CURRICULUM VITAE
Robin L. Davisson, PhD

Education & Training

1988 BS (Psychology; Honors and High Distinction), University of Iowa
1991 MA (Psychology [Biological Psychology]), University of Iowa
1991-92 Norwegian Marshall Fund Graduate Trainee, Department of Physiology, Oslo University, Oslo, Norway
1994 PhD (Pharmacology), University of Iowa
1994-98 Postdoctoral Fellow, Iowa Cardiovascular Research Center and Center for Hypertension Genomics, University of Iowa

Positions & Employment

1998-04 Assistant Professor, Department of Anatomy and Cell Biology, University of Iowa
2002-04 Assistant Professor, Free Radical Biology Program, University of Iowa
2002-04 Assistant Professor, Neuroscience Program, University of Iowa
2004-06 Associate Professor (with tenure), Anatomy and Cell Biology, Free Radical Biology Program and Neuroscience Program, University of Iowa
2006-pres Professor, Biomedical Sciences (College of Veterinary Medicine) & Cell and Developmental Biology (Weill Cornell Medical College), Cornell University
2012-pres The Andrew Dickson White Professor of Molecular Physiology, Cornell University

Honors & Awards

Undergraduate

1988 Phi Beta Kappa, University of Iowa

Graduate

1991 Norwegian Marshall Fund Award for Graduate Study Abroad
1993,94 Caroline tum Suden Professional Opportunity Award, American Physiological Society
1993 New Investigator Award for Excellence in Cardiovascular Research, American Heart Association
1994 Young Investigator Award, Conference on Functional and Structural Aspects of the Vascular Wall, American Heart Association

Postdoctoral

1994-96 Michael J. Brody Fellowship for Cardiovascular Research, Iowa Cardiovascular Research Center
1996 New Investigator Award, International Society of Hypertension
1997 Young Investigator Award, American Society of Hypertension

Faculty

1999-pres Fellow, American Heart Association
2001 New Investigator Award, International Union of Physiological Sciences
2002 Young Investigator Award in Regulatory and Integrative Physiology, American Physiological Society
2002 Young Scholars Award, American Society of Hypertension
2002 Harry Goldblatt Award in Cardiovascular Research, American Heart Association
2004 Henry Pickering Bowditch Award, American Physiological Society
2005-09 Established Investigator of the American Heart Association
2005 2005 Outstanding Mentor Award in Biological & Life Sciences, University of Iowa
2008 Student's Choice Speaker, Medical College of Wisconsin
2012 Honored Speaker, 9th Annual Graduate Student Colloquium, LSU Health Sciences Center
2012 Arthur C. Corcoran Memorial Award, American Heart Association
2014-pres Fellow, American Association for the Advancement of Science (AAAS)

Areas of Research Interest and Specific Projects

1) Central Neural Regulation of Cardiovascular Function in Health and Disease

- Redox signaling in central neural control of arterial blood pressure and cardiac function under physiological conditions and in the pathogenesis of hypertension and heart failure
- Brain endoplasmic reticulum stress in the pathogenesis of angiotensin-dependent and diet-induced obesity hypertension
- Prostanoid signaling in the brain and hypertension
- Regional and cellular significance of the brain renin-angiotensin system under normal conditions and in hypertension
- Development and deployment of novel methods for selective gene transfer to cardiovascular circuits of the brain in mice to induce targeted gene overexpression, deletion, silencing, etc. using e.g. cre-loxP, siRNA, etc. combined with various viral vectors
- Gene discovery in cardiovascular control centers of the brain

2) Molecular Pathophysiology of Preeclampsia

- Identification and characterization of the first animal model to spontaneously develop preeclampsia (BPH/5)
- Placental vascular development defects in preeclampsia
- Oxidative and endoplasmic reticulum stress in the placenta and preeclampsia
- Role of VEGF in preeclampsia
- Peri-implantation defects in placental development and preeclampsia
- Microarray-based miRNA profiling of placentas from preeclamptic BPH/5
- Identification of early gestation biomarkers for preeclampsia using the BPH/5 model
- Mapping preeclampsia loci in BPH/5
- Inflammation and obesity in preeclampsia
- Reciprocal embryo transfers and blastocyst-specific gene transfer methodology

3) Molecular Determinants of Cardiac Disease

- Oxidative stress in pressure overload-induced cardiac hypertrophy and failure
- Role of reactive oxygen species in the regenerative capacity of c-kit+ cardiac progenitors
- Stem cell transplantation as a means for improving the architecture and function of the infarcted myocardium

Areas of Education Focus and Specific Projects

1) Development and implementation of certification of teaching skills for graduate and health professional students

- Creation of the Certificate in College Teaching for graduate and health professional students at the University of Iowa Graduate College and director of the program in Department of Anatomy and Cell Biology
- Development of the Graduate Teaching Fellowship Program leading to a certificate in university teaching at Cornell University and director of the program in the Cornell University College of Veterinary Medicine and Graduate Program in Biological and Biomedical Sciences, encompassing multiple graduate fields and aimed at graduate and health professional students

2) Training graduate students, postdoctoral trainees, residents, fellows and early-career faculty in broad skills relevant to research careers

- Development of the course “Survival Skills for a Research Career” at the University of Iowa, covering skills for successful grant and manuscript writing/ review, mentoring, time management, intellectual property/technology transfer and other topics not consistently covered in disparate graduate and health professional curricula
- Creation of a graduate and health professional workshop series at Cornell University, covering a similarly broad range of skills necessary for a successful research career, regardless of specific field

Graduate/Professional Education Activities

Teaching

2000-06 Functional Genomic Analysis of Disease (60:208); course developer, director and lecturer
2000-06 Survival Skills for a Research Career (60:204); course developer, director and lecturer
2001-06 Neuroscience for Dental Students (60:101); lecturer
2002-06 Principles of Cell and Molecular Biology (156:201); small group discussion facilitator
2007-pres Science and Technology Approaches to Problems in Human Health (BME411); lecturer
2008-pres Vasoactive Substances and Blood Pressure Regulation (Block III); lecturer
2010-pres Survival Skills for a Research Career (graduate and health professional student workshop series); course developer, director and lecturer

Graduate Administrative Activities

1999-06 Biosciences Advisory Committee
2000-04 Neuroscience Recruitment and Admissions Committee
2000-06 Medical Scientist Training Program (MSTP) Admissions Committee
2001-06 Director, Summer Undergraduate MSTP Research Program (SUMR)
2005-06 Director, Graduate Program in Anatomy and Cell Biology
2005-06 Director, Anatomy and Cell Biology Graduate Certificate in College Teaching Program
2007-pres Director of Graduate Studies, Field of Molecular and Integrative Physiology
2007-pres Biological and Biomedical Sciences Recruitment and Admissions Committee
2011-pres Director, Biological and Biomedical Sciences Graduate Teaching Fellowship Program

Graduate Program Membership

1998-06 Department of Anatomy and Cell Biology
1999-06 MSTP Program
2002-06 Neuroscience Program
2002-06 Free Radical Biology Program
2006-pres Field of Molecular and Integrative Physiology
2007-pres Field of Pharmacology
2007-pres Program in Cell Biology and Genetics, Weill Cornell Graduate School
2009-pres Field of Environmental Toxicology

Graduate Committee Activities ~ 1998 to present

25 Comprehensive Examination (A exam) Committees
27 PhD Thesis Committees

Past & Current Trainees ~ 1998 to present

Trainee Name	Type	Training Period	Honors & Awards (while in lab)	Source of Training Support OR Current Position
Current Trainees				
Christa Heyward	Post-doc	2013-pres	Reproductive Sciences and Genomics Training Program Fellowship, 2013	Reproductive Sciences and Genomics Training Program
Ana Valbuena-Diez	Post-doc	2013-pres		NIH R01
Pallabi Sarkar	Post-doc	2012-pres	Fellow, NYAS NeXXT Scholars Program 2013-2014	NIH R01
Past Trainees				
Colin Young	Post-doc	2010-2014	Genomics Scholars Award, Cornell Center for Vertebrate Genomics, 2010 ● APS Postdoctoral Fellowship, 2011 ● Michael J. Brody Award for Cardiovascular Research, American Physiological Society, 2011 ● Trainee Research Recognition in Physiological Genomics, American Physiological Society, 2012 ● New Investigator Award, Council for High Blood Pressure Research (American Heart Association), 2012 ● Best of American Heart Association Specialty Conferences Award, 2012 ● American Heart Association Postdoctoral Fellowship, 2013 ● NIH K99/R00, 2013 ● Dean Franklin Young Investigator Award, American Physiological Society, 2014	Assistant Professor, Department of Pharmacology and Physiology, George Washington University
Shari Gelber	Post-doc	2008-2014	March of Dimes/NICHD Scholar of the Reproductive Scientist Development Program	Assistant Professor, Obstetrics and Gynecology, Weill Cornell Medical College
Xian Cao	Post-doc	2008-11	American Heart Association Postdoctoral Fellowship, 2010 ● New Investigator Award, Council for High Blood Pressure Research (American Heart Association), 2010 ● Best of American Heart Association Specialty Conferences, 2010	Associate Director of Medical Affairs, Merck, Beijing, China
Melissa Burmeister	Post-doc	2006-09	Caroline tum Suden Professional Opportunity Award, 2006, 2007 ● Merck New Investigator Award, American Heart Association, 2007 ● Liaison with Industry Novel Disease Model Award, Experimental Biology Conference, 2008	Staff Scientist, Burnham Institute for Medical Research, Orlando, FL

Jennifer Marden	Post-doc	2007-09		Senior Research Technician, Skirball Institute of Biomolecular Medicine, NYU Medical Center
Valdir Braga	Post-doc	2007-08	Research Recognition Award from the Central Nervous System Section of the American Physiological Society, 2008 ● New Investigator Award, Council for High Blood Pressure Research (American Heart Association), 2008	Professor of Physiology and Chair of the Department of Veterinary Sciences at the Federal University of Paraiba-Brazil
Christine Weydert	Post-doc	2004-06	New Investigator Award, American Heart Association, 2005	Affiliate Faculty, Genetics, Development and Cell Biology, Iowa State University
Zhenbo Li	Post-doc	2001-03	Caroline turn Suden/Frances Hellebrandt Professional Opportunity Award, American Physiological Society, 2003	Assistant Research Scientist, Department of Systems Biology & Translational Medicine, Texas A&M
Eric Lazartigues	Post-doc	2000-05	Servier Distinguished Young Investigator Award for International Unions of Physiological Sciences, 2001 ● Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2002, 2003 ● Pharmacia New Investigator Award, American Heart Association, 2002 ● Inter-American Society of Hypertension and NHLBI, 2003 ● New Investigator Award, American Physiological Society, 2003 ● Research Recognition Award, American Physiological Society, 2004 ● New Investigator Award, American Heart Association, 2005	Associate Professor, Department of Pharmacology, LSU Health Sciences Center
Puspha Sinnayah	Post-doc	2000-04	Award for Postdoctoral Research Excellence, University of Iowa College of Medicine Research Week, 2002, 2004 ● New Investigator Award, American Heart Association, 2003	Lecturer, School of Biomedical & Health Sciences, Victoria University, Australia
Angela Loihl	Post-doc	1998-99	New Investigator Award, American Heart Association, 1999	Licensing Officer, Technology Transfer, University of Washington

Jenny Sones	Grad Student	2011-2015	Young Investigator Speaker at New York Academy of Sciences Conference on Fetal Programming, New York City, June 2012 ● American Heart Association Fellowship, 2012 ● Award for Oral Presentation at the 12th Annual Biological and Biomedical Sciences Symposium, Cornell University, 2013 ● Selected Investigator Speaker at the Data Diuresis Session during the April 2014 Experimental Biology Conference in San Diego, CA ● John and Joyce Wootton Fund Award for Graduate Education in Physiology, 2014 ● New Investigator Award, Council for High Blood Pressure Research (American Heart Association), 2014 ● Best of American Heart Association Specialty Conferences Award, 2014	Research Associate, Department of Biomedical Sciences, Cornell University
Aly Spealman Nadworny	Grad Student	2006-12	Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award, American Physiological Society, 2009 ● American Association of Anatomists (AAA) Langman Graduate Student Platform Presentation Award, 2010 ● American Heart Association Predoctoral Fellowship, 2010 ● Stanly Stahl Research Fellow, American Heart Association, 2010	Maternity Leave
Ashley Woods	Grad Student	2006-11	Biological and Biomedical Sciences Graduate Recruitment Poster Session Award, 2008 ● Field of Pharmacology Poster Award, 2008 ● American Heart Association Predoctoral Fellowship, 2009-2011	Principal Investigator, California Institute of Biomedical Research
Jeffrey Peterson (MSTP)	Grad Student	2005-10	New Investigator Award, American Heart Association, 2006 ● Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award, American Physiological Society, 2008 ● NIH National Research Service Award Individual Fellowship, 2008-2010	Internship, University of Michigan; Residency in Ophthalmology, Baylor University
David Infanger	Grad Student	2004-09	Mary J. C. Hendrix Graduate Leadership Award, 2006 ● Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2005, 2006, 2007, 2008 ● American Heart Association Predoctoral Fellowship, 2007-2009	Director of Research and Development, Seryz Biomedical
Timothy Lindley (MSTP)	Grad Student	2001-04	Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2002, 2003, 2004 ● New Investigator Award, American Heart Association, 2003	Physician, Neurosurgery, Sanford Health, Fargo, ND

Darren Hoffmann	Grad Student	2000-06	Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2002, 2003, 2004, 2006 ● Novel Animal Model of Disease Award for Graduate Students, American Physiological Society, 2002 ● New Investigator Award, American Heart Association, 2002 ● Award for Graduate Research Excellence, University of Iowa College of Medicine Research Week, 2004 ● Woodrow Wilson-Johnson & Johnson Women's Health Fellowship Award ● New Investigator Award, American Heart Association, 2005 ● New Investigator Award, American Physiological Society, 2006	Senior Lecturer, Anatomy & Cell Biology, University of Iowa
Matthew Zimmerman	Grad Student	1999-04	New Investigator Award, American Heart Association, 2001 ● Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2001, 2002 ● Young Investigator Travel Award, FASEB Summer Conference, 2002, 2004 ● New Investigator Award, American Heart Association, 2000 ● Proctor & Gamble Young Investigator Award, American Physiological Society, 2003, 2004 ● Graduate Deans' Distinguished Dissertation Award, 2005	Associate Professor, Department of Cellular and Integrative Physiology, University of Nebraska Medical Center (Omaha)
Shawn Hingtgen	Grad Student	1999-04	New Investigator Award, American Heart Association, 2001 ● Caroline tum Suden Professional Opportunity Award, American Physiological Society, 2003, 2004 ● NIH/NIDDK Minority Travel Award, American Physiological Society, 2003, 2004 ● Award for Graduate Research Excellence, University of Iowa College of Medicine Research Week, 2004	Assistant Professor, Department of Molecular Pharmaceuticals, University of North Carolina, Chapel Hill

Research Support

Current (direct costs listed)

5 R01 HL63887-13 Davisson (PI) 7/15/11-4/30/15
NIH/NHLBI Competitive Renewal
"Oxidant Stress in the Brain and Hypertension"
$238,000/yr

NIH/NHLBI 5P01 HL096571-06 Davisson (PI, Project 1) 7/1/09 - 6/30/14*
PPG: "Forebrain Plasticity in Hypertension" (Iadecola, PPG Director)
Project 1: "Hypertension and Prostanoid Signaling in the Subfornical Organ of the Brain"
*No Cost Extension

NIH/NHLBI 5P01 HL096571-06 Davisson (PI, Core D) 7/1/09 - 6/30/14*
PPG: "Forebrain Plasticity in Hypertension" (Iadecola, PPG Director)
Core D: Telemetry Core Laboratory
*No Cost Extension

NIH/NHLBI 2 P01 HL084207-07 Davisson (PI, Project 1) 4/1/13-3/31/18

PPG: "Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure (Sigmund, PPG Director)
Project 1: "Brain Angiotensin in Obesity-Induced Hypertension: Role of ER Stress, Oxidant Stress and Leptin" (Davisson, PI)
$276,500/yr

NIH/NHLBI 2 P01 HL084207-07 Davisson (Co-PI, Core B) 4/1/13-3/31/18
PPG: "Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure (Sigmund, PPG Director)
Core B: Neuroanatomy and Neurophysiology
$20,921/yr

March of Dimes Stuhlmann (PI); Davisson (Co-PI) 6/1/14-5/31/17
Role of EGFL7 in Implantation, Placental Development and Pre-eclampsia
$34,507/yr

AHA12SDG9160010 Lob (PI); Davisson (Sponsor) 1/1/12-12/31/15
Scientist Development Grant
"Central Mechanisms of Angiotensin-Dependent Hypertension: NADPH Oxidase Isoforms and Endoplasmic Reticulum Stress"
$77,000/yr

NIH/NHLBI 1 K99 HL116776-01A1 Young (PI); Davisson (Sponsor) 8/8/13-7/31/15
"Role of Central Neural NFκB and ER Stress in Obesity-Induced Hypertension"
$80,659/yr

Completed (last 5 years)

AHA12POST11250010 Sones (PI); Davisson (Sponsor) 7/1/12-6/30/14
Postdoctoral Fellowship
"Role of Asynchronous Embryo-Uterine Interactions During the Peri-Implantation period in a Mouse Model of Preeclampsia"
$47,000/yr

2K12HD00849-22 Gelber (PI); Davisson (Sponsor) 7/1/09 - 6/30/14
March of Dimes-NICHD Scholar of the Reproductive Scientist Development Program
"Role of Complement in the Development of Preeclampsia in a Mouse Model"
$100,000/yr

NIH/NHLBI 1R01 HL098351-03 Milner (PI); Davisson (Co-Investigator) 2/15/11-1/31/14
"Menopausal Changes in Hypothalamus and Hypertension Susceptibility"
$13,400/yr

NPRP09-1099-279 Davisson (Co-PI) 12/1/10-12/31/13
Qatar National Research Fund
"Abnormalities in Bone Development Associated with Pre-eclampsia"
$99,439/yr

NIH/NHLBI 5R01 HL084624-05 Davisson (PI) 9/1/06 - 6/30/12
"Role of Redox-Mediated Activation of NFκB and AP-1 in Neurogenic Hypertension"
$319,545/yr
5 P01 HL084207-05 Davisson (PI of Consortium)

NIH/NHLBI-University of Iowa (Sigmund PPG Director) 6/1/07-5/31/13

Subaward - 10006614495
“Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure”
$59,823/yr

AHA13POST14410020 Young (PI); Davisson (Sponsor) 1/1/13-12/31/14
Postdoctoral Fellowship
“Dissecting the Role of Brain NFkB in Obesity-Induced Hypertension”
$44,000/yr

APS Postdoctoral Fellowship Young (PI); Davisson (Sponsor) 7/1/11-6/30/13
In Physiological Genomics
“Dissecting the Role of Endoplasmic Retriculum Stress and NFkB Activation in Neurogenic Hypertension”
$39,500/yr

AHA10PRE3450014 Spealman (PI); Davisson (Sponsor) 7/1/10-6/30/12
Predoctoral Fellowship
"C-kit+ Cells Exhibit a Unique Redox-Related Molecular Profile that Confers Stemness and Drives Differentiation"
$22,000/yr

Cornell Center for Vertebrate Genomics Young (PI); Davisson (Sponsor) 1/1/11-12/31/11
2010 Genomics Scholars Award
Dissecting the Role of Endoplasmic Reticulum Stress and NFkB Activation in Hypertension
$25,000/yr

Cornell Center for Vertebrate Genomics Davisson (PI) 12/1/10-11/30/11
Developing Novel Tools to Dissect the Functional Role of miRNAs in Cardiovascular Regulatory Circuits of Murine Brain
$4,000/yr

NIH/NHLBI 5R01 HL63887-9 Davisson (PI) 9/1/06 - 6/30/11
“Oxidant Stress in the Brain and Hypertension”
$218,475/yr

AHA09PRE2120035 Woods (PI); Davisson (Sponsor) 7/1/09-6/30/11
Predoctoral Fellowship
"Dissecting the Maternal, Paternal and Fetoplacental Role in the Development of Pre-clampsia in a Mouse Model, BPH/5"
$21,000/yr

AHA10POST3450044 Cao (PI); Davisson (Sponsor) 7/1/10-1/31/11
Postdoctoral Fellowship
"Role of Endoplasmic Reticulum Stress in the Subfornical Organ of the Brain in Slow-Pressor Angiotensin-II Hypertension"
$43,000/yr

AHA0540114N Davisson (PI) 1/1/05 - 12/31/09
AHA Established Investigator Award
“Oxidative Stress-Induced Neuro-Cardiovascular Dysfunction in Heart Failure”
$90,909/yr

Cornell University/Multi-Departmental Research Award 2008 (Davisson-PI, O'Brien-PI)
"Human and Murine Models to Assess the Impact of Maternal Iron Status on
Pre-eclampsia"
$50,000/yr

Selected Invited Presentations (from more than 60 since 2000)

2015 "Hypertension and the Brain. What Are We Thinking?," Experimental Biology 2015, Boston, MA

2014 “ER and Oxidative Stress in the Brain: Key Switches for Hypertension,” Annual Meeting of Council for High Blood Pressure Research, American Heart Association, San Francisco, CA

2013 “ER Stress, Oxidant Stress, and Hypertension: It’s All in your Head,” Department of Pharmacology, University of Iowa Carver College of Medicine, Iowa City, IA

2013 “Food and Health: A Tremendous Challenge for the 21st Century,” Panel on Food, Health and Nutrition, Association of American Universities (AAU), Washington, DC

2012 “Endoplasmic Reticulum Stress in the Brain as a Novel Mechanism of Hypertension: A Tale of Scientific Discovery in a Robust Research Ecosystem,” Arthur C. Corcoran Memorial Lecture, Annual Meeting of Council for High Blood Pressure Research, American Heart Association, Washington, DC

2012 “ER Stress, Oxidant Stress, and Hypertension: It’s All in your Head,” Honored Guest Speaker for the Ninth Annual Graduate Student Colloquium, Louisiana State University Health Sciences Center, New Orleans, LA

2012 “ER Stress, Oxidant Stress, and Hypertension: It’s All in Your Head,” Cardiovascular Medicine Seminar Series, The Mandel Center for Hypertension and Atherosclerosis, Duke University Medical Center, Durham, NC

2012 “NOX Regulation of Blood Pressure: It’s All in Your Head”, Gordon Research Conference, “NOX Biology and its Translation to Human Disease and Therapy,” Waterville Valley Resort, NH

2011 “Oxidant Stress in the Brain and Hypertension,” Annual Meeting of Council for High Blood Pressure Research, American Heart Association, Orlando, FL

2011 "Endoplasmic Reticulum Stress, Oxidative Stress, and Hypertension: It's all in your Head, " Experimental Biology 2011, Washington, DC

2010 “Relative Contribution of the Various Nox Homologues to the Brain RAS-Dependent Hypertension and Heart Failure,” American Heart Association Scientific Sessions 2010, Chicago, IL

2010 "Dissecting New Signaling Pathways in Forebrain Cardiovascular Circuits Using Viral Vectors for Gene Transfer," FASEB Summer Research Conference, Saxtons River, VT

2010 "Angiotensin, Oxidant Stress and Hypertension: It's All in Your Head," Vascular Biology Center, Medical College of Georgia, Augusta, GA

2010 "Angiotensin, Oxidant Stress and Hypertension: It's All in Your Head," Department of Molecular Pharmacology, Albert Einstein College of Medicine, New York, NY

2010 “Superoxide Signaling in the Forebrain and Hypertension,” Experimental Biology 2010, Anaheim, CA

2009 "Molecular Pathogenesis of Pre-eclampsia in the BPH/5 Mouse Model," Samuel Lunenfeld Research Institute of Mount Sinai Hospital, Toronto, Canada

2009 "Oxidant Stress, Prostanoids and Hypertension: It's All in Your Head," Department of Physiology, University of Arizona, Tucson, AZ

2009 "Oxidant Stress, Prostanoids and Hypertension: It's All in Your Head," Roswell Park Cancer Institute, Molecular and Developmental Genetics Seminar, Buffalo, NY

2008 "Redox Control of Central Neuro-Cardiovascular Function and Disease," Annual Society for Free Radical Biology and Medicine Research Conference (SFRBM), Indianapolis, IN

2008 "Molecular Pathogenesis of Preeclampsia in the BPH/5 Mouse Model," Department of Anatomy and Cell Biology, Queen's University, Kingston, Ontario, Canada

2008 "Oxidant Stress in the Brain and Hypertension," Department of Physiology, New York Medical College, Valhalla, NY

2008 "Pathogenesis of Preeclampsia in the BPH/5 Mouse Model," International Society for the Study of Hypertension in Pregnancy (ISSHP) World Congress, Washington, DC

2008 "Molecular Pathogenesis of Preeclampsia in a Mouse Model, BPH/5," Weill Cornell Medical College-Qatar, Doha, Qatar

2008 "Physiological Genomic Analysis of Cardiovascular Disease," 2008 Student Choice Speaker, Department of Physiology, Medical College of Wisconsin, Milwaukee, WI

2008 "Physiological Genomic Analysis of Cardiovascular Disease," Mandel Foundation for Hypertension and Atherosclerosis Seminar, Duke University, Durham, NC

2007 "Role of the Brain in Ang II-Dependent Hypertension," Inter-American Society of Hypertension Conference, Miami, FL

2006 "Oxidant Stress in the Brain and Hypertension," Department of Comparative Bioscience, University of Minnesota, St. Paul, MN

2006 "Gender Equity in Science and Engineering: An Individual Faculty Prospective," Panel on Women in Academic Science and Engineering, Association of American Universities (AAU), Rochester, NY

2006 "Oxidant Stress in the Brain in Angiotension II-dependent Cardiovascular Diseases," Gordon Research Conference on Angiotension, Aussois, France

2006 "Oxidant Stress in the Brain and Hypertension," Special Symposium on Reactive Oxygen Species, University of Kentucky, Lexington KY

2005 "Oxidant Stress in the Brain and Hypertension," Workshop on Emerging Concepts of Neural Interactions in Hypertension, Annual Meeting of Council for High Blood Pressure Research, American Heart Association, Washington, DC

2005 "Oxidant Stress in the Brain and Cardiovascular Disease," XXXV International Congress of Physiological Sciences, Christchurch, New Zealand

2004 "Unraveling Cardiovascular Disease Through Physiological Genomics," Bowditch Award Lecture, American Physiological Society, Washington, DC

2004 "Oxidative Stress in the Brain and Cardiovascular Disease," 12th Biennial Meeting of the Society for Free Radical Research International, Buenos Aires, Argentina

2003 "Redox Signaling in Central Neural Regulation of Cardiovascular Function," International Symposium on Neurohumoral Control of Cardiovascular Function, Bristol, England

2003 "A Genetic Model of Preeclampsia in the Mouse," Inter-American Society of Hypertension, San Antonio, TX

2002 "Oxidant Signaling in Central Control of Blood Pressure," International Society of Hypertension, Prague, Czech Repulic

2002 "Functional Genomic Analysis of the Cardiovascular System in Health and Disease," Young Investigator Award Lecture, American Physiological Society, New Orleans, LA

2002 "Molecular Pathogenesis of Preeclampsia in a New Genetic Mouse Model," Young Scholars Award Lecture, 17th Scientific Meeting of the American Society of Hypertension, New York, NY

2000 "A Genetic Model of Preeclampsia in the Mouse," American Society of Nephrology, Philadelphia, PA

Bibliography

Original Investigations in Peer-reviewed Journals

1) Davisson, R.L., Walton, T.M., Johnson, A.K. and Lewis, S.J. Cardiovascular effects produced by systemic injections of nitro blue tetrazolium (NBT) in the rat. *Eur. J. Pharmacol*. 241:135-137, 1993.
2) Davisson, R.L., Johnson, A.K. and Lewis, S.J. Nitrosyl factors mediate active neurogenic hindquarter vasodilation in the conscious rat. *Hypertension* 23:962-966, 1994.
3) Davisson, R.L., Bates, J.N., Johnson, A.K. and Lewis, S.J. Use-dependent loss of acetylcholine- and bradykinin-mediated vasodilation following nitric oxide synthase inhibition: Evidence for preformed stores of nitric oxide-containing factors in vascular endothelial cells. *Hypertension* 28:354-360, 1996.
4) Davisson, R.L., Shaffer, R.A., Johnson, A.K. and Lewis, S.J. Use-dependent loss of active sympathetic neurogenic vasodilation following nitric oxide synthase inhibition in conscious rats: Evidence for the presence of preformed stores of nitric oxide-containing factors. *Hypertension* 28:347-353, 1996.
5) Davisson, R.L., Shaffer, R.A., Johnson, A.K. and Lewis, S.J. Stimulation of lumbar sympathetic nerves may produce hindlimb vasodilation via the release of pre-formed stores of nitrosyl factors. *Neuroscience* 72:881-887, 1996.
6) Davisson, R.L., Travis, M.D., Bates, J.N. and Lewis, S.J. Hemodynamic effects of L- and D-S-nitrosocysteine in the rat. *Circ. Res.* 79:256-262, 1996.
7) Davisson, R.L., Nuutinen, N., Coleman, S.R. and Sigmund, C.D. Inappropriate splicing of a chimeric gene containing a large internal exon results in exon skipping in transgenic mice. *Nucleic Acids Res*. 24:4023-4028, 1996.
8) Davisson, R.L., Possas, O., Murphy, S.P. and Lewis, S.J. Neurogenically-derived nitrosyl factors mediate lumbar sympathetic vasodilation in the hindlimb vasculature of the rat. *Am. J. Physiol.* 272:H2369-H2376, 1997.
9) Davisson, R.L., Travis, M.D., Bates, J.N., Johnson, A.K. and Lewis, S.J. Stereoselective actions of S-nitrosocysteine in the central nervous system of conscious rats. *Am. J. Physiol.* 272:H2361-H2368, 1997.
10) Travis, M.D., Davisson, R.L., Bates, J.N. and Lewis, S.J. Hemodynamic effects of L- and D-S-nitroso-β,β-dimethylcysteine in the rat. *Am. J. Physiol.* 273:H1493-H1501, 1997.
11) Chatterjee, T.K., Xuebo, L., Davisson, R.L. and Fisher, R.A. Structural organization of the rat pituitary adenylate cyclase activating polypeptide (PACAP) receptor gene: evidence for alternative splicing in the 5'-untranslated region. *J. Biol. Chem*. 272:12122-12131, 1997.
12) Davisson, R.L., Kim, H.S., Krege, J.H., Lager, D.J., Smithies, O. and Sigmund, C.D. Complementation of reduced survival, hypotension and renal abnormalities in angiotensinogen deficient mice by the human renin and human angiotensinogen genes. *J. Clin. Invest.* 99:1258-1264, 1997.
13) Ding, Y., Davisson, R.L., Hardy, D.O., Zhu, Li-Ji, Merrill, D.C., Catterall, J.F. and Sigmund, C.D. The kidney androgen-regulated protein promoter confers renal proximal tubule cell-specific and highly androgen-responsive expression on the human angiotensinogen gene in transgenic mice. *J. Biol. Chem.* 272:28142-28148, 1997.

14) Colombari, E., Davisson, R.L., Shaffer, R.A., Talman, W.T. and Lewis, S.J. Hemodynamic effects of L-glutamate in the NTS of conscious rats: a possible role of vascular nitrosyl factors. *Am. J. Physiol*. 274:H1066-H1074, 1998.
15) Davisson, R.L., Yang, G., Beltz, T.G., Johnson, A.K. and Sigmund, C.D. The brain renin-angiotensin system contributes to the hypertension in mice containing both the human renin and human angiotensinogen transgenes. *Circ. Res.* 83:1047-1058, 1998.
16) Davisson, R.L., Ding, Y., Hardy, D.O., Zhu, Li-Ji, Catterall, J.C. and Sigmund, C.D. Novel mechanism of hypertension revealed by cell-specific targeting of human angiotensinogen in transgenic mice. *Physiol. Genomics* 1:3-9, 1999.
17) Stec, D.E., Davisson, R.L., Haskell, R.E., Davidson, B.L. and Sigmund, C.D. Efficient liver-specific deletion of a floxed human angiotensinogen transgene by adenoviral delivery of cre-recombinase in vivo. *J. Biol. Chem.* 274:21285-21290, 1999.
18) Coral-Vasquez, R., Cohn, R.D., Moore, S.A., Hill, J.A., Weiss, R.M., Davisson, R.L., Straub, V., Barresi, R., Bansal, D., Hrstka, R.F., J.A., Williamson, R. and Campbell, K.P. Disruption of the sarcoglycan-sarcospan complex in vascular smooth muscle: A novel mechanism cardiomyopathy and muscular dystrophy. *Cell* 98:465-474, 1999.
19) Hill, J.A., Karimi, M., Kutschke, W., Zimmerman, K., Davisson, R.L., Wang, Z, Kerber, R.E. and Weiss, R.M. Cardiac hypertrophy is not a required compensatory response to short-term pressure overload. *Circulation* 101:2863-2869, 2000.
20) Allamand, V., Donahue, K.M., Straub, V., Davisson, R.L., Davidson, B.L. and Campbell, K.P. Early adenovirus-mediated gene transfer effectively prevents muscular dystrophy in alpha-sarcoglycan deficient mice. *Gene Ther.* 7:1385-1391, 2000.
21) Straub, V., Donhahue, K.M., Allamand, V., Davisson, R.L., Young, R.K. and Campbell, K.P. Contrast Agent-Enhanced Magnetic Resonance Imaging of Skeletal Muscle Damage in Animal Models of Muscular Dystrophy. *Magn. Reson. Med.* 44:655-659, 2000.
22) Davisson, R.L., Oliverio, M.I., Coffman, T.M. and Sigmund, C.D. Divergent functions of angiotensin II (AT1) receptor isoforms in brain. *J. Clin. Invest.* 106:103-106, 2000.
23) Butz, G.M. and Davisson, R.L. Long-term telemetric measurement of cardiovascular parameters in awake mice: a physiological genomics tool. *Physiol. Genomics* 5:89-97, 2001.
24) Morimoto, S., Cassell, M. D., Beltz, T. G. Johnson, A. K., Davisson, R.L. and Sigmund, C. D. Elevated blood pressure in transgenic mice with brain-specific expression of human angiotensinogen driven by the glial fibrillary acidic protein promoter. *Circ. Res.* 89: 365-372, 2001.
25) Lazartigues, E., Dunlay, S.M., Loihl, A.K., Sinnayah, P., Espelund, J.J., Lang, J.A., Sigmund, C.D. and Davisson, R.L. Brain-selective overexpression of angiotensin (AT1) receptors causes enhanced cardiovascular sensitivity in transgenic mice. *Circ. Res.* 90:617-624, 2002. ***(Editorial commentary: Circ. Res. 90:503-505)***
26) Sinnayah, P., Lindley, T.E., Staber, P.D., Cassell, M.D., Davidson, B.L. and Davisson, R.L. Selective gene transfer to key cardiovascular control regions of the brain: comparison of two viral vector systems. *Hypertension* 39:603-608, 2002. ***(Journal cover)***
27) Davisson, R.L., Hoffmann, D.S., Butz, G.M., Aldape, G., Schlager, G., Merrill, D.C., Sethi, S., Weiss, R.M. and Bates, J.N. Discovery of a spontaneous genetic mouse model of preeclampsia. *Hypertension* 39:337-42, 2002. ***(received American Heart Association Harry Goldblatt Award based on this paper)***
28) Zimmerman, M., Lazartigues, E., Lang, J.A., Sinnayah, P., Ahmad, I.M., Spitz, D.R., and Davisson, R.L. Superoxide mediates the actions of angiotensin II in the central nervous system. *Circ. Res.* 91(11):1038-45, 2002. ***(Editorial commentary: Circ. Res. 91:982-983; Journal cover)***
29) Yang, J., Marden, J.L., Fan, C., Sanlioglu, S., Weiss, R.M., Ritchie, T.C., Davisson, R.L. and Engelhardt, J.F. Genetic redox preconditioning differentially modulates AP-1 and NFkB responses following cardiac ischemia/reperfusion injury and protects against necrosis and apoptosis. *Mol. Ther.* 7:3, 341-353, 2003.
30) Li, Z., Sharma, R.V., Duan, D. and Davisson, R.L. Adenovirus-mediated gene transfer to adult mouse cardiomyocytes is selectively influenced by culture medium. *J. Gene Med.* 5:765-772, 2003.
31) Yue, Y., Li, Z., Harper, S.Q., Davisson, R.L., Chamberlain, J.S., and Duan, D. Microdystrophin gene therapy of cardiomyopathy restores dystrophin-glycoprotein complex and improves sarcolemma integrity in the Mdx mouse heart. *Circulation* 108:1626-1632, 2003. ***(Journal cover)***

32) Ma, Xiuying, Sigmund, C.D., Hingtgen, S.D., Tian, Xin, Davisson, R.L., Abboud, F.M. and Chapleau, M.W. Ganglionic action of angiotensin contributes to sympathetic activity in renin-angiotensinogen transgenic mice. *Hypertension* 43:312-316, 2004.
33) Lindley, T.E., Doobay, M.F., Sharma, R.V. and Davisson, R.L. Superoxide is involved in the central nervous system activation and sympatho-excitation of myocardial infarction-induced heart failure. *Circ. Res.* 94:402-409, 2004. *(Journal cover)*
34) Sinnayah, P., Lindley, T.E., Staber, P.D., Davidson, B.L., Cassell, M.D. and Davisson, R.L. Targeted viral delivery of cre recombinase induces conditional gene deletion in cardiovascular circuits of the mouse brain. *Physiolog. Genomics* 18:25-32, 2004. *(Editorial commentary, Physiol. Genomics 18:1-3)*
35) Zimmerman, M.C., Lazartigues, E., Sharma, R.V. and Davisson, R.L. Hypertension caused by angiotensin II infusion involves increased superoxide production in the central nervous system. *Circulation Res.* 95:210-216, 2004. *(Editorial commentary: Circ. Res. 95:122-124)*
36) Lazartigues, E., Lawrence, A.J., Lamb, F.S. and Davisson, R.L. Renovascular hypertension in mice with brain-selective overexpression of AT1a receptors is buffered by increased nitric oxide-mediated vasorelaxation in the periphery. *Circ. Res.* 95:523-531, 2004.
37) Zimmerman, M.C., Dunlay, R.P., Lazartigues, E., Zhang, Y., Sharma, R.V., Engelhardt, J.F. and Davisson, R.L. A requirement for Rac1-dependent NADPH oxidase in the cardiovascular and dipsogenic actions of angiotensin II in the brain. *Circ. Res.* 95:532-539, 2004.
38) Zimmerman, M.C., Sharma, R.V., Davisson, R.L. Superoxide mediates angiotensin II-induced influx of extra cellular calcium in neural cells. *Hypertension* 45:717-723, 2005.
39) Hingtgen, S.D., Tian, X., Yang, J., Dunlay, S.M., Peek, A.S., Wu, Y., Sharma, R.V., Engelhardt, J.F., Davisson, R.L. Nox2-containing NADPH oxidase and Akt activation play a key role in angiotensin II-induced cardiomyocyte hypertrophy. *Physiol. Genomics* 26:180-191, 2006.
40) Ma, X., Zhang, H.J., Whiteis, C.A., Tian, X., Davisson, R.L., Kregel, K.C., Abboud, F.M., Chapleau, M.W. NAD(P)H oxidase-induced oxidative stress in sympathetic ganglia of apolipoprotein E-deficient mice. *Autonom. Neurosci.* 126-127:285-91, 2006.
41) Sinnayah, P. Lazartigues, E., Sakai, K., Sharma, R.V., Sigmund, C.D., Davisson, R.L. Genetic ablation of angiotensinogen in the subfornical organ of the brain prevents the central angiotensinergic pressor response. *Circ. Res.* 99:1125-1131, 2006.
42) Dokras, A., Hoffmann, D.S., Eastvold, J.S., Kienzle, M.F., Gruman, L.M., Kirby, P.L., Weiss, R.M., Davisson, R.L. Severe feto-placental abnormalities precede the onset of hypertension and proteinuria in a mouse model of pre-eclampsia. *Bio. Reprod.* 75:899-907, 2006.
43) Doobay, M.F., Talman, L.S., Obr, T.D., Tian, X., Davisson, R.L., Lazartigues, E. Differential expression of neuronal ACE2 in transgenic mice with overexpression of the brain renin-angiotensin system. *Am. J. Physiol. Regul. Integr. Comp. Physiol. J.* 292: R373-R381, 2007.
44) Dajani, R., Sanlioglu,S., Zhang, Y., Li, Q., Monick, M.M., Lazartigues, E., Eggleston, T., Davisson, R.L., Hunninghake, G.H., Engelhardt, J.F. Pleiotropic Functions of TNFα Determine Distinct IKKβ -Dependent Hepatocellular Fates in Response to LPS. *Am. J. Physiol. Gastrointest. Liver Physiol.* 292: G242-G252, 2007.
45) Sakai, K., Agassandian, K., Morimoto, S., Sinnayah, P., Cassell, D., Davisson, R.L., Sigmund, C.D. Local production of angiotensin II in the subfornical organ causes elevated drinking. *J. Clin. Invest.* 117: 1088-1095, 2007.
46) Moore, R., Krstew, E.V., Kirchhoff, J., Davisson, R.L., Lawrence A.J. Central overexpression of angiotension AT1A receptors prevents dopamine D2 receptor regulation of alcohol consumption in mice. *Alcohol. Clin. Exp. Res.* 31:1128-1137, 2007.
47) Martin, S., Markus, M.A., Morris, B. J., Davisson, R.L., Lawrence, A.J., van den Buuse, M. Does angiotensin interact with dopaminergic mechanisms in the brain to modulate prepulse inhibition in mice? *Neuropharmacology* 54:399-404, 2008.
48) Peterson, J.R., Infanger, D.W., Braga, V.A., Zhang, Y., Sharma, R.V., Engelhardt, J.F., Davisson, R.L. Longitudinal non-invasive monitoring of transcription factor activation in cardiovascular regulatory nuclei using bioluminescence imaging. *Physiol. Genomics*, 33:292-299, 2008. (*Journal cover*)
49) Hoffmann, D.S., Weydert, C.J., Lazartigues, E., Kutschke, W.J., Kienzle, M.F., Leach, J.E., Sharma, J.A., Sharma, R.V., Davisson, R.L. Chronic tempol prevents hypertension, proteinuria and poor feto-placental outcomes in BPH/5 mouse model of preeclampsia. *Hypertension* 51:1058-1065, 2008.

50) Braga, V.A., Burmeister, M.A., Sharma, R.V., Davisson, R.L. Cardiovascular responses to peripheral chemoreflex activation and comparison of different methods to evaluate barareflex gain in conscious mice using telemetry. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 295:R1168-R1174, 2008.
51) Lazartigues, E., Sinnayah, P., Augoyard, G., Gharib, C., Johnson, A., Davisson, R.L. Enhanced water and salt intake in transgenic mice with brain-restricted overexpression of angiotensin (AT1a) receptors. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 295:R1539-R1545, 2008.
52) Lindley, T.E., Infanger, D., Rishniw, M., Doobay, M.F., Sharma, R.V., Davisson, R.L. Scavenging superoxide selectively in mouse forebrain is associated with improved cardiac function and survival following myocardial infarction. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 296:R1-R8, 2009.
53) Ding, Y., Li, Y.L., Zimmerman, M. C., Davisson, R.L., Schultz, H. D. Role of CuZn superoxide dismutase on carotid body function in heart failure rabbits. *Cardiovasc. Res.* 81:678-685, 2009.
54) Peterson, J.R., Burmeister, M.A., Tian, X., Zhou, Y., Guruju, M.R., Stupinski, J.A., Sharma, R.V., Davisson, R. L. Genetic silencing of Nox2 and Nox4 reveals differential roles of these NADPH oxidase homologues in the vasopressor and dipsogenic effects of brain angiotensin-II. *Hypertension* 54:1106-1114, 2009.
55) Miller, F.J., Chu, X., Stanic, B., Tian, X., Sharma, R.V., Davisson, R.L., Lamb, F.S. A differential role for endocytosis in receptor-mediated activation of Nox1. *Antioxid. Redox Signal.* 12:583-593, 2010.
56) Hingtgen, S.D., Li, Z., Kutschke, W., Tian, X., Sharma, R.V., Davisson, R.L. Superoxide scavenging and AKT inhibition in the myocardium ameliorate pressure overload-induced NFkB activation and cardiac hypertrophy. *Physiol. Genomics* 41:127-136, 2010.
57) Infanger, D.W., Cao, X., Butler, S.D., Burmeister, M.A., Zhou, Y., Stupinski, J.A., Sharma, R.V., Davisson, R.L. Silencing Nox4 in the paraventricular nucleus improves myocardial infarction-induced cardiac dysfunction by attenuating sympathoexcitation and periinfarct apoptosis. *Circ. Res.* 106:1763-1774, 2010.
58) Oliveira-Sales, E.B., Colombari, D.S.A., Davisson, R.L., Kasparov, S., Hirata, E.A., Campos, R.R., Paton, J.F.R. Kidney-induced hypertension depends on superoxide signaling in the rostral ventrolateral medulla. *Hypertension* 56:290-296, 2010.
59) Woods, A.K., Hoffmann, D.S., Weydert, C.J., Butler, S.D., Zhou, Y., Sharma, R.V., Davisson, R.L. Adenoviral delivery of VEGF121 early in pregnancy prevents spontaneous development of preeclampsia in BPH/5 mice. *Hypertension* 57:94-102, 2011.
60) Capone, C., Faraco, G., Park, L., Cao, X., Davisson, R.L., Iadecola, C. The cerebrovascular dysfunction induced by slow pressor doses of angiotensin-II precedes the development of hypertension. *Am. J. Physiol. Heart Circ. Physiol.* 300:H397-H407, 2011.
61) Burmeister, M.A., Young, C.N., Braga, V.A., Butler, S.D., Sharma, R.V., Davisson, R.L. *In vivo* bioluminescence imaging reveals redox-regulated AP-1 activation in the paraventricular nucleus of mice with renovascular hypertension. *Hypertension* 57:289-297, 2011. (***Journal cover)***
62) Qing, X., Redecha, P.B., Burmeister, M.A., Tomlinson, S., D'Agati, V.D., Davisson, R.L., Salmon, J.E. Targeted inhibition of complement activation prevents features of preeclampsia in mice. *Kidney Int.* 79:331-339, 2011.
63) Spencer, N.Y., Yan, Z., Boudreau, R.L., Zhang, Y., Luo, M., Li, Q., Tian, X., Shah, A.M., Davisson, R.L., Davidson, B., Banfi, B., Engelhardt, J.F. Control of hepatic nuclear superoxide production by glucose 6-phosphate dehydrogenase and NADPH oxidase-4. *J. Biol. Chem.* 286:8977-8987, 2011.
64) Liu, F., Havens, J., Yu, Q., Wang, G., Davisson, R.L., Pickel, V.M., Iadecola, C. The link between angiotensin II-mediated anxiety and mood disorders with NADPH oxidase-induced oxidative stress. *Int. J. Physiol. Pathophysiol. Pharmacol.* 4:28-35, 2012.
65) Cao, X., Peterson, J.R., Wang, G., Anrather, J., Young, C.N., Guruju, M.R., Burmeister, M.A., Iadecola, C., Davisson, R.L. Angiotensin-II-dependent hypertension requires cyclooxygenase 1-derived prostaglandin E_2 and EP_1 receptor signaling in the subfornical organ of the brain. *Hypertension* 59:869-876, 2012.
66) Capone, C., Faraco, G., Peterson, J., Coleman, C., Anrather, J., Milner, T.A., Pickel, V., Davisson, R.L., Iadecola, C. Central cardiovascular circuits contribute to the neurovascular dysfunction in angiotensin-II hypertension. *J. Neurosci.* 32:4878-4886, 2012.
67) Capone, C., Faraco, G., Coleman, C., Young, C.N., Pickel, V.M., Anrather, J., Davisson, R.L., Iadecola, C. Endothelin-1-dependent neurovascular dysfunction in chronic intermittent hypoxia. *Hypertension* 60:106-113, 2012.
68) Hicks, M.J., Rosenberg, J.B., De, B.P., Pagovich, O., Young, C.N., Qiu, J.P., Kaminsky, S.M., Hackett, N.R., Worgall, S., Janda, K., Davisson, R.L., Crystal, R.G. AAV-directed persistent expression of a gene encoding

anti-nicotine antibody for smoking cessation. *Sci. Transl. Med.* 4:140ra87, 2012. *(Featured in Research Highlights, Nature 487:8, 2012*).

69) Gonzalez, A.D., Wang, G., Waters, E.M., Gonzales, K.L., Speth, R.C., Van Kempen, T.A., Marques-Lopes, J., Young, C.N., Butler, S.D., Davisson, R.L., Iadecola, C., Pickel, V.M., Pierce, J.P., and Milner, T.A. Distribution of angiotensin type 1a receptor containing cells in the brains of bacterial artificial chromosome transgenic mice. *J. Neurosci.* 226:489-509, 2012.
70) Clark, P.A., Brown, J.L., Li, S., Woods, A.K., Han, L., Sones, J.L., Preston, R.L., Southard, T.L., Davisson, R.L., Roberson, M. Distal-less 3 haploinsufficiency results in elevated placental oxidative stress and altered fetal growth kinetics in the mouse. *Placenta*, 33:830-838, 2012.
71) Young, C.N., Cao, X., Guruju, M.R., Pierce, J.P., Morgan, D.A., Wang, G., Iadecola, C., Mark, A.L., Davisson, R.L. Endoplasmic reticulum stress in the brain subfornical organ mediates angiotensin-dependent hypertension. *J. Clin. Invest.* 122:3960-3964, 2012. *(Editorial commentary: J. Clin. Invest. 122:3859-3861)*
72) Lob, H.E., Schultz, D., Marvar, P.J., Davisson, R.L., Harrison, D.G. Role of the NADPH oxidases in the subfornical organ in angiotensin II-induced hypertension. *Hypertension* 61:382-387, 2013.
73) Young, C.N., Morgan, D.A., Butler, S. D., Mark, A.L., Davisson, R.L. The brain subfornical organ mediates leptin-induced increases in renal sympathetic activity but not its metabolic effects. *Hypertension*, 61:737-744, 2013.
74) Nadworny A.S., Guruju, M.R.., Poor, D., Doran, R.M., Sharma, R.V., Kotlikoff, M.I., Davisson, R.L. Nox2 and nox4 influence neonatal c-kit+ cardiac precursor cell status and differentiation. *Am. J. Physiol. Heart Circ. Physiol.* 305:H829-H842, 2013.
75) Wang, G., Sarkar, P., Peterson, J., Anrather, J., Pierce, J., Moore, J., Feng, J., Zhou P., Milner, T., Pickel, V., Iadecola, C., Davisson, R.L. COX-1-derived PGE2 and PGE2 type 1 receptors are vital for angiotensin-II-induced superoxide formation of reactive oxygen species and Ca2+ influx in the subfornical organ. *Am. J. Physiol. Heart Circ. Physiol.*, 305:H1451-H1461, 2013.
76) Yang, L., Sha, H., Davisson, R.L., Qi, L. Phenformin activates unfolded protein response in an AMP-activated protein kinase (AMPK)-dependent manner. *J. Biol. Chem.* 288:13631-13638, 2013.
77) Wang, G., Coleman, C., Chan J., Faraco, G., Marques-Lopes, J., Milner, T., Guruju, M., Anrather, J., Davisson, R.L., Iadecola, C., Pickel, V. Angiotensin-II slow pressor hypertension enhances NMDA currents and Nox2-dependent superoxide production in hypothalamic paraventricular neurons. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 304:R1096-1106, 2013.
78) Davisson, R.L., Bates, J.N., Johnson, A.K., Lewis, S.J. Effects of intracerebroventricular injections of 5-HT on systemic vascular resistances of conscious rats. *Microvasc. Res.* 95:116-123, 2014.
79) Lacko, L.A., Massimiani, M., Sones, J.L., Hurtado, R., Salvi, S., Ferrazzani, S., Davisson, R.L., Campagnolo, L., Stuhlmann, H. Novel expression of EGFL7 in placental trophoblast and endothelial cells and its implication in preeclampsia. *Mech. Dev.* 133:163-176, 2014.
80) Sones, J.L., Lob, H.E., Isroff, C.E., Davisson, R.L. Role of decidual natural killer cells, interleukin-15 and interferon-γ in placental development and preeclampsia. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 307:R490-R492, 2014.
81) Young, C.N., Morgan, D.A., Rahmouni, K., Butler, S.D., Gurley, S.B., Coffman, T.M., Mark, A.L., Davisson, R.L. Angiotensin type 1a receptors in the forebrain subfornical organ facilitate leptin-induced weight loss through brown adipose tissue thermogenesis. *Mol. Metab.*, in press.
82) Young, C.N., Li, A., Dong, F.N., Horwath, J.A., Clark, C.G., Davisson, R.L. Endoplasmic reticulum and oxidant stress mediate nuclear factor-k-B activation in the subfornical organ during angiotensin-II hypertension. *Am. J. Physiol. Cell Physiol.*, in press.

Reviews, Editorials and Invited Papers

1) Davisson, R.L., Sigmund, C.D. Transgenic animal models as tools for studying renal developmental physiology. *Pediatr. Nephrol.* 10:798-803, 1996.
2) Stec, D.E., Davisson, R.L., Sigmund, C.D. Trangenesis and gene targeting in the mouse: tools for studying genetic determinants of hypertension. *Trends Cardiovasc. Med.* 8:256-264, 1998.
3) Hingtgen, S.D., Davisson, R.L Gene Therapeutic Approaches to Oxidative Stress-Induced Cardiac Disease: Principles, Progress, and Prospects. *Antioxid. Redox Sig.* 3:433-449, 2001.

4) Davisson, R.L. Physiological genomic analysis of the brain renin-angiotensin system. *Am. J. Physiol.* 285:R498-R511, 2003.
5) Zimmerman, M.C., Davisson, R.L. Redox signaling in central neural regulation of cardiovascular function. *Prog. Biophys. Mol. Bio.* 84:125-149, 2004.
6) Kurtz, T.W., Griffin, K.A., Bidani, A.K., Davisson, R.L., Hall, J.E. Recommendations for blood pressure measurement in humans and experimental animals. Part 2: Blood pressure measurement in experimental animals: a statement for professionals from the subcommittee of professional and public education of the American Heart Association Council on High Blood Pressure Research. *Hypertension* 45:299-310, 2005.
7) Skorton, D.J., Davisson, R.L. No foreign exchange devalues our universities. *The Wall Street Journal*: *Manager's Journal*, August 2, 2005, pg B2.
8) Sigmund, C.D., Davisson, R.L. Targeting brain AT1 receptors by RNA interference. *Hypertension* 47:145-146, 2006.
9) Infanger, D.W., Sharma, R.V., Davisson, R.L. NADPH oxidases of the brain: Distribution, regulation and function. *Antioxid. Redox Sig.* 8(9-10):1583-96, 2006.
10) Peterson, J.R., Sharma, R.V. and Davisson, R.L. Reactive oxygen species in the neuropathogenesis of hypertension. *Current Hypertension Reports* 8(3):232-241, 2006.
11) Iadecola, C., Davisson, R.L. Hypertension and cerebrovascular dysfunction. *Cell Metab.* 7:476-484, 2008.
12) Davisson, R.L., Zimmerman, M.C. Angiotension II, oxidant signaling and hypertension: Down to a T? *Hypertension* 55:228-230, 2010.
13) Rahmouni, K., Davisson, R.L., Sigmund, C.D. Inflaming hypothalamic neurons raises blood pressure. *Cell Metab.* 14:3-4, 2011.
14) Young, C.N., Davisson, R.L. *In vivo* assessment of central neurocardiovascular regulation in the mouse: principles, progress and prospects. *Am. J. Physiol. Heart Circ. Physiol.*, 301:H654-H662, 2011.
15) Francis, J., Davisson, R.L. Emerging concepts in hypertension. *Antioxid. Redox Sig.* 20:69-73, 2014. (Dr. Davisson served as Guest Editor for this special Forum Issue, including 6 review articles along with her editorial)
16) Davisson, R.L., Sones, J.L. Preeclampsia. *Endocrine News:Tri-Point Series*, February 2015:32-34.

Book Chapters

1) Davisson, R.L. "Infertility," Psychological Aspects of Women's Reproductive Health, M.W. O'Hara, R.C. Reiter, S.R. Johnson, A. Milburn, J. Engeldinger, Eds., 1995.
2) Davisson, R.L. and Skorton, D.J. "Appropriate Choice of Imaging Techniques," Essential Cardiology, C. Rosendorff, Ed., 2001.

Blogs

1) Davisson RL, Skorton, DJ, Chronicle of Higher Education "Worldwise" Blog, "Sounds of Friday in the Old City," 07.04.10, http://chronicle.com/blogPost/Sounds-of-Friday-in-the-Old/25309/
2) Skorton DJ, Davisson RL, Chronicle of Higher Education "Worldwise" Blog: "A Small Nation with Great Strength, Challenges and Hope," 07.09.10, http://chronicle.com/blogPost/A-Small-Nation-With-Great/25419/
3) Davisson RL, Skorton, DJ, Chronicle of Higher Education "Worldwise" Blog: "Leaders and Correspondents: Palestinian, Israeli, American," 07.12.10, http://chronicle.com/blogPost/LeadersCorrespondents-/25446/
4) Skorton DJ, Davisson RL, Chronicle of Higher Education "Worldwise" Blog: "What We Can Learn from Children," 07.16.10, http://chronicle.com/blogPost/What-We-Can-Learn-From/25594/

Selected Professional Service

National

Peer Review Activities

2000-03 American Heart Association National Peer Review Group
2000-2012 Ad Hoc Reviewer, NIH Study Section (ECS/HM) (~2 times/year)

2000-pres Editorial Board, *American Journal of Physiology: Regulatory, Integrative and Comparative*
2001-12 Editorial Board, *Physiological Genomics*
2001-pres Editorial Board, *Hypertension*
2003-05 Associate Editor, *Experimental Physiology*
2007-pres American Heart Association National Peer Review Group
2013-pres Regular Member, NIH Study Section (HM)

Leadership Activities
2002-06 Steering Committee, American Physiological Society (Neural Control Section)
2002-07 Leadership Committee, American Heart Association (High Blood Pressure Research Council)
2003-06 Chair of Programming, American Physiological Society (Neural Control Section)
2005-10 Programming Committee, American Heart Association (High Blood Pressure Research Council)
2006 National Heart, Lung, and Blood Institute Strategic Planning Committee
2007-12 Board of Governors of the New York Academy of Sciences
2007-13 Co-Chair of FASEB Summer Conference on Neural Mechanisms in Cardiovascular Regulation in Vermont 2010; in Oregon 2013
2010-12 Awards Committee, American Heart Association (High Blood Pressure Research Council)

The University of Iowa

2001-03 Carver College of Medicine Research Committee (review committee for all CCOM grants)
2001-06 Carver College of Medicine Executive Committee (elected faculty liaison to Dean)
2003 Organizer, Annual Carver College of Medicine Research Week
2005-06 Provost Task Force on Gender Equity
2004-2006 Spouse to University of Iowa President

Cornell University

2006-pres Spouse to Cornell University President
2007-pres House Fellow, Carl L. Becker House
2007 Chair, Search Committee for Biomedical Sciences Chair (Cornell-Ithaca)
2008-pres Strategic Planning Committee, Department of Biomedical Sciences
2009-11 Member, Cornell Center for a Sustainable Future (CCSF) Outreach Committee
2010-pres Member, Faculty Search Committee for Biomedical Sciences (Cornell-Ithaca)
2010-pres Member, Faculty Search Committee for Cell and Developmental Biology (Weill Cornell Medical College)
2010-pres Member, Center for Teaching Excellence Advisory Board
2010-pres Member, EnHANCE Project (Engaging Health, Agriculture and Nutrition through the Cornell Experience), Division of Nutritional Sciences

Ithaca/Tompkins County

2006-12 Founding member, Mira's Movement
2009-12 Chair of the Board, Mira's Movement
2006-pres Member, Sciencenter Board
2008-pres Member, Executive Committee, Sciencenter
2011-14 Chair of the Board and Executive Committee, Sciencenter
2008-pres Member, Advisory Board of Groundswell of Ecovillage