

Curriculum Vitae December 2006

David Carl Zawieja
Professor and Director
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EDUCATION

- 9/1974-5/1978 Bachelor of Science, University of Wisconsin - Green Bay, Majors: Biology, Chemistry, Population Dynamics
- 1/1981-5/1981 Rensselaer Polytechnic Institute, Troy, NY Graduate Program in Biomedical Engineering
- 8/1981-5/1986 Doctor of Philosophy, Medical College of Wisconsin, Milwaukee, WI Department of Physiology, Advisor: William J. Barber Dissertation: Theoretical and Experimental Investigations into the Formation and Flow of Lymph in the Rat.
- 6/1986-5/1988 Postdoctoral Training, Texas A&M University, Department of Medical Physiology

PROFESSIONAL POSITIONS

- 6/1988-8/1991 Assistant Research Scientist, Texas A&M University, Department of Medical Physiology
- 9/1991-8/1997 Assistant Professor, Texas A&M University, Department of Medical Physiology
- 9/1997-8/2004 Associate Professor, Texas A&M University System Health Science Center, Department of Medical Physiology
- 9/2003-present Director, Division of Lymphatic Biology of the Cardiovascular Research Institute, Texas A&M University System Health Science Center
- 9/2004-present Professor, Texas A&M University System Health Science Center, Department of Medical Physiology
- 9/2005-present Associate Head, Texas A&M University System Health Science Center, Department of Systems Biology and Translational Medicine

FELLOWSHIPS

- 7/1982-6/1985 The Medical College of Wisconsin, Milwaukee, Department of Physiology
- 7/1987-8/1989 NIH, National Research Service Award, Department of Medical Physiology, Texas A&M University

HONORS

- 9/1982-6/1985 Tuition Scholarship, Medical College of Wisconsin
- 1985 Julius Babush Award, for excellence in research, Department of Physiology, Medical College of Wisconsin
- 8/1987-8/1989 National Research Service Award, NIH
- 5/1992 European Society for Microcirculation Travel Award
- 4/1994 International Research Travel Award, Texas A&M University
- 8/1996-8/2001 Research Career Development Award, NIH
- 1/2006 Representative for the Texas A&M Health Science Center at the Academy of Medicine, Engineering and Science of Texas Conference, Houston, TX.

TEACHING EXPERIENCE

- 7/1985-5/1986 Teaching Assistant, The Medical College of Wisconsin, Department of Physiology
- 1987-1988 Lecturer in Medical Physiology, Texas A&M University, Cardiovascular transport and exchange
- 1989-1992 Lecturer in Basics of Biomedical Science, Texas A&M University, Extracellular matrix, cell to cell adhesion and recognition.
- 1989-1992 Lecturer in Vascular Physiology, Texas A&M University, Cardiovascular transport and exchange, Extracellular matrix, Lymphatics, Cellular Adhesion and Communication
- 1990 Lecturer in Medical Physiology, Texas A&M University, Gastrointestinal physiology
- 1991-2001, 2003-4 Lecturer in Medical Physiology, Texas A&M University, Respiratory and Exercise Physiology
- 1993-1996 Lecturer in Vascular Physiology, Texas A&M University, Vascular communication
- 1993-1994 Course organizer and lecturer in Optical Microscopy and Imaging in the Biomedical Sciences, Texas A&M University
- 1994-present Course Co-organizer and lecturer in Laboratory Techniques in Cell Physiology, Texas A&M University System Health Science Center
- 2002-2006 Lecturer in Vascular Physiology, Texas A&M University System Health Science Center, Lymphatic Biology
- 2003-2005 Organ Block Leader in Respiratory Physiology, Texas A&M University System Health Science Center, College of Medicine
- 2004-2006 Lecturer in Vascular Fluids, Texas A&M University, BME, Lymphatic Biology
- 2006-present Lecturer in Structure and Function of Human Organ Systems, Respiratory Physiology, Texas A&M University System Health Science Center, College of Medicine

STUDENT MENTORING

Postdoctoral Studies Advisor

- 1992-1993 Sandra Amerini, Department of Preclinical and Clinical Pharmacology, University of Florence, Italy
- 2003-present Wei Wang, Medical Physiology, Texas A&M University Health Science Center
- 2004-2005 Rong-Zhen Zhang, Medical Physiology, Texas A&M University Health Science Center, current position Assistant Research Scientist, Baylor College of Medicine.
- 2005-present Olga Gasheva, Medical Physiology, Texas A&M University Health Science Center
- 2005-present Janna Nepiushih, Medical Physiology, Texas A&M University Health Science Center

Graduate Student Advisor

- 1994-1995 Wei Zhang, Medical Physiology, Texas A&M University Health Science Center
- 1999-2005 Helen Hayes, Medical Physiology, Texas A&M University System Health Science Center, Thesis Advisor, current position Instructor San Antonio College
- 2001-present Eric Bridenbaugh, Medical Physiology, Texas A&M University System Health Science Center, Thesis Advisor
- 2003-2006 N. Brandon Dixon, Biomedical Engineering, Texas A&M University, Thesis Co-Advisor
- 2004-present Andrea Julian, Medical Physiology, Texas A&M University Health Science Center, Thesis Co-Advisor
- 2005-present Hong Guo, Biomedical Engineering, Texas A&M University, Thesis Co-Advisor
- 2005-present Patrick Dougherty, Systems Biology and Translational Medicine, Texas A&M University Health Science Center, Thesis Co-Advisor
- 2006-present Elaheh Rahbar, Biomedical Engineering, Texas A&M University, Thesis Co-Advisor

Ph.D. Dissertation Committee

- 1990-1994 Neeraj Sharma, Medical Physiology, Texas A&M University Health Science Center, "Ionic mechanisms in the action of substance P on coronary artery endothelial cells"
- 1990-1995 Martha Lundberg, Medical Physiology, Texas A&M University Health Science Center, "Mechanical stretch of vascular smooth muscle cells: a novel in vitro to characterize phenotype expression", current position - Scientist NIH-NHLBI.
- 1991-1996 Jon Mogford, Medical Physiology, Texas A&M University Health Science Center, "Integrin control of arteriole function", current position - Project Facilitator, DOD.
- 1995-1998 Randy Stewart, Veterinary Physiology, Texas A&M University, "Basic determinants of epicardial transudation", current position - Research Assistant Professor Texas A&M University College of Veterinary Medicine.
- 1995-1999 Travis Hein, Medical Physiology, Texas A&M University Health Science Center, current position - Assistant Professor Dept. of Surgery Texas A&M University Health Science Center College of Medicine.

- 1995-1999 John Hood, Medical Physiology, Texas A&M University Health Science Center, Texas A&M University Health Science Center, current position - Director of Research, TargeGen-the Vascular Biology Company.
- 1995-2000 Lorenz Schmiede, Medical Physiology, Texas A&M University Health Science Center, current position – Resident Dept. of Pathology Baylor College of Medicine.
- 1995-2000 Kayla Bayless, Medical Physiology, Texas A&M University Health Science Center, current position – Research Assistant Professor Dept. of Cellular and Molecular Biology, Texas A&M University Health Science Center College of Medicine.
- 1996-1999 Douglas Rohn, Veterinary Physiology, Texas A&M University
- 1998-2000 Travis Holton, Medical Physiology, Texas A&M University Health Science Center
- 1995-2002 Larry Cooke, Medical Physiology, Texas A&M University System Health Science Center
- 1998-2002 Carl Tong, Medical Physiology, Texas A&M University System Health Science Center, current position – Fellow, Dept of Cardiology, University of Wisconsin Medical School..
- 1999-2005 Helen Hayes, Committee Chair, Medical Physiology, Texas A&M University System Health Science Center, current position Instructor San Antonio College
- 2001-present Eric Bridenbaugh, Committee Chair, Medical Physiology, Texas A&M University System Health Science Center
- 2002-2006 Brandon Dixon, Dept. of Bioengineering, Texas A&M University.
- 2002-2004 Bob Gaffin, Medical Physiology, Texas A&M University System Health Science Center, current position Postdoctoral Research Assistant, Dept of Physiology and Biophysics, University of Illinois at Chicago.
- 2004-present Andrea Julian, Medical Physiology, Texas A&M University Health Science Center
- 2005-present Arun M. Venugopal, Veterinary Physiology, Texas A&M University, Thesis Co-Advisor
- 2005-present Natasa Popovic, Medical Physiology, Texas A&M Health Science Center
- 2005-present Patrick Dougherty, Medical Physiology, Texas A&M Health Science Center
- 2005-present Bruce Ngo, Veterinary Physiology, Texas A&M University
- 2006-present Elaheh Rahbar, Biomedical Engineering, Texas A&M University, Thesis Co-Advisor

Ph.D. Dissertation Committee Graduate Council Representative

- 1992-1995 Fangfang Qin, Chemical Engineering, Texas A&M University, "Development and application of NMRI for determining fluid saturation distributions in porous media"
- 2002-2003 Xin Xie Dept. of Plant Pathology and Microbiology – GCR

Medical Student Research Advisor

- 1991 Tom Warren, "Effects of oxygen derived free radicals on the permeability of coronary venular endothelial monolayers," National Student Medical Research Forum

- 1992 Chris Johnson, "Effects of oxygen free radicals on intracellular calcium in coronary venular endothelial cells," National Student Medical Research Forum.
- 1994 J. Len Tadvick, "Effects of substance P on lymphatic vessels in the rat"
- 1995 Daryl Reust, "Development of fluorescent techniques for measurement of membrane potential in isolated vessels"
- 1995 Jennifer Dickson, "Regulation of $[Ca^{2+}]_i$ in isolated lymphatics"
- 1995 Matthew Hammit, "Isolation of lymphatic smooth muscle cells"
- 1996 Seth Fritcher, "Dispersed lymphatic smooth muscle cells"
- 1996 Laura Connell, "Isolation of lymphatic endothelial cells"

Undergraduate Student Research Advisor

- 1987 Cesar Garcia, "Oxygen radicals, enzymes, and fluid transport through the pericardial interstitium"
- 1988 Steven Greiner, "Reactive oxygen metabolites inhibit spontaneous lymphatic contractions"
- 1990 W. Mark Hinds, "Distribution, propagation and coordination of the contractile activity in rat mesenteric lymphatics"
- 1990 Rich Schuster, "Effects of gap junctional inhibitors on lymphatic function"
- 1991 Ron Handley, "bFGF and angiogenesis in coronary endothelium"
- 1991 Jon Whittles, "Bubble-lift chamber design; and the feasibility of multiple protein assays for permeability studies"
- 1993 Amy Harrell, "bFGF and angiogenesis in coronary endothelium"
- 1993 Bryan Woodruff, "Lymphatic calcium and diameter during vasomotion"
- 1994-96 Jeff Fisher, "Video analysis of lymphatic diameter changes"
- 1995 M. Suzette de Gracia, "Lymphatic cell calcium oscillations"
- 1995-96 John Pullin, "Cultured lymphatic smooth muscle cell lines"
- 1995-96 Gabriel Lopez, "Dispersed lymphatic smooth muscle cells"
- 1995-96 Tim Denning, "Membrane potential measurement using fluorescence"
- 1997 Erica Young, "Lymphatic calcium measurement using fluorescence"
- 1998 Lourdes Ramirez, "Lymphangiogenesis"
- 2004 Elizabeth Lynn Wink, "Development of cultured thoracic duct muscle cells"
- 2006 Maya Srimushnam, "Evaluation of expression of calcium-regulating genes in rat mesenteric lymphatics."

NIH Research Apprentice High School Student Advisor

- 1988 Olivia Kelly, "Fluid transport across venular endothelial monolayers"
- 1990 Umima Baig, "Pathophysiology of oxygen metabolites"

1991	Eugene Hwang, "Isolation of lymphatic smooth muscle cells"
1993	Lakesha Johnson, "Regulation of endothelial cell calcium"
1994	Zayda Caldo, "Lymphatic calcium and diameter during vasomotion"
1995	Zayda Caldo, "Effects of flow on lymphatic pumping behavior"

ADDITIONAL RESEARCH EXPERIENCE

9/1990	Optical Microscopy and Imaging in the Biomedical Sciences Course, Marine Biological Laboratory, Woods Hole, MA
9/1995	Integrated Microscopy Symposium, IMR, Madison, WI
9/1999	IBC's 6 th Annual Biochip Technologies Conference, Berkeley, CA

COMMITTEES

1987-present	Dept. Computing Facilities Committee-Chair
1988-present	Core Facilities Committee
1991-1993	Cardiovascular Faculty Formation Committee
1991	TAMU Center for Innovative Computer Technology Development
1992-1993	TAMU Electronic Database Task Force
1993-1994	TAMU Task Force on Video Instructional Equipment
1993-1994	Planning Group for Medical Sciences Library Electronic Learning Center
1992-1999	Departmental Graduate Program Committee
1992-1999	Computers in Medicine Interest Group
1993-2000	TAMU Medical Sciences Library Faculty Consultant
1993-2002	American Heart Assoc.-Texas Affiliate, Central Research Review Committee
1994-1995	University Laboratory Animal Care Committee
1995-1996	Medical Sciences Library Education Center Task
1995-1996	TAMU Visualization Committee
1996-1997	Sub-committee on Information Technology Requirements, TAMU Health Science Center Operating Plan Task Force
1996-1999	Chair, ad hoc TAMU Health Science Center College of Medicine Information Technology Users Group
1997	Search Committee for TAMU Health Science Center Associate Dean of Information Technology
1996-1999	TAMU Medical Sciences Library Education Center Comm
1997	TAMU International Research Travel Assistance Grant Review Comm
1998 – 1999	TAMU Interdisciplinary Grant Review Comm
1999 – 2003	Microcirculation Society, Nominations Committee

1999 – 2000	TAMUS-HSC College of Medicine Faculty Advisory Committee
1999 – 2000	TAMUS-HSC College of Medicine Academic Council
2000 -2001	TAMU Medical Sciences Library Liason
2000 – 2004	TAMUS-HSC Faculty Senate
2000 – 2002	TAMUS-HSC Faculty Senate – Secretary/Treasurer
2002 – 2003	TAMUS-HSC Faculty Senate Website Advisory Committee
2002 – present	Departmental Tenure Review Committee
2002 – 2004	“Molecular Mechanisms in Lymphatic Function and Disease” 2004 Gordon Conference Planning Committee
2003 – 2004	HSC Faculty Senate – Caucus Leader
2003 – 2004	Microcirculation Society - Membership Committee
2004 – present	Microcirculation Society - Membership Committee Chair
2005 –	TAMUS-HSC College of Medicine Department Realignment Committee Co-Chair
2005 – present	TAMUS-HSC College of Medicine Representative on the Research Advisory Council
2005 –	TAMUS-HSC College of Medicine Faculty Compensation Task Force Chair
2006 –	TAMHSC- Task Force on Protection of Research Data

INSTITUTIONAL FACILITIES

1988-2003	Director of Departmental Computing Facilities
1988-1995	Co-Director of Departmental Perceptics Image Analysis Core Facility
1991-present	Director of Departmental Confocal Imaging Core Facility
1991-present	Director of Departmental Imaging Facilities
1993-1995	Coordinator of Departmental Gopher server
1997-2000	Coordinator of the Departmental Website
2000-2002	CVRI Website Advisory Committee
2000-present	Departmental Microarray Core Facility Advisory Committee
2003- present	Director Division of Lymphatic Biology Cardiovascular Research Institute
2005-present	Director CVRI integrated Microscopy Imaging Lab

PROFESSIONAL AFFILIATIONS

American Physiological Society – Member

Microcirculatory Society – Member

American Association for the Advancement of Science – Member

American Heart Association - Member - Council on Circulation

American Heart Association Western Consortium - Member Grant Review Comm.

International Society of Lymphology – Member
European Society for Microcirculation – Member
North American Vascular Biology Organization - Charter member
European Group for Lymphology – Member
Lymphatic Research Foundation – Scientific Advisory Board
Lymphatic Research and Biology – Editorial Board
Microcirculation – Editorial Board

GRANT SUPPORT

Completed

7/1987-7/1989, NIH, National Research Service Award, "Activated neutrophils and the extracellular matrix" PI

1988, NIH/TAMU, Basic Research Support Grant, "In situ evaluation of vascular wall components on hydraulic conductivity and the reflection coefficient in venules" PI

7/1988-6/1990, American Heart Association, Texas Affiliate, Grant-In-Aid, "Coordination of active lymphatic contractile activity", PI

6/1989-9/1990, State of Texas, Texas Advanced Technology and Research Program, "The contribution of vascular endothelium to microvascular dysfunction in experimental hypertension and diabetes," Consultant, Gerald Meininger - PI

6/1989-9/1990, State of Texas, Texas Advanced Technology and Research Program, "Microvascular cell lines and associated bioproducts," Co-I, H. J. Granger - PI

9/1987-9/1992, NIH, Merit Award, "Pathophysiology of edema," Co-I, H. J. Granger - PI

7/1990-6/1993, American Heart Association, National Center, Grant-in-Aid, "Mechanisms of lymphatic contractile propagation" PI

8/1993-9/1997, NIH, FIRST Award, "Mechanisms of spontaneous lymphatic contractions," PI

4/1994, International Research Travel Award, Texas A&M University

8/1996-7/2001, NIH, Research Career Development Award, "Mechanisms of spontaneous lymphatic contractions," PI

1998, APS Frontiers in Physiology School Science Teacher Fellowship Award, Host, Opal Bigham - Fellow.

2001-2004, National Space Biomedical Research Institute, "Circulatory Remodeling with Simulated Microgravity", Co-I, Michael Delp, PI

2001, TAMUS Life Sciences Training Program, "Quantitative Measurements of Gene Expression with Fluorescence-based technology", Co-Investigator, William Griffith, PI

2002, NIH R13, "The lymphatic Continuum Conference", Co-Investigator, Stanley Rockson, PI

7/2003-6/2005, Texas A&M University's Life Sciences Task Force Program of Excellence Award, "Mechanisms of Edema Resolution: Implications for Treatment of Cardiovascular Disease", Program PI G. Laine, Project PI's D. Zawieja

4/2004-3/2005, NIH NCRR Shared Instrumentation Grant , “Confocal multiphoton/Atomic force microscopy system”, Co-I, G. Meininger-PI

2005, APS Frontiers in Physiology Professional Development Fellowship Award, Host, Toni Lafferty - Fellow.

2002-2006, Whitaker Foundation Special Opportunity Award, "Vascular Biomechanics and Mechanobiology", Zawieja Co-I, J. Humphrey and G. Cote, PI

3/2005-2/2006, Texas A&M University Center for Environmental and Rural Health, “Age-modulated changes in lymphatic contractile apparatus,” Zawieja Consultant, A. Gashev PI

Ongoing

3/2003-3/2011, NIH, R01 HL070308, " Influences of lymph flow on the lymphatic pump," Zawieja PI (25%)

10/2003-9/2007, NIH, RO1- HL75199. “Physiological Basis of Vascular Contractility”, Zawieja PI (20%), Co-I. A. Gashev, M. Davis and M. Muthuchamy

2/2005-1/2009, NIH R01 HL80526, " Molecular Mechanisms of Lymphatic Muscle Contraction," Zawieja Co-PI (15%), M. Muthuchamy PI

3/15/03-02/28/07, NIH, R01, “Regulation Of Bile Duct Growth In Bile Duct Ligated Rats,” Zawieja Consultant , G. Alpini PI

6/1/06-5/31/10, NSF, REU, NSF Research Experience for Undergraduates Award “Microvascular Mechanobiology”, Zawieja - Co-I, Quick – PI

9/1/06-8/31/07, Texas A&M Health Science Center Research Development & Enhancement Awards Program, "Changes in Lymphatic Muscle Phenotype in Response to Altered Lymph Dynamics”, Zawieja – Consultant, Wilson, E. – PI

NIH, K08, Zawieja -Advisory Board, Childs, E.W. – PI

NIH, R15 AREA project, “Mechanisms Of VEGF-A Regulated Tumor Lymphangiogenesis”, Zawieja – Consultant, Ryan, S. - PI

Pending

NIH-NHLBI, RO1, “Molecular Control Of EC Lumen Formation By MT1-MMP”, Zawieja – Co-I (5%), Davis, G. – PI

NIH-NHLBI, KO2, “Regulatory Mechanisms in Lymphatic Muscle Contraction”, Zawieja – Consultant, Muthuchamy, M. – PI

CIHR, Operating grant, “Mechanisms Of Distention-Activated Contractility In Lymphatic Vessels:Importance for edema resolution”, Zawieja – Consultant, von der Weid, P.Y. - PI

NIH-NIA, RO1, “Mechanisms Of The Age-Related Alterations In Lymphatic Pumping”, Zawieja – Co-I (5%), Gashev, A. – PI

NIH-NHLBI, RO1, “Cellular Mechanisms of Lymphatic Muscle Contractility”, Zawieja – Consultant, Davis, M. – PI

Grant Reviews

American Heart Association Texas & Western Affiliates, 1997-2001.
CRRC NIH NCCAM, ZAT1 DB(10) Special Emphasis Review Panel, 2003.
TAMU – CREPH 1-Primary reviewer., 2003
CRRC NIH NCCAM, ZAT1 DB(10) Special Emphasis Review Panel, 2004.
NIH, HM Study Section, 2004-2006.
NIH SEP ZRG1-CVS-G, Special Emphasis Review Panel, 2005.
Kentucky Science & Engineering Foundation, R&D Excellence Awards, 2005.
The Lymphatic Research Foundation Awards Programs, 2005.
American Cancer Society, Peer Review Panel, 2005.
NIH, VCMB Study Section, June 2006.
CRRC NIH NCCAM, ZAT1 SM-04 DCRC, Special Emphasis Review Panel, 2006.
CRRC NIH NCCAM, ZAT1 SM-06 DCRC, Special Emphasis Review Panel, 2007.

INVITED LECTURES

"Oxi-radicals and the interstitial matrix," Scott and White Clinic, Temple, TX, Clinical Disorders Associated with Impaired Splanchnic Circulation, Symposium, 12/1987.
"Mechanisms of lymph flow and formation," North American Society of Lymphology, Chicago, IL, Symposium on Basic Lymphatic Function, 10/1988.
"Quantitative videomicroscopy using digital imaging techniques," Department of Soil and Crop Sciences, Texas A&M University, Machine Vision and Image Analysis Workshop, 3/1989.
"Effects of reactive oxygen metabolites on lymphatic contractile activity," Department of Physiology and Biophysics, LSU, Shreveport, LA, 5/1989.
"Effects of reactive oxygen metabolites on lymphatic contractile activity," Department of Human Physiology, University of Milan, Milan Italy, 9/1994.
"Coordination and propagation of lymphatic contractions," North American Society of Lymphology, Washington, DC, Symposium on Lymphatic Physiology, 4/1990.
"Effects of reactive oxygen metabolites on microcirculatory transport," Faculty of Toxicology, Texas A&M University, College Station, TX, 2/1991; Department of Pharmacology, University of Florence, Italy, 5/1992; Department of Health and Kinesiology, Texas A&M University, College Station, TX, 2/1994.
"Imaging in biomedical research," Cyclotron Institute, Texas A&M University, Sigma Xi Workshop on Image Analysis, 4/1991.
"Inhibition of the active lymph pump by H₂O₂," XXII International Union of Physiological Sciences Congress, Glasgow, Scotland, 8/1993.
"Lymphatic physiology," Department of Cardiology, University of Wales College of Medicine, Biology of the Microcirculation, 8/1993.

- "Digital imaging microscopy applied to studies of microvascular network architecture and isolated microvessel function," Fourth FASEB Summer Research Conference on "Physiology and Pathophysiology of the Splanchnic Circulation," Copper Mountain, CO, 8/1994.
- "The lymphatic microcirculation," Microcirculatory Society, President Elect's Symposium, Washington, DC, 4/1996.
- "Intracellular calcium in isolated rat lymphatics," Texas A&M University Health Science Center Research Symposium, Navasota, TX, 6/1996.
- "Calcium kinetics in the lymphatic pump," Fifth FASEB Summer Research Conference, "Physiology and Pathophysiology of the Splanchnic Circulation," Copper Mountain, CO, 8/1996.
- "Microscopic imaging techniques used in the study of the splanchnic circulation," Fifth FASEB Summer Research Conference, "Physiology and Pathophysiology of the Splanchnic Circulation," Copper Mountain, CO, 8/1996.
- "Propagation and coordination of lymphatic contractile activity," Biomedical Engineering Society, "Communicated Responses in the Microvasculature," University Park, PA, 10/1996.
- "Intracellular calcium and the lymph pump," XVIII International Union of Physiological Sciences, "Transport of Lymph", St. Petersburg, Russia, 6/1997.
- "Lymphatic circulation," Scott and White Clinic, Gastroenterology Dept., Temple, TX, 1999.
- "Dynamics of the Microlymphatic System," 15th International Bodensee Symposium on Microcirculation, Lindau Germany, 1999.
- "The molecular basis of lymphatic contractions," 7th World Congress for Microcirculation, Sydney, Australia, 2001.
- "Lymphatic and Interstitial Transport, Molecular mechanisms of lymphatic contractions in rat mesenteric lymphatics," Biomedical Engineering Society Annual Meeting, Durham, NC, 2001.
- "Rat mesenteric lymphatic muscle cell and lymphatic endothelial cell biology," Regeneron, Inc. Tarrytown NY, 2001.
- "Interstitial/lymphatic interactions, Lymphatic function and contractile proteins," 22nd Meeting of the European Society for Microcirculation, Exeter, Devon, UK, 2002.
- "Effects of Simulated Microgravity of regional lymphatic function," Dept of Health and Kinesiology, Texas A&M University, College Station, TX, 2002.
- "Simulated microgravity inhibits the active lymph pump in rat thoracic duct," Bioastronautics Investigators' Workshop, Galveston, TX, 2003; International Space Agency, Banff, Canada, 2003.
- "Lymphatic Function and Protein Losing Enteropathy," 2nd Annual Conference on Protein Losing Enteropathy, Buffalo, NY, 2003.
- "Hydrodynamic regulation of lymphatic contractile function," Dept of Bioengineering, Northwestern University, Evanston, IL, 2003; Smooth Muscle Research Group, University of Calgary, Calgary, Alberta, Canada, 2003.
- "Simulated microgravity inhibits the rat regional lymph pumps," National Space Biomedical Research Institute Annual Retreat, Montgomery, TX, 2004.

- “Molecular mechanisms involved in lymphatic muscle contraction,” 2004 Gordon Research Conference on Molecular Mechanisms In Lymphatic Function & Disease, Four Points Sheraton: Harbortown Ventura, CA, March 7-12, 2004.
- “Lymphatic biology: Past, Present and Future,” 50th Anniversary Microcirculatory Society Symposium at Experimental Biology 2004, NIH Natcher Conference Center, Bethesda, MD, 2004.
- “History of lymphatic studies of the microcirculation,” Historical poster at 50th Anniversary Microcirculatory Society Symposium at Experimental Biology 2004, NIH Natcher Conference Center, Bethesda, MD, 2004.
- “Lymphatic Muscle Contractile Apparatus,” APS Symposium on Physiology of the Intrinsic Lymph Pump, Experimental Biology 2004, Washington D.C., 2004.
- “Investigations of Lymphatic Contractile Function: Integrating Physiology, Optics and Biomechanics”, Third Annual Whitaker Foundation Poster Day, Biomedical Engineering, Medical Physiology and Veterinary Physiology, TAMU, College Station, TX 2005.
- “Medical Research”, National Youth Leadership Forum on Medicine TAM-HSC, College Station, TX 2006.
- Second Annual ARVO/Pfizer Ophthalmics Research Institute Conference, “Aqueous Humor Outflow: What Do We Know? Where Will It Lead Us?”, Fort Lauderdale, FL, 4/2006.
- AHA Scientific Sessions 2006, “Lymphatic Smooth Muscle: New Player in Lymphedema”, Chicago, IL, 11/2006.

SYMPOSIUMS AND MEETING ORGANIZATION

- | | |
|------|---|
| 1989 | FASEB, Co-Chair "Peripheral Circulation Section" |
| 2000 | 1 st Think Tank Symposium, NIH/Lymphatic Research Foundation “Lymphatic Disease: Setting the Research Agenda”, Lymphatic Physiology/Pharmacology Task Force. |
| 2002 | NIH and the Lymphatic Research Foundation, Bethesda MD, “The Lymphatic Continuum”, Organizer , Co-Chair and moderator. |
| 2004 | EB, Washington D.C. Co-Chair " Physiology of the Intrinsic Lymph Pump " |
| 2004 | Gordon Conference Planning Committee, 'Molecular Mechanisms in Lymphatic Function & Disease, Ventura, CA. |
| 2004 | Experimental Biology, Washington D.C. " Physiology of the Intrinsic Lymph Pump " |
| 2006 | 8 th World Congress for Microcirculation, “Lymphatic Smooth Muscle Physiology” |

JOURNAL REVIEWER

American Journal of Physiology
 American Journal of Cardiology
 Cell and Tissue Research
 Circulation
 Circulation Research
 FASEB Journal
 Hypertension
 Journal of Applied Physiology

Journal of Vascular Research
Lymphatic Research and Biology
Lymphology
Microcirculation
Microvascular Research
Nature
Nature Medicine

EDITORIAL BOARDS

Lymphatic Research and Biology
Microcirculation

PUBLICATIONS

Refereed Papers

1. Zawieja, D.C., Barber, B.J., and Roman, R.J. Analysis of picogram quantities of protein in subnanoliter-size samples. *Anal. Biochem.* 142:182-188, 1984.
2. Barber, B.J., Eick, H., Stiemke, T., and Zawieja, D. Construction of an optical bench microscope for intravital studies. *Microvasc. Res.* 33:433-436, 1987.
3. Zawieja, D., and Barber, B.J. Lymph protein concentration in initial and collecting lymphatics of the rat. *Amer. J. Physiol.* 252:G602-G606, 1987.
4. Barber, B.J., Oppenheimer, J., Zawieja, D., and Zimmerman, H. Variations in rat mesenteric tissue thickness due to microvasculature. *Amer. J. Physiol.* 253:G549-G556, 1987.
5. Granger, H.J., Schelling, M.E., Lewis, R.E., Zawieja, D.C., and Meininger, C.J. Physiology and pathobiology of the microcirculation. *Amer. J. Otolaryn.* 9:264-277, 1988.
6. Benoit, J., Zawieja, D., Goodman, A., and Granger, H. Characterization of the intact mesenteric lymphatic pump and its responsiveness to acute edemagenic stress. *Amer. J. Physiol.* 257:H2059-H2069, 1989.
7. Barber, B.J., Schaefer, O.J., Gordon, C.J., Zawieja, D., and Hecker, J. Thermal effects of MR imaging; worst case studies on sheep. *Amer. J. Roentgen.* 155:1105-1110, 1990.
8. Zawieja, D.C., Greiner, S.T., Davis, K.L., Hinds, W.M., and Granger, H. Reactive oxygen metabolites inhibit spontaneous lymphatic contractions. *Amer. J. Physiol.* 260:H1935-H1943, 1991.
9. Meininger, G.A., Zawieja, D.C., Falcone, J.C., Hill, M.A., and Davey, J.P. Calcium measurement in isolated arterioles during myogenic and agonist stimulation. *Amer. J. Physiol.* 261:H950-H959, 1991.
10. Zawieja, D.C., Garcia, C., and Granger, H. Oxygen radicals, enzymes, and fluid transport through the pericardial interstitium. *Amer. J. Physiol.* 262:H136-H143, 1992.
11. Benoit, J.N., and Zawieja, D.C. Effects of f-Met-Leu-Phe-induced inflammation on intestinal lymph flow and lymphatic pump behavior. *Amer. J. Physiol.* 262:G199-G202, 1992.
12. Davis, M.J., Meininger, G.A., and Zawieja, D.C. Stretch-induced increases in intracellular calcium of isolated vascular smooth muscle cells. *Amer. J. Physiol.* 263:H1292-H1299, 1992.
13. Yuan, Y., Granger, H.J., Zawieja, D.C., and Chilian, W.M. Flow modulates coronary venular permeability by a nitric oxide-related mechanism. *Amer. J. Physiol.* 263:H641-H646, 1992.
14. Zawieja, D.C., Davis, K.L., Schuster, R., Hinds, W.M., and Granger, H.J. Distribution, propagation, and coordination of contractile activity in lymphatics. *Amer. J. Physiol.* 264:H1283-H1291, 1993.
15. Yuan, Y., Granger, H.J., Zawieja, D.C., DeFily, D.V., and Chilian, W.M. Histamine increases venular permeability via a phospholipase C-NO synthase-guanylate cyclase cascade. *Amer. J. Physiol.* 264:H1734-H1739, 1993.

16. Yuan, Y., Chilian, W.M., Granger, H.J., and Zawieja, D.C. Permeability to albumin in isolated coronary venules. *Amer. J. Physiol.* 265:H543-H552, 1993.
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COMMUNITY SERVICE

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| 1991-1995,1997-2003 | Soccer Coach, STYSA/USSA, Division 4 |
| 1994 – | Soccer Coaching “F” license/USSA |
| 1996-1997 | Soccer Coach, EDDOA, STYSA /USSA, Division 1 |
| 1994-1995 | Bryan Soccer Club U9/10 Division Coordinator, STYSA /USSA |
| 1994-1998 | Bryan Soccer Club Executive Board Member, STYSA /USSA |
| 1995-1998 | Bryan Soccer Club Registrar, STYSA /USSA |
| 1993-1996 | Bryan North Little League Coach/Manger |
| 1995-1996 | Cub Scout Den Leader, Pack 976, Boy Scouts of America |
| 1996-1997, 1999-2001 | Cub Scout Pack 976 Committee Chair, Boy Scouts of America. |
| 2001 – 2003 | Cub Scout Pack 976 Cubmaster, Boy Scouts of America. |
| 1997-2004 | Boy Scout Troop 977 Committee Member, Boy Scouts of America. |
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