, 2016, Kobe, Japan.
10. Paliwal N, Damiano R, Davies J, Siddiqui A, **Meng H**: Correlation between Hemodynamics and Treatment Outcome of Intracranial Aneurysms after Intervention with Flow Diverters. *68th Annual Meeting of the APS Division of Fluid Dynamics*, Boston, MA, November 22-24, 2015.
11. Dou Z., Bragg A., Hammond A., Liang Z., Collins L., & Meng H.: Effects of Reynolds number and Stokes Number on Particle-Pair Relative Velocity in Isotropic Turbulence”. Oral Presentation, American Physical Society—Division of Fluid Dynamics 69th Annual Meeting, Portland, OR, Nov. 20-22, 2016.
12. A Paliwal N, Davies J, Siddiqui A, Meng H. Hemodynamic Modifications and its Association with Outcome in Intracranial Aneurysms Treated using Flow Diverters. *Summer Biomechanics, Bioengineering and Biotransport Conference*, June 29 – July 2, 2016, National Harbor, MD.
13. Paliwal N, Damiano R, Meng H. Results for the aneurysm FD CFD Challenge 2016. *Interdisciplinary Cerebrovascular Symposium*, November 26–27, 2016, Kobe, Japan
14. Paliwal N, Damiano R, Davies J, Siddiqui A, Meng H. Correlation between Hemodynamics and Treatment Outcome of Intracranial Aneurysms after Intervention with Flow Diverters. Presented at American Physical Society—Division of Fluid Dynamics 68th Annual Meeting, November 22-24, 2015, Boston, MA.
15. Dou, Z., Pecenak, Z., Liang, Z., Cao, L., Ireland, P., Collins, L., & Meng, H. Inertial Particle Relative Velocity in a High-Reynolds-Number Homogeneous and Isotropic Turbulence Chamber. American Physical Society- Division of Fluid Dynamics 68th Annual Meeting, November 22-24, 2015, Boston, MA.
16. Paliwal N, Yu H, Xiang J, Yang X, Siddiqui A, Li H, Meng H: Rapid Virtual Deployment of Flow-Diverter in Patient Specific Aneurysm. *7th World Congress of Biomechanics*, July 6-14, 2014, Boston, MA.
17. Hui Meng, Vincent M. Tutino, Jianping Xiang, Adnan Siddiqui: Both High WSS and Low WSS Could Be Associated with Cerebral Aneurysm Rupture. *9th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease*, April 27-19, Montreal, Canada, 2014
18. Vincent M. Tutino, Max Mandelbaum, Hoon Choi, Liza C. Pope, Adnan Siddiqui, John Kolega, Hui Meng: Aneurysmal Remodeling in the Circle of Willis After Carotid Occlusion in an Experimental Model. *9th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease*, April 27-19, Montreal, Canada, 2014

19. Meng H: Hemodynamic Factors Contributing to Aneurysms Formation and Rupture. *12th Congress of WFITN/10th International IntraCranial Stent Meeting*, Buenos Aries, Argentina, Nov. 9-13, 2013 (Invited Planetary Presentation)
20. Meng H: How Can We Integrate All Those Hemodynamic and CFD Parameters in a Day-to-Day Practice. *12th Congress of WFITN/10th International IntraCranial Stent Meeting*, Buenos Aries, Argentina, Nov. 9-13, 2013 (Invited Planetary Presentation)
21. Meng H: Impact of the CFD in Decision Making for Endovascular Therapy. *12th Congress of WFITN/10th International IntraCranial Stent Meeting*, Buenos Aries, Argentina, Nov. 9-13, 2013 (Invited presentation)
22. Trylesinski G, Varble N, Xiang JP, Meng H. Vortex Dynamics in Ruptured and Unruptured Intracranial Aneurysms. *66th Annual Meeting of the APS Division of Fluid Dynamics*. Pittsburgh, PA, November 24-26, 2013.
23. Cao L, Dou Z, Pecenek Z, Yang F, Liang Z and Meng H: 4-Frame Particle Tracking Based on PIV to Study Inertial Particle Relative Motion in Isotropic Turbulence. *66th Annual Meeting of the APS Division of Fluid Dynamics*. Pittsburgh, PA, November 24-26, 2013.
24. Pecenek Z, Dou Z, Yang F, Cao L, Z Liang and H Meng: Laboratory Study of Homogeneous and Isotropic Turbulence at High Reynolds Number. *66th Annual Meeting of the APS Division of Fluid Dynamics*. Pittsburgh, PA, November 24-26, 2013.
25. Meng H, Tutino VM, Xiang J, Siddiqui AH, High WSS or Low WSS? Complex interactions of hemodynamics with intracranial aneurysm initiation, growth and rupture: Toward a unifying concept. *8th International Conference in Biomechanics in Vascular Biology and Cardiovascular Disease*, Rotterdam, The Netherlands, April 18-19, 2013 (Invited Lecture)
26. Liaw N, Dolan JM, Kolega J, Meng H: Hemodynamically Driven Intracranial Aneurysm Formation: Independent roles for Nitric Oxide and Superoxide. *8th International Conference in Biomechanics in Vascular Biology and Cardiovascular Disease*, Rotterdam, The Netherlands, April 18-19, 2013
27. Meng H, Dolan JM, Liaw N, Mandelbaum M, Kolega J. Exploring Hemodynamically Driven Mechanisms of Intracranial Aneurysm Formation. *7th International Conference in Biomechanics in Vascular Biology and Cardiovascular Disease*, Atlanta, Georgia, April 26-27, 2012.
28. Liaw N, Ionita C, Spornyak JA, Kolega J, Meng H: Obtaining Three-Dimensional Vasculature and Blood Flow in the Rat Brain for Computational Fluid Dynamics Analysis. *Biomedical Engineering Society Annual Meeting*, Hartford, CT, Oct. 12-15, 2011.
29. Hui Meng, Jianping Xiang, Max Mandelbaum, Nichlos Liaw, Sabareesh Natarajan, Adnan Siddiqui, John Kolega: Intracranial Aneurysm Formation: Hemodynamic Triggers and Molecular Mechanism. Oral Presentation at the *8th International Intracranial Stent Meeting*, Shanghai, China, Sept. 8-11, 2011.
30. Jianping Xiang, Sabareesh Natarajan, Adnan Siddiqui, Nelson Hopkins, Elad Levy, Hui Meng: Prospective Evaluation and Validation of Intracranial Aneurysm Rupture Risk Prediction Models by Morphometrics and Hemodynamics. Oral Presentation at the *8th International Intracranial Stent Meeting* in Shanghai, Sept. 8-11, 2011.
31. Jianping Xiang, Ding Ma, Nichlos Liaw, Sabareesh Natarajan, Adnan Siddiqui, Nelson Hopkins, Elad Levy, Hui Meng: Realistic Simulation of Flow Diverter: Deployment, Mechanical Expansion and Flow Modification (Pipeline). Oral Presentation at the *8th International Intracranial Stent Meeting* in Shanghai, Sept. 8-11, 2011.
32. Meng H: Unlocking Aneurysm Mystery through Hemodynamics. Invited Presentation at the 34th Neuro CI Conference, Yonago city, Japan, February 4-5, 2011.

33. Xiang J, Natarajan SK, Tremmel M, Ma D, Mocco J, Hopkins LN, Siddiqui AH, Levy EI, Meng H: Hemodynamic-Morphologic Discriminants for Intracranial Aneurysm Rupture. Oral Presentation at the *72nd Annual Meeting of the American Academy of Neurological Surgery*, Pebble Beach, CA, November 3-6, 2010.
34. Alfano JM, Natarajan SK, Meng H: Hemodynamic Comparison at Intracranial Bifurcations with Different Propensities for Aneurysms. Oral Presentation at *2010 Annual Fall Meeting of the Biomedical Engineering Society*, Austin, TX, October 6-9, 2010.
35. Meng H, Kolega J, Mandelbaum M, Liaw N, Xiang J, Mocco J, Natarajan SK, Siddiqui AH: Elevated Hemodynamic Stress Triggers Intracranial Aneurysm Initiation. Best Oral Presentation Award at the *7th International Intracranial Stent Meeting 2010*, in conjunction with the *Live Interventional Neuroradiology Conference* Houston, TX, September 13-16, 2010.
36. Meng H, Xiang J, Natarajan SK, Tremmel M, Ma D, Mocco J, Hopkins LN, Siddiqui AH, Levy EI: Morphologic-Hemodynamic Discriminants of Intracranial Aneurysm Rupture. Oral Presentation at the *7th International Intracranial Stent Meeting 2010*, in conjunction with the *Live Interventional Neuroradiology Conference* Houston, TX, September 13-16, 2010.
37. Xiang J, Ma D, Natarajan S, Hopkins LN, Siddiqui AH, Levy EI, Meng H: Computational modeling of fluid dynamics of Pipeline embolization device with realistic expansion in an aneurysm model. Oral Presentation at the *7th International Intracranial Stent Meeting 2010*, in conjunction with the *Live Interventional Neuroradiology Conference* Houston, TX, September 13-16, 2010.
38. Meng H: Role of Hemodynamics in Intracranial Aneurysm Initiation and Rupture. Invited Lecture, *The First International Symposium of Biorheology*, Wako, Japan, June 2, 2010.
39. Meng H: Intracranial aneurysm: impaired vascular response to hemodynamic insult, *The 33rd Japanese Conference of Biorheology*, Wako, Japan, June 3-4, 2010.
40. Metaxa E, Tremmel M, Natarajan SK, Xiang J, Paluch RA, Mandelbaum M, Siddiqui A, Kolega J, Mocco J, Meng H: Hemodynamic Factors Contributing to Intracranial Aneurysm Initiation in a Rabbit Model (abstract 151). *Stroke* 41:e43, April 2010. Oral Presentation, *International Stroke Conference 2010*, San Antonio TX, February 24-26, 2010 (presentation date: February 26, 2010, presenting author: Meng).
41. Meng H, Metaxa E, Natarajan SK, Gao L, Swartz D, Siddiqui AH, Kolega J, Mocco J: Continued Progressive Aneurysm Development Despite Normalization of Flow Following Hemodynamic Insult (abstract P41). *Stroke* 41:e12, April 2010. Poster Presentation, *International Stroke Conference 2010*, San Antonio TX, February 24-26, 2010.
42. Gao L, Mandelbaum M, Natarajan S, Mocco J, Siddiqui A, Meng H, Kolega J: Cellular and Molecular Changes During Hemodynamic Initiation of Intracranial Aneurysms in a Rabbit Model (abstract P40). *Stroke* 41:e11, April 2010. Poster Presentation, *International Stroke Conference 2010*, San Antonio TX, February 24-26, 2010.
43. Meng H, Dhar S, Gao L, Hoi Y, Kolega J, Levy E, Mandelbaum M, Metaxa E, Mocco J, Natarajan SK, Siddiqui A, Tremmel M, Wang Z, Xiang J, Hopkins LN: Hemodynamic Factors Contributing to Aneurysm Formation and Rupture (abstract LS01-02). Invited Lecture, *The 6th International Intracranial Stent Meeting 2009: Tidal Wave from Coil to Prosthesis, from Embolization to Reconstruction* (in conjunction with The 17th Meeting of Neuroendovascular Therapy Sendai Seminar 2009), Sendai Japan, August 5-7, 2009.
44. Meng H, Gao L, Kolega J, Levy E, Mandelbaum M, Metaxa E, Mocco J, Natarajan SK, Siddiqui A, Tremmel M, Hopkins LN: Flow-induced Basilar Bifurcation Aneurysm Model in Rabbit (abstract SY01-01). Oral Presentation, *The 6th International Intracranial Stent Meeting 2009: Tidal Wave from Coil to Prosthesis, from Embolization to Reconstruction* (in conjunction with The 17th Meeting of Neuroendovascular Therapy Sendai Seminar 2009), Sendai Japan, August 5-7, 2009.

45. Eleni Metaxa, Markus Tremmel, Ling Gao, Max Mandelbaum, Daniel D Swartz, J Mocco, Adnan Siddiqui, John Kolega, Hui Meng, "Hemodynamic Induction of Intracranial Aneurysm by High Wall Shear Stress and Positive Wall Shear Stress Gradient". Arteriosclerosis, Thrombosis, and Vascular Biology Annual Conference 2009, American Heart Association, Washington, DC, April 29 - May 1, 2009. In *Arterioscler Thromb Vasc Biol*; 29(7):e84, 2009
46. Ling Gao, Max Mandelbaum, Hui Meng and John Kolega, "Early Molecular and Cellular Changes in Intracranial Aneurysm Initiation by Hemodynamic Insult", Arteriosclerosis, Thrombosis, and Vascular Biology Annual Conference 2009, American Heart Association, Washington, DC, April 29 - May 1, 2009. In *Arterioscler Thromb Vasc Biol*; 29(7):e120, 2009
47. Salazar, J.P.L.C., de Jong, J., Woodward, S.H., Meng, H., Collins, L.R., "Towards quantifying the collision kernel of inertial particles in homogeneous isotropic turbulence". Annual Meeting of the APS Division of Fluid Dynamics 2008, Nov 23-25, San Antonio, TX.
48. Lance R. Collins, Juan P. L. C. Salazar, Jeremy de Jong, Scott H. Woodward and Hui Meng, "Measurement of Pairwise Position and Velocity Statistics of Inertial Particles In Isotropic Turbulence", AIChE Annual Meeting, Philadelphia, PA, Nov. 16-21, 2008.
49. Wang, Z, Kolega, J, Hoi, Y, Gao, L, Swartz,DD, Mocco, J, Meng, H, "Aneurysm-like Molecular Pathophysiologic Changes Co-localize with Combined High WSS and High Positive WSSG near Bifurcation Apices". The 15th International Vascular Biology Meeting, Sydney, Australia, June 1-5, 2008.
50. Hodge, D, Swartz, DD, Meng, H, Vascular Remodeling of Arterial Bifurcations in a Controlled Ex Vivo Flow Environment. The 15th International Vascular Biology Meeting, Sydney, Australia, June 1-5, 2008.
51. Metaxa, E, Kolega, J, Szymanski, MP, Kaluvala, SR, Swartz,DD, Meng, H, Nitric Oxide-dependent Stimulation of Endothelial Cell Proliferation by Sustained High Flow, The 15th International Vascular Biology Meeting, Sydney, Australia, June 1-5, 2008.
52. Gao, L, Hoi, Y, Tremmel, M, Mendelbaum, M, Paciorek, A, Swartz, DD, Kolega, J, Meng, H, Hemodynamic Induction of Cerebral Vascular Remodeling and Aneurysm Initiation. The 15th International Vascular Biology Meeting, Sydney, Australia, June 1-5, 2008.
53. Z. Wang, Y. Hoi, L. Gao, E. Metaxa, D.D. Swartz, J.P. Kolega, H. Meng: Impinging Flow Induces Aneurysmal Remodeling, 2007 Annual Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007
54. D.Q. Hodge, M.P. Szymanski, D.D. Swartz, H. Meng: Vascular Remodeling Of Arterial Bifurcations In A Controlled Ex Vivo Flow Environment, 2007 Annual Fall Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007
55. A. Pacioreki, D.D. Swartz, H. Meng, J.P. Kolega: Optimization Of Fibrin Gel For The Therapeutic Treatment Of Cerebral Aneurysms, 2007 Annual Fall Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007
56. E. Metaxa, J.P. Kolega, M.P. Szymanski, H. Meng: Role Of Nitric Oxide In Regulating Endothelial Cell Proliferation Under Chronic High Flow, 2007 Annual Fall Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007
57. L. Gao, Y. Hoi, D.D. Swartz, A.M. Pacioreki, F. Chang, M. Trammel, J.P. Kolega, H. Meng: Increased Flow Induces Basilar Terminus Aneurysm And Basilar Artery Enlargement In Rabbits, 2007 Annual Fall Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007

58. J.M. Dolan, S.R. Kaluvala, M. Szymanski, E. Metaxa, J.P. Kolega, H. Meng: Endothelial Cell Migration Under Impinging Flow, 2007 Annual Fall Meeting of the Biomedical Engineering Society, Los Angeles, CA, September 26-29, 2007
59. J Yamamoto, H Meng, DD Swartz, ZJ Wang, Y Hoi, J Kolega, E Metaxa, MP Szymanski, L Gao, AM Paciorek, , E Sauvageau, EI Levy, LN Hopkins: A Model System for Mapping Vascular Responses to Complex Hemodynamics at Arterial Bifurcations In Vivo. Congress of Neurological Surgeons 56th Annual Meeting, Chicago, IL, Oct. 7-12, 2006.
60. H Meng, DD Swartz, ZJ Wang, L Gao, Y Hoi, J Kolega, E Metaxa, MP Szymanski, AM Paciorek, J Yamamoto, E Sauvageau, EI Levy, LN Hopkins: Development of Aneurysm-Like Remodeling on Vessels Subjected to Impinging Flow, Experimental Biology, San Francisco, CA, April 1-5, 2006.
61. Hui Meng, "Hemodynamic Intervention of Cerebral Aneurysms," 58th Annual Meeting of the Division of Fluid Dynamics, November 20-22, 2005, Chicago. (Invited) Bulletin of the American Physical Society, 50(10), 2005.
62. Hui Meng, Minsouk Kim, Yiemeng Hoi, Scott H. Woodward, Dale B. Taulbee, "Intravascular Stent Intervention of Cerebral Aneurysm", 2005 Biomedical Engineering Society (BMES) Annual Fall Meeting, Baltimore, MD September 28 - October 1, 2005.
63. Hui Meng, Eleni Metaxa, Zhijie Wang, John P. Kolega, D.D. Swartz, Scott H. Woodward, "Vascular Response To Impinging Blood Flow", 2005 Biomedical Engineering Society (BMES) Annual Fall Meeting, Baltimore, MD, September 28 - October 1, 2005.
64. S. Woodward, Y. Hoi, L. Cao and H. Meng, "In Vitro Tracking of Blood cells with Digital Holography", 57th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Seattle, November 21-23, 2004.
65. Lujie Cao, Scott Woodward and Hui Meng, Sarma Rani, Lance R. Collins, "Observations of Aerosol particle clustering in isotropic turbulence", 57th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Seattle, November 21-23, 2004.
66. Hui Meng and Nick Hopkins, "Hemodynamic Intervention of Intracranial Aneurysms", *Interventional Neuroradiology Conference*, Jackson Hole, Wyoming, July 27-30, 2004.
67. Collins L, Meng H, "Turbulent Coagulation Of Aerosol Particles: New Insights From Direct Numerical Simulations And Holographic Imaging Experiments", Invited Lecture, in *ASME/JSME Joint Fluid Dynamics Conference*, Honolulu, Hawaii, 2003.
68. Hui Meng, "CFD and Holographic PIV for Hemodynamic Intervention of Intracranial Aneurysms", *International Bio-fluid Mechanics Conference*, California Institute of Technology, Dec.12-14, 2003
69. Yiemeng Hoi, Hui Meng, Scott Woodward, Lee Guterman, and L.N. Hopkins, "The effects of geometry on aneurysm hemodynamics", *The 56th Annual Meeting, Division of Fluid Dynamics, American Physical Society*, East Rutherford, NJ, November 23-25, 2003.
70. Hui Meng, Scott Woodward, Gang Pan, "The Future of Digital Holographic PIV", *The 56th Annual Meeting, Division of Fluid Dynamics, American Physical Society*, East Rutherford, NJ, November 23-25, 2003.
71. Lujie Cao, Gang, Pan, Hui Meng, "Three-dimensional measurement of aerosol particle clustering in homogeneous isotropic turbulence", *The 56th Annual Meeting, Division of Fluid Dynamics, American Physical Society*, East Rutherford, NJ, November 23-25, 2003.
72. Z. Wang, H. Meng, S. Woodward, Y. Hoi, S. Rudin, L.R. Guterman, L. N. Hopkins, "Importance of Parent Vessel Geometry for Aneurysm Stenting", *53rd Congress of Neurological Surgeons Annual Meeting*, Denver, CO, October 18-23, 2003. Included in "2003 CNS Abstract Program: The Essence

- of Neurological Surgery,” Abstract No. 169, Producer: Congress of Neurological Surgeons, Schaumburg IL (copyright 2003).
73. Y. Hoi, H. Meng, B.R. Bendok, R. Hanel, S. Woodward, E. Levy, L.R., Guterman, L.N. Hopkins, “Effects of arterial curvature on cerebral aneurysmal hemodynamics: Implication on risk assessment and coil treatment”, *53rd Congress of Neurological Surgeons Annual Meeting*, Denver, CO, October 18-23, 2003. (Second Place in Poster Competition) Included in “2003 CNS Abstract Program: The Essence of Neurological Surgery,” Abstract No. 129, Producer: Congress of Neurological Surgeons, Schaumburg IL (copyright 2003).
 74. S. Harvey, B. Nemes, H. Meng, L.R. Guterman, “In Vitro Assessment of Fibrin Gel for Use in Treatment of Intracranial Aneurysms”, *53rd Congress of Neurological Surgeons Annual Meeting*, Denver, CO, October 18-23, 2003. Included in “2003 CNS Abstract Program: The Essence of Neurological Surgery,” Abstract No. 188, Producer: Congress of Neurological Surgeons, Schaumburg IL (copyright 2003).
 75. Mulay AS, Meng H, Hanel RA, Hoi Y, Bendok BR, Woodward S, Taulbee DB, Guterman LR, Hopkins LN, “Hemodynamic Modifications Caused by Stenting Aneurysms on Curved Vessels”, *53rd Congress of Neurological Surgeons Annual Meeting*, Denver, CO, October 18-23, 2003. Included in “2003 CNS Abstract Program: The Essence of Neurological Surgery,” Abstract No. 128, Producer: Congress of Neurological Surgeons, Schaumburg IL (copyright 2003).
 76. Lance R. Collins, Hui Meng, Aruj Ahluwalia, Lujie Cao and Gang Pan, “Turbulent Coagulation of Aerosol Particles: “New Insights from Direct Numerical Simulations and Holographic Imaging Experiments”, *4th ASME/JSME Joint Fluids Engineering Conference*, FEDSM2003-45670 (Invited Keynote Lecture), Honolulu, HI, July 6-10, 2003.
 77. Y. Feng and H. Meng, “A mathematical model on the rupture of intracranial aneurysms”, *The Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society*, Houston, TX, 23-26 October, 2002.
 78. A. Mulay, Y. Feng, H. Meng, B. R. Bendok, L. R. Guterman, D. B. Taulbee, L. N. Hopkins, “A computational Fluid Dynamics Study on Wall Shear Stress of Sidewall Aneurysms of Varying Size and Dome-to-Neck Ratio”, *The Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society*, Houston, TX, 23-26 October, 2002.
 79. Y. Hoi, H. Meng, B. R. Bendok, L. R. Guterman, L. N. Hopkins, “Effects of Vessel Curvature on intracranial Aneurysmal Flow”, *The Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society*, Houston, TX, 23-26 October, 2002.
 80. S. M. Harvey, B. Nemes, L. R. Guterman, H. Meng, “A comparison Study of Bio-compatible liquid Materials for Treatment of Intracranial Aneurysm”, *The Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society*, Houston, TX, 23-26 October, 2002.
 81. S. H. Woodward, Z. Wang,, B. R. Bendok, H. Meng , L. N. Hopkins, “Modeling of DSA Images for Quantitative Comparison of Aneurysm Treatment Effectiveness”, *The Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society*, Houston, TX, 23-26 October, 2002.
 82. Y. Hoi, A. Mulay, B. R. Bendok, H. Meng et al., “The hemodynamic effects of parent vessel inflow angle on a cerebral sidewall aneurysm”, *The 4th World Congress of Biomechanics*, Calgary, Alberta, Canada, Aug. 4-9, 2002.
 83. A. Mulay, Y. Hoi, B. R. Bendok, H. Meng et al., “Modeling of flow in cerebral sidewall aneurysms: effect of aneurysm size”, *The 4th World Congress of Biomechanics*, Calgary, Alberta, Canada, Aug. 4-9, 2002.

84. S Rudin, Z Wang, I. Kyprianou, KR Hoffmann, LR Guterman, Y Wu, H Meng, B Nemes, DR Bednarek, "Imaging flow modification in cerebrovascular aneurysm models", *88th Annual Meeting of Radiological Society of North America*, Chicago, 1-6 December, 2002.
85. S. Rudin, Z. Wang, I. Kyprianou, C. Ionita, Y. Wu, K. R. Hoffmann, D. R. Bednarek, H. Meng "Imaging stent-induced flow modification in cerebrovascular aneurysms with X-ray micro-angiography", *2002 IEEE International Symposium on Biomedical Imaging*, Washington DC, July 7-10, 2002.
86. Rudin S, Wang Z, Kyprianou L, Hoffmann KR, Wu Y, Meng H, "Optical measurement of changes in flow in coiled and stented aneurysm models", *RADIOLOGY*, Volume: 225 Pages: 185-185, 2002
87. H. Meng, S. Dong and Y. Pu, "Flow Past a Mixing Tab Studied by DNS and Holographic PIV", *The 54th Annual Meeting of DFD, American Physical Society*, San Diego, Nov. 18-20, 2001, *Bulletin of the American Physical Society*, Vol. 46, Nov. 10, p.134.
88. L. Cao, Y. Pu, D. Song, G. Pan and H. Meng, "Experimental Test of Holographic PIV for 3D Particle Field and Flow Field Diagnostics", *The 54th Annual Meeting of DFD, American Physical Society*, San Diego, Nov. 18-20, 2001, *Bulletin of the American Physical Society*, Vol. 46, Nov. 10, p.223.
89. H. Meng, "PIV and Holographic Measurements for Droplets", *Workshop on Fine Scale Turbulence and Cloud Microphysics*, (Invited) NCAR Geophysical Turbulence Program, Boulder, CO, Nov. 9-11, 2000.
90. G. Pan, W. Yang, and H. Meng, " An experimental study of scalar mixing of a transverse jet in a pipe" *The 52nd Annual Meeting of DFD, American Physical Society*, New Orleans, LA, Nov. 21-23, 1999.
91. Y. Pu, X. Song and H. Meng, "Studying Particulate Flows Using Holographic PIV", *The 52nd Annual Meeting of DFD, American Physical Society*, New Orleans, LA, Nov. 21-23, 1999.
92. S. Dong and H. Meng, "A Direct Numerical Simulation of the Flow Past a Surface-Mounted Mixing Tab", *The 52nd Annual Meeting of DFD, American Physical Society*, New Orleans, LA, Nov. 21-23, 1999.
93. W. Yang and H. Meng, "Dynamics of Tab-Wake Vortices", *The 52nd Annual Meeting of DFD, American Physical Society*, New Orleans, LA, Nov. 21-23, 1999.
94. H. Meng, W. Yang and J. Sheng, "Hairpin Vortex Dynamics in a Kernel Experiment", *The 51st Annual Meeting of DFD, American Physical Society*, Philadelphia, PA, Nov. 22-24, 1998.
95. Y. Pu and H. Meng, "Holographic PIV Applied to 3D Measurement of Flow Past A Vortex Generator", *The 51st Annual Meeting of DFD, American Physical Society*, Philadelphia, PA, Nov. 22-24, 1998.
96. H. Meng and W. Yang, "Dynamics of hairpin vortices in the wake of a surface-mounted mixing tab", *The 13th U.S. Congress of Applied Mechanics*, Gainesville, FL, June 21-26, 1998.
97. H. Meng, Y. Pu, J. Sheng, and Z. Huang, "Holographic particle image velocimetry: status and perspective", *The 13th U.S. Congress of Applied Mechanics*, Gainesville, FL, June 21-26, 1998.
98. H. Meng, "Status of HPIV", *AFOSR Annual Meeting on Internal Flows*, Annapolis, MD, Aug. 18-20, 1998
99. H. Meng, "Holographic PIV: Development and Application", *NSF Workshop on Flow of Particulates and Fluids*, Santa Barbara, CA, Feb. 23-25, 1998.

100. Y. Pu, Z. Huang, and H. Meng, "Advanced Off-axis Holographic Particle Image Velocimetry (HPIV) System", *The 50th Annual Meeting of DFD, American Physical Society*, San Francisco, CA, Nov. 23-25, 1997.
101. J. Sheng, R. Elavarasan, and H. Meng, "Development of A Low Cost Automatic Holographic PIV System using In-line Recording Off-axis Viewing (IROV) with Artificial Intelligence (AI) Data Processing", *The 50th Annual Meeting of DFD, American Physical Society*, San Francisco, CA, Nov. 23-25, 1997.
102. W. Yang and H. Meng, "Study of Evolution and Regeneration of Hairpin Vortices in the Wake of A Surface-Mounted Mixing Tab using PIV", *The 50th Annual Meeting of DFD, American Physical Society*, San Francisco, CA, Nov. 23-25, 1997.
103. W. Jin, R. Elavarasan, H. Meng, "Flow Behind a Passive Mixing Tab: A Combined Study by Flow Visualization and Laser Doppler Velocimetry", *The 50th Annual Meeting of DFD, American Physical Society*, San Francisco, CA, Nov. 23-25, 1997.
104. S. Dong, J. Sheng, and H. Meng, "Vorticity Calculation with Spectral Methods in the Processing of PIV Data", *The 50th Annual Meeting of DFD, American Physical Society*, San Francisco, CA, Nov. 23-25, 1997.
105. Sheng, J., H. Meng, R. O. Fox, and A. Bakker, "Validation of CFD Models using DPIV data for an Axial Impeller Flow", *Mixing XVI, The 16th Biennial North American Mixing Conference, NAMF*, Williamsburg, VA, June 22-27, 1997.
106. H. Meng and Y. Pu, "OptoStylus — Non-contact Optical Profilometer for Machinshop Environment" *Proceedings of the Annual Conference of the Advanced Manufacturing Institute 1997*, pp. 51-56.
107. J. Sheng, H. Meng, and R. O. Fox, "Validation of CFD models using PIV data for an axial impeller flow", *The 49th Annual Meeting of DFD, American Physical Society*, Syracuse, Nov. 24-26, 1996.
108. Y. Pu, J. Sheng, W. Yang, and H. Meng, "Acquisition of high-resolution 3D data and processing using Artificial Intelligence", *The 49th Annual Meeting of DFD, American Physical Society*, Syracuse, Nov. 24-26, 1996.
109. W. Yang, J. Sheng, H. Meng, and Y. Pu, "A quantitative study of flow characteristics passing a passive mixing tab using PIV", *The 49th Annual Meeting of DFD, American Physical Society*, Syracuse, Nov. 24-26, 1996.
110. S. Gogineni, L. Goss, J. Estevadeordal, and H. Meng, "Development Of Holographic PIV For Flame Studies", *The 49th Annual Meeting of DFD, American Physical Society*, Syracuse, Nov. 24-26, 1996.
111. H. Meng and F. Hussain, "Innovations in Holographic Particle Velocimetry for Vortex Interaction and Turbulence Research", *International Workshop on 3-D PIV*, Ford Research Lab, Dearborn, MI, Aug. 14-17, 1994.
112. F. Hussain, H. Meng, D. Liu, V. Zimin, S. Simmons, and C. Zhou, "Recent Innovations in Holographic Particle Velocimetry", *Proceedings of the Seventh ONR Propulsion Meeting*, Buffalo, NY, p. 233-249, August 1994.
113. H. Meng, D. Liu, S. Simmons, and F. Hussain, "Innovations in Holographic Particle Velocimetry", *Proceedings of the Sixth ONR Propulsion Meeting*, Boulder, CO, p. 150-158, 1993.
114. H. Meng, D. Liu, and F. Hussain, "Development of Holographic Particle Velocimetry (HPV)", *Proceedings of the Fifth ONR Propulsion Meeting*, Arlington, VA, p. 120-124, 1992.

115. H. Meng and F. Hussain, "Intrinsic Speckle Limitation and Signal-to-Noise Ratio in Holographic Particle Velocimetry (HPV) Based on In-line holography", *Bull. Am. Phys. Soc.* Vol. 37 (8), p.1791, 1992.
116. H. Meng, D. Liu, and F. Hussain, "Advances in Holographic Particle Velocimetry", *International Conference on LASERS '92*, Houston, TX, December 1992.
117. H. Meng, D. Liu, and F. Hussain, "Progress on the Development of Holographic Particle Velocimetry", *Proceedings of the Fourth ONR Propulsion Meeting*, Memphis, TN, p.20-22, 1991.
118. J. Bridges, H. Meng, D. Liu, and F. Hussain, "Holographic particle Velocimetry for Turbulence Reacting Shear Flows: Progress Report", *Proceedings of the Third ONR Propulsion Meeting*, Newport, RI, 1990.
119. H. Meng and H. J. Eichler, "Pressure Dependence of Stimulated Brillouin Scattering in SF₆-Gas", *Conference of German Physicist Society*, Freiburg, FRG, March 11-15, 1991.
120. H. Meng, V. Aboites, and H. J. Eichler, "Q-switched Nd:YAG Laser by SBS", *Proceedings of Lasers '90*, p.91-92, 1990.

PATENTS

1. **H. Meng**, V. Tutino. Biomarkers for Intracranial Aneurysm. Provisional Patent filed, July 17, 2017; PCT Patent Application (No. PCT/US18/42718) filed. July 18, 2018.
2. **H. Meng**, L. Antiga, J. Xiang. Systems and Methods for Identifying Historical Vasculature Cases. U.S. Patent US 20160203288 A1 filed June 18, 2012.
3. **H. Meng** and Y. Pu. Holographic Particle Image Velocimetry Apparatus and Methods. U.S. Patent US 6496262 B1 filed July 9, 1999, and issued Dec. 17, 2002.
4. H. J. Eichler, **H. Meng**, R. Menzel and D. Schumann. Laser mit frequenzangepaßtem Schallwellenspiegel (Laser with a Frequency-Matched Sound-wave Mirror). German Patent DE 4102409 C2 filed 28 Jan 1991, and issued 17 Aug 1995.