CURRICULUM VITAE

Lih Kuo

Department of Systems Biology and Translational Medicine
Cardiovascular Research Institute
College of Medicine
Texas A&M Health Science Center
702 SW H. K. Dodgen Loop
Temple, Texas 76504

CONTACT INFORMATION

Office Phone: 254-742-7032
Office Fax: 254-742-7145
E-Mail: LKUO@tamhsc.edu

EDUCATION

1975-1979	B.S. in Biology, College of Science, Tunghai University, Taichung, Taiwan
1981-1983	M.S. in Physiology, College of Medicine, National Taiwan University, Taipei, Taiwan
1983-1987	Ph.D. in Physiology, Medical College of Virginia, Richmond, Virginia

RESEARCH AREA

Coronary and Ophthalmic Vascular Physiology/Pathophysiology
Vascular Dysfunction in Atherosclerosis/Diabetes
Microcirculation and Blood Flow Regulation
Nitric Oxide and Endothelial Biology
Hemodynamics and Rheology
Ischemia and Reperfusion
Vascular Signaling
Oxidant Stress

APPOINTMENTS

1979-1981	Research Assistant, Department of Physiology & Biophysics, National Defense Medical Center
1981-1983	Teaching Assistant, Department of Physiology, National Taiwan University
1984-1987	Teaching Assistant, Department of Physiology and Biophysics, Medical College of Virginia
1988-1989	Postdoctoral Research Associate, Department of Medical Physiology, College of Medicine, Texas A&M University
1990-1991	Assistant Research Scientist, Department of Medical Physiology, College of Medicine, Texas A&M University

1991-1992	Research Assistant Professor, Department of Medical Physiology, Microcirculation Research Institute, Texas A&M University
1992-1998	Assistant Professor, Department of Medical Physiology, Microcirculation Research Institute, Texas A&M University Health Science Center
1998-2001	Associate Professor, Department of Medical Physiology, Cardiovascular Research Institute, Texas A&M University System Health Science Center
2001-2005	Professor, Department of Medical Physiology, Cardiovascular Research Institute, Texas A&M University System Health Science Center
2003-present	Professor, Departments of Surgery and Ophthalmology, College of Medicine, Texas A&M Health Science Center
2003-present	Kruse Family Centennial Chair, Departments of Surgery and Ophthalmology, Scott & White Memorial Hospital, Texas A&M Health Science Center
2003-present	Director, Ophthalmic Vascular Research Program, Departments of Surgery and Ophthalmology, Scott & White Eye Institute, Texas A&M Health Science Center
2006-present	Professor, Department of Systems Biology and Translational Medicine, College of Medicine, Texas A&M Health Science Center
2008-2011	Visiting Professor, Department of Ophthalmology, Medical College of Asahikawa, Asahikawa, Japan
2008	Visiting Professor, Department of Life Science, College of Science, Tunghai University, Taiwan
2009-2011	Visiting Professor, Department of Biomedical Sciences, College of Medicine, Chang Gung University, Taiwan

AWARDS AND HONORS

1977-1979	Dr. Sun Yet-Sen Science Scholarship, Tunghai University, Taiwan
1981-1983	Ministry of Education Scholarship for Outstanding Student, College of Medicine, National Taiwan University
1983-1985	A.D. Williams Award of Predoctoral Fellowship, Medical College of Virginia
1985-1987	Graduate Fellowship Award, Medical College of Virginia
1985	Thirteenth Annual John C. Forbes Honors Day Research Paper Competition First Place Award, Medical College of Virginia
1986	Who's Who International Youth in Achievement Award, International Biographical Center, Cambridge, England
1987	Fifteenth Annual John C. Forbes Honors Day Research Paper Competition Honorable Mention Award, Medical College of Virginia
1988	Phi Kappa Phi Honor Society, Medical College of Virginia
1990	Grega-Zacharkow Young Investigator Award, The Microcirculatory Society
1991	Microcirculatory Society Outstanding Young Investigator Travel Award for the Fifth World Congress for Microcirculation, Louisville, KY
1991	Third International Symposium on Resistance Arteries Travel Award, Denmark
1992	First Independent Research Support and Transition Award, National Institutes of Health (NIH)
1994, 97, 99	Interdisciplinary Research Initiatives Program Award, Texas A&M University
1995-2005	American Men and Women of Science, R.R. Bowker Data Collection Center, Oldsmar, FL

1996-2006	Who's Who in America, Marquis Who's Who, Reed Reference Publishing Co., New Providence, NJ
1997-2007	Who's Who in Medicine and Healthcare, Marquis Who's Who, Reed Reference Publishing Co., New Providence, NJ
1997	Established Investigator Award, American Heart Association (declined due to the acceptance of Research Career Development Award from NIH)
1997	Research Career Development Award, NIH
2001	Best Lecturer of the Month, Medical Physiology MPHY 901, Class 2004, Texas A&M University System Health Science Center
2003	"All-Star Team" Teaching Award, M1 Class 2006, Texas A&M University System Health Science Center
2004	Distinguished Alumni Lectureship Award, Tunghai University, Taiwan
2008-2011	Honored Visiting Professor, Department of Ophthalmology, Medical College of Asahikawa, Japan (Named by Professor Akitoshi Yoshida, President of Medical College of Asahikawa, Japan)
2009	James M. Barr Award for Outstanding Retina Research Achievement, Retina Research Foundation, Houston, TX

INSTITUTIONAL SERVICES

1986	Graduate Student Representative, Department of Physiology Professor Promotions Committee, Medical College of Virginia
1990-2000	Graduate Faculty - Texas A&M University
1992-2004	Graduate Admissions and Program Committee, Department of Medical Physiology, Texas A&M University System Health Science Center
1992-1998	Safety Officer, Department of Medical Physiology, Texas A&M University System Health Science Center
1994-1997	Director of Seminar Program, Department of Medical Physiology, Texas A&M University Health Science Center
1994-1997	Coordinator of Cardiovascular Forum, Microcirculation Research Institute, Texas A&M University Health Science Center
1996-2004	Chair of Graduate Admissions and Program Committee, Department of Medical Physiology, Texas A&M University System Health Science Center
1996-2004	Graduate Instruction Committee, College of Medicine, Texas A&M University System Health Science Center
1996-2002	Interviewer for Medical School Admissions, College of Medicine, Texas A&M University System Health Science Center
1998-2002	University Laboratory Animal Care Committee, Institutional Review Board, University Research Council, Texas A&M University
1999-present	Tenure Promotion Committee, Department of Medical Physiology, Texas A&M University System Health Science Center
1999-present	Graduate Faculty, Graduate School of Biomedical Sciences, Texas A&M University System Health Science Center
2001-2003	Representative, Cardiovascular/Integrative Biology Program, Interdisciplinary Graduate Studies, College of Medicine, Texas A&M University System Health Science Center

2002-2005 Curriculum and Academic Standards Committee, Graduate School of Biomedical Sciences, Texas A&M University System Health Science Center

2003-2010 Animal Facility Expansion Committee, Scott & White Clinic, Texas A&M University System Health Science Center

2004-2007 Education and Training Committee, Cardiovascular Research Institute, Texas A&M Health Science Center

2004-present Interviewer for Medical School Admissions, College of Medicine, Texas A&M Health Science Center

2005 Leadership Task Force Committee, College of Medicine, Texas A&M University System Health Science Center

2006-present Faculty Academic Council, alternate member, College of Medicine, Texas A&M Health Science Center

2006-present Pre/Postdoctoral Training Committee, Department of Systems Biology & Translational Medicine, College of Medicine, Texas A&M Health Science Center

2006-present Space Committee, Department of Systems Biology & Translational Medicine, College of Medicine, Texas A&M Health Science Center

2011-present Co-Chair, Facilities Planning Committee, College of Medicine, Texas A&M Health Science Center

2011-present Mentor Committee for Junior Faculty, Department of Systems Biology and Translational Medicine, College of Medicine, Texas A&M Health Science Center

NATIONAL/INTERNATIONAL COMMITTEES

1992-1995 American Heart Association - Texas Affiliate, Central Research Review Committee

1994-1998 Member, Experimental Cardiovascular Sciences Study Section, Division of Research Grants, National Heart, Lung, and Blood Institute (NHLBI), NIH

1997-2000 Membership Committee, The Microcirculatory Society

2007-2011 Scientific Advisory Boards, World Congress on Heart Disease, International Academy of Cardiology, Toronto/Vancouver, Canada

2007-2011 Scientific Abstract Review Committee, World Congress on Heart Disease - the International Academy of Cardiology Annual Scientific Sessions

2010-2011 Award Committee, The International Academy of Cardiology, 15th World Congress on Heart Disease, Vancouver, Canada

2010-2011 International Advisory Committee, International Conference of Translational Medicine, Wenzhou, China

2010-2012 Scientific Executive Committee, World Congress on Heart Disease, International Academy of Cardiology

2010-present Executive Committee, International Society of Translational Medicine

2011-2014 Fellowship/Membership Committee, Cardiovascular Section, American Physiological Society

PROFESSIONAL MEMBERSHIP

The American Heart Association

1990-present Member, Basic Cardiovascular Sciences
1993-present Fellow, Basic Cardiovascular Sciences

The American Physiological Society
1992-present Member
1994-present Fellow, Cardiovascular Section

The Microcirculatory Society
1989-present Member

Association for Research in Vision and Ophthalmology
2002-present Member

JOURNAL REVIEWER AND EDITORIAL BOARD

Manuscript Reviews:

American Journal of Physiology – Regulatory, Integrative and Comparative Physiology; American Journal of Physiology – Lung Cellular and Molecular Physiology; American Journal of Physiology – Heart and Circulatory Physiology; American Journal of Physiology – Endocrinology and Metabolism; American Journal of Physiology – Cell Physiology; Federation of American Societies for Experimental Biology Journal; Journal of Pharmacology and Experimental Therapeutics; Arteriosclerosis, Thrombosis, and Vascular Biology; Canadian Journal of Physiology and Pharmacology; Archives of Physical Medicine and Rehabilitation; Journal of Clinical Endocrinology & Metabolism; Investigative Ophthalmology & Visual Science; Journal of the American College of Cardiology; American Journal of Clinical Nutrition; Nitric Oxide Biology and Chemistry; Experimental Biology and Medicine; European Journal of Pharmacology; American Journal of Hypertension; British Journal of Pharmacology; American Journal of Cardiology; American Journal of Pathology; Journal of Applied Physiology; Journal of Vascular Research; Journal of Biomedical Science; Pharmacological Research; Cardiovascular Research; Veterinary Microbiology; Microvascular Research; Journal of Inflammation; Infection and Immunity; Current Eye Research; Circulation Research; Toxicology Letters; Heart and Vessels; Cellular and Molecular Biology; Medical & Biological Engineering & Computing; Microcirculation; Endocrinology; Hypertension; Life Sciences; Endothelium; Circulation; Stroke.

Editorial Board:

1997-2006 *American Journal of Physiology – Heart and Circulatory Physiology*
2009-present *Microcirculation*
2010-present *Translational Biomedicine*
2011-present *Clinical and Translational Medicine*

Abstract Reviewer and Grader:

2001-2003 Coronary Circulation, Scientific Sessions, American Heart Association

2004	Peripheral Circulation, Scientific Sessions, American Heart Association
2007-2009	14th World Congress on Heart Disease - the International Academy of Cardiology Annual Scientific Sessions, Toronto, ON, Canada, 2008.
2009	Coronary Circulation, Scientific Sessions, American Heart Association
2010	15th World Congress on Heart Disease - the International Academy of Cardiology Annual Scientific Sessions, Vancouver, BC, Canada
2010	Microcirculation and Cerebral/Coronary/Peripheral Circulation, Scientific Sessions, American Heart Association
2011	16th World Congress on Heart Disease - the International Academy of Cardiology Annual Scientific Sessions, Vancouver, BC, Canada
2011	Microcirculation and Cerebral/Coronary/Peripheral Circulation, Scientific Sessions, American Heart Association

GRANT REVIEWS

1992	National Science Foundation: Physiology and Behavior Program, Integrated Animal Systems (October)
1992-1995	American Heart Association-Texas Affiliate, Central Research Review Committee (Regular Member)
1994	National Science Foundation: Bioengineering Program, Biological and Critical Systems (October)
1994	Netherlands Heart Foundation (September)
1994-1998	Member, Experimental Cardiovascular Sciences Study Section, NHLBI, NIH
1995-2002	Merit Review, Cardiovascular Program Review Board, Department of Veterans Affairs Medical Research Service, VA Medical Center (February and August)
1995	PSC-CUNY Research Award Program, Hunter College of CUNY (December, Ad Hoc)
1996	Medical Research Council of Canada (October, External Reviewer)
1996	Special Emphasis Panels, NHLBI, NIH (October and December)
1997	Special Emphasis Panels, NHLBI, NIH (September)
1998-1999	The Italian Ministry for University and Research, Grant Review Committee, Italy (External Reviewer)
2000	Merit Review Entry Program, Cardiovascular Program Review Board, Department of Veterans Affairs Medical Research Service, VA Medical Center (February)
2000-2002	Member, Cardiovascular Disease Study Section, Biomedical Science, California Tobacco-Related Disease Research Program, University of California, Oakland, CA.
2000	Special Emphasis Panel for SBIR/STTR, Hematology-1 Study Section, NHLBI, NIH (November)
2001	RFA HL-01-003 "Cardiovascular, Lung, and Blood Immunobiology in Health and Disease," NHLBI, NIH (July)
2002	SBIR/STTR Special Emphasis Panel, NHLBI, NIH (March)
2003	Special Emphasis Panel for SBIR/STTR, Cardiovascular System and Pharmacology, NHLBI, NIH (July)
2003	Hematology Initial Review Group, Hematopoiesis Special Emphasis Panel, Chair of Review Section, NHLBI, NIH (July)

2003-2006	Member of Referees Association, The Italian Ministry for University Education and Research, Grant Review Committee, Italy
2003	The Netherlands Organization for Health Research and Development (October)
2004	Cardiovascular Sciences SBIR/STTR Special Emphasis Panel, NHLBI, NIH (March)
2004	Hypertension and Microcirculation Study Section, NHLBI, NIH (October)
2005-2008	Member, VA Medical Research Service Merit Review Subcommittee on Cardiovascular Studies-A, Washington, DC.
2006	Scientific and Biomedical Research Grants Review Panel, Carver Trust, Iowa (May)
2007	Centers of Biomedical Research Excellence (COBRE) review panel, National Center for Research Resources, NIH (February)
2008	Italian Ministry for University Education and Research, PRIN, Italy (March and November)
2008	Physiological Systems and Clinical Sciences, Medical Research Council, UK (April)
2009-2011	Cardiovascular Disease Study Section, Biomedical Science, California Tobacco-Related Disease Research Program, Oakland, CA (March)
2009	Special Emphasis Panel for Molecular, Cellular, and Developmental Neuroscience Study Section, NIH (May)
2009	Italian Ministry for University Education and Research, PRIN, Italy (August)
2010	External Advisory Board, Program Project Grant, Dalton Cardiovascular Research Center, University of Missouri - Columbia, Missouri (April)
2010	Italian Ministry for University Education and Research, PRIN, Italy (April)
2011	Vascular and Hematology Special Emphasis Panel, NIH (January)
2011	Myocardial Ischemia and Metabolism Study Section, NIH (February)
2011	Italian Ministry for University Education and Research, PRIN, Italy (March)
2011	Russian Governmental Initiative, Ministry of Education and Science of the Russian Federation, The New Eurasia Foundation, Moscow, Russia (August)

TEACHING

1981-1983	Physiology Laboratory, Department of Physiology, National Taiwan University
1984-1987	Medical Physiology Laboratory, Department of Physiology, Medical College of Virginia
1988-1997	Cardiovascular Physiology-Graduate Course (MPHY 604), Department of Medical Physiology, Texas A&M University Health Science Center
1992-2002	Medical Physiology (MPHY 901, Cardiovascular Section), Department of Medical Physiology, Texas A&M University Health Science Center
1997-1999	Vascular Physiology (MPHY 604), Course Coordinator, Department of Medical Physiology, Texas A&M University Health Science Center
1999-2008	Advanced Cardiovascular Biology (MPHY 604), Department of Medical Physiology, Texas A&M University System Health Science Center
2001	Special Topic in Vascular Signaling (MSCI 689), Department of Medical Physiology, Texas A&M University System Health Science Center

2003-2005 "Vascular Physiology," Cardiovascular System, 1st Year Medical Curriculum, Texas A&M University System Health Science Center

2004-2005 Cardiovascular Sciences (MSCI 689), Department of Medical Physiology, Texas A&M University System Health Science Center

2006-2008 "Vascular Biology," Cardiovascular Sciences (SBTM 603), Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center

2008 July "Vascular Physiology," Department of Life Science, Tunghai University, Taiwan

2008-present Course Director, Experimental Techniques in Molecular, Cell, and Systems Biology II (SBTM 612), Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center

2009-present "Isolated Vessel Preparation," Experimental Techniques in Molecular, Cell, and Systems Biology II (SBTM 612), Systems Biology and Translational Medicine, Texas A&M Health Science Center

2008-2009 Special Topic in Microvascular Technology (MSCI 689), Systems Biology and Translational Medicine, Texas A&M Health Science Center

2010-present "Cardiovascular System," Pathobiology and Therapeutics (SBTM 615), Systems Biology and Translational Medicine, Texas A&M Health Science Center

SUPERVISION FOR RESEARCHERS AND STUDENTS

Supervisor for Postdoctors and Senior Researchers:

1994-1996 Hiroshi Ishizaka, M.D., Ph.D., Postdoctoral Fellow (currently Assistant Professor of Internal Medicine, Hirosaki University, Japan), Texas A&M

1996-1999 Mark W. Vaughn, Ph.D., Postdoctoral Fellow (currently Assistant Professor of Chemical Engineering, Texas Tech University), Texas A&M

1997-1998 Yuchen Ma, M.D., Ph.D., Postdoctoral Fellow, Texas A&M

1997-2001 Behyar Zoghi, Ph.D., Postdoctoral Fellow, Texas A&M

1997-2003 Cuihua Zhang, M.D., Ph.D. Postdoctoral Fellow, Assistant Research Scientist

- Young Investigator Travel Award, Microcirculatory Society (2003)
- Young Investigator Award, Cardiovascular Section of American Physiological Society (2003)
- National Scientist Development Award, American Heart Association (2003)

1997-2003 Travis W. Hein, Ph.D. Postdoctoral Fellow, Assistant Research Scientist

- August Krogh Young Investigator Award, Microcirculatory Society (1999)
- New Investigator Award, Cardiovascular Section of American Physiological Society (2003)
- National Scientist Development Award, American Heart Association (2002)

1998-2004 Wei Wang, M.D., Postdoctoral Fellow, Texas A&M

1999-2000 Chiung-I Chang, Ph.D., Postdoctoral Fellow, Texas A&M

2000-2001 Alessia Bianconi, D.V.M., Postdoctoral Fellow, Texas A&M

2000-2001 Kung-tse Huang, Ph.D., Postdoctoral Fellow (currently Associate Professor of Chemical Engineering, National Chung Cheng University, Taiwan), Texas A&M

2003-2005 Robert Shipley, Ph.D. Postdoctoral Fellow, Texas A&M

- NRSA Postdoctoral Fellowship Award, NIH (2005)

- Research Recognition Award, Cardiovascular Section of American Physiological Society (2005)

2003-2006 Habib Razavi, Ph.D., Postdoctoral Fellow, Texas A&M Health Science Center

2003-2009 Zhaoxu Yuan, M.D., Ph.D., Postdoctoral Fellow, Department of Ophthalmology, Scott & White Eye Institute and Memorial Hospital

2003-2008 Zhenbo Li, M.D., Ph.D., Assistant Research Scientist, Texas A&M Health Science Center

2003-2008 Travis W. Hein, Ph.D., Assistant Professor, Department of Ophthalmology, Scott & White Memorial Hospital, Texas A&M Health Science Center

2003-2011 Robert Rosa, Jr., M.D., Associate Professor/Clinical, Department of Ophthalmology, Scott & White Eye Institute and Memorial Hospital, Texas A&M Health Science Center

2004-2011 Yi Ren, M.D., Ph.D., Postdoctoral Fellow, Texas A&M Health Science Center

2005-2007 Taiji Nagaoka, M.D., Ph.D., Assistant Research Scientist, Ophthalmology Division, Scott & White Memorial Hospital (currently Assistant Professor of Medical College of Asahikawa, Japan)

2006 Chi-Chao Yi, Department of Chemical Engineering Graduate Program, National Chung Cheng University, Chia-Yi, Taiwan

2007-present Guangrong Lu, M.D., M.S., Research Associate, Texas A&M Health Science Center

<u>Chair of Graduate Committee</u>:

1993-1997 Travis W. Hein, Ph.D. Program, Department of Medical Physiology, TAMU Health Science Center

1993-1999 Lorenz Schmiege, M.D./Ph.D. Program, Department of Medical Physiology, TAMU Health Science Center

1994-1999 Chiung-I Chang, Ph.D. Program, Department of Medical Physiology, TAMU Health Science Center

1999-2004 Kangmee Woo, Ph.D. Program, Department of Medical Physiology, TAMU System Health Science Center

2000-2003 Naris Thengchaisri, Ph.D. Program, Department of Medical Physiology, TAMU System Health Science Center

2001-2003 Lori Makarski, Master Program, Department of Surgery, Veterinary Medicine, TAMU (co-chair with Dr. Theresa W. Fossum)

2001-2005 Erion Qamirani, M.D./Ph.D. Program, Department of Medical Physiology, TAMU System Health Science Center (recipient of
- Caroline Tum Suden Professional Opportunity Award, American Physiological Society (2005)
- First Place Research Competition Award, Cardiovascular Research Institute, Texas A&M Health Science Center (2005)

2002-2003 Hsing-Yi Huang, Ph.D. Program, Department of Medical Physiology, TAMU System Health Science Center

2009-present Luke B. Potts, M.D./Ph.D. Program, Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center
- Benjamin Zweifach Student Award from the Microcirculatory Society (2011)

- Young Investigator Award from the Society for Experimental Biology and Medicine (2011).
- National Eye Institute Travel Grant Award for ARVO meeting (2011)

Graduate Committee Member:

1994-2002	Robert Gaffin, Ph.D. Program, Department of Medical Physiology, TAMUS Health Science Center
1995-1999	Kung-tse Huang, Ph.D. Program, Department of Chemical Engineering, TAMU
1996-1999	Kayla Bayless, Ph.D. Program, Department of Medical Physiology, TAMU
1998-2000	Mine-Yine (Anne) Liu, Ph.D. Program, Department of Chemistry, TAMU
1998-2003	Jennifer Fogarty, Ph.D. Program, Department of Medical Physiology, TAMUS Health Science Center
1998-2002	Sheng-Shih Wang, Ph.D. Program, Department of Chemical Engineering, TAMU
2001-2003	Lori Makarski, Master Program, Department of Surgery, College of Veterinary Medicine, TAMU
2002-2005	Mark Flesher, Master Program, Department of Physiology and Pharmacology, College of Veterinary Medicine, TAMU

Graduate Council Representative:

1991-1993	Ke Wei, Department of Entomology, TAMU
1995-1998	Taeho Kim, Department of Industrial Engineering, TAMU
1998-2003	Mohammed Ateeq Al-Ghamdi, Department of Geology and Geophysics, TAMU
2000-2003	Jose L. Gilarranz, Department of Aerospace Engineering, TAMU
2002-2003	Wentao Mi, Genetics Program, Department of Veterinary Anatomy and Public Health, TAMU

Resident (R), Medical (M), Graduate (G), and Undergraduate (U) Student Research Advisor:

1992	Frank Arko (M), Flow-induced response in isolated coronary venules.
1993	Lorenz Schmiege (M/G), L-Arginine transport in endothelial cells.
1994	Scott Welton (M), Effect of LDL on coronary vascular dilation.
1995	Daryl Reust (M), Measurement of membrane potential in isolated vessels.
1996	Samuel Dudley (M), Nitric oxide release from isolated blood vessels.
1996	William Holton (G), Effect of endotoxin on Nitric oxide production.
1995-1998	Michael Edwards (G), Metabolic control of nitric oxide production.
2001	Erion Qamirani (M/G), Gene transfection of coronary microvessels.
2002-2003	Hsing-Yi Huang (G), Hypertension and microvascular function
2003	Collins Obioha (M), Estrogen and coronary vascular function
2003	Andrew Bossen, 4th Year (M), Texas A&M Health Science Center
2004	Joseph Newman, 4th Year (M), Texas A&M Health Science Center
2004	Ryan Geraets, M.D., 1st Year (R) Ophthalmology, Scott & White Eye Institute
2004-2006	Elizabeth Roberts, M.D., 1st-3rd Year (R), Ophthalmology, Scott & White Eye Institute
2006	Michelle Riggins, 4th Year (M), Texas A&M Health Science Center

2006	Eric Zavaleta, 4th Year (M), Texas A&M Health Science Center
2007	Enoch Kuo (U), Texas Academy of Mathematics and Science, University of North Texas (co-advisor: Dr. Travis W. Hein)
2007	Ron Hobbs, 4th Year (M), Texas A&M Health Science Center
2007	Dip Jadav, 4th Year (M), Texas A&M Health Science Center
2007	Nathan Henson, M.D., 1st Year (R) Ophthalmology, Scott & White Eye Institute
2008-2009	Shu-Huai Tsai (G), Coronary vasoregulation in health and disease; Dept Life Science, Tunghai University, Tanchung, Taiwan
2008	Kyle Varvel, 4th year (M), Texas A&M Health Science Center
2008	Adeel Khan, 4th year (M), Texas A&M Health Science Center
2008	Joseph M. Newman, M.D., 3rd year (R), Ophthalmology, Scott & White Eye Institute
2009	Vipin Kuriachan, 4th year (M), Texas A&M Health Science Center
2009	Matthew Recko, 4th year (M), Texas A&M Health Science Center
2010	Ellen Ngo, 4th year (M), Texas A&M Health Science Center
2010	Roy Lehman, 4th (M), Texas A&M Health Science Center
2011	Joseph (Joey) P. Carlin, 2nd (M), Texas A&M Health Science Center

INVITED SEMINAR

1985 Apr	"Effect of Hematocrit Variations on Microcirculatory Hemodynamics and Oxygen Transport in Skeletal Muscle," College of Medicine, Medical College of Virginia, Richmond, VA.
1987 Mar	"Mechanism of Improvement of Microcirculatory Oxygen Transport During Systemic Hemodilution," College of Medicine, Medical College of Virginia, Richmond, VA.
1987 May	"Microcirculatory Hematocrit and Oxygen Transport: Effect of Hemodilution and Hemoconcentration," Department of Physiology, College of Medicine, Medical College of Virginia, Richmond, VA.
1987 July	"Relationship Between Microcirculatory Hematocrit and Oxygen Transport," Department of Otolaryngology, Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI.
1987 Aug	"Optimal Hematocrit and Oxygen Shunting in Microcirculation," Department of Internal Medicine, Medical College of Virginia, Richmond, VA.
1987 Sept	"Effect of Hemodilution on Oxygen Transport in Arteriolar Networks of Hamster Striated Muscle," Microcirculation Research Institute and Department of Medical Physiology, Texas A&M University, College Station, TX.
1989 May	"Myogenic and Flow-mediated Vasoregulatory Mechanisms in the Coronary Microcirculation," Department of Medical Physiology, Texas A&M University, College Station, TX.
1991 May	"Interaction of Myogenic and Flow-dependent Responses in the Coronary Resistance Vessels," Laboratory for Physiology, Free University of Amsterdam, Netherlands.
1991 May	"Local Regulation of Coronary Microcirculation," Department of Medical Physics, Faculty of Medicine, University of Amsterdam, Netherlands.

1991 June "Myogenic Responses and Flow Regulation of Coronary Arteriolar Tone," Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Texas A&M University, College Station, TX.

1992 Feb "Interaction of Myogenic and Flow-mediated Responses in the Coronary Microcirculation," Department of Physiology and Biophysics, University of Nebraska Medical Center, Omaha, NE.

1995 Sept "The Modulation of Coronary Microvascular Tone by Pressure, Flow, and Endothelium," Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC.

1995 Nov "Endothelium-dependent and -independent Regulation of Coronary Microcirculation," Division of Cardiology, Department of Medicine, Scott and White Memorial Hospital, Temple, TX.

1997 April "Regulation of Coronary Microvascular Tone: The Role of Potassium Channels," Department of Medicine/Pharmacology, School of Medicine, University of Florida, Gainesville, FL.

1998 Jan "Regulation of Coronary Microvascular Tone by Metabolic Vasodilators," Department of Integrative Physiology, University of North Texas Health Science Center at Fort Worth, Fort Worth, TX.

1998 March "Regulation of Coronary Microcirculation: Role of Potassium Channel and Network Heterogeneity," Department of Pharmacology and Toxicology, University of Alabama at Birmingham, Birmingham, AL.

1998 May "Low-Density Lipoproteins and Coronary Microvascular Dysfunction: Role of Superoxide Anions," Departments of Medicine and Anesthesia Research, Mayo Clinic, Rochester, MN.

1998 June "Cyclic AMP-independent Dilation of Coronary Arterioles to Adenosine: Role of Endothelium, G-proteins, and Potassium Channels," Section of Cardiology, Department of Internal Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan.

1998 June "Regulation of Coronary Microcirculation: Role of Potassium Channel and Network Heterogeneity," Department of Pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan.

1998 June "Functional Study of Potassium Channels in Coronary Microvessels: Mechanism of Metabolic Vasodilation," Cardiology Grand Rounds Presenter, Department of Internal Medicine, College of Medicine, Iowa City, University of Iowa, IA.

1999 June "Regulation of Coronary Microcirculation by Hemodynamics," Department of Internal Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan.

1999 Oct "Metabolic Regulation of Coronary Microcirculation," Department of Medical Physiology, Cardiovascular Research Institute, College of Medicine, Texas A&M University System Health Science Center, College Station, TX.

2001 Feb "Regulation of Coronary Microcirculation: Role of Adenosine," Department of Cardiology, School of Medicine, Hirosaki University, Japan.

2003 Feb "Role of Arginase in the Regulation of Coronary Arteriolar Function," Department of Integrative Physiology, Cardiovascular Research Institute, University of North Texas Health Science Center at Fort Worth, Fort Worth, TX.

2003 March "Regulation of Coronary Microvascular Tone by L-arginine Consuming Enzymes," Cardiology Grand Rounds, Case Western Reserve University/University Hospitals, Cleveland, OH.

2005 March "Coronary Microvascular Regulation: Physiology and Pathophysiology," Department of Internal Medicine, Scott & White Memorial Hospital, Temple, TX.

2006 Feb "Regulation of Coronary Microcirculation: From Physiology to Pathophysiology," College of Medicine Faculty Research Colloquium, Texas A&M University Systems Health Science Center, Temple, TX.

2007 Oct "Exercise and Coronary Collateral Function: Role of Nitric Oxide and Hydrogen Peroxide," Department of Life Science, Tunghai University, Taichung, Taiwan.

2008 May "Vasomotor Regulation of Retinal Microcirculation: NO is the answer," Retina Research Foundation, Houston, TX.

2008 June "Coronary Reactive Oxygen Species - A Friend or Foe," Department of Physiology and Pharmacology, College of Medicine, Chang Gung University, Tao-Yuan, Taiwan.

2008 June "Coronary Vasomotor Regulation in Health and Disease," Department of Pharmacology, College of Medicine, National Defense Medical Center, Taipei, Taiwan.

2008 June "Graduate Program Application and Campus Life," College of Engineering, National Chin-Yi University of Technology, Taichung, Taiwan.

2008 June "Vasomotor Regulation of Retinal Arterioles: Role of Nitric Oxide Synthase," Department of Ophthalmology, College of Medicine, National Taiwan University Hospital, Taipei, Taiwan.

2008 June "Coronary Oxidative Stress: Diverse Role in Coronary Vasomotor Regulation," Department of Physiology, National Cheng Kung University, Tainan, Taiwan.

2008 July "Graduate Program Application and Campus Life," Department of Life Science, College of Medicine, Chang Gung University, Tao-Yuan, Taiwan.

2008 Sept "Vasomotor Regulation of Retinal Microcirculation in Health and Disease," Department of Systems Biology and Translational Medicine, College of Medicine, Texas A&M Health Science Center, Temple, TX.

2009 May "Hydrogen Peroxide in Coronary Vasomotor Regulation," Institute of Bioinformatics and Structural Biology, National Tsing Hua University, Hsin-Chu, Taiwan.

2009 May "Oxidative Stress and Coronary Microvascular Regulation," Cardiovascular Center, Veteran General Hospital, Taichung, Taiwan.

2009 Sept "Vasomotor Regulation of Retinal Microcirculation: Physiology and Pathophysiology," Department of Neuroscience and Experimental Therapeutics, College of Medicine, Texas A&M Health Science Center, Temple, TX.

2010 Aug "Hydrogen Peroxide in the Coronary Microcirculation: The Good, The Bad and The Ugly," Department of Biomedical Sciences, College of Medicine, Chang Gung University, Tao-Yuan, Taiwan.

2011 July "C-reactive Protein and Dysregulation of Retinal Arteriolar Function: ET ROCKs," Retina Research Foundation, Houston, TX.

2011 August "Regulation of Vasomotor Function by Oxidative Stress: Physiology and Pathophysiology," National Institute of Cancer Research, National Health Research Institutes, Taiwan.

2011 Oct "Vasomotor Regulation by Oxidative Stress: The Good, the Bad and the Ugly," Department of Systems Biology and Translational Medicine, College of Medicine, Texas A&M Health Science Center, Temple, TX.

INVITED SPEAKER FOR NATIONAL/INTERNATIONAL MEETING/SYMPOSIUM

1990 Apr "Myogenic and Flow-mediated Responses in Isolated Coronary Arterioles," Symposium: Regulation of the Coronary Circulation-New Insights for Microvascular Studies, FASEB, Washington D.C.

1991 July "Interaction of Pressure and Flow on Coronary Arteriolar Tone," Symposium: Coronary Circulation, World Congress on Medical Physics and Engineering-16th International Conference on Medical and Biological Engineering and 9th International Conference on Medical Physics, Fukushima, Japan.

1992 Oct "Interaction of Pressure and Flow on Coronary Microvascular Tone," Symposium: Pressure and Flow as Modifiers of Vascular Function, Biomedical Engineering Society Fall Meeting, Salt Lake City, UT.

1993 Oct "Coronary Microvascular Responses to Pressure and Flow," Symposium: Coronary Circulation, Section of Cardiovascular Engineering, Biomedical Engineering Society Fall Meeting, Memphis, TN.

1993 Oct "Pathophysiological Alterations of Coronary Microvascular Responses in Atherosclerosis," Symposium: Atherosclerosis and the Vessel Wall", Section of Arterial Tissue Mechanics and Atherosclerosis, Biomedical Engineering Society, Fall Meeting, Memphis, TN.

1997 July "Cellular Mechanisms of Metabolic Vasoregulation," Symposium: Local Control of Blood Flow, XXXIII International Congress of Physiological Sciences, St. Petersburg, Russia.

1998 May "L-Arginine Deficiency Contributes to Coronary Microvascular Dysfunction in Hypercholesterolemia and Atherosclerosis," Keynote Speaker in Lipid Forum, Annual Conference for Taiwan Society of Atherosclerosis and Vascular Diseases, Hua-Lien, Taiwan.

1998 May "Regulation of Coronary Microcirculation by Potassium Channels," Plenary Lecture in Lipid Forum, Taiwan Society of Atherosclerosis & Vascular Diseases, Hua-Lien, Taiwan.

1999 April "Adenosine: An Important Endothelium-Dependent, K_{ATP} Channel Agonist," Symposium: Controversies in Cardiovascular Physiology: What are the Primary Determinants of Vascular Tone? Experimental Biology Annual Meeting, Washington D.C.

1999 Aug "The Role of Arginase in Heat Shock Protein Induction and Nitric Oxide Regulation," Symposium: Arginine; 6^{th} International Congress on Amino Acids, International Society of Amino Acid Research, Bonn, Germany.

2000 June "Mechanism of Shear Stress-Induced Coronary Microvascular Dilation," The Second International Symposium on the Sensing in the Vascular System: Responses to Mechanical Stimuli, Il Ciocco, Italy.

2000 July "Functional and Molecular Evidence of Adenosine A_{2A} Receptor in Coronary Arteriolar Dilation to Adenosine," Symposium: Purinergic Receptor Function and

Signal Transduction in the Cardiovascular System, International Symposium of Nucleosides and Nucleotides, Madrid, Spain.

2000 Nov "Nitric Oxide Mediates Flow-induced Vasodilation," Nitric Oxide vs. EDHF in the Heart: What is in Control? American Heart Association 73rd Scientific Sessions, New Orleans, LA.

2000 Nov "Hypoxia/Ischemic and Coronary Microvascular Function," Cardiovascular Seminars: Cardiac Adaptation to Myocardial Ischemia, American Heart Association 73rd Scientific Sessions, New Orleans, La.

2001 Feb "Coronary Microvascular Physiology and Pathophysiology – Molecules to Diseases," special lecture for "Microcirculation: From Molecules to Disease" symposium, Japanese Society for Microcirculation, Kurashiki, Japan.

2002 Oct "Ischemia-Reperfusion Injury and Oxidative Stress in the Coronary Microcirculation," Coronary Microcirculation Symposium, XV World Congress of Cardiovascular System Dynamic Society, Sendai, Japan.

2002 Oct "Angiotensin II: A Potential Terminator of Nitric Oxide-Mediated Vasodilation in the Coronary Microcirculation," International Symposium on Cardiovascular Remodeling and Function, Osaka, Japan.

2004 July "Vasomotor Control of Retinal Microcirculation: Learning from the Heart?," XXI Congress of Ocular Circulation in Japan, Invited Lecturer, The Japanese Society for Ocular Circulation, Asahikawa, Japan.

2004 Aug "C-reactive Protein Inhibits Endothelium-dependent Nitric Oxide-mediated Dilation in Coronary Arterioles: Roles of Superoxide and Vascular NAD(P)H Oxidase," Symposium: Endothelial Function in Cardiovascular Disease and Diabetes, Satellite Meeting of International Society for Heart Research, Hong Kong, China.

2004 Dec Distinguished Alumni Lectureship, Series I: "Regulation of Coronary Microcirculation – From Physiology to Pathophysiology," The Life Science Research Center, Tunghai University, Taiwan.

2004 Dec Distinguished Alumni Lectureship, Series II: "Ischemia-Reperfusion Injury in the Coronary Microcirculation: Who is the Culprit?" College of Science, Tunghai University, Taiwan.

2004 Dec Distinguished Alumni Lectureship, Series III: "Angiotensin II: The Terminator of Nitric Oxide-mediated Vasodilation in the Coronary Microcirculation," Department of Life Science, Tunghai University, Taiwan.

2006 May "Adenosine and Vasomotor Regulation in the Coronary Microcirculation," Session on the Cardiovascular System, 8th International Symposium on Adenosine and Adenine Nucleotides, Ferrara, Italy.

2007 Oct "Coronary Microvascular Regulation by Adenosine and Angiotensin II: Physiological and Pathophysiological Implications," Institute of Physiology, College of Medicine, National Taiwan University, Taiwan.

2007 Oct "Coronary Vascular Diseases: NO is the answer," Division of Cardiology, Department of Internal Medicine, Veteran General Hospital, Taichung, Taiwan.

2007 Oct "Vasomotor Control in Coronary and Retinal Microcirculation," The Life Science Research Center, Tunghai University, Taiwan.

2008 June "Vasomotor Regulation of Retinal Arterioles in Health and Disease," Asahikawa Medical College, Asahikawa, Japan.

2008 July "Coronary Microvascular Regulation by Angiotensin II: Pathophysiological implications," 14th World Congress on Heart Disease - The International Academy of Cardiology Annual Scientific Sessions, Toronto, ON, Canada.

2009 May "Hydrogen Peroxide in Coronary Vasomotor Regulation: The Good, The Bad and The Ugly," Session III Cardiovascular System, 6th Frontiers in Life Sciences Symposium, Life Science Center, Tunghai University, Taichung, Taiwan.

2009 Nov "Role of Arginase in Pathophysiology of the Ischemic Vasculature," Cardiovascular Seminar: The Impact of Ischemia-Reperfusion on Vascular Function, American Heart Association Scientific Sessions, Orlando, FL.

2010 July "Regulation of Coronary Microcirculation by Adenosine: From Physiology to Pathophysiology," Plenary Section of "Coronary Circulation – From Physiology to Clinical Pathology," 15th World Congress on Heart Disease - The International Academy of Cardiology Annual Scientific Sessions, Vancouver, BC, Canada.

2011 July "Regulation of Coronary Vasomotor Function by Oxidative Stress," Plenary Section of "Atherosclerosis: Pathogenesis and Novel Therapeutic Targets," 16th World Congress on Heart Disease - The International Academy of Cardiology Annual Scientific Sessions, Vancouver, BC, Canada.

2011 Oct "Oxidative Stress and Vasomotor Regulation of Microcirculation," International Conference of Translational Medicine, Shanghai, China.

2012 July "C-Reactive Protein and Coronary Vasomotor Regulation," 16th World Congress on Heart Disease - The International Academy of Cardiology Annual Scientific Sessions, Toronto, ON, Canada.

CHAIR/MODERATOR OF SCIENTIFIC SESSION/GRANT REVIEW

1996 "Microcirculation - Nitric Oxide/Adenosine," 69th Scientific Sessions of American Heart Association, New Orleans, LA.

1997 "Human Microvascular Function," 70th Scientific Sessions of American Heart Association, Orlando, FL.

1999 "Physiological Regulation of the Coronary Circulation," 72nd Scientific Sessions of American Heart Association, Atlanta, GA.

2000 "Shear- and Stretch-induced Regulation of the Coronary Circulation," 73rd Scientific Sessions of American Heart Association, New Orleans, LA.

2003 Special Emphasis Panel for ABIR/STTR, Cardiovascular System and Pharmacology, NHLBI, NIH.

2003 "New Regulatory Mechanisms in the Coronary Microcirculation," 76th Scientific Sessions of American Heart Association, Orlando, FL.

2010 "Coronary Circulation – From Physiology to Clinical Pathology / Ischemic Preconditioning," Plenary Session of 15th World Congress on Heart Disease, Vancouver, B.C., Canada.

2011 "Endothelium, Vascular Tone and Nitric Oxide II," Scientific Session of American Heart Association, Orlando, FL.

EVALUATION FOR ACADEMIC PROMOTION AND AWARD

1997 Faculty Candidate Nominated for LSU System Boyd Professorship, Louisiana State University System, Baton Rouge, LA.

1999 Full Professor Promotion, Department of Medicine (Cardiology), Medical College of Wisconsin, Milwaukee, WI.

2000 Assistant Research Professor Promotion, Department of Medicine, Division of Pulmonary & Critical Care Medicine, Duke University Medical Center, Durham, NC.

2001 Associate Professor Appointment, Department of Anesthesiology/Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

2004 Full Professor Appointment, University of Missouri-Columbia, MO

2008 Associate Professor Appointment, Department of Medicine, Medical College of Wisconsin, Milwaukee, WI.

2008 Full Professor Appointment, Department of Anatomy and Neurobiology, School of Medicine, Virginia Commonwealth University.

CONSULTANTSHIPS

Grant Consultantships:

1993-1994 "Endothelium-dependent Vasoregulation and Ca^{2+} in Isolated Arterioles," Jeff C. Falcone, Ph.D., Principal Investigator, American Heart Association-Texas Affiliate, Grant-In-Aid, $32,000.

1994-1996 "The Involvement of PAF in Coronary Arteriolar Dysfunction," David V. DeFily, Ph.D., Principal Investigator, American Heart Association-Texas Affiliate, Grant-In-Aid, $83,600.

2005-2008 "Vascular Function – A Prognostic Marker of CVD in Youth," Catherine McNeal. M.D., Ph.D., Principal Investigator, NIH-NHLBI, $900,000

Visiting Scholars for Microvascular Techniques:

1991 July M. Harold Laughlin, Ph.D., Professor and Chairman, Veterinary Biomedical Science and Medical Physiology, Columbia, Missouri.

1993 July Marcus Fatah, M.D., Free University Berlin, Germany.

1993 Feb N. Hoogerwerf, M.D., Ph.D., Institute for Cardiovascular Research, Free University Amsterdam, Netherlands.

1995 March Michael P. Doyle, Ph.D., Department Physiology, University of Virginia School of Medicine, Charlottesville, VA.

1995 Dec Darleen Reid, Ph.D., Department Physiology, School of Medicine, Louisiana State University, LA.

1996 May Robert Bryan, Ph.D., Director of Research, Department of Anesthesiology, Baylor College of Medicine, Houston, TX.

1996 Aug G. Alexander West, M.D., Ph.D., Department of Neural Surgery, University of Texas Health Science Center at San Antonio, San Antonio, TX.

1997 Feb Brian A. Cason, M.D., Associate Professor in Residence, and Kurt Gamperl, Ph.D., (Postdoctoral Fellow), Department of Anesthesia, University of California, San Francisco, CA.

1997 April	Julie Rapps, Ph.D., Department of Physiology, Medical College of Wisconsin, Milwaukee, WI.
1997 Aug	David DeFily, Ph.D., Research Scientist, Department of Anesthesiology, Cleveland Clinic, OH.
2000 April	Pieter Sipkema, Ph.D., Professor, Laboratory for Physiology, Free University of Amsterdam, Netherlands.
2000 May	Ruth Okamoto, Ph.D., Assistant Professor, and Jessica Wagenseil (Graduate Student), Department of Mechanical Engineering, Washington University, St. Louis, MO.
2000 Nov	Richard J. Rivers, M.D., Ph.D., Associate Professor, Department of Anesthesiology, University of Rochester Medical Center, Rochester, NY.
2002 Jan	Mingxiao Hou, M.D., Ph.D., Postdoctoral Fellow (Dr. Robert Bache's Laboratory), Department of Cardiology, University of Minnesota, Minneapolis, MN.
2002 Sept	Linda Howard (from Dr. Patricia A. Gwirtz's Laboratory), Department of Integrative Physiology, University of North Texas Health Science Center, Fort Worth, TX.
2003 Nov	Taiji Nagaoka, M.D., Assistant Professor, Department of Ophthalmology, Asahikawa Medical College, Japan.
2007 April	Lori Kang (from Dr. Judy Muller-Delp's Laboratory), Center for Interdisciplinary Research in Cardiovascular Sciences, West Virginia University School of Medicine, Morgantown, WV.
2008 Feb	Isabel Costa (from Dr. Kurt Gamperl's laboratory), graduate student from Memorial University of Newfoundland, Canada.
2008 May	Christopher Kolz (from Dr. William Chilian's laboratory), Research Scientist, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio.

PREVIOUS AND CURRENT RESEARCH SUPPORTS

Date	Source	Project Title / Role	Direct Cost
1989-1990	NIH-BRSG	Pharmacological Responses of Isolated Subendocardial and Subepicardial Arterioles / PI	$4,988
1990-1991	NIH-BRSG	Physio-Pharmacological Responses of Isolated Coronary Arterioles During Atherosclerosis / PI	$5,000
1990-1992	AHA-Texas	Altered Arteriolar Responses During Atherosclerosis / PI	$59,400
1992-1993	NIH	Image-1 Quantitative Fluorescence System / Co-I	$28,495
1993-1994	AHA-Texas	Endothelium-dependent Vasoregulation and Ca^{2+} in Isolated Arterioles / Co-I	$32,000
1992-1997	NIH-FIRST	Functional Heterogeneity in Coronary Microcirculation / PI	$350,000
1994-1995	TAMU-IRIPA	Mechanisms of Coronary Microvascular Dysfunction During Atherosclerosis / Co-PI	$50,000
1995-1998	AHA-National	Pathophysiological Alteration of Coronary Microvascular Responses / PI	$120,000
1995-1998	Whitaker Fdn.	Flow Regulation and Nitric Oxide Metabolism in Coronary Microvascular Dysfunction / Co-I	$180,000

1997-1998	TAMU-IRIPA	The Nitric Oxide-Hemoglobin Paradox in Vascular Function / Co-PI	$37,500
1997-2001	AHA-Natl EI	Regulation of Coronary Vascular Tone / PI (declined due to the acceptance of NIH-RCA)	$300,000
1997-2002	NIH-RCA	Metabolic Modulation of Coronary Microvascular Tone / PI	$306,670
1997-2002	NIH-R01	L-Arginine Metabolism and Coronary Vascular Function / PI	$721,402
1998-2000	AHA-National	Nitric Oxide-Hemoglobin Interaction in Red Blood Cells / Co-I	$150,000
1998-2002	NIH-R01	Regulation of Coronary Microvascular Tone / PI	$615,215
1999-2000	TAMU-IRIPA	Vascular Remodeling and Hypertension / Co-PI	$25,000
1999-2001	AHA-National	Regulation of Coronary Vascular Tone / PI (declined due to the acceptance of NIH-R01)	$165,000
1999-2001	AHA-Texas	Functional and Molecular Analyses of Coronary Arterioles in the Transgenic Cardiomyopathy Mice / Co-I	$120,000
2000-2004	NIH-R01	Nitric Oxide Diffusion and Reaction with Erythrocytes (subcontract for vascular study) / Co-PI	$1,150,000
2002-2007	NIH-R01	Histo-Mechanical and Biology of Remodeling in Hypertension / Co-PI	$2,169,176
2002-2005	Whitaker Fdn.	Special Opportunity Award on Vascular Biomechanics and Mechanobiology / Co-I	$800,000
2003-2007	NIH-R01	Coronary Dysfunction in Obesity and Insulin Resistance (subcontract for vascular study) / Co-I	$1,250,000
2003-2007	NIH-R01	Coronary Dysfunction in Hypertrophic Cardiomyopathy / PI	$1,000,000
2005-2009	NIH-R01	Aging, Estrogen, and Coronary Endothelial Function / Co-I	$925,123
2005-2009	NIH-T32	Multidisciplinary Training in Biomedical Optomechanics / Co-I	$1,820,886
2005-2006	Orthologic	Effect of TP-508 on Vasomotor Function / PI	$10,000
2006-2008	Retina Res. Fdn.	Effect of C-Reactive Protein and Statins on Retinal Arteriolar Function / Co-I (2006-2007), PI (2008)	$145,000
2006-2008	NIH NRSA	Vasoregulatory Changes in Hypertrophic Cardiomyopathy / Mentor for R. Shipley (declined, PI changed career)	$107,224
2006-2007	S&W Fdn.	Alteration of Vasomotor Function of Retinal Arterioles: Role of Endothelial Nitric Oxide and Oxidative Stress / Co-I (sponsor/supervisor for Dr. T. Nagaoka)	$40,000
2006-2011	NIH R01	Nitric Oxide Interaction with Red Blood Cells (subcontract from UCLA for vascular study) / Co-I	$1,250,000
2006-2011	NIH K08	Local Retinal Vasoregulatory Mechanisms (Mentored Clinical Scientist Research Career Development Award for Dr. R. Rosa) / Mentor	$989,480
2008-2009	S&W Fdn.	High Glucose and Vasodilator Dysfunction of Retinal Arterioles / Co-I (PI: Josh Yuan)	$40,000
2009-2011	Retina Res. Fdn.	Activation of Endothelin-dependent RhoA/ROCK by C-Reactive Protein Elicits Retinal Arteriolar Dysfunction	$85,000

RESEARCH PUBLICATIONS

A. Peer-reviewed Papers

1. Chen HI, Chen SJ, Kuo L, and Tzeng SD. Contribution of regional circulations to the pulmonary edema and hemorrhage induced by epinephrine. Chinese J Physiol 22:141-148, 1978.
2. Chen HI, Yeh FC, Kuo L, and Tzeng SD. Effects of regional sympathectomy on the cardiovascular responses and pulmonary changes induced by cerebral compression. Chinese J Physiol 23:7-16, 1979.
3. Chen HI, Liao JF, Kuo L, and Ho ST. Centrogenic pulmonary hemorrhagic edema induced by cerebral compression in rats: Mechanism of volume and pressure loading in the pulmonary circulation. Circ Res 47:366-373, 1980.
4. Chen HI, Kuo L, Hu FS, and Ho W. The design of reservoir method superseding the gravimetric and plethysmographic techniques for continuous monitoring of tissue volume changes. J Med Sci 4:1189-1197, 1981.
5. Chen HI, Liao JF, Tzeng SD, and Kuo L. Venous-to-arterial compliance ratios in the canine systemic and pulmonary circulation. Chinese J Physiol 24:53-62, 1981.
6. Kuo L, and Chen HI. Effects of hypoxia on the cardiovascular system. J Med Sci 4:1347-1359, 1982.
7. Kuo L, and Pittman RN. Effect of hemodilution on oxygen transport in arteriolar networks of hamster striated muscle. Am J Physiol Heart Circ Physiol 254:H331-H339, 1988.
8. Kuo L, Davis MJ, and Chilian WM. Myogenic activity in isolated subepicardial and subendocardial coronary arterioles. Am J Physiol Heart Circ Physiol 255:H1558-H1562, 1988.
9. Kuo L, Chilian WM, and Davis MJ. Coronary arteriolar myogenic response is independent of endothelium. Circ Res 66:860-866, 1990.
10. Kuo L, Davis MJ, and Chilian WM. Endothelium-dependent, flow-induced dilation of isolated coronary arterioles. Am J Physiol Heart Circ Physiol 259:H1063-H1070, 1990.
11. Kuo L, and Pittman RN. Influence of hemoconcentration on arteriolar oxygen transport in hamster striated muscle. Am J Physiol Heart Circ Physiol 259:H1694-H1702, 1990.
12. Kuo L, Chilian WM, and Davis MJ. Interaction of pressure- and flow-induced responses in porcine coronary resistance vessels. Am J Physiol Heart Circ Physiol 261:H1706-H1715, 1991.
13. Peng Y-I, Liu H-J, Kuo L, and Fu T-C. Mechanisms of adrenaline-induced antinociception in mice. Chinese J Physiol 35:205-210, 1992.
14. Kuo L, Davis MJ, Cannon MS, and Chilian WM. Pathophysiological consequences of atherosclerosis extend into the coronary microcirculation: Restoration of endothelium-dependent responses by L-arginine. Circ Res 70:465-476, 1992.
15. Kuo L, Davis MJ, and Chilian WM. Endothelial modulation of arteriolar tone. News Physiol Sci 7:5-9, 1992.

16. Kuo L, Chilian WM, and Davis MJ, and Laughlin MH. Endotoxin impairs flow-induced vasodilation of porcine coronary arterioles. Am J Physiol Heart Circ Physiol 262:H1838-H1845, l992.
17. Falcone JC, Kuo L, and Meininger GA. Endothelial cell calcium increases during flow-induced dilation in isolated arterioles. Am J Physiol Heart Circ Physiol 264:H653-H659, 1993.
18. Jones CJH, Kuo L, Davis MJ, and Chilian WM. Myogenic and flow-dependent control mechanisms in the coronary microcirculation. Basic Res Cardiol 88:2-10, 1993.
19. Chilian WM, Kuo L, DeFily DV, Jones CJH, and Davis MJ. Endothelial regulation of coronary microvascular tone under physiological and pathophysiological conditions. Eur Heart J 14:55-59, 1993.
20. Jones CJH, L. Kuo L, Davis MJ, and Chilian WM. Distribution and control of coronary microvascular resistance. Adv Exp Med Biol 346:181-188, 1993.
21. Liau G, Winkles JA, Cannon MS, Kuo L, and Chilian WM. Dietary-induced atherosclerotic lesions have increased levels of acidic FGF mRNA and altered cytoskeletal and extracellular matrix mRNA expression. J Vasc Res 30:327-332, 1993.
22. Kuo L, Arko F, Chilian WM, and Davis MJ. Coronary venular responses to flow and pressure. Circ Res 72:607-615, 1993.
23. Jones CJH, Kuo L, Davis MJ, DeFily DV, and Chilian WM. Role of nitric oxide in the coronary microvascular responses to adenosine and increased metabolic demand. Circulation 91:1807-1813, 1995.
24. Jones CJH, Kuo L, Davis MJ, and Chilian WM. α-Adrenergic responses of isolated canine coronary microvessels. Basic Res Cardiol 90:61-69, 1995.
25. Jones CJH, Kuo L, Davis MJ, and Chilian WM. Regulation of coronary blood flow: Coordination of heterogeneous control mechanisms in vascular microdomains. Cardiovasc Res 29:585-596, 1995.
26. Kuo L, Davis MJ, and Chilian WM. Longitudinal gradient for endothelium-dependent and -independent vascular responses in the coronary microcirculation. Circulation 92:518-525, 1995.
27. Kuo L, and Chancellor JD. Adenosine potentiates flow-induced dilation of coronary arterioles by activating K_{ATP} channels in endothelium. Am J Physiol Heart Circ Physiol. 269:H541-H549, 1995.
28. Ishizaka H, and Kuo L. Acidosis-induced coronary arteriolar dilation is mediated by ATP-sensitive potassium channels in vascular smooth muscle. Circ Res 78:50-57, 1996.
29. DeFily DV, Kuo L, and Chilian WM. PAF attenuates endothelium-dependent coronary arteriolar dilation. Am J Physiol Heart Circ Physiol 270:H2094-H2099, 1996.
30. Lu J-L, Schmiege LM III, Kuo L, and Liao JC. Downregulation of endothelial constitutive nitric oxide synthase expression by lipopolysaccharide. Biochem Biophys Res Commun 225:1-5, 1996.
31. Jones CJH, Kuo L, Davis MJ, and Chilian WM. In vivo and in vitro vasoactive reactions of coronary arteriolar microvessels to nitroglycerin. Am J Physiol Heart Circ Physiol 271:H461-H468, 1996.
32. Liao JC, and Kuo L. Interaction between adenosine and flow-induced dilation in coronary microvascular network. Am J Physiol Heart Circ Physiol 272:H1571-H1581, 1997.

33. Ishizaka H, and Kuo L. Endothelial ATP-sensitive potassium channels mediate coronary microvascular dilation to hyperosmolarity. Am J Physiol Heart Circ Physiol 273:H104-H112, 1997.
34. Kuo L. Coronary vasodilation and K_{ATP} channels: Independence from nitric oxide. News Physiol Sci 12:246-247, 1997.
35. Chang CI, Liao JC, and Kuo L. Arginase modulates nitric oxide production in the activated macrophages. Am J Physiol Heart Circ Physiol 274:H342-H348, 1998.
36. Huang K-T, Kuo L, and Liao JC. Lipopolysaccharide activates endothelial nitric oxide synthase through protein tyrosine kinase. Biochem Biophys Res Commun 245:33-37, 1998.
37. Vaughn MW, Kuo L, and Liao JC. Effective diffusion distance of nitric oxide in the microcirculation. Am J Physiol Heart Circ Physiol 274:H1705-H1714, 1998.
38. Vaughn MW, Kuo L, and Liao JC. Estimation of nitric oxide production and reaction rates in tissue by use of a mathematical model. Am J Physiol Heart Circ Physiol 274:H2163-H2176, 1998.
39. Hein TW, and Kuo L. LDLs impair vasomotor function of the coronary microcirculation: Role of superoxide anions. Circ Res 83:404-414, 1998.
40. Ishizaka H, Gudi SR, Frangos JA, and Kuo L. Coronary arteriolar dilation to acidosis: Role of ATP-sensitive potassium channels and pertussis toxin-sensitive G proteins. Circulation 99:558-563, 1999.
41. Muller JM, Chilian WM, Kuo L, and Davis MJ. Changes in coronary endothelial cell Ca^{2+} concentration during shear stress- and agonist-induced vasodilation. Am J Physiol Heart Circ Physiol 276:H1706-H1714, 1999.
42. Liao JC, Hein TW, Vaughn MW, Huang K-T, and Kuo L. Intravascular flow decreases erythrocyte consumption of nitric oxide. Proc Natl Acad Sci USA 96:8757-8761, 1999.
43. Hein TW, and Kuo L. Cyclic AMP-independent dilation of coronary arterioles to adenosine: Role of nitric oxide, G-proteins and K_{ATP} channels. Circ Res 85:634-642, 1999.
44. Hein TW, Belardinelli L, and Kuo L. Adenosine A_{2A} receptors mediate coronary microvascular dilation to adenosine: Role of nitric oxide and K_{ATP} channels. J Pharmacol Exp Ther 291:655-664, 1999.
45. Hein TW, Liao JC and Kuo L. Ox-LDL specifically impairs endothelium-dependent, NO-mediated dilation of coronary arterioles. Am J Physiol Heart Circ Physiol 278:H175-H183, 2000.
46. Vaughn MW, Huang K-T, Kuo L, and Liao JC. Erythrocytes possess an intrinsic barrier to nitric oxide consumption. J Biol Chem 275:2342-2348, 2000.
47. Chang C-I, Zoghi B, Liao JC, and Kuo L. The involvement of tyrosine kinases, cAMP/PKA and p38 MAPK in IL-13-mediated arginase I induction in macrophages: Its implications in IL-13-inhibited NO Production. J Immunol 165:2134-2141, 2000.
48. Zhang C, Hein TW, and Kuo L. Transmural difference in coronary arteriolar dilation to adenosine: Effect of lumenal pressure and K_{ATP} channels. Am J Physiol Heart Circ Physiol 279:H2612-H2619, 2000.
49. Hein TW, Wang W, Zoghi B, Muthuchamy M, and Kuo L. Functional and molecular characterization of receptor subtypes mediating coronary microvascular dilation to adenosine. J Mol Cell Cardiol 33:271-282, 2001.

50. Chang C-I, Liao JC, and Kuo L. Macrophage arginase promotes tumor cell growth and suppresses nitric oxide-mediated tumor cytotoxicity. Cancer Res 61:1100-1106, 2001.
51. Vaughn MW, Huang K-T, Kuo L, and Liao JC. Erythrocyte consumption of nitric oxide: Competition experiment and model analysis. Nitric Oxide 5:18-31, 2001. (Erratum at 5(4):452, 2001)
52. Zhang C, Hein TW, Wang W, Chang C-I, and Kuo L. Constitutive expression of arginase in microvascular endothelial cells counteracts nitric oxide-mediated vasodilatory function. FASEB J 15:1264-1266, 2001. (http://www.fasebj.org/cgi/doi/10.1096/fj.00-0681fje)
53. Kuo L, and Hein TW. Functional and molecular evidence of adenosine A_{2A} receptor in coronary arteriolar dilation to adenosine. Drug Develop Res 52:350-356, 2001.
54. Huang K-T, Han TH, Hyduke DR, Vaughn MW, Van Herle H, Hein TW, Zhang C, Kuo L, and Liao JC. Modulation of nitric oxide bioavailability by erythrocytes. Proc Natl Acad Sci USA 98:11771-11776, 2001.
55. Rivers RJ, Hein TW, Zhang C, and Kuo L. Activation of barium-sensitive inward rectifier potassium channels mediates remote dilation of coronary arterioles. Circulation 104:1749-1753, 2001.
56. Hein TW, Platts SH, Waitkus-Edwards KR, Kuo L, Mousa SA, and Meininger GA. Integrin-binding peptides containing RGD produce dilation of coronary arterioles via cyclooxygenase activation. Am J Physiol Heart Circ Physiol 281:H2378-H2384, 2001.
57. Gamperl AK, Hein TW, Kuo L, and Cason BA. Isoflurane-induced dilation of porcine coronary microvessels is endothelium dependent and inhibited by glibenclamide. Anesthesiology 96:1465-1471, 2002.
58. Zhang C, Hein TW, Wang W, and Kuo L. Divergent roles of angiotensin II AT_1 and AT_2 receptors in modulating coronary microvascular function. Circ Res 92:322-329, 2003.
59. Hein TW, Zhang C, Wang W, Chang C-I, Thengchaisri N, and Kuo L. Ischemia-reperfusion selectively impairs nitric oxide-mediated dilation in coronary arterioles: Counteracting role of arginase. FASEB J 17:2328-2330, 2003.
60. Thengchaisri N, and Kuo L. Hydrogen peroxide induces endothelium-dependent and -independent coronary arteriolar dilation: role of cyclooxygenase and potassium channels. Am J Physiol Heart Circ Physiol 285:H2255-H2263, 2003.
61. Han TH, Qamirani E, Nelson AG, Hyduke DR, Chaudhuri G, Kuo L, and Liao JC. Regulation of nitric oxide consumption by hypoxic red blood cells. Proc Natl Acad Sci USA 100:12504-12509, 2003.
62. Hein TW, Zhang C, Wang W, and Kuo L. Heterogeneous $ß_2$-adrenoceptor expression and dilation in coronary arterioles across the left ventricular wall. Circulation 110:2708-2712, 2004.
63. Zhang C, Hein TW, Wang W, Miller MW, Fossum T, McDonald MM, Humphrey JD, and Kuo L. Upregulation of vascular arginase in hypertension decreases nitric oxide-mediated dilation of coronary arterioles. Hypertension 44:935-943, 2004.
64. Zhang C, Knudson J, Srinath S, Araiza A, Dincer U, Kuo L, and Tune J. Coronary arteriolar constriction to angiotensin II is augmented in the prediabetic metabolic syndrome via Activation of AT_1 Receptors. Am J Physiol Heart Circ Physiol 288:H2154-H2162, 2005.
65. Qamirani E, Ren Y, Kuo L, and Hein TW. C-reactive protein inhibits endothelium-dependent nitric oxide-mediated dilation in coronary arterioles by activating p38 kinase and NADPH oxidase. Arterioscler Thromb Vasc Biol 25:995-1001, 2005.

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