

# **Donna H. Wang M.D.**

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## **PRESENT POSITIONS:**

Professor of Medicine, Neuroscience Program, and Cell &  
Molecular Biology Program  
Director of Investigative Medicine  
Vice Chair for Basic Research

## **ADDRESS:**

Department of Medicine  
College of Human Medicine  
Michigan State University  
B316 Clinical Center  
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<http://myprofile.cos.com/wangdo>

<http://www.healthteam.msu.edu/medicine/Cardiology.htm>

<http://www.ns.msu.edu/neurosci/people/faculty/wang.htm>

<http://www.ns.msu.edu/cmb/>

[http://www.egr.msu.edu/ispe/presentations/worden/worden\\_MTTC\\_slides.pdf](http://www.egr.msu.edu/ispe/presentations/worden/worden_MTTC_slides.pdf)

## **BIOGRAPHICAL:**

Citizenship: U.S. Citizen

Marital Status: Married, One Child

Address: 4591 Dunmorrow Dr., Okemos, MI 48864

## **EDUCATION:**

09/79 - 08/84 Doctor of Medicine, Sun Yat-Sen University of Medical Sciences, Guangzhou, China

08/84 - 09/85 Resident, Sun Yat-Sen Ophthalmic Center, Sun Yat-Sen University of Medical Sciences, Guangzhou, China

09/85 - 11/87 Visiting Scholar, Department of Surgery and Department of Physiology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, NC

12/87 - 01/90 Postdoctoral Fellow, Department of Physiology, Eastern Virginia Medical School, Norfolk, VA. Mentor: Russell L. Prewitt, PhD

**PROFESSIONAL AND TEACHING EXPERIENCE:**

- 12/87 - 01/90 Research Associate, Department of Physiology, Eastern Virginia Medical School, Norfolk, VA
- 02/90 - 08/93 Assistant Professor (Research), Department of Physiology, Eastern Virginia Medical School, Norfolk, VA
- 08/93 - 09/97 Assistant Professor (Tenure-Track), Department of Internal Medicine, Division of General Medicine, The University of Texas Medical Branch, Galveston, TX
- 09/94 - 07/97 Director: Histochemical Core, Sealy Center for Molecular Cardiology, The University of Texas Medical Branch, Galveston, TX
- 09/94- 06/99 Scientist, Sealy Center for Molecular Cardiology, The University of Texas Medical Branch, Galveston, TX
- 09/97- 06/99 Associate Professor (Tenured), Department of Internal Medicine, Division of General Medicine, The University of Texas Medical Branch, Galveston, TX
- 06/99-present Professor (Tenured), Department of Medicine, College of Human Medicine, Michigan State University, MI
- 06/99-present Director of Investigative Medicine, Department of Medicine, College of Human Medicine, Michigan State University, MI
- 06/99-present Vice Chair for Basic Research, Department of Medicine, College of Human Medicine, Michigan State University, MI
- 01/00-present Professor (Adjunct), Department of Pharmacology & Toxicology, College of Human Medicine, Michigan State University, MI

**RESEARCH ACTIVITIES:**

**A. AREA OF RESEARCH:**

A long-term goal of my research is to understand the cellular and molecular mechanisms underlying salt sensitive hypertension. Toward this goal, we have recently developed a unique animal model of salt sensitive hypertension that is sensory nerve-dependent. This model provides a novel experimental paradigm for exploring underlying molecular mechanisms linked with salt sensitive hypertension and sensory nerve function. We are currently engaged in elucidating the importance of the vanilloid receptor in sensory nerves in the regulation of salt sensitivity of arterial pressure.

We have also developed a wide range of methodologies to define the role of the renin-angiotensin system in regulation of ion and fluid homeostasis and to define how defects in this system contribute to hypertension. In particular, we study the cellular and molecular events that participate

in tissue-specific regulation of angiotensin receptor subtypes in a variety of models of hypertension and diet manipulations.

In collaborating with investigators of Chemical Engineering & Materials Sciences and Electrical and Computer Engineering, we are developing unique and powerful tools for innovative investigation of the aforementioned systems. One is the robotic scanning probe microscope system that will eventually enable us to recognize and to stimulate a single receptor and to observe the consequences. The other system is a biosensor array for continuous, real time, and *in-situ* measurement of local tissue concentrations of hormones. It is anticipated that the data generated from these studies will provide the molecular basis for the development of specific antihypertensive regimens, such as gene or stem cell therapies, that selectively treat salt sensitive hypertension.

**B. FUNDING HISTORY:**

Jeffress Research Grants: "Microvascular Changes in Rat Cremaster Muscle during Chronic Decreases in Blood Flow", Principal Investigator

07/01/89 - 06/30/90	Direct Costs: \$ 2,880
07/01/90 - 06/30/91	Direct Costs: \$ 11,820
07/01/91 - 06/30/93	Direct Costs: \$ 19,100

Eastern Virginia Medical School Institutional Grant: "Role of Angiotensin II in Growth Regulation of Microvessels", Principal Investigator

07/01/91 - 06/30/92	Direct Costs: \$ 3,800
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NIH: 1R29 HL52279-01 - First Independent Research Support Transition Award: "Angiotensin and Growth Regulation of Arterioles", Principal Investigator

07/01/93 - 06/30/00	Direct Costs: \$ 349,914
	Total Costs: \$ 517,269

Merck, Sharp & Dohme Research Grant: "Mechanisms of the Renin-Angiotensin System in Vascular Growth Regulation", Principal Investigator

08/01/94 – 07/30/00	Direct Costs: \$ 24,656
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John Sealy Memorial Endowment Fund: "Modulation of Angiotensin Receptor Subtype Gene Expression by Sodium", Principal Investigator

09/01/96 - 08/30/98	Direct Costs: \$ 30,000
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NPS Pharmaceutical Grant: "Vascular Actions of Calcimimetics", Co-Investigator (10% effort); P.I. - R.D. Bukoski

10/01/96-03/31/97	Direct Costs: \$135,051
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Upjohn Research Grant: "A Study of the Blood Pressure Lowering Effects of Ramipril in Salt-Sensitive Renal Mass Reduced Rats", Principal Investigator

05/01/94 – 04/30/97 Direct Costs: \$ 6,060

Astra Research Grant: "Mechanisms of Angiotensin Receptor Regulation in Vascular Tissue", Principal Investigator

10/01/97- 09/30/99 Direct Costs: \$ 10,000

John Sealy Memorial Endowment Fund: "Perivascular Sensory Nerve Production of P450 Generated Hyperpolarizing Vasodilators", Co-Investigator (5% effort); P.I.-R.D. Bukoski

02/01/98-01/30/00 Direct Costs: \$ 70,000

Hoechst Marion Roussel Young Scholar Award, American Society of Hypertension

05/98 – 04/99 Direct Costs: \$ 10,000

John Sealy Memorial Endowment Fund: "Renal Sensory Nervous System and Salt Sensitive Hypertension", Principal Investigator

09/01/98-08/30/00 Direct Costs: \$ 70,000

NIH RO-1: "Renal Angiotensin Receptor Subtypes and Sodium Intake", Principal Investigator

07/01/98-06/30/03 Direct Costs: \$ 393,379  
Total Costs: \$571,863

American Heart Association Established Investigator Award, "Mechanisms of Pressor Hyperresponsiveness Induced by Subpressor Angiotensin II", Principal Investigator

01/01/99-12/30/03 Direct Costs: \$ 274,000  
Total Costs: \$ 300,000

Leonard J. Luker Scholarship: "Elucidating the Pathophysiology of Hypertension in the Elderly by Exploring Age-Related Changes in the Distribution of Calcitonin-Gene Related Peptide". Faculty Advisor and Sponsor. Awardee: Prashant Vaishnava, 2<sup>nd</sup>-yr Medical Student of MSU

06/02-05/03 Direct Costs: \$4,700

AHA Student Scholars in Cardiovascular Disease and Stroke, Faculty Advisor and Sponsor, Awardee: Prashant Vaishnava,

12/02-11/03 Direct Costs: \$20,000

NSF Grant: "SGER: Bioengineering a SPM Based Nanomanipulator with Landmark Referenced Control", Co-Investigator, P.I. V. Ayres

09/01/02-08/31/03

Direct Costs: \$ 46,628

Total Costs: \$ 50,000

**C. ACTIVE GRANTS:**

NIH RO1: "Vanilloid-Sensitive Sensory Nerves and Salt Sensitivity" Principal Investigator,

12/03-11/08

Direct Costs: \$1,250,000

Total Costs: \$1,867,000

NIH RO1: "Renal Angiotensin Receptor Subtypes and Sodium Intake", Principal Investigator,

12/03-11/08

Direct Costs: \$1,125,000

Total Costs: \$1,681,875

NIH RO1: "Molecular Sensing of Sodium Homeostasis: Role of Anandamide" Principal Investigator,

3/05-4/10

Direct Costs: \$1,960,870

Total Costs: \$2,919,125

Michigan Economic Development Corporation (Life Science Corridor): "Molecular Genetics of Blood Pressure Regulation by Sensory Nerves", Principal Investigator

01/01-12/04

Direct Costs: \$ 710,402

Total Costs: \$852,482

Astra Research Grant: "Cross-Talk Between the Renin-Angiotensin and Sensory Nervous Systems in a Novel Salt Sensitive Hypertensive Model", Principal Investigator

06/99-present

Direct Costs: \$ 80,000

Total Costs: \$ 106,000

Michigan Technology Tri-Corridor Center Grant: "Functional and Nanostructural Biomimetic Interfaces". Co-Investigator and Advisory Board of the Center, P.I., RM Worden

12/04-11/07

Direct Costs: \$ 1,369,097

Total Costs: \$1,550,000

MSU REF Center Proposal (REF 03-016): "The Center for Excellence in the Structural Biology of Membrane Proteins", Collaborator, P.I. R. Garavito

12/04-11/09

Total Costs: \$ 3,699,980

NIH T32: "Predoctoral Training Program in the Neuroscience", Faculty Advisor, Program Director-C.L. Sisk

01/01 – 12/05 Direct Costs: \$891,204  
Total Costs: \$944,218

Merck, Sharp & Dohme Educational Grant: "Cardiovascular Seminar 2000 Visiting Professor Program", Program Director

09/99 – present Direct Costs: \$ 23,000

AstraZenaca Educational Grant: "Distinguished Visiting Professor Program", Program Director

12/00-present Direct Costs: \$25,000

**D. PENDING:**

NIH GM07392: "Pharmacological Sciences Training Grant", Faculty Advisor, Program Director – J.J. Galligan

12/04 – 11/09 Direct Costs: \$900,000  
Total Costs: \$1,500,000

NIH Center Grant: "The Center for Nanostructured Biomimetic Interfaces in Medicine". Co-Investigator, P.I. R. Garavito

12/04-11/09 Direct Costs: \$ 4,000,000  
Total Costs: \$ 5,800,000

NIH Specialized Center Grant: "The Center for Membrane Protein Expression, Crystallization, and Structural Analysis". Co-Investigator, P.I. R. Garavito

12/04-11/09 Direct Costs: \$ 5,000,000  
Total Costs: \$ 6,000,000

**COMMITTEE RESPONSIBILITIES:**

**A. COMMUNITY**

1995-1996 Faculty Advisor, Chinese Student and Scholar Association, UTMB

1995-1996 Program Committee, Chinese Association of Professional in Science and Technology

- 1995 Volunteer, Junior Girl-Scout Troop 90
- 1998 Faculty Advisor, Society for Chinese Bio-Scientists in America
- 1998 Faculty Advisor, Chinese Student and Scholar Association, UTMB
- 1999 Judge for 1999 Science Fair of Clear Creek Independent School District
- 1999 Mentor, Program of Mentoring Asian Pacific Americans with Promise
- 2002 Vice Chair, China Subcommittee, Lansing Regional Sister City Committee
- 2004 Faculty Advisor, Dance Club of Chinese Student and Scholar Association

**B. DEPARTMENTAL**

- 1994 Member, Incentive/Fiscal Responsibility Sub-Task Force for Research, Department of Internal Medicine, UTMB
- 1995 Member, Hypertension and Vascular Research Task Force for Division of General Internal Medicine Five Year Strategic Plan, UTMB
- 1996 Member, Research Task Force of Internal Medicine, UTMB
- 1996 Member, Internal Medicine Research Retreat, UTMB
- 1997 Member, Research Task Force of General Medicine, UTMB
- 1999 Chair, Research Committee, Department of Medicine Retreat, MSU
- 1999 Organizer of Basic Research Meeting, Department of Medicine, MSU
- 1999- Advisory Committee, Dept. of Medicine, MSU
- 1999- Administrative Leadership Committee, Dept. of Medicine, MSU
- 1999- Search Committee for faculty of Division of Hematology/Oncology, Dept. of Medicine, MSU
- 2000- Member, Pre- and Post-Award Task Force, Dept. of Medicine, MSU
- 2000- Chair, Basic Research Initiatives for the Bayer Corporation's Fund, Dept. of Medicine, MSU
- 2000- Editor, Publication Brochure of Department of Medicine, MSU
- 2000- Director of Cardiovascular Program, Dept. of Medicine, MSU

2000- Search Committee for faculty of Division of Cardiology, Dept. of Med., MSU

2000- Chair, Task Force for Developing a Research Incentive Plan, Dept. of Med., MSU

2000- News Reporter of Department of Medicine, MSU

2000- Search Committee for Senior Administrator, Dept. of Med., MSU

2000- Search Committee for Faculty of GI Division, Dept. of Med., MSU

2000- Promotions and Tenure Committee, Dept. of Med., MSU

2000- Search Committee for Chief and Director, Division of General Medicine, Dept. of Medicine, MSU

2001- Search Committee for Vice Chair for Education, Dept. of Med., MSU

2001- Chair, Task Force for Research Incentive Plan for Basic Scientists, Dept. of Med, MSU

2001- Chair, Research Strategic Plan Task Force, Dept. of Med., MSU

2001- Chair, Task Force for Research Incentive Plan for Clinician-Scientist, Dept. of Med, MSU

2002 Search Committee for faculty of Division of Cardiology, Dept. of Med, MSU

2002 Chair, Advisory Committee for APPR Funds, Dept. of Med., MSU

2002 Search Committee for faculty of Division of Hematology/Oncology and Cancer Center, MSU

2002 ACGME Accreditation Review Committee for Cardiology Fellowship, MSU

2002 Search Committee for Clinical Trial Director at McLaren in Flint, Dept. of Med, MSU

2003 Search Committee for Faculty of Health Service Division, Dept. Med, MSU

2003 Committee for Research Incentive Plan Development, Dept. Med, MSU

2004 Search Committee for Cardiology Faculty, Dept. Med, MSU

2004 Search Committee for Division Chief of Hematology/Oncology and Cancer Center, Dept. Med, MSU



2004 Promotions and Tenure Committee, Dept. of Med., MSU

**C. UNIVERSITY**

1992 - 1993 Art Committee, Eastern Virginia Medical School

1993 Institutional Grant Review Committee, *Ad Hoc* Member, Eastern Virginia Medical School

1996 Search Committee, Sealy Center for Molecular Cardiology, UTMB

1995 Member, Cardiovascular White Paper Task Force, UTMB

1995 Member, Research Retreat, UTMB

1998 Member, Cardiovascular White Paper Task Force, UTMB

1998 Subcommittee of Liaison Committee on Medical Education, UTMB

1999- Organizer of Campus-wide "Cardiovascular Seminar 2000", MSU

1999- Chair, Program Committee of Distinguished Professor Seminar Series, MSU

1999 Member, DNA Array Technology Task Force, MSU

1999- Member, University Hearing Board, MSU

1999 Reviewer, Intramural Research Grants Program, MSU

2000- Search Committee for Director, Cancer Center, MSU

2000- User Advisory Committee for the Genomics Technology Analytical Facility, MSU

2000- Member, Cell & Molecular Biology Program, MSU

2000- Member, Neuroscience Program, MSU

2000- Reviewer, Intramural Research Grants Program, MSU

2000- Search Committee for Director of the Genomics Technology Analytical Facility, MSU

2001- Coordinator, Task Force for Strategic Hire for Cardiovascular Research Program, MSU

2001- Search Committee for Chair of Department of Pharmacology and

- Toxicology, MSU
- 2003- Member, Task Force for Pfizer Initiatives, MSU
- 2004 Advisory Board of the Center for Nanostructured Biomimetic Interfaces (CNBI), MSU
- 2004 Member, Task Force for Developing White Papers in Health and Biomedical Research at MSU

**D. NATIONAL & INTERNATIONAL**

*National Institutes of Health:*

- 2000 (June) NIH Study Section *Ad Hoc* Member, Experimental Cardiovascular Sciences, Center for Scientific Review, NIH/NHLBI
- 2001 (April) NIH Study Section, Special Emphasis Panel Review, Cardiovascular Sciences Integrated Review Groups, Center for Scientific Review, NIH/NHLBI
- 2001-2003 NIH Study Section Charter Member, Experimental Cardiovascular Sciences, Center for Scientific Review, NIH/NHLBI
- 2003-2005 NIH Study Section Charter Member, Hypertension & Microcirculation, Center for Scientific Review, NIH/NHLBI
- 2004 (March) NIH Study Section, Special Emphasis Panel Review, Cardiovascular Sciences Integrated Review Groups, Center for Scientific Review, NIH/NHLBI
- 2004 (April) NIH Study Section, Special Emphasis Panel Review, Cardiovascular Sciences Integrated Review Groups, Center for Scientific Review, NIH/NHLBI
- 2004 (December) NIH Study Section, Special Review Committee, Center for Scientific Review, NIH/NIDDK

*American Heart Association:*

- 1994 Abstract Grading Consultant for American Heart Association the 67th Scientific Sessions
- 1995 Chair for the Session on Physiology and Genetics of Angiotensin I and II Receptors, the 68th Scientific Sessions of American Heart Association
- 1997 Abstract Grading Consultant for American Heart Association 51st Annual

	Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
1997-1998	Research Review Committee, Texas Affiliate's Central of American Heart Association
1998	Abstract Grading Consultant for American Heart Association 52nd Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
1998-2006	Editorial Board of <i>Hypertension</i>
1998 –	Research Review Committee, Western States Affiliates of American Heart Association
1999	Abstract Grading Consultant for American Heart Association 53rd Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
1999 - 2002	Publication Committee, American Heart Association Council for High Blood Pressure Research
1999 – 2002	Section Editor, <i>Hypertension: Proceedings of the Council for High Blood Pressure Research</i>
2000	Abstract Grading Consultant for American Heart Association 54th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
2000-2003	National Peer Review Committee Regular Member, Cardiovascular Regulation 1, American Heart Association
2001-	Abstract Grading Consultant for American Heart Association 55th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
2001	Chair for the Session on “Role of Renin-Angiotensin-Aldosterone System in Hypertension and End Organ Damage”, 55 <sup>th</sup> Annual Fall Conference & Scientific Session, American Heart Association
2002	Abstract Grading Consultant for American Heart Association 56th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
2002	Chair for the Session “Direct Action of Angiotensin II”, 56 <sup>th</sup> Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research

2003	Abstract Grading Consultant for American Heart Association 57th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research
2003-2004	Women & Minorities Leadership Committee, American Heart Association National Center
2003-2004	Science Advisory and Coordinating Committee, American Heart Association National Center
2003	Chair for the Session on "The Renin-Angiotensin System in Cardiovascular Disease", 57th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, American Heart Association.
2003-2005	Nominating and Awards Committee, American Heart Association National Center
2004-2005	Chair, Women & Minorities Leadership Committee, American Heart Association National Center
2004-2006	Advocacy Coordination Committee, American Heart Association National Center

American Physiological Society

1998	Chair for the Session of Hypertension, Cardiovascular Biology Theme, American Physiological Society, Experimental Biology '98
1999 - 2003	Woman in Physiology Committee, American Physiological Society
2000	Judge of Caroline Tum Suden Professional Opportunity Awards, American Physiological Society
2001-	Judge of Caroline Tum Suden Professional Opportunity Awards, American Physiological Society
2002-2005	Fellowship Committee, Cardiovascular Section of the American Physiological Society
2002	Chair for the Featured Topic Session on "Sensory Nerve Endings and Cardiovascular Regulation", American Physiological Society, EB 2002
2002	Judge of Caroline Tum Suden Professional Opportunity Awards, American Physiological Society
2002-2005	Membership Committee, the Council of the American Physiological Society
2003	Judge of Caroline Tum Suden Professional Opportunity Awards, American

Physiological Society

Inter-American Society of Hypertension

- 1995 - 1997            Publication Committee of the Inter-American Society of Hypertension
- 1995 - 1997            Section Editor, *Hypertension: Proceedings of the Inter-American Society Hypertension*
- 2001-                    Guest Review Board, *Hypertension: Proceedings of the XIV Scientific Meeting of the Inter-American Society of Hypertension*
- 2003                    Chair for the Session "Oxidative Stress/Vascular Inflammation", XVth Scientific Meeting of the Inter-American Society of Hypertension

Microcirculatory Society Inc

- 1994 - 1998            Membership Committee of the Microcirculatory Society Inc.
- 1997-2001            Program Committee of the Microcirculatory Society Inc.

Academy of Cardiovascular Research Excellence

- 2002-                    Funding Member, Academy of Cardiovascular Research Excellence
- 2003-2005            Vice President and Board of Directors, Academy of Cardiovascular Research Excellence
- 2004                    Organizer, Inauguration Scientific Conference of Academy of Cardiovascular Research Excellence

International Congress of Physiological Sciences

- 2005                    Chair for the Session "Sensing Cardiovascular Homeostasis: Novel Molecules in Sensory Nerve Terminals", 35<sup>th</sup> International Congress of Physiological Sciences 2005 (2005 IUPS International Congress)

Others

- 2000                    Editor, Angiotensin Protocol, *Methods in Molecular Medicine*, Humana Press
- 2000                    Question Provider for the National Board of Medical Examiners, American Society of Hypertension, Specialists Program
- 2002                    Invited External Expert Reviewer for Research Council of University of Antwerp, Belgium
- 2003                    Funding Member, Society of Chinese American Professors and Scientists

2004-2008 Editorial Board of *Current Hypertension Reviews*  
2004- Adjunct Professor, Xingjiang Medical University, Xinjiang, China

**TEACHING RESPONSIBILITIES:**

1989 - 1993 Instructor in Medical Student Physiology Labs, Eastern Virginia Medical School  
1990 - 1991 Lecturer, Medical Physiology (Cardiovascular), Eastern Virginia Medical School  
1990 - 1991 Instructor for 4th Year Medical Students - National Board Exam Review, Eastern Virginia Medical School  
1995 Preceptor for 4th Year Medical Students - Integrated Curriculum Evaluation Exercise, 20 hrs/year, UTMB  
1995 Medical Physiology, Group Conference and Case Study Leader, 20 hrs/year, UTMB  
1997 Preceptor for Medical Students - Interactive Learning Track, 20 hrs/year, UTMB  
1998 Preceptor for Medical Students – Practice of Medicine – Module 1, 2 & 3, New Curriculum, 50 hrs/ year, UTMB  
1999 Preceptor, Pharmacology Sciences, PHM870, MSU  
2000 Lecturer, Cardiovascular Pharmacology: Pharmacogenomics & Pharmacogenetics, PHM813, MSU  
2000-present Faculty Mentor, Cell & Molecular Biology Program, MSU  
2000-present Faculty Mentor, Neuroscience Program, MSU  
2000 Judge, Interdisciplinary Course, The Law and Medicine Seminar, MSU  
2000- Co-Director of the graduate course, Pharmacogenetics (PHM 819), Department of Pharmacology and Toxicology, MSU  
2000-2002 Preceptor of Pulmonary Domain, HM525, 20 hrs/year, MSU  
2000-2002 Preceptor of Cardiovascular Domain, HM515, 20 hrs/year, MSU  
2002- Lecturer, Cardiovascular Pharmacology Pharmacogenomics &

	Pharmacogenetics, PHM 813, MSU
2002-2003	Preceptor of Pulmonary Domain, HM525, 20 hrs/year, MSU
2002-2003	Preceptor of Cardiovascular Domain, HM515, 20 hrs/year, MSU
2004	Lecturer, Cardiovascular Pharmacology: Genetics and Common Complex Cardiovascular Diseases, PHM 813, MSU

### TRAINEES SUPERVISED:

#### Postdoctoral Fellows:

1993 – Present	<u>Yong Du</u> , M.D., Department of Internal Medicine, University of Texas Medical Branch, Galveston, TX
	<u>Aqing Yao</u> , M.D., Cancer Center, University of Texas Medical Branch, Galveston, TX
	<u>Jiangxin Qiu</u> , M.D., Department of Neuroscience, University of Texas Medical Branch, Galveston, TX
	<u>Daneil Hu</u> , M.D., Sealy Center for Molecular Cardiology, University of Texas Medical Branch, Galveston, TX
	<u>Jiangping Li</u> , M.D. Department of Medicine, MSU, East Lansing, MI
	<u>Shonghong Ling</u> , M.D. Department of Internal Medicine, University of California at San Francisco, San Francisco, CA.
	<u>Wei Wu</u> , MD, PhD, Department of Internal Medicine, University of Texas Medical Branch, Galveston, TX
	<u>Yong Zhang</u> , MD, PhD, Department of Internal Medicine, University of Texas Medical Branch, Galveston, TX.
	<u>Yan Huang</u> , M.D., Department of Cell and Developmental Biology, University of Michigan, Ann Arbor, MI
	<u>Weizhong Song</u> , M.D. Department of Entomology, MSU, East Lansing, MI
	<u>Huaowei Zhao</u> , M.D. Department of Pharmacology, MSU, East Lansing, MI
	<u>Youping Wang</u> , M.D., Ph.D. Dept. of Medicine, MSU, East Lansing, MI
	<u>Yi Zhu</u> , M.D., Ph.D., Dept. of Medicine, MSU, East Lansing, MI
	<u>Lihong Wang</u> , M.D., Ph.D., Dept. of Medicine, MSU, East Lansing, MI
	<u>Min Luo</u> , Ph.D., Dept. of Medicine, MSU, East Lansing, MI

#### Ph.D. Candidates

1999-	<u>Jennifer R. Ballew</u> , Ph.D./D.O. Candidate, Pharmacology and Toxicology, MSU, Thesis Committee.
1999-	<u>Amy Banes</u> , Ph.D. Candidate, Pharmacology and Toxicology MSU, Thesis Committee.
2000-	<u>Min Luo</u> , Ph.D. Candidate, Pharmacology and Toxicology, MSU, Thesis Committee.
2000-	<u>Diana Ye</u> , Ph.D. Candidate, Pharmacology & Toxicology, MSU, Lab Rotation.
2000-	<u>Xiaoling Dai</u> , Ph.D. Candidate, Neuroscience Program, MSU, Lab Rotation.
2002-	<u>Jong Kyong Kim</u> , Ph.D. Candidate, Cell and Molecular Biology Program,

- MSU, Thesis Committee.
- 2003- Guangyong Li, Ph.D. Candidate, Computer and Engineering Department, MSU, Thesis Committee.
- 2003- Peter T. Kim, Ph.D. Candidate, Electrical & Computer Engineering Department, MSU, Lab Rotation.
- 2004- Melissa W. Li, Ph.D. Candidate, Pharmacology and Toxicology MSU, Thesis Committee.
- 2004- Kai Wang, Ph.D. Candidate, Chemical and Material Engineering Department, MSU, Thesis Committee.

#### Medical Students

- 1990- Jennifer Yuen, 2<sup>nd</sup>-yr Medical Student, Eastern Virginia Medical School.
- 2001- Claudia Nassaralla, 1<sup>st</sup>-yr Medical Students, MSU
- 2001- Ronald Ni, 1<sup>st</sup>-yr Medical Students, MSU
- 2002- Prashant Vaishnava, 2<sup>nd</sup>-yr Medical Student, Honors College, MSU

#### Undergraduate Students

- 1990 Dana Salzberg, 3<sup>rd</sup>-yr pre-medical student, University of Louisiana (Summer Undergraduate Research Program)
- 1999- Angela Hendrick, Howard Hughes Undergraduate Research Scholars Program (HURSP): MSU
- 1999- Aaron Lawwill, 4<sup>th</sup>-yr pre-medical student, MSU (PHM480, independent study)
- 1999- Donna Galang, 2yr-yr pre-medical student, MSU (PHM480, independent study)
- 2000 Jennifer Dowgiert, 2-yr undergraduate student, MSU (PHM480, independent study)
- 2001- Donald Ngo, 2<sup>nd</sup>-yr Honors College Student, MSU (PHM480, independent study):

#### Faculty and Residents:

- 2000 Ralph Watson, Associate Professor of Medicine, M.D., Sabbatical, MSU
- 2001 Avanti Mehrotra, 2-yr Medicine Resident, M.D. MSU
- 2002 Charan Kantipudi, Attending Physician of McLaren Regional Medical Center, M.D., Flint, MI

#### **MEMBERSHIP IN SCIENTIFIC SOCIETIES:**

- 1990 - Present American Physiological Society
- 1991 - Present American Heart Association
- 1991 - Present Microcirculatory Society, Inc.
- 1994 - Present American Association for the Advancement of the Science
- 1995 - Present Inter-American Society of Hypertension
- 1996 - Present American Society of Hypertension
- 2001 - Present American Chinese Clinical Neuroscientist Association
- 2003 - Present National Association for Female Executives
- 2003 - Present New York Academy of Science



## HONORS AND AWARDS:

- 08/84                    Graduated Magna Cum Laude from Sun Yat-Sen University of Medical Sciences
- 09/85                    First Selected Exchange Scholar from Sun Yat-Sen University of Medical Sciences to Bowman Gray School of Medicine (Sister Schools)
- 04/91                    1991 Losartan Young Investigator Travel Award from Merck & Co.
- 07/93 - 06/98            NIH First Independent Research Support Transition (FIRST) Award
- 09/94 - 09/96            The Goldblatt Award for the Most Outstanding Research from the American Heart Association Council for High Blood Pressure Research, Finalist.
- 05/95 - 05/97            Section Editor, *Hypertension*
- 09/95                    Fellow: American Heart Association Council for High Blood Pressure Research
- 10/95                    NIH Scholarship Award for the Conference of "Gene Therapy for Acquired Disease", National Heart, Lung, and Blood Institute
- 04/96                    Invited Keynote Speaker at the President-elect's Symposium of 1996 Microcirculation Society Meeting
- 03/97                    The Inter-American Society of Hypertension 1997 Travel Award
- 04/97                    1997 Outstanding Young Investigator Travel Award from the Microcirculatory Society
- 09/97                    Awarded Tenure at University of Texas Medical Branch at Galveston
- 01/98                    Editorial Board, *Hypertension*
- 05/98                    Hoechst Marion Roussel 1998 Young Scholar Award from the American Society of Hypertension
- 05/98                    Invited keynote Speaker at the 1<sup>st</sup> International Congress on "Function and Clinical Perspectives of Angiotensin AT1 Receptors: Cardiovascular and Renal Function in Health and Disease", Budapest, Hungary
- 06/98                    1998 Losartan Award from the International Society of Hypertension
- 01/99 –12/03            American Heart Association Established Investigator Award, National Center

04/99 Fellow: Cardiovascular Section of the American Physiological Society

06/99 1999 Angiotensin II Young Investigator Award from Merck & Co.

06/99 Awarded Tenure at Michigan State University

09/99 NIH Scholarship Award for the Course of “Genetic Approaches in Complex Heart, Lung, and Blood Diseases”.

09/99 – 09/02 Section Editor, *Hypertension*

12/00 Who’s Who in the World, published by Marquis

12/00 Editor, *Angiotensin Protocol*, Methods in Molecular Medicine, Humana Press

6/00 Invited Keynote Speaker at the 2<sup>nd</sup> International Congress on “Angiotensin II Receptor Blockade – Effects Beyond Blood Pressure Control”, Prague, Czech Republic.

10/00-9/04 National Peer Review Committee of American Heart Association

6/00 NIH Study Section *Ad Hoc* Member, Experimental Cardiovascular Sciences, Center for Scientific Review, NIH/NHLBI

3/01 Guest Review Board, *Hypertension*

4/01 NIH Special Emphasis Panel Review, Center for Scientific Review, NIH/NHLBI

10/01 Who’s Who in Science and Engineering, published by Marquis

10/01 Who’s Who in America, published by Marquis

10/01 Who’s Who in 20<sup>th</sup> Century America, published by Marquis

07/01-10/03 NIH Study Section Charter Member, Experimental Cardiovascular Sciences, Center for Scientific Review, NIH/NHLBI

11/01 2000 Outstanding Intellectuals of the 21<sup>st</sup> Century, published by the International Biographical Center (IBC), Cambridge, England

1/02 Who’s Who in Medicine and Healthcare, published by Marquis

1/02 Who’s Who of American Women, published by Marquis

1/02 2000 Outstanding Scientists of 21<sup>st</sup> Century, published by IBC, Cambridge

1/02 21<sup>st</sup> Century Award for Achievement, published by IBC, Cambridge

6/02	1000 Great Scientists, Published by IBC, Cambridge
6/02	Eminent People of Today, Published by IBC, Cambridge
06/02	International Scientist of the Year 2002, Published by IBC, Cambridge
09/02	IBC Record of Achievement, Published by IBC, Cambridge
12/02	International Who's Who of Professionals, Who's Who Historical Society
02/03	International Woman of the Year, Published by IBC, Cambridge
03/03	The Worldwide Honors List, Published by IBC, Cambridge
03-04	Women & Minorities Leadership Committee, American Heart Association National Center
03-04	Science Advisory and Coordinating Committee, American Heart Association National Center
03-05	Nominating and Awards Committee, American Heart Association National Center
08/03	International Health Professional of the Year 2003
08/03	Who's Who of Professionals
10/03-10/05	NIH Study Section Charter Member, Hypertension and Microcirculation, Center for Scientific Review, NIH/NHLBI
04-05	Chair, Women & Minorities Leadership Committee, American Heart Association National Center
3/04	NIH Study Section, Special Emphasis Panel Review, Center for Scientific Review, NIH/NHLBI
4/04	NIH Study Section, Special Emphasis Panel Review, Center for Scientific Review, NIH/NHLBI
10/04	Featured Researcher of College of Human Medicine, MSU
12/04	NIH Study Section, Special Review Committee, Center for Scientific Review, NIH/NIDDK

**OTHER SCHOLARLY ACTIVITY**

**A. EDITOR**

12/00  
01/05      *Angiotensin Protocol, Methods in Molecular Medicine*, Humana Press  
*Molecular Sensors for Cardiovascular Homeostasis*, Springer Science & Business Media

**B. SECTION EDITOR**

05/95 - 05/97      *Hypertension: Proceedings of the Inter-American Society of Hypertension.*  
09/99 – 09/02      *Hypertension: Proceedings of the Council for High Blood Pressure Research*

**C. EDITORIAL BOARD**

01/98-11/06      *Hypertension*, Lippincott Williams & Wilkins  
05/04-03/08      *Current Hypertension Reviews*, Bentham Science Publishers

**D. EDITORIAL REVIEW**

Circulation  
Circulation Research  
Hypertension  
American Journal of Physiology (Heart Circ. Physiol.)  
American Journal of Physiology (Regulatory, Integrative & Comparative)  
American Journal of Physiology (Renal Physiol.)  
Microcirculation  
Regulatory Peptides  
The Journal of Pharmacology & Experimental Therapeutics  
European Journal of Physiology  
The Journal of the American Society of Nephrology  
American Journal of Hypertension  
Microvascular Research  
Journal of Vascular Research  
Pediatric Nephrology  
The Journal of Cardiovascular Pharmacology  
Journal of Biochemistry and Cell Biology  
Autonomic Neuroscience

**E. ADVISORY BOARD AND SCIENTIFIC CONSULTANT**

Upjohn Co.  
Astra Hassle  
Astra Merck  
AstraZeneca  
Merck & Co.  
Pfizer Co.  
Pharmacia Corporation  
The Council of Healthcare Advisers, Gerson Lehrman Group

Noven Pharmaceuticals, Inc.  
Center for Nanostructured Biomimetic Interfaces (CNBI), MSU

**F. CHAIR FOR SYMPOSIUMS, SCIENTIFIC CONFERENCES & SESSIONS**

- Chair for the Session on “Physiology and Genetics of Angiotensin I and II Receptors”, the 68th Scientific Sessions of American Heart Association, 1995
- Chair for the Session of Hypertension, Cardiovascular Biology Theme, American Physiological Society, Experimental Biology, 1998
- Chair for the Session on “Role of Renin-Angiotensin-Aldosterone System in Hypertension and End Organ Damage”, 55<sup>th</sup> Annual Fall Conference & Scientific Session, American Heart Association, 2001
- Chair for the Featured Topic Session on “Sensory Nerve Endings and Cardiovascular Regulation”, American Physiological Society, Experimental Biology, 2002
- Chair for the Session on “Direct Action of Angiotensin II”, 56<sup>th</sup> Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, 2002
- Chair for the Session on “Oxidative Stress/Vascular Inflammation”, XVth Scientific Meeting of the Inter-American Society of Hypertension, 2003
- Chair for the Session on “The Renin-Angiotensin System in Cardiovascular Disease”, 57<sup>th</sup> Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, 2003
- Chair for the Session on “Sensing Cardiovascular Homeostasis: Novel Molecules as Mechano- and Chemo- Sensors”, 35<sup>th</sup> International Congress of Physiological Sciences 2005

**INVITED LECTURES AND MAJOR PRESENTATIONS:**

**A. DOMESTIC**

Sept, 1989	Invited presenter at the Symposium on "Cellular and Molecular Mechanisms in Hypertension", The Graduate Hospital, University of Pennsylvania
July, 1990	Invited speaker at the Department of Medical Physiology, College of Medicine, Texas A & M University.
Nov., 1990	Invited speaker at the Tobacco and Health Research Institute, University of Kentucky.
May, 1991	Invited speaker at the Department of Cardiovascular Pharmacology, Merck, Sharp & Dohme Research Laboratories, Division of Merck & Co., Inc.
May, 1991	Invited speaker at the Geisinger Clinic, Sigfried and Janet Weis Center for Research.

Aug., 1991           Invited speaker at the Department of Medicine, University of West Virginia.

Aug., 1991           Invited speaker at the Department of Physiology, University of South Dakota.

Sept, 1991           Presenter at the Fifth World Congress for Microcirculation, Louisville, Kentucky

Nov., 1991           Presenter at the 64th Scientific Sessions of the American Heart Association, Anaheim, California

Mar., 1993           Invited speaker at the Department of Physiology, University of Missouri-Columbia.

April, 1993           Invited speaker at the Department of Physiology, Medical College of Wisconsin.

April, 1993           Invited speaker at the Department of Physiology and Biophysics, Georgetown University School of Medicine.

May, 1993           Invited speaker at the Department of Pharmacology, New York Medical College.

May, 1993           Invited speaker at the Department of Physiology and Biophysics, University of Mississippi Medical Center.

May, 1993           Invited speaker at the Department of Veterinary Biomedical Sciences, College of Veterinary Medicine, University of Missouri-Columbia.

May, 1993           Invited speaker at the Department of Internal Medicine, University of Texas Medical Branch.

May, 1993           Invited speaker at the Department of Internal Medicine, Wayne State University School of Medicine.

Aug., 1993           Invited speaker at the Department of Physiology, The University of Texas Medical Branch.

Oct., 1993           Presenter at the Scientific Conference of the Molecular Cellular biology of the Vascular Wall, Boston, Massachusetts

Sept., 1994           Presenter at the 48th Annual Fall Conference of the Council for High Blood Pressure Research, Chicago, Illinois

Dec., 1994           Presenter at International Symposium on Cellular and Molecular Aspects of Angiotensin Receptors, Gainesville, Florida

Jun., 1995           Invited speaker at the 1st Vascular Young Investigators' Meeting, San Antonio, Texas.

- Jun., 1995           Invited speaker at the Cardiovascular Research Forum, University of Texas Medical Branch, Galveston, Texas.
- Sep., 1995           Presenter at the 49th Annual Fall Conference of the Council for High Blood Pressure Research, New Orleans, Louisiana
- Oct., 1995           Invited presenter at the conference of Gene Therapy for Acquired Disease sponsored by National Heart, Lung, and Blood Institute, Vanderbilt University, Tennessee.
- Jan., 1996           Invited speaker at the Department of Physiology, The University of Texas Health Science Center at San Antonio, San Antonio, Texas.
- Feb., 1996           Invited presenter at Angiotensin II Gordon Conference, Ventura, California
- Apr., 1996           Invited speaker at the President-elect's Symposium of the 1996 Microcirculation Society Meeting, NIH campus, Washington D.C.
- Sep., 1996           Presenter at the 50th Annual Fall Conference of the Council for High Blood Pressure Research, Chicago, Illinois
- Oct., 1996           Invited speaker at the Department of Pharmacology, The University of Texas Medical Branch, Texas.
- Mar., 1997           Invited speaker at the Department of Physiology, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.
- Sep., 1997           Presenter at the 51th Annual Fall Conference of the Council for High Blood Pressure Research, Washington, DC.
- Nov., 1997           Invited speaker at the 2nd Vascular Young Investigators' Meeting, San Antonio, Texas.
- Apr. 1998           Invited speaker at the Cardiovascular Research Forum, University of Texas Medical Branch, Galveston, Texas.
- Apr., 1998           Invited speaker at the 1998 Symposium of Society for Chinese Bio-Scientists in America, Texas.
- Apr. 1998           Outstanding Young Investigator Travel Award Lecture at the Microcirculatory Society 1998 Scientific Meeting, San Francisco.
- May, 1998           Hoechst Marion Roussel 1998 Young Scholar Award Lecture at the American Society of Hypertension 13th Scientific Meeting, New York
- Jul., 1998           Invited speaker at the FASEB Summer Research Conference on "Renal Hemodynamics: Integration of Endothelial, Epithelial and Vascular Control

Mechanisms", Vermont.

Sep. 1998           Presenter at the 52th Annual Fall Conference of the Council for High Blood Pressure Research, Philadelphia.

Nov., 1998           Invited speaker at the Department of Internal Medicine, Northwestern University Medical School, Chicago.

Dec., 1998           Invited speaker at the Department of Physiology, Michigan State University, Michigan.

Jan., 1999           Presenter at the conference of the First International Cardiovascular Genomics, Orlando, Florida

Jan., 1999           Invited speaker at the Department of Physiology, Tulane University School of Medicine, New Orleans, Louisiana

Jan., 1999           Invited speaker at the Department of Obstetrics and Gynecology at the University of Vermont College of Medicine, Vermont

Jan., 1999           Invited speaker at the Department of Physiology, University of Tennessee, Memphis, Tennessee

Feb., 1999           Invited speaker at the Department of Cell Biology and Physiology at the University of New Mexico Health Sciences Center School of Medicine, Albuquerque, New Mexico

Jun., 1999           Invited speaker at the 1999 Young Investigators Meeting for Angiotensin II Research, Merck & Co., Inc., West Point

Aug., 1999           Invited speaker at "DNA Array Technology Workshop", Michigan State University

Sep., 1999           Presenter at the 53th Annual Fall Conference of the Council for High Blood Pressure Research, Orlando

Feb., 2000           Invited speaker at Clinical Neuroscience Research Seminar, MSU

Apr., 2000           Invited speaker at the Featured Topic Session on Cardiovascular Regulatory Effects of Dietary Sodium, EB 2000, San Diego, CA

Apr., 2000           Invited speaker at the Department of Pharmacology & Toxicology, Michigan State University, Michigan.

May, 2000           Invited speaker at the Grand Rounds, Department of Medicine, MSU

Oct., 2000           Presenter at the 54th Annual Fall Conference of the Council for High Blood Pressure Research, Washington, D.C.



Mar., 2001	Invited speaker at the Michigan Life Science Corridor Annual Conference, Ann Arbor, Michigan
Apr., 2001	Invited speaker at the Department of Physiology, West Virginia University, Morgantown, West Virginia
Apr., 2001	Invited speaker at the Featured Topic Session on Neuronal Control of Renal Function, EB 2001, Orlando, Florida
Aug., 2001	Invited speaker at Research Forum of Cardiology, Dept. of Medicine, MSU
Aug., 2001	Invited speaker at 2001 Retreat of Cell and Molecular Biology/Genetic Program, MSU
Sep., 2001	Presenter at the 55th Annual Fall Conference of the Council for High Blood Pressure Research, Chicago.
Oct. 2001	Invited consultant at an Interactive Scientific Forum on "New Insights into the Role of Aldosterone Antagonism in Cardiovascular Disease", Florida.
Nov., 2001	Invited consultant at a "Pharmacia Thought-Leader" meeting, Newport Beach, California
Oct., 2001	Invited presentation at IEEE International Conference on Nanotechnology, Nanomanipulation Special Session, Maui, Hawaii
Apr., 2002	Invited presenter at the Feature Topic Session of Sensory Nerve Endings and Cardiovascular Regulation, Experimental Biology 2002, New Orleans.
May, 2002	Invited presenter at American Heart Association Research Symposium, Dallas, Texas
May, 2002	Invited speaker at 2002 SINO-US Symposium on Hi-Tech and Economic Developments, Houston, Texas
Sep., 2002	Presenter at the 56th Annual Fall Conference of the Council for High Blood Pressure Research, Florida
Mar. 2003	Invited speaker at the Department of Physiology, Medical College of Wisconsin, Milwaukee, Wisconsin
Apr. 2003	Invited speaker at the Department of Bioengineering and the Whitaker Institute of Biomedical Engineering, University of California, San Diego, California
Apr., 2003	Presenter at the Session of Sensory Nerve Function and Cardiovascular Regulation, Experimental Biology 2003, San Diego, California

- Apr. 2003            Presenter at the XVth Scientific Meeting of the Inter-American Society of Hypertension, San Antonio, Texas
- Aug. 2003            Invited speaker at the Retreat of the Cell and Molecular Biology Program of MSU, Lansing, Michigan
- Aug. 2003            Invited speaker at the Retreat of the Neuroscience Program of MSU, Lansing, Michigan
- Sep. 2003            Presenter at the 57th Annual Fall Conference of the Council for High Blood Pressure Research, Washington DC
- Oct. 2003            Invited guess discussant for the conference: "Discovering the Full Spectrum of Cardiovascular Disease Disparities: Featuring Cardiovascular Science & Healthcare Disparities and Minorities Summit 2003", Atlanta, Georgia
- Oct. 2003            Invited speaker at the Department of Internal Medicine, Northwestern University Medical School, Chicago.
- Feb. 2004            Invited speaker at the Department of Anatomy and Physiology, Wright State University, Dayton, Ohio
- Mar., 2004            Invited speaker at the Hypertension Center and the Department of Physiology and Functional Genomics, University of Florida
- Apr., 2004            Keynote speaker at the Inauguration Scientific Conference of ACRE, Washington DC
- Apr., 2004            Invited speaker at the Symposium of "Frontiers in Biomedical Research", SCBA conferences, Ohio
- Nov., 2004            Invited speaker at the Grand Rounds, Department of Medicine, MSU
- Mar., 2005            Featured speaker of the Session "Sensing Cardiovascular Homeostasis: Novel Molecules in Sensory Nerve Terminals", 35<sup>th</sup> International Congress of Physiological Sciences 2005, San Diego

## **B. INTERNATIONAL**

- Oct., 1991            Invited speaker at the International Symposium on Hypertension and Coronary Heart Disease, Beijing, P. R. China
- Jun., 1995            Presenter at the XI Scientific Meeting of the Inter-American Society of Hypertension, Montreal, Canada.
- Jun., 1996            Invited visiting Professor at Laboratory de Medicine Experimentale, College De France, INSERM, Paris, France

- Jun., 1996 Invited visiting Professor at Department of Pharmacology, University of Limberg, Maastricht, Netherlands
- Jun., 1996 Presenter at the conference of 16th International Society of Hypertension, Glasgow, The United Kingdom
- Mar., 1997 Presenter at the XII Scientific Meeting of the Inter-American Society of Hypertension, Mexico City, Mexico.
- Jun., 1997 Invited visiting professor at the Institut De Recherches Internationales Servier, Paris, France
- Jun., 1997 Invited visiting professor at the Department of Cardiology, UniversitätsSpital Zurich, Zurich, Switzerland
- Jun., 1997 Invited visiting professor at the Max Delbruck Center for Molecular Medicine, Berlin, Germany
- Jul., 1997 Invited visiting professor at the Department of Pharmacology, Christian-Albrechts-Universität Zu Kiel, Kiel, Germany
- Jul., 1997 Invited visiting professor at the Department of Cardiovascular Pharmacology, Astra Hassle, Gothenberg, Sweden
- Jul., 1997 Invited visiting professor at the Department of Physiology, Cardiovascular Research Institute at Maastricht, Maastricht, The Netherlands
- Jan., 1998 Invited visiting professor at the Sun Yat-Sen Medical University, Guangzhou, China
- May, 1998 Invited speaker at the 1<sup>st</sup> International Congress on "Function and Clinical Perspectives of Angiotensin AT1 Receptors: Cardiovascular and Renal Function in Health and Disease", Budapest, Hungary
- Dec., 1998 Invited presenter at the Symposia on "Hypertension: Flow-Induced Vascular Remodelling", Internet World Congress 98.
- Jan., 2000 Invited visiting professor at Fuwai Cardiovascular Institute, Peking Union Medical College & Chinese Academy of Medical Science, Beijing, China
- Jun., 2000 Invited speaker at the 2<sup>nd</sup> International Congress on "Angiotensin II Receptor Blockade – Effects Beyond Blood Pressure Control", Prague, Czech Republic.
- Jul., 2001 Invited speaker at 7<sup>th</sup> International Symposium on Resistance Artery, Ontario, Canada

- Sep. 2002            Invited presenter at the conference of Trends in Nanotechnology 2002, Santiago de Compostela, Spain
- Nov., 2002            Invited plenary speaker at VII International Society for Heart Research, Guangzhou, China
- Jan., 2003            Invited speaker at 3<sup>rd</sup> International Forum on Angiotensin II Receptor Antagonism, Monte-Carlo, Monaco
- Sep. 2003            Presenter at the 25<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Cancun, Mexico
- Nov. 2003            Invited plenary speaker at the 54<sup>th</sup> Annual Conference of Guangdong Society of Nephrology, Guangdong, China
- Dec. 2003            Invited visiting professor at the Department of Cardiovascular Sciences, Zhejiang University School of Medicine, Hangzhou, Zhejiang, China
- Dec. 2003            Invited visiting professor at Department of Pharmacology, the 2<sup>nd</sup> Shanghai Medical University, Shanghai, China
- Feb. 2004            Invited presenter at the V International Symposium of Vasoactive Peptides, Ouro Preto, Minas Gerais, Brazil
- Feb., 2004            Invited presenter at the 20<sup>th</sup> Scientific Meeting of the International Society of Hypertension, Sao Paulo, Brazil
- Jul., 2004            Invited speaker at the 8<sup>th</sup> Chinese Cardiovascular Pharmacology National Conference, Xinjiang, China
- Dec., 2004            Invited presenter at the International Conference on Intelligent Sensors, Sensor Networks and Information Processing, Melbourne, Australia

## **PUBLICATIONS:**

### **A. PUBLICATIONS IN PEER-REVIEWED JOURNALS AND INVITED REVIEW-ARTICLES**

1. **Wang DH**, Prewitt RL. Captopril reduces aortic and microvascular growth in hypertensive and normotensive rats. *Hypertension* 15:68-77, 1990.
2. **Wang DH**, Prewitt RL. Longitudinal study of captopril on aortic and arteriolar development in normotensive rats. *Am J Physiol (Heart & Circulatory Physiology)* 260(6):H1959-1965, 1991.
3. **Wang DH**, Prewitt RL. Microvascular development during normal growth and reduced blood flow: Introduction of a new model. *Am J Physiol (Heart & Circulatory Physiology)* 260(6):H1966-H1972, 1991.

4. **Wang DH**, Prewitt RL. Reduced aortic and arteriolar growth by captopril in normotensive and renal hypertensive rats. *Advance in Experimental Medicine and Biology*, 308:217-221, 1991
5. Prewitt, RL, **Wang DH**, Nakamura T, Smith EG. Growth and modification in number of resistance vessels. *The Resistance Vasculature*, ed. by J.A. Bevan, W. Halpern, and M. Mulvany. Clifton, NJ: Humana Press, Inc., 127-142, 1991.
6. Prewitt, RL, **Wang DH**. The importance of differences in the pressure profile of the arterial bed. *The Resistance Arteries: Structure and Function*. ed. by M. Mulvany. Amsterdam: Elsevier, 61-64, 1991.
7. **Wang DH**, Prewitt RL. Longitudinal study of captopril on aortic and arteriolar development in normotensive rats. *Chin. Med. J.* 105:896-899, 1992
8. **Wang DH**, Prewitt RL. Alterations of mature arterioles associated with chronically reduced blood flow. *Am J Physiol (Heart & Circulatory Physiology)* 264(33): H40-44, 1993.
9. **Wang DH**, Prewitt RL, Reilly CK. Altered autoregulatory mechanism in microvascular bed in renal hypertension: Role of the blood flow. *Am J Hypertension* 6:851-856; 1993.
10. Prewitt RL, **Wang DH**, Hill MA. Hypertension. *The Pathophysiology of the Microcirculation*. ed. by N.A. Mortillaro, A.E. Taylor, Florida: CRC Press, Inc. 61-86, 1994.
11. Prewitt RL, Reilly CK, **Wang DH**. Pressure-flow curves reflect arteriolar response in perfused rat hindquarters. *Hypertension* 23 (2):223-228; 1994.
12. Du Y, Yao A, Guo DF, Inagami T, **Wang DH**. Differential regulation of angiotensin II receptors in rat kidney by low dietary sodium. *Hypertension* 25(2):872-877, 1995.
13. **Wang DH**, Prewitt RL, Beebe SJ. Regulation of PDGF A: A possible mechanism for angiotensin II induced vascular growth. *Am J Physiol (Heart & Circulatory Physiology)* 269(38):H356-H364, 1995
14. Yao A, **Wang DH**. Heterogeneity of adenovirus-mediated gene transfer in cultured thoracic aorta and renal artery of rats. *Hypertension* 26(2):1046-1050, 1995
15. **Wang DH**, Du Y. Distinct Mechanisms of upregulation of type 1 angiotensin II receptor gene expression in kidney and adrenal gland. *Hypertension* 26(2):1134-1137, 1995
16. Supowit SC, Zhao HW, **Wang DH**, DiPette DJ. Regulation of neuronal calcitonin gene-related peptide: Role of increased blood pressure. *Hypertension* 26(2):1177-1180, 1995.
17. **Wang DH**, Du Y, Yao A. Sodium induced regulation of angiotensin receptor 1A and 1B

- in rat kidney. *Advances in Experimental Medicine and Biology*, 396: 33-37, 1996
18. **Wang DH**, Yao A, Zhao HW, DiPette DJ. Regulation of angiotensin II receptor gene expression in reduced renal mass hypertension: role of angiotensin II. *Am J Physiol (Heart & Circulatory Physiology)* 271 (40):H120-H125, 1996
  19. **Wang DH**, Du Y, Yao A. Regulation of gene encoding angiotensin II receptor in vascular tissue. *Microcirculation* 3 (2):237-239, 1996.
  20. Du Y, Guo DF, Inagami T, Speth RC, **Wang DH**. Regulation of angiotensin II receptor subtype and its gene expression in adrenal gland: role of type 1 angiotensin II receptor. *Am J Physiol (Heart & Circulatory Physiology)* 271(40):H440-H446, 1996
  21. **Wang DH**, Bukoski RD. Strategies for gene-based therapy of cardiovascular disease. *Current Pharmaceutical Design* 2, 485-500, 1996
  22. **Wang DH**, Du Y, Yao A. Regulation of type 1 angiotensin II receptor and its subtype gene expression in kidney by sodium loading and angiotensin II infusion. *J Hypertension* 14 (12):1409-1415, 1996
  23. **Wang DH**, Du Y, Zhao HW, Granger JP, Speth R, DiPette DJ: Regulation of Angiotensin type 1 receptor and its gene expression: role in renal growth. *J Am Soc Nephrology* 8:193-198, 1997
  24. Elijevich F, Zhao HW, Laffer CL, Du Y, DiPette DJ, Inagami T, **Wang DH**. Regulation of growth of the adrenal gland in DOC-salt hypertension: role of angiotensin II receptor subtypes. *Hypertension* 29(2):408-413, 1997
  25. **Wang DH**, Yao Y, Zhao HW, DiPette DJ. Distinct mechanisms of modulation of angiotensin II type 1 receptor gene expression in heart and aorta. *Hypertension* 29:1104-1108, 1997
  26. **Wang DH**, Qui JX, Hu ZY, Du Y. Regulation of type 1 angiotensin II receptor in adrenal gland: Role of  $\alpha$ 1-adrenoreceptor. *Hypertension* 30(3):345-349, 1997
  27. Du Y, Qiu JX, Nelson SH, **Wang DH**. Regulation of type 1 angiotensin II receptor mRNA in vascular tissue: Role of  $\alpha$ 1-adrenoreceptor. *Am J Physiol (Regulatory, Integrative & Comparative)* 273(42):R1224-R1229, 1997
  28. **Wang DH**, Du Y. Regulation of vascular angiotensin II receptor in hypertension and sodium loading: Role of Angiotensin II. *J Hypertension* 16:467-475, 1998
  29. **Wang DH**, Qiu JX. Differential regulation of angiotensin II receptor subtypes in the adrenal gland: role of aldosterone. *Hypertension* 32 (1):65-70, 1998
  30. **Wang DH**, Li JP, Qiu JX. Salt sensitive hypertension induced by sensory denervation: Introduction of a new model. *Hypertension, Rapid Communication* 32(4):649-653, 1998

31. **Wang DH**, Prewitt RL. Microvascular adaptations to reduced blood flow: Introduction of a new model. *Proceedings of INABIS 98*, <http://www.mcmaster.ca/inabis98>, 1998
32. Li JP, Zhao HW, DiPette DJ, Supowitt SC, **Wang DH**. Reciprocal role of the AT1 receptor in modulating renal and neuronal AT1 mRNA expression. *J Am Soc Nephrology*, 10(suppl 11):S18-S22, 1999
33. **Wang DH**, Li JP. Antihypertensive mechanisms underlying a novel salt sensitive hypertensive model induced by sensory denervation. *Hypertension* 33 (part II):499-503, 1999
34. Qiu JX, Nelson SH, Speth RC, **Wang DH**. Regulation of adrenal angiotensin receptor subtypes: a possible mechanism for sympathectomy induced adrenal hypertrophy. *J Hypertension* 17(7):933-940, 1999
35. **Wang DH**, Elijevich F. Modulation and function of extrarenal angiotensin II receptors. *Cell Biochemistry and Biophysics* 31:1-17, 1999
36. Good DW, George T, **Wang DH**. Angiotensin II inhibits HCO<sup>3-</sup> absorption via a cytochrome P450-dependent pathway in rat medullary thick ascending limb. *Am J Physiol (Renal Physiology)* 276(5 Pt 2):F726-736, 1999
37. **Wang DH**. Angiotensin Protocols, *Methods in Molecular Medicine*. Ed. Wang DH. Humana Press, NJ. 2000
38. Wu W, Yao A, **Wang DH**. Quantitation of angiotensin II receptors (AT1A and AT1B) by competitive reverse transcription-polymerase chain reaction. Angiotensin Protocols, *Methods in Molecular Medicine*. Ed. Wang DH. Humana Press, NJ. 195-204, 2000
39. Wu W, Zhang Y, Ballow J, Fink G, **Wang DH**. Development of hypertension induced by subpressor infusion of angiotensin II: Role of sensory nerves. *Hypertension* 36:549-552, 2000
40. **Wang DH**, Li JP. Regulation of angiotensin II receptors in the medullary thick ascending limb. *Molecular & Cellular Biochemistry* 212:211-217, 2000
41. **Wang DH**, Wu W, Lookingland KJ. Degeneration of capsaicin-sensitive sensory nerves leads to increased salt sensitivity via enhancement of sympathoexcitatory response. *Hypertension* 37(2 part 2),440-443, 2001
42. **Wang DH**, Huang Y. Development of salt sensitive hypertension in a sensory denervated model: the underlying mechanisms. *J Renin-Angiotensin-Aldosterone System* 2(1), 125-129, 2001
43. Huang Y, **Wang DH**. Role of AT1 and AT2 receptor subtypes in salt sensitive hypertension induced by sensory denervation. *J Hypertension* 19(10):1841-1846, 2001
44. Supowit S, Zhao HW, **Wang DH**, DiPette DJ. Omapatrilat in subtotal nephrectomy-salt

- hypertension: Role of sensory nerves. *Hypertension* 38(3 pt2): 697-700, 2001
45. Huang Y, **Wang DH**. Role of the renin-angiotensin-aldosterone system in salt sensitive hypertension induced by sensory denervation. *Am J Physiol (Heart & Circulatory Physiology)* 281 (5):H2143-H2149, 2001
  46. Ye D, **Wang DH**. Function and regulation of endothelin receptor subtypes in salt sensitive hypertension induced by sensory nerve degeneration. *Hypertension* 39 (2 pt 2), 673-678, 2002
  47. Li LX, Crockett E, **Wang DH**, Galligan JJ, Fink GD, Chen AF. Gene transfer of eNOS and MnSOD on arterial VCAM-1 expression and superoxide production in DOCA-salt hypertension. *Arteriosclerosis, Thrombosis, and Vascular Biology* 22:249-255, 2002
  48. **Wang DH**, Zhao YZ. Increased salt sensitivity induced by impairment of sensory nerves: is nephropathy the cause? *J Hypertension* 21(2);403-409, 2003
  49. Li JP, **Wang DH**. High salt induced-increase in blood pressure: Role of capsaicin-sensitive sensory nerves. *J Hypertension* 21(3);577-582, 2003
  50. Li JP, Kaminski NE, **Wang DH**. Anandamide-induced depressor effect in spontaneously hypertensive rats: role of the vanilloid receptor (VR1). *Hypertension* 41(2);757-762, 2003
  51. Vaishnava P, **Wang DH**. Capsaicin sensitive-sensory nerves and blood pressure regulation. *Current Medicinal Chemistry* 1(2):177-188, 2003
  52. Li JP, **Wang DH**. Function and regulation of the vanilloid receptor in rat fed a high salt diet. *J Hypertension* 21(8):1525-1530, 2003
  53. Li GY, Xi N, Yu MM, Li JP, **Wang DH**. Manipulating nanoscale biological specimen in liquid. *Nanotechnology* 2:68-71, 2003
  54. Li GY, Xi N, Yu MM, Li JP, **Wang DH**. Manipulation of living cells by atomic force microscopy. *Proceedings of IEEE/ASME on Advanced Intelligent Mechatronics*, 862-867, 2003
  55. Goolsby B, Chen Q, Udpa L, Fan Y, Samona R, Bhooravan B, Salam FM, **Wang DH**, Ayres VM. Scanning probe microscopy with landmark referenced control for direct biological investigation. *J Nanoscience and Nanotechnology* 3(4):347-350, 2003
  56. Li JP, Zhou HW, Supowit SC, DiPette DJ, **Wang DH**. Activation of the renin-angiotensin system in a-CGRP/CT gene knockout mice. *J Hypertension* 22(7):1345-1349, 2004
  57. Wang YP, **Wang DH**. Endogenous CGRP plays a compensatory role in preventing endothelin-induced hypertension. *Am J Physiol (Heart & Circulatory Physiology)* 287(4):H1868-74, 2004



58. Li JP, **Wang DH**. Development of angiotensin II induced hypertension: Role of CGRP and its receptor. *J Hypertension* (in press)
59. Song WZ, Chen A, **Wang DH**. Increased salt sensitivity induced by impairment of sensory nerves: role of superoxide. *Acta Pharmacologica Sinica* (in press)
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## B. INVITED REVIEW-ARTICLES, BOOK CHAPTERS, AND BOOKS

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### C. ABSTRACTS:

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