

CURRICULUM VITAE
Alejandro R. Chade, MD, FAHA

Personal Information

Place of Birth: Mendoza, Argentina.
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1. Academic Appointments

• **Present position**

Professor (07/01/2016-): Department of Physiology and Biophysics, Department of Medicine, Department of Radiology, University of Mississippi Medical Center

Associate Director (2015-), Physiology Graduate Program, University of Mississippi Medical Center

• **Previous position**

Associate Professor (07/01/2011-06/30/2016): Department of Physiology and Biophysics, Department of Medicine, Department of Radiology, University of Mississippi Medical Center

Assistant Professor (06/01/2007-06-30-2011): Department of Physiology and Biophysics, Department of Medicine, University of Mississippi Medical Center.

2. Education

- **Research Associate** (07/2005-05/2007): Department of Internal Medicine - Division of Nephrology and Hypertension, Mayo Clinic, Rochester, MN, 55905, USA.
- **Senior Post-Doctoral Research Fellow** (07/2003-05/2005): Department of Internal Medicine - Division of Nephrology and Hypertension, Mayo Clinic, Rochester, MN, 55905, USA
- **Post-Doctoral Research Fellow** (07/2001-06/2003): Department of Internal Medicine - Division of Nephrology and Hypertension, Mayo Clinic, Rochester, MN, 55905, USA.
- **Residency and Fellowship in Cardiology**: Hospital Lagomaggiore, Ministerio de Salud y Bienestar Social, Provincia de Mendoza, Argentina. (1997-2001). **Degree**: MD-Cardiology
- **Medical school**: Facultad de Ciencias Médicas, Universidad Nacional de Cuyo, Mendoza, Argentina (1990-1996). **Degree**: MD

Additional education and training during post-doctoral training (2001-2007)

- CR5745: Cardiovascular Research Seminar, Fall 2002. Instructor: Robert D. Simari, MD.
- CR5600: Clinical Research Protocol Development, Winter 2003. Instructor: Gregory Poland, MD.
- BME 8600 AMN: Biomedical Engineering Seminars. 2001-2007. Course Director: Armando Manduca, PhD.
- Apoptosis Journal Club. 2001-2007. Instructors: Drs. S.H. Kaufmann and G.J. Gores.

- **Visiting Physician at the Laboratory of Echocardiography at Mayo Clinic** (Rochester, Minnesota), during January, February and March of 2001. Observation and interpretation of approximately 600 studies of stress echocardiography.

Additional professional experience during clinical training (1998-2001)

- **Principal investigator:** in TASCA, clinical multi-centric study about the use of Atorvastatin in Unstable Angina.
- **Study coordinator** in: HERO-2, PARAGON B, and G.I.K-2.
- **Co-investigator:** in 2nd SIMPHONY.

3. Honors and Awards

- “XV Inter-American Society of Hypertension/National Heart Lung and Blood Institute New Investigator Travel Award”. XV Scientific Meeting of the IASH in San Antonio, Texas, April 2003.
- “XVI Inter-American Society of Hypertension/National Heart Lung and Blood Institute (NHLBI) Young Investigator Travel Award”. XVI Scientific Meeting of the IASH in Cancun, Mexico, April 2005.
- Finalist of the Cardiovascular Young Investigator’s Forum at the Northwestern University Feinberg School of Medicine. Chicago, IL, October 2005, 2006, and 2008.
- Department of Medicine Outstanding Research Fellow/Special Project Associate Award, 2006.
- Edward C. Kendall Alumni Award for Highly Meritorious Research, Mayo Clinic Alumni Association, 2006.
- American Society of Hypertension Young Scholar Award, 2007.
- Two times winner of the Cardiovascular Young Investigator’s Forum at the Northwestern University Feinberg School of Medicine. Chicago, IL, 2007 and 2008.
- Second place at the Cardiovascular Young Investigator’s Forum at the Northwestern University Feinberg School of Medicine. Chicago, IL, 2009.
- American Physiological Society Renal Research Recognition Award, Experimental Biology Meeting 2008, San Diego, CA, April 2008.
- 2009, 2010, and 2011 Excellence in Research Award, University of Mississippi.
- 2010 Water and Electrolyte Homeostasis Section New Investigator Award (American Physiological Society).
- 2010 Lazaro J. Mandel Young Investigator Award (American Physiological Society)
- 2011 Harry Goldblatt New Investigator Award-American Heart Association-Council of Hypertension
- 2012 International Society of Hypertension New Investigator Award.
- 2013 - Tenure
- Established Investigator Award-American Heart Association (2014-2018)
- Fellow-American Heart Association, Council of Hypertension (2015-)
- 2016 - Full Professor with Tenure
- 2016 Mid-Career Award for Research Excellence-American Heart Association-Council of Hypertension
- 2016 Translational Research Team Award-University of Mississippi Medical Center

4. Research

Research interests

- Cardiovascular / renal physiologic imaging
- Microcirculatory function
- Mechanisms of renal disease

- Renal involvement in cardiovascular disease
- Discovery and development of new therapeutic strategies for chronic renal disease

Personal statement

My research has conceptual and practical significance since it has contributed to the basic understanding of renal physiology and pathophysiology of renal injury associated with renovascular hypertension and chronic renovascular disease for the development of novel therapeutic strategies. I have a unique approach for investigating chronic renovascular disease and its consequences, utilizing state-of-the-art imaging methods along with molecular and integrative physiological techniques. I use a novel swine model of renovascular disease that develops much like that of human disease. I study the effects of this disease using fast computerized tomography (CT) to non-invasively characterize in vivo renal regional volume, total renal blood flow, glomerular filtration rate, tubular fluid dynamics, and endothelial function, in combination with micro-CT imaging to reconstruct the 3D architecture of the renal microcirculation in the pre- and post-glomerular circulation in situ. I was part of the initial studies using this model as well as the application of the imaging techniques, and my laboratory is now one of the two in the world using this approach. The combination of these techniques allows me to follow the time course of deterioration of the stenotic kidney non-invasively with a level of accuracy that has not been possible previously. I have made important contributions to the field of kidney research that have contributed for the understanding basic renal physiology and the pathophysiology of renal injury driven by the damage of the renal microvasculature in chronic renovascular disease. My studies were among the first to investigate the potential therapeutic application of cell progenitors or angiogenic cytokines to protect the kidney. My current efforts are focused on the development and application of therapeutic angiogenesis to recover the kidney, using novel technologies never tested before for renal therapy.

Research Grant Support

Current

- 14EIA14360000 (Chade, AR, PI) 01/01/2014 –12/31/2018 2.4 person/months
American Heart Association-Established Investigator Award \$400,000 (direct+indirect)

Novel Therapeutic Interventions in Renovascular Disease.

The major goal of this project is to discover novel targeted therapeutic interventions that will allow moving “from bench to bedside” and help to recover the kidney in renovascular disease.

Contact info: AHA Research Administration.

Email: awards@heart.org

- R41 DK109737 (Chade, AR, subcontract-PI) 04/01/2017 –03/31/2018 1.8 person/months
NIH-NIDDK \$225,000
(direct+indirect)

A Preclinical Trial of Therapeutic Angiogenesis Plus Angioplasty and Stenting for Renal Vascular Disease

The major goal of the Phase I of this project is to determine the feasibility, efficacy, and safety of a novel strategy to recover the kidney in renal artery stenosis by using bioengineered polymer-stabilized VEGF constructs.

Program contact: Marva Moxey-Mims

Phone:(301) 451-5037

Email: moxey-mimsm@extra.niddk.nih.gov.

- Non-competitive intramural research support program (Chade, AR PI)
09/01/2017 –08/31/2018 1.8 person/months
University of Mississippi \$30,000 (direct+indirect)
Microcirculation in Renovascular Hypertension-Bridge funds

The goal of this proposal is to support the needed experiments for generation of data to address the critiques on the renewal of a NHLBI-R01, which was ranked 5 points over the payline.

Role: Principal Investigator

- RSA-000447 (Bidwell, GL, PI) 8/15/2017 – 8/14/2018

NIH/NHLBI-SMARTT program

Elastin-like Polypeptide – VEGF Fusion Protein for Renal Therapeutic Angiogenesis

This is a regulator assistance program offered through the NHLBI SMARTT program. It provides assistance with regulatory affairs in preparation of a pre-IND meeting with the FDA for a biologic therapeutic that our lab has developed to treat kidney disease.

Role: Collaborating Investigator

- NIH1612TN: Leflore Technologies, LLC (Bidwell, GL, PI) 10/06/2017 – Ongoing

NIH Niche Assessment Program

Therapeutic Angiogenesis for Ischemic Renal Disease

Foresight Science & Technology is a support contractor for the National Institute of Health providing assistance through the Niche Assessment Program for small businesses. The program aims to conduct Technology Niche Analysis® to assess the potential for commercialization of a new product (ELP-VEGF construct) beyond the proof-of-concept stage. It includes identification with potential commercialization partners or investors expressing interest in our ELP-VEGF technology.

Role: Collaborating Investigator (as sub-contract PI of 1R41DK109737)

- P01 HL51971 (Hall, JE, PI) 08/01/2014-05/31/2019 0.6 person/months

NIH/NHLBI

\$10,203,625 (direct+indirect)

Cardiovascular dynamics and their control

The major long-term goal of this project is to develop a quantitative analysis of circulatory dynamics and related control systems, including the kidneys, sympathetic nervous system and endocrine systems.

Program Official: Youngsuk Oh

Email: yoh@mail.nih.gov

Phone: 301-435-0560 Fax: (301) 480-2858

Role: Investigator

- SC150037 (Raymond Grill, PI) 08/01/2016 – 07/31/2018 1.2 person/months

Department of Defense

\$337,569 (direct+indirect)

Acute and delayed systemic treatment with cannabinoid receptor 2 agonists to prevent or treat/reverse osteoporosis in a mouse model of SCI.

The goals of this proposal are two-fold: 1) determine whether acute treatment with a selective CB2 receptor agonist can prevent the onset of osteoporosis in a mouse model of spinal cord injury, and 2) determine whether that same CB2 agonist, if treatment is delayed, can reverse established osteoporosis in a chronic mouse model of SCI.

Role: Collaborating investigator

Pending

- DK112791A (Chade, AR, co-PI) 4/1/2017 – 3/31/2021 2.4 person/months

NIH/NIDDK

\$1,525,000 (direct+indirect)

A novel strategy for chronic renovascular disease: renal therapeutic angiogenesis using bioengineered polymer-stabilized VEGF constructs

The major goal of this project is to develop, validate and determine feasibility, efficacy, and safety of a novel strategy to protect the kidney in chronic renal disease using a kidney-specific bioengineered

polymer-stabilized VEGF compound.
Program contact: Michael F. Flessner
Phone: 301-402-3151
Email: flessnermf@nidk.nih.gov

- RO1 HL095638-2 (Chade, AR, co-PI) 12/01/2017-11/30/2021 2.4 person/months
NIH/NHLBI \$2,079,909 (direct+indirect)

Microcirculation in Renovascular Hypertension

The major goal of this renewal is to extend the previous funding cycle of this grant by determining the efficacy, and safety of a novel strategy to protect the kidney in renovascular disease and hypertension using a kidney-specific bioengineered polymer-stabilized VEGF construct.

Program Official: Diane M. Reid

Email: reidd@nhlbi.nih.gov

Phone: 301-402-3824 Fax: (301) 480-2858

Completed

- AHA, Post-Doctoral fellowship, “Mechanisms of renal impairment in atherosclerotic renal artery stenosis” (1/01/03 – 12/31/04). Principal Investigator, AR Chade, MD (LO Lerman, mentor, \$77,000).
- Merck Pharmaceutical Company, “The potential beneficial effects of simvastatin to decrease renal injury in atherosclerotic renal artery stenosis” (4/1/2003- 7/31/2005). Principal Investigator, AR Chade, MD (LO Lerman, mentor, \$70,000).
- NIH, RO1 HL-63282, “Mechanisms of renal impairment in hypercholesterolemia” (April 2000 - March 2006). Principal Investigator, LO Lerman.
- GlaxoSmithKline Research & Education Foundation for Cardiovascular Disease. “Utility of autologous progenitor cell delivery in atherosclerotic renovascular disease” (07/1/2006- 07/01/2008, \$110,000). Principal Investigator, AR Chade, MD.
- Intramural research Grant-University of Mississippi Medical Center. Role of microvascular impairment in the recovery of the ischemic kidney” (11/01/2007-10/31/2008, \$30,000). Principal Investigator, AR Chade, MD.
- AHA, Scientist Development Grant National Center (0830100N). “Role of microvascular impairment in the recovery of the ischemic kidney” (01/2008-12/2011, \$308,000). Principal Investigator, AR Chade, MD.
- Abbott Laboratories: “Therapeutic Potential of Atrasentan in Renovascular Disease” (01/01/2012-12/31/2014, \$94,764). Principal Investigator, AR Chade, MD.
- RO1 HL095638 (Chade, AR, PI) 04/15/2010-03/31/2016 \$1,867,500
NIH/NHLBI: Microcirculation in Renovascular Hypertension.

Bibliography

Full-length articles

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 6. Chade AR, Best P, Rodriguez-Porcel M, Herrmann J, Zhu X, Sawamura T, Napoli C, Lerman A, Lerman LO. Endothelin-1 receptor blockade prevents renal injury in experimental hypercholesterolemia. *Kidney International*. 64(3):962-969, 2003.
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 9. Chade AR, Rodriguez-Porcel M, Herrmann J, Zhu X, Grande JP, Napoli C, Lerman A, Lerman LO. Antioxidant intervention blunts renal injury in experimental renovascular disease. *Journal of the American Society of Nephrology*. 15(4):958-966, 2004.
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72. Chade AR, Williams ML, Guise E, Vincent LJ, Harvey TW, Kuna M, Mahdi F, Bidwell GL: "Biopolymer-delivered VEGF for Therapeutic Angiogenesis in Experimental Renovascular Disease: Targeting the Kidney Via Systemic Administration". *Kidney International*, 2017 (*In press*).
73. Stanley JL, Webster BM, Renshall L, Rueda-Clausen CF, Chade AR, Ponnampalan A, Silbey CP, Davidge ST, Baker PN: "Treatment of Fetal Growth Restriction with Sildenafil in Mice is Associated with Reduced Placental Resistance and Increased Placental Vascular Density". *The Journal of Physiology*, 2017 (*In review*).

Book chapters/edited:

1. Chade AR: "Microvascular Disease". Chapter 9 in *Renal Vascular Disease*, edited by Lilach O. Lerman and Stephen C. Textor. Springer Verlag, London, 2014.
2. "Studies on Atherosclerosis: Oxidative Stress in Applied Basic Research and Clinical Practice". Editors: Rodriguez-Porcel M, Chade AR, and Miller JD. Springer. 2016

Invited comments and Editorials

1. Chade AR, Lerman A, and Lerman LO: "Atherosclerotic renovascular disease: Beyond the obstruction". International Atherosclerosis Society. Published on-line (<http://www.athero.org>). August, 2003.
2. Chade AR: "Atherosclerotic renovascular disease: Problems beyond the obstruction". *Kidney International*, 70;830-832, 2006.
3. Chade AR and Lerman LO: "The kidney in atherosclerosis: role of the endothelin system" International Atherosclerosis Society. Published on-line (<http://www.athero.org>). January, 2007.
4. Chade AR: "VEGF: Potential therapy for renal regeneration". *F100 Reports*, 4(1), 2012.
5. Chade AR: "VEGF therapy for the kidney: Are we there yet?" *J Am Soc Nephrol*. (1):1-3. 2016.

Abstracts

1. Chade AR, Best P, Rodriguez-Porcel M, Sawamura T, Lerman, A, Lerman LO. Endothelin-A receptor blockade improves renal hemodynamics and function in experimental hypercholesterolemia. *Hypertension*. 40(3) 429, 2002.
2. Chade AR, Rodriguez-Porcel M, Grande JP, Napoli C, Sawamura T, Lerman A, Lerman LO. Concurrent hypercholesterolemia and hypoperfusion augment pro-inflammatory changes in the stenotic kidney. *Hypertension*. 40(3) 419, 2002.
3. Chade AR, Rodriguez-Porcel M, Herrmann J, Zhu XC, Lerman A, Lerman LO. Chronic antioxidant vitamin supplementation improves renal hemodynamics in renal artery stenosis. Abstract book, page 74 (P54) of the XVth Scientific Meeting of the Inter-American Society of Hypertension, San Antonio, Texas, April 2003.
4. Chade AR, Rodriguez-Porcel M, Krier J, Lerman A, Lerman LO. Concurrent hypercholesterolemia and hypertension increase intra-renal pro-fibrotic activity. Abstract book, page 132 (P291) of the XVth Scientific Meeting of the Inter-American Society of Hypertension, San Antonio, Texas, April

2003.

5. Zhu X, Rodriguez-Porcel M, Bentley M, Chade AR, Ritman EL, Lerman A, Lerman LO. Antioxidant supplementation attenuates myocardial neovascularization in hypercholesterolemic pigs. Abstract book, page 45 (16) of the XVth Scientific Meeting of the Inter-American Society of Hypertension, San Antonio, Texas, April 2003.
6. Chade AR, Herrmann J, Zhu XC, Lerman A, Lerman LO. Proteasome inhibitors improve renal hemodynamics and attenuate intra-renal inflammation in early atherosclerosis. *Hypertension*. 42(3) 441, 2003.
7. Chade AR, Rodriguez-Porcel M, Krier JD, Herrmann J, Zhu XC, Lerman A, Lerman LO. Chronic antioxidant intervention preserves microvascular structure in renal artery stenosis. *Hypertension*. 42(3) 393-394, 2003.
8. Zhu X, Chade AR, Rodriguez-Porcel M, Krier JD, Ritman EL, Lerman A, Lerman LO. Chronic antioxidant intervention preserves cortical microvascular structure in renal artery stenosis. Abstract book, page 81 (D298) of the Experimental Biology Meeting, Washington, D.C., April 2004. *FASEB on line*. Vol. 18, abstract #2576, 2004.
9. Krier JD, Chade AR, Lerman LO. Exacerbated oxidation of low density lipoprotein in concurrent hypercholesterolemia and hypertension. Abstract book, page 79 (D257) of the Experimental Biology Meeting, Washington, D.C., April 2004.
10. Chade AR, Mushin O, Rodriguez-Porcel M, Lerman A, Lerman LO. Reversal of diet improves renal hemodynamics and attenuates renal injury in early atherosclerosis. *Hypertension*. 44(3) 552-553, 2004.
11. Chade AR, Krier JD, Lerman A, Lerman LO. HMG Co-A Reductase inhibitors improve renal hemodynamics and function in renal ischemia. *Circulation*. 110(17), III-313 (Abstract 1499), 2004.
12. Zhu XY, Chade AR, Ritman EL, Lerman A, Lerman LO. Simvastatin preserves renal microvascular structure in renal artery stenosis. Abstract book, page 378A, (#1042-135) of the 54th Scientific Sessions of the American College of Cardiology, Orlando, FL, March 2005.
13. Zhu XY, Rodriguez-Porcel M, Chade AR, Ritman EL, Lerman A, Lerman LO. Coronary microvascular remodeling in hypertension: Role of oxidative stress. Abstract book, page 433A (#1157-131) of the 54th Scientific Sessions of the ACC, Orlando, FL, March 2005.
14. Chade AR, Zhu X, Lerman A, Lerman LO. HMG Co-A Reductase Inhibitors Improve Renal Endothelial Function in Atherosclerotic Renal Artery Stenosis. Abstract book of the XVI Scientific Meeting of the Inter-American Society of Hypertension, April 2005.
15. Zhu XY, Chade AR, Lerman A, Lerman LO. Simvastatin Prevents Coronary microvascular remodeling in hypertension. Abstract book of the XVI Scientific Meeting of the Inter-American Society of Hypertension, April 2005.
16. Daghini E, Primak A, Chade AR, Krier JD, Zhu X, McCoullough CH, Lerman LO. Measurements of renal hemodynamics and function using 64-slice multidetector CT: Comparison with EBCT. RSNA meeting, November 2005.

17. Herrmann J, Saguner A, Chade AR, Versari D, Olson M, Lerman LO, Lerman A. Proteasome inhibition - A new road to atherogenesis?" *J Am Coll Cardiol.* 2006;47 Suppl. A, 329A.
18. Herrmann J, Saguner A, Versari D, Chade AR, Olson M, Lerman LO, Lerman A. Coronary endothelial dysfunction as a consequence of chronic in-vivo proteasome inhibition? European Society of cardiology Meeting, 2006.
19. Daghini E, Chade AR, Zhu X, Versari D, Krier JD, Lerman A, Lerman LO. Synergistic effect of hypertension and hypercholesterolemia on myocardial microvascular permeability response to acute coronary artery stenosis. 60th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, San Antonio, TX October 4-7, 2006.
20. Daghini E, Primak AN, Chade AR, Krier JD, Zhu X, McCollough CH, Lerman LO. Evaluation of myocardial microvascular permeability and fractional vascular volume using 64-slice helical CT. AHA Scientific Sessions 2006 in Chicago, Illinois, November 12-15.
21. Chade AR, Textor, S, Lerman A, Lerman LO. Endothelin-A receptor blockade improves renal microvascular architecture and function in experimental hypercholesterolemia. Presented at the American Society of Nephrology- Scientific Session, Renal Week, San Diego, CA, November 2006.
22. Chade AR, Lerman LO. Simvastatin attenuates epithelial-to-mesenchymal transdifferentiation and renal scarring in the ischemic kidney. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
23. Chade AR, Zhu XY, Krier J, Pislaru S, Simari R, Lerman A, Lerman LO. Intra-renal infusion of autologous progenitor cells improve the hemodynamics and function of the ischemic kidney. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
24. Chade AR, Krier, Lerman A, Lerman LO. Thalidomide decreases inflammation and improves renal endothelial function in experimental hypercholesterolemia. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
25. Zhu XY, Chade AR, Pislaru S, Simari R, Lerman A, Lerman LO. Early renovascular hypertension upregulates vegf expression in endothelial progenitor cells. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
26. Lavi R, Chade AR, Zhu XY, Krier J, Lerman A, Lerman LO. Simvastatin improves renal function and decreases fibrosis in pigs with combined hypertension and hypercholesterolemia. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
27. Lavi R, Primak A, Daghini E, Chade AR, Krier J, Zhu XY, McCollough C, Lerman LO. Feasibility of determining renal artery stenosis degree and function with 64-slice multi-detect computed tomography. Presented at the Inter-American Society of Hypertension XVIIth Scientific Sessions, May 2007.
28. Zhu XY, Chade AR, Krier J, Daghini E, Lavi R, Lerman A, Lerman LO. Inhibition of the chemokine monocyte chemoattractant protein-1 decreases recruitment of circulating fibrocytes to the stenotic porcine kidney in renovascular hypertension. *J Am Coll Cardiol.* 51(10):A314, 2008.
29. Iliescu R, Reckelhoff J, Chade AR. Obesity increases renal cortical neovascularization in Zucker rats. *Experimental Biology* 2008, April 2008 San Diego, CA (published in *The FASEB Journal*; 2008,

22:947.7).

30. Zhu XY, Chade AR, Krier J, Daghini E, Lavi R, Guglielmotti A, Lerman A, Lerman LO. Inhibition of the chemokine monocyte chemoattractant protein-1 improves endothelial function of porcine kidney in renovascular hypertension. 62th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Atlanta, GA (Published in *Hypertension*. 52(4) e32-e131, 2008).
31. Zhu XY, Chade AR, Krier J, Jing Lin, Lavi R, Lerman A, Lerman LO. Endothelial progenitor cells improve renal function in experimental atherosclerotic renovascular disease. 62th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Atlanta, GA (Published in *Hypertension*. 52(4) e32-e131, 2008).
32. Jing Lin, Zhu XY, Chade AR, Krier J, Daghini E, Lavi R, Guglielmotti A, Lerman A, Lerman LO. MCP-1 mediates myocardial microvascular dysfunction in swine renovascular hypertension. 62th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Atlanta, GA (Published in *Hypertension*. 52(4) e32-e131, 2008).
33. Fernandez S, Iliescu, R, Chade AR. Renoprotective effects of exogenous VEGF in experimental renovascular disease. 62th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Atlanta, GA (Published in *Hypertension*. 52(4) e32-e131, 2008).
34. Zhu X, Chade AR, Lin J, Krier JD, Lerman A, Lerman LO. Activation of the Xanthine oxidase pathway in experimental atherosclerotic renovascular disease is blunted by cell-based therapy. Renal Week 2008, Nov., Philadelphia, American Nephrology Society (*J Am Soc Nephrol*. 19: 2008, p 649A, SA-PO2395).
35. Iliescu R, Chade AR. Renal neovascularization in experimental obesity. Renal Week 2008, Nov., Philadelphia, American Society of Nephrology (*J Am Soc Nephrol*. 19: 2008, p 110A, SA-FC491).
36. Iliescu R, Chade AR. Microvascular Loss and Progression of Renal Injury in Renovascular Disease: Renoprotective Effects of VEGF. Presented at Experimental Biology 2009, April 2009, New Orleans, LA (Published in *FASEB J*. 2009 23:804.7).
37. Kelsen S, Chade AR. Endothelin-A receptor blockade preserves the renal microcirculation in experimental renovascular disease. 63rd Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Chicago, IL (*Hypertension*. 54(4) e70, 2009).
38. Maric C, Manigrasso MB, Marbury DC, Chade AR. Decrease in renal microvascular density precedes the decline in renal function in STZ-induced diabetic rats. Presented at Renal Week 2009, Oct., San Diego, CA, American Society of Nephrology.
39. Chade AR, Kelsen S, Fails F, Bailey J. Renal microvascular disease and the responses to renal revascularization. Presented at Experimental Biology 2010, Anaheim, CA.
40. Chade AR, Kelsen S, Fails F, Bailey J. Endothelin-A receptor blockade improves angiogenic signaling in the stenotic kidney. Presented at Experimental Biology 2010, Anaheim, CA.
41. Veerisetty SS, Kelsen S, Chade AR. Novel renoprotective effect of endothelin-A receptor blockade by up-regulation of hepatocyte growth factor in the stenotic kidney. 64th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Washington, DC, 2010.

Hypertension. 56(5) e160, 2010.

42. Chade AR. Intra-renal administration of VEGF: A potential therapeutic approach for renovascular disease. Presented at Experimental Biology 2011, Washington, DC (04/11/2011).
43. Maric C, Flynn E, Chade AR. Treatment with C-peptide slows the progression of diabetic renal disease in the streptozotocin (STZ)-induced diabetic rat. Presented at Experimental Biology 2011, Washington, DC (04/11/2011).
44. Chade AR: "Potential Mechanisms of VEGF-Induced Renoprotection in Renovascular Disease" page e39, Abstract HG02, *Hypertension* 2011, 58:e33-e1832011.
45. Chade AR. Endothelin-A receptor blockade in chronic renovascular disease: A novel therapeutic application. Abstract FR-OR234, *J Am Soc Nephrol* 22: 2011. American Society of Nephrology-Kidney Week 2011, Philadelphia, PA, 2011.
46. Chade AR. Intra-renal administration of hepatocyte-growth factor reversed microvascular functional rarefaction and decreased remodeling in the stenotic kidney. 66th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, Washington, DC, 2012.
47. Chade AR. Chronic Endothelin-A Receptor Blockade Improved the Responses to Renal Revascularization in Experimental Renovascular Disease. American Society of Nephrology-Kidney Week 2012, San Diego, CA, 2012.
48. Chade AR: Atrasentan Therapy Enhanced Recovery of Renal Function After Renal Angioplasty in Experimental Renovascular Disease. 50th ERA-EDTA Congress, Istanbul, Turkey, May 21st, 2013.
49. Chade AR, Stewart NJ: Renal angioplasty, endothelin receptor blockers, and recovery of renal function: A, not B. American Society of Nephrology-Kidney Week 2013, Atlanta, GA, November 2013.
50. Tullos NA, Davidovich R, Chade AR: Dual ETA/B receptor blockade therapy in renovascular disease. *Experimental Biology* 2014, San Diego, CA, April 2014.
51. Chade AR, Tullos NA, Surles, BL: Endothelin-A Receptor Antagonism Following Renal Angioplasty Enhanced the Recovery of Renal Function by Decreasing Podocyte and Tubular Damage. 68th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, San Francisco, CA, 2014.
52. Chade AR, Bidwell GL: Administration of Elastin-like Polypeptide-VEGF in the Stenotic Kidney: a Novel Targeted Treatment to Recover Renal Function. American Society of Nephrology-Kidney Week 2014, Philadelphia, PA, November 2014.
53. Chade AR, Harvey TW: Potential Mechanisms of Renoprotection in the Stenotic Kidney After Endothelin-type A Receptor Antagonism: Podocytes, VEGF and sFlt-1. *Experimental Biology* 2015, Boston, MA, April 2015.
54. Chade AR, Harvey TW, Bidwell GL: Systemic Administration of a Biopolymer-delivered VEGF Improved Renal Hemodynamics and Microvascular Rarefaction in Renal Artery Stenosis. *Experimental Biology* 2015, Boston, MA, April 2015.

55. Bidwell GL, Chade AR: A kidney-targeted protein biopolymer drug delivery system. Experimental Biology 2015, Boston, MA, April 2015.
56. Chade AR, Bidwell GL: “Therapeutic Angiogenesis in Renal Artery Stenosis: Intra-renal Therapy Using a Biopolymer-delivered VEGF Construct Ameliorates Microvascular Damage and Renal Dysfunction”. 52th ERA-EDTA, London, UK, May 2015.
57. Chade AR, Vincent LJ, Mahdi F, Shao Q, Bidwell GL,: A Novel Kidney-targeted Bioengineered Protein Carrier for Drug Delivery Binds to the Kidney Independent of the Species. Experimental Biology 2016, San Diego, CA, April 2016.
58. Chade AR, Vincent LJ, Bidwell GL: “A Novel Biopolymer-Delivered VEGF for Therapeutic Angiogenesis in Renovascular Disease: Targeting the Kidney Via Systemic Administration”. 53th ERA-EDTA, Vienna, Austria, May 2016.
59. Chade AR, Guise E, Vincent LJ, Bidwell GL: “Angioplasty Combined with Intra-renal Administration of a Biopolymer-delivered VEGF Construct to Improve Renal Recovery: A New Therapeutic Strategy”. American Society of Nephrology-Kidney Week 2016, Chicago, IL, November 2016.
60. Guise E, Harvey T, Williams M, Chade AR: “A Biopolymer-delivered VEGF Construct Improves Kidney Recovery by Stimulating Pro-angiogenic Signaling and Renal Progenitor Cell Mobilization in Chronic Renovascular Disease”. Experimental Biology 2017, Chicago, IL, April 2017.
61. Warrington JP, Spradley FT, Chade AR, Ryan MJ, Granger JP, Drummond HA: “Altered Placental Vascular Remodeling in a Mouse Model of Reduced beta-ENaC”. Experimental Biology 2017, Chicago, IL, April 2017.
62. Chade AR, Guise E, Williams M, Harvey T: A novel swine model of chronic renal disease. 54th ERA-EDTA, Madrid, Spain, June 2017. *Nephrol Dial Transplant (2017) 32 (suppl_3): iii450. DOI: <https://doi.org/10.1093/ndt/gfx162.MP068>*
63. Chade AR, Guise E, Williams M, Harvey T, Bidwell, GL: “Reversal of renal dysfunction and injury by therapeutic angiogenesis in chronic renal disease: not everything is lost”. 54th ERA-EDTA, Madrid, Spain, June 2017. *Nephrol Dial Transplant (2017) 32 (suppl_3): iii42. DOI: <https://doi.org/10.1093/ndt/gfx113.MO004>*
64. Chade AR, Williams M, Bidwell GL: “Therapeutic angiogenesis in CKD”. American Society of Nephrology-Kidney Week 2017, New Orleans, LA, November 2017.

Invited presentations

1. “Syncope: clinical presentation, diagnosis and treatment.” Circulo Medico de Mendoza. Mendoza, Argentina. October 22, 2000.
2. “An experimental model of atherosclerotic renal artery stenosis.” Department of Internal Medicine and Cardiovascular Diseases, Hospital L.C. Lagomaggiore, Mendoza, Argentina. April 10, 2002.
3. “Mechanisms of renal injury in atherosclerotic “ischemic nephropathy.” Presented at the Department of Internal Medicine – Division of Hypertension, Mayo Clinic, Rochester, MN. May 2002.

4. "Renovascular Disease: mechanisms of hypertension and ischemic nephropathy." Textor S, Lerman LO and Chade AR. Medical Grand Rounds, Department of Internal Medicine, Mayo Clinic, Rochester, MN. July 17, 2002.
5. "Mechanisms of injury in atherosclerotic renovascular disease." Department of Cardiovascular Diseases, Hospital L.C. Lagomaggiore, Mendoza, Argentina. November 19, 2003.
6. "The kidney in early atherosclerosis: An Overview." Department of Internal Medicine, Division of Nephrology and Hypertension. Mayo Clinic, Rochester, MN. June 17, 2004.
7. "The kidney in early atherosclerosis." Department of Internal Medicine, Cardiovascular Research Seminar Series. Mayo Clinic, Rochester, MN. December 2, 2004.
8. "Simvastatin Promotes Angiogenesis and Prevents Microvascular Remodeling in Chronic Renal Ischemia." Northwestern University Feinberg School of Medicine, Cardiovascular Young Investigator's Forum. Chicago, IL, October 2005.
9. "Experimental Renovascular disease: Beyond the Obstruction." Dept. of Physiology, University of Mississippi Medical Center, Jackson, MS. June 27, 2006.
10. "Endothelin-A receptor blockade improves renal microvascular architecture and function in experimental hypercholesterolemia." Northwestern University Feinberg School of Medicine, Cardiovascular Young Investigator's Forum. Chicago, IL, October 2006.
11. "Endothelin-A receptor blockade improves renal microvascular architecture and function in experimental hypercholesterolemia." Chade AR, Textor SC, Lerman A, Lerman LO. The American Society of Nephrology-Renal Week, Poster Discussion Session, November 2006.
12. "Utility of Autologous Progenitor Cell Delivery in Atherosclerotic Renovascular Disease." Chade AR and Lerman LO. Presented at the Milestones in Cardiovascular Diseases, Scientific Sessions of the AHA, Chicago, IL, November 2006.
13. "Atherosclerotic Renovascular Disease: Beyond the Vessels." Scientific Sessions of the American Society of Hypertension. Chicago, IL, May 2007.
14. "Intra-renal Infusion of Endothelial Progenitor Cells Restores Microvascular Architecture and Function in the Ischemic Kidney." Northwestern University Feinberg School of Medicine, Cardiovascular Young Investigator's Forum. Chicago, IL, October 2007 (1st prize).
15. "Pathways of Renal Injury in Renovascular Disease." Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. February, 2008.
16. "Enfermedad Renovascular: Mecanismos de injuria renal y alternativas terapéuticas." Department of Internal Medicine, Hospital L.C. Lagomaggiore, Mendoza, Argentina. March 5, 2008.
17. "Pathways of Renal Injury in Experimental Renovascular Disease." Oschner Clinic, New Orleans, LA, May 28th 2008.
18. "Time-Dependent Microvascular Loss and Progression of Renal Injury in Renovascular Disease: Renoprotective Effects of VEGF." Northwestern University Feinberg School of Medicine,

- Cardiovascular Young Investigator's Forum. Chicago, IL, October 2008 (1st prize).
19. "Dyslipidemia, microcirculation, and the kidney." Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. February 2009.
 20. "The Poor Responses of the Stenotic Kidney to Revascularization: Is Microvascular Disease the Cause." Northwestern University Feinberg School of Medicine, Cardiovascular Young Investigator's Forum. Chicago, IL, September 2009 (2nd prize).
 21. "Renal Microvascular Disease and the Responses of the Stenotic Kidney to Revascularization." Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. April 2010
 22. "The Renal Microcirculation: How Important Those Small Vessels are for the Kidney." Water, Electrolytes, and Homeostasis New Investigator Award, Experimental Biology 2010.
 23. "Hypercholesterolemia and Renal Injury." 2010 APS Renal Hemodynamics Meeting, Saxtons River, VT.
 24. "VEGF and the Microcirculation." Common Signaling Pathways in the Heart and Kidney II-2010 Scientific Sessions of the American heart Association. Chicago, IL, November 2010.
 25. "Microvascular Disease and the Outcomes of Renal Revascularization: The Missing Link?" Northwestern University, Feinberg Cardiovascular Research Institute Fall Seminar Series, January 2011.
 26. "Renovascular Disease, Microcirculation and the Progression of Renal Injury." Department of Pharmacology-Seminar series, University of Mississippi Medical Center. February 2011.
 27. "An Attempt to Understand the Mechanisms and Role of Microvascular Damage and Repair in Renovascular Disease." Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. May 2011
 28. "Potential Mechanisms of VEGF-induced Renoprotection in Renovascular Disease." Council of High Blood Pressure Research-Harry Goldblatt Award. Orlando, FL, September 2011.
 29. "ET-A Blocker Administration on Renovascular Disease: A Potential Therapeutic Application." American Society of Nephrology-Renal Week 2011, Philadelphia, PA, November 2011.
 30. "Renovascular Hypertension: Microvascular Dysfunction and Potential Treatments." Experimental Biology 2012-Physiology in Focus. San Diego, CA, April 2012.
 31. "Targeting the Renal Microcirculation: Potential Therapeutic Applications of Angiogenic Cytokines in Renovascular Hypertension." American Society of Hypertension-Scientific Sessions 2012. New York, NY, May 2012.
 32. "VEGF-induced Renoprotection in Renovascular Disease: a Potential Therapeutic Approach." International Society of Hypertension-Scientific Sessions 2012. Sidney, Australia, October 2012 (*Keynote Invited speaker*).
 33. "Angiogenesis terapeutica en enfermedad renovascular: evidencia pre-clinica". Department of

Internal Medicine, Hospital L.C. Lagomaggiore, Mendoza, Argentina. March 13th, 2013.

34. "Therapeutic Angiogenesis in Experimental Renovascular Disease". Department of Physiology, Tulane University Health Science Center. March 25th, 2013.
35. "Potential Therapeutic Applications of Angiogenic Cytokines in Experimental Renovascular Disease" Annual Congress of the Romanian Society of Physiology, Iasi, Romania, May 9th, 2013.
36. "A Potential Therapeutic Approach in Renovascular Disease". University of Medicine and Pharmacy "Gr. T. Popa" Iasi, Romania. May 15th, 2013.
37. "The endothelin pathway in chronic renovascular disease: a potential therapeutic target?" Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. June 2013
38. "Translational therapeutic strategies in chronic renovascular disease". Abbvie Park, August 8th, 2013.
39. "Searching for novel therapeutic approaches in renovascular disease". Indiana University School of Medicine, October 22nd, 2013.
40. "Therapeutic strategies in experimental renovascular disease". Department of Radiology Seminar Series, University of Mississippi Medical Center. January 15th, 2014.
41. "Renal Artery Stenosis: Clinical and Translational Implications". Department of Physiology-Physiology in Medicine Seminar Series, University of Mississippi Medical Center. May 7th, 2014.
42. "Enfermedad renovascular cronica: angioplastia renal, tratamiento medico, o los dos?" Department of Internal Medicine, Hospital L.C. Lagomaggiore, Mendoza, Argentina. August 14th, 2014.
43. "Renal Therapeutic Angiogenesis for the Stenotic Kidney: Novel Application of Bioengineered Polymer-stabilized VEGF Constructs" Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. February 4th 2015.
44. "Therapeutic Angiogenesis for the Kidney: Any Chance?". Nephrology Grand Rounds - Weill Cornell Medical Center/Memorial Sloan Kettering Cancer Center, NY. April 8th, 2015.
45. "Targeting the Renal Microcirculation: Therapeutic Angiogenesis in Renovascular Disease". University of Manchester, Salford Royal Hospital, Manchester, UK. May 27th, 2015.
46. "Animal Models of Renovascular Hypertension: From Swine to Pearls." American Society of Nephrology-Kidney Week 2015, San Diego, CA, November 2015.
47. "Renal Microcirculation in Dyslipidemia and Obesity." American Society of Nephrology-Kidney Week 2015, San Diego, CA, November 2015.
48. "Therapeutic Angiogenesis to Protect the Kidney: More than a wishful thinking?". Institute of Cardiovascular Sciences, University of Manchester, Manchester, UK. February 3rd, 2016.
49. "Targeting the Renal Microcirculation: Prevent the loss of, protect the damaged, create new ones" Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. February 17th 2016.

50. "Angiogenesis Terapeutica en Enfermedad Renal Cronica" Department of Internal Medicine, Hospital L.C. Lagomaggiore, Mendoza, Argentina. March 16th, 2016.
51. "A Novel Biopolymer-Delivered VEGF for Therapeutic Angiogenesis in Renovascular Disease: Targeting the Kidney Via Systemic Administration". Free communication-53th ERA-EDTA, Vienna, Austria, May 2016.
52. "Small vessels, big role: Renal microcirculation and progressive renal injury". Council of High Blood Pressure Research-Mid-Career Award for Research Excellence. Orlando, FL, September 2016.
53. "Therapeutic angiogenesis for the renal microcirculation: Small vessels, big role". University of Aachen, Aachen, Germany. May 31st 2017.
54. "Reversal of renal dysfunction and injury by therapeutic angiogenesis in chronic renal disease: not everything is lost". 54th ERA-EDTA, Madrid, Spain, June 5th 2017.
55. "Therapeutic angiogenesis for the kidney: Can we?" Department of Physiology and Biophysics-Seminar series, University of Mississippi Medical Center. August 30th 2017.
56. "Small Vessels with a Big Role: Renal Microcirculation, Progression of Renal Injury, Therapeutic angiogenesis". The British and Irish Hypertension Society Annual Scientific Meeting 2017. Glasgow, Scotland, September 12th 2017.
57. Chade AR, Williams M, Bidwell GL: "Therapeutic angiogenesis in CKD". American Society of Nephrology-Kidney Week 2017, New Orleans, LA, November 2017.

Patents

Chade A.R. and Bidwell, G.L. 3rd. "Kidney-Targeted Drug Delivery Systems." PCT full utility patent filed to the United States Patent and Trademark Office on November 12th, 2015. PCT/US15/60438. U.S. Patent Application No. 15/517,805, filed April 7, 2017). USA and EU application review in process.

5. Service

National and International Committee Member

- Awards Committee of the American Physiological Society (2009-2011)
- Renal Section Awards Committee of the American Physiological Society (2010-2013)
- Translational Physiology Interest Group of the American Physiological Society (2010-2013)
- Cardiovascular Section Awards of the American Physiological Society (2015-)
- Program Committee on Scientific Sessions of the American Heart Association (2016-). Abstract Session Builder
- CVRI/PVD Vascular Imaging and Intervention Joint Committee of the Council on Cardiovascular Radiology & Intervention (CVRI) of the American Heart Association (2016-2018)
- **Chair** of the Steering Committee of the Translational Physiology Interest Group-American Physiological Society (2010-2013)

Editorial Board Member

- Hypertension (2010-)
- F1000 Research (2012-)
- Microcirculation (2015-)

- American Journal of Nephrology (2015-)

Member: Scientific Committee, American Society of Hypertension Scientific Sessions (2012).

Co-Chair, American Heart Association Heart Walk, Rochester, June 2006.

Professional Member

- American Physiological Society (2007-)
- American Heart Association (2007-)
- American Society of Nephrology (2008-)
- European Renal Association (2013-)

Journal Reviewer:

- “Hypertension” and “Medicinal Chemistry”, Bentham Science Publishers, since 2004
- “American Journal of Kidney Disease” since 2005
- “Kidney International” since 2006
- “Heart and Vessels” since 2007
- “Expert Review of Cardiovascular Therapy”, “The Journal of Rheumatology”, and “American Journal of Hypertension” since 2008
- “Hypertension Research”, “Investigative Radiology”, “Expert Review of Anticancer Therapy”, “Journal of Diabetes and Its Complications”, “Journal of Cardiovascular Pharmacology”, “American Journal of Physiology- Heart and Circulatory Physiology”, “American Journal of Physiology- Regulatory, Integrative and Comparative Physiology”, and “American Journal of Physiology- Renal Physiology” since 2009
- “Circulation Research” and “Journal of Cellular and Molecular Medicine” since 2010
- “Nature Reviews-Nephrology”, “BMC Nephrology”, “Apoptosis”, and “Atherosclerosis” since 2011
- “Journal of the American Society of Nephrology”, “Microcirculation”, “Annals of Medicine”, “Clinical and Experimental Pharmacology and Physiology”, “American Journal of Hypertension”, “BMC Research”, and “Stem Cells” since 2012
- “Acta Diabetologica”, “PLOS One” and “IConcept Press”, and “American Journal of Nephrology” since 2013
- “The Physiologist” and “Biomedicines” since 2014
- “Clinical Science”, “Journal of Urology”, “Journal of the American Society of Hypertension”, “Renal Failure”, and “Expert Reviews in Clinical Immunology” since 2015
- “Scientific Reports”, “Nephrology, Dialysis, Transplantation”, and “Clinical Journal of the American Society of Nephrology” since 2016.
- “British Journal of Haematology” and “Current Diabetes Reviews” since 2017.

Grant Reviewer

- NIH-Challenge Grants (2009)
- American Heart Association Cardiorenal Committee (2008-2011)
- National Institutes of Health-NIDDK. Ancillary studies in Kidney Disease and Complications-Special emphasis panel ZDK1-GRB-J 02 1, July 30th 2013.
- National Institutes of Health-NIDDK. NIDDK DKUHD Program Officers’ Note to Members of USRDS Special Emphasis Panel. RFA DK-13-008 United States Renal Data System (USRDS) Special Study Centers (U01), December 20th 2013.
- American Heart Association Cardiorenal I Committee (2014-)
- American Heart Association-Established Investigator Award Study Section (2014-)
- Medical Research Council Fellowship Program-United Kingdom (2014-)
- Romanian National Authority for Scientific Research and Innovation (2015-)
- **Co-Chair-** American Heart Association Cardiorenal III Committee (2015-)
- Department of Defense of the USA (2015-)
- NIH- SBIB-W(56) Study Section-SEP (2016-)

- NIH- ZRG1 DKUS P-54 Study Section-SEP (2016-)
- NIH- ZRG1 DKUS P-82 Study Section-SEP (2016-)

Abstract reviewer

- American Physiological Society (2010-)
- Scientific Sessions of the American Heart Association (2011-)
- European Renal Association/European Dialysis Transplantation Association (ERA-EDTA, 2013-)
- Scientific Sessions of the American Society of Nephrology-Kidney Week (2013-)
- Council for High Blood Pressure Research (2014-)

Consultant-Advisory Board Member: Bench to Bedside, Actelion Pharmaceuticals, 2015-2016.

Local

Member:

- IACUC-University of Mississippi Medical Center (2009-)
- Graduate Faculty Committee, University of Mississippi Medical Center (2009-)
- Post-Doctoral Fellows Committee, University of Mississippi Medical Center (2013-2015)
- Physiology Faculty Search Committee- Department of Physiology, University of Mississippi Medical Center (2014-)
- Graduate Council, University of Mississippi Medical Center (2015-)
- Curriculum Committee, Physiology Graduate Program University of Mississippi Medical Center (2015-)

Director: Physiology Seminar Series, Department of Physiology and Biophysics, University of Mississippi Medical Center (2011-2013)

Community outreach: American Physiological Society, Phun week, Jackson, MS (2013-).

6. Teaching

Current

- Circulatory Physiology 717 (Part II, 2012-)
- Current Issues in Biomedical Sciences (ID 727, 2012-)
- Physiology 625/725 (2012-)
- Advanced Circulatory Physiology 717 (Part I-2015-)
- Advanced Renal Physiology (Physio 731, 2015-)
- Physiological Applications of Molecular Biology (2015-)
- Problem-based learning. Medical School (2015-)

Past

- Arterial Pressure Laboratory-Medical Physiology (2014)

7. Mentoring

• **Post-doctoral fellows**

06/2013-08/2014: Nathan Tullos, PhD (now an Assistant Professor at Mississippi College, Clinton, MS). *Dr. Tullos published 2 abstracts and 3 manuscripts as result of his work in my laboratory (please see Bibliography). He also presented twice at UMMC Research Day (2013 and 2014) and received an award for his presentation at the 2014 UMMC Radiology Research Day.*

• **Graduate students**

Physiology PhD program

2016-current: Erika Guise

Physiology PhD Program-Summer research laboratory rotation-Supervised research

2009: Mathew Dukes, Jeremy Freeman

2010: Deborah Davis, John Clemmer

2011: Joyee Estees

2014: Gwendolyn Davis

2016: Erika Guise

- **Dissertation Committee Member:** John Clemmer, PhD, Elena Dent (current) , Erika Guise (current)
- **Undergraduate**

High-school students

2014: Discovery U Laboratory rotation-Clinton High School: Sarah Brantley, Mary Hyer, Alex Jackson, Nia Simms, Sarah Grace Travis, Hannah Darnell, Kate Nye, Claire Everett, Jenny Loome, Khoula Daleem.

2015: Discovery U Laboratory rotation-Clinton High School: Sydney Thomas, Lane Wilson, Parker Maloney, Wyntom Sims, Anthony Scales, Javarcia Ivory, Simmi Kaur, Toni Petterson.

2016: Discovery U Laboratory rotation-Clinton High School: Haley Zetterholm, Maria Zamora, Chin Wen Yen, Siri Yarlagadda. Madison High School: Madison Carpenter, Anna Hill, Jared Tubertini, Prahar Patel.

MD/PhD Program

207-current: Jason Engel

MD/PhD Program-Summer research laboratory rotation-Supervised research

2009: Peter Mittwede

2014: Jason Engel

2015: Jason Engel, Ezekiel Gonzalez

MD Program-Summer research laboratory rotation-Supervised research

2010: S. Sai Veerisetty (*1 abstract published, please see Bibliography*)

2011: Patrick Peavy (*1 manuscript published, please see Bibliography*)

2012: Ryan Davidovich (*1 abstract and 1 manuscript published, please see Bibliography*)

Medical Student Research Program

2016-current: Taylor W. Harvey

MD Program-Advisor-Clinical Educator

2013: Jeremy Archer, Daniel Krebs, Samuel Abbas, Summer Abraham

2014: Thomas Coleman, Gaylen Patterson, Rachel Yi

2015: Shelby Claire, Liddell Falan McKnight, Denise Powell

2016: Caroline Daggett, Rana Gordji, Caitlin Kutz Henley