Heddwen L. Brooks, Ph.D.

Professor and Chair
Department of Physiology
Tulane University School of Medicine
Co-Director, Physician Scientist Program (MD/PHD)

Expertise: Sex differences, women's health, kidney disease, menopause, hypertension, immunology, T cell signaling

Our lab specializes in addressing women's health and sex differences across kidney and cardiovascular disease. Our primary goal is to identify how menopause and the loss of estrogen impacts inflammation and increases a women's risk of hypertension, kidney disease and metabolic syndrome. We developed the VCD mouse model of menopause to study sex differences in disease processes, not only in hypertension related kidney damage and diabetic kidney disease but to collaborate broadly.

I am the Editor in Chief of AJP Renal (July 2020-2026), elected Councilor (Board) for the American Physiological Society and past chair of the Renal Section of the American Physiological Society. I have received several awards from the American Physiological Society for my research achievements (see below). I serve as a mentor at the National level, teaching writing skills and ethics to graduate students and post-doctoral fellows for the American Physiological Society. I served as a member of the VA merit review for Nephrology (4 years) and have served on many sex differences and kidney study sections for NIH, including the O'Brian Centers for NIDDK, American Heart (EIA National Study Section) and the American Federation for Aging Research.

I am the Chair of the Department of Physiology, and co-director of the MD-PhD program here at Tulane School of Medicine, and the Co-Director of the Dillard-Tulane Undergraduate Research program (DT-SURF). I am on the external advisory board of the COBRE funded Tulane Center of Excellence in Sex-Based Biology & Medicine. I am the past-Chair of the University of Arizona (UA) Physiological Sciences Graduate Interdisciplinary Program (5 years). In this role I oversaw the progress of both PhD and MS students in COM (approx. 26 PhD and 30 MS students enrolled). In addition, I have graduated 6 PhD students (one MD/PhD) and 8 MS students in the past 10 years. I served on the advisory board for UA BME Cardiovascular Training Grant (5 years), was a training faculty member on two T32 Physiology grants, and the board of the Keep Engaging Youth in Science (KEYS) for the UA BIO5 Institute (8 years), KEYS is a summer internship program for high school students in AZ. I served on the UA COM MD/PhD admissions committee for 8 years and previously served as Chair of the UA COM Dean's Council on Faculty Affairs, and as Chair of the MD/PhD Committee (now MSTP funded). I have trained over 50 students, high school, undergraduate to PhD over the past 15 years.

CHRONOLOGY OF EDUCATION

1988 **Bachelor of Science, Honors in Zoology**
University College of Wales, Aberystwyth
Majors in Physiology, Parasitology and Marine Biology

1991 **Master of Science, Applied Parasitology and Medical Entomology**
Liverpool School of Tropical Medicine, Univerisity of Liverpool
Thesis: Molecular and Immunological Characterization of New World *Leishmania* Antigens.
Advisors: Dr Rayna Maignon Ph.D., Dr Michael Chance, Ph.D.

1997 **Doctor of Philosophy**
Imperial College of Science, Technology and Medicine, London
Department of Biology

Thesis: Molecular and Immunological Characterization of *Trichuris trichiura* antigens
Advisor: Dr Donald Bundy, Ph.D.

Postdoctoral Education

5/1997-6/1999	**Postdoctoral Fellow, College of Medicine, University of Arizona** Department of Physiology Mentor: Dr. A.J. Yool, Ph.D. Molecular and pharmacological characterization of aquaporins
7/1999-10/2001	**Visiting Fellow, National Institutes of Health** Laboratory of Kidney and Electrolyte Metabolism NHLBI, NIH, Bethesda, MD Adviser: Dr. Mark Knepper, MD/PhD Molecular physiology of renal salt and water transporters

CHRONOLOGY OF EMPLOYMENT

11/2022-current	**Chair and Professor**, Department of Physiology, Tulane School of Medicine, New Orleans
1/2024	**Co-Director**, MD/PhD program, Tulane School of Medicine, New Orleans, LA
7/2021-Oct 2022	**Co-Director**, BS in Medicine, Undergraduate Program Department of Pharmacology, University of Arizona
7/2015-Oct 2022	**Professor**, Department of Physiology University of Arizona
2017-Oct 2022	**Professor**, Department of Biomedical Engineering University of Arizona
2016-Oct 2022	**Professor**, Department of Medicine/Nephrology University of Arizona
7/2012-2017	**Department Chair,** Physiological Sciences Graduate Interdisciplinary Program Graduate College, University of Arizona
7/2008-2015	**Associate Professor**, Department of Physiology University of Arizona
2015-2022	**Associate Professor**, Department of Pharmacology University of Arizona
10/2001-6/2008	**Assistant Professor**, Department of Physiology University of Arizona
12/2000-9/2001	**Staff Scientist, NIH** Intramural Appointment, Laboratory of Kidney and Electrolyte Metabolism, NHLBI

7/1999- 11/2000	**Visiting Fellow**, **NIH** Laboratory of Kidney and Electrolyte Metabolism, NHLBI
5/1997- 6/1999	**Postdoctoral Fellow**, **University of Arizona** Department of Physiology
3/1995- 4/1997	**Research Assistant**, **University of Southampton** Department of Physiology and Pharmacology
10/1991- 6/1993	**Teaching Assistant**, **Imperial College** Department of Biology
9/1988- **7**/1989	**Voluntary Service, Ghana, West Africa** Biology Teacher, Wesley Girls High School (6-12 grade)

HONORS AND AWARDS

PREDOCTORAL AND POSTDOCTORAL HONORS

1992 & 1993 **Travel Award**
British Society of Parasitology

1995 **Dale and Rushton Award**
British Physiological Society
For Advanced Training in Molecular Neurobiology,
Friday Harbor Laboratories, University of Washington

1999 Hoechst Marion Roussel Postdoctoral Excellence in Renal Physiology Award
American Physiological Society, Renal Section

FACULTY AWARDS

2002 **Research Recognition Award**
Renal Section, American Physiological Society,

2006 **New Investigator Award**
American Physiological Society, Renal Section

2007 **Lazaro J. Mandel Young Investigator Award**
American Physiological Society

2007 **Outstanding Faculty Member Award**
Mortar Board Senior Honor Society, University of Arizona

2009 A**stra Zeneca Young Investigator Award**
American Physiological Society, Renal Section

2014 **University of Queensland Visiting Academic Travel Award**
International Collaborative Research Fellowship
Translational Research Institute, Brisbane, Australia

2018 **Outstanding Faculty Mentor**, to Dr Alicia Allen (COM)
Provost's Office, University of Arizona

2022 **International Society of Hypertension Award of Excellence for Research in Cardiovascular Health and Disease in Women**

International Society of Hypertension, Kyoto, Japan Oct 2022

2024 **Virendra B. Mahesh Lectureship**, Medical College of Georgia Department of Physiology at Augusta University, April 2024

FACULTY HONORS

2005 **College of Medicine Representative**
AAMC Early Career Women Faculty Professional
Development Seminar, Santa Fe, NM

2001-2020 **Editorial Board**, **American Journal of Physiology-Renal**

2006 **Provost Davis Nominee, University of Arizona**
Defense Science Study Group, DARPA

2007, ’11,’13 **Nominating Committee**
American Physiological Society

2008 **Program Chair**
West Coast Salt and Water Club Annual Meeting

2009-2011 **Faculty Leader, Professional Skills, American Physiological Society**
Presentation Skills , Orlando, Florida

2009 **PhD Thesis Opponent, University of Copenhagen**
Faculty of Health Sciences May 2009
Candidate Ulla van Deurs

2010 **Fellow, Nominated and Selected to Academic Leadership Institute**
University of Arizona

2013 **Faculty Leader, Professional Skills, American Physiological Society**
Writing and Reviewing for Scientific Journals
University of Sao Paulo, Ribeirao Preto, School of Medicine, Brazil

2014 **APS Living History Project**. Dr Lise Bankir, Experimental Biology, Chicago, April2014.
https://youtu.be/6rqJANOczcg?list=PLW3R7lwluzvfywUFg9LZ9y9K0l_EVBgZd

2011-2014 **Chair, Renal Section, American Physiological Society**

2014-2015 **Organizing Committee,** American Physiological Society Conference: Cardiovascular, Renal and Metabolic Diseases: Physiology and Gender**.** Annapolis, MD, Nov 2015.

2014 **Interviewer for APS Living History Project**. Dr Lise Bankir, Experimental Biology, Chicago, April2014.
https://youtu.be/6rqJANOczcg?list=PLW3R7lwluzvfywUFg9LZ9y9K0l_EVBgZd

2013-2019 **Associate Editor, American Journal of Physiology,** *Regulatory, Integrative and Comparative Physiology*

2012-present **Faculty Leader, Professional Skills, American Physiological Society Writing and Reviewing for Scientific Journals,** Orlando, Florida

2020-present **Editor in Chief**, American Journal of Physiology, Renal Physiology

2022-2025 **Councilor, elected**. Executive Leadership Council of American Physiological Society

SERVICE/OUTREACH

DEPARTMENTAL COMMITTEES-ARIZONA

2005	**Liaison Committee for Department Chair, Physiology**
2006	**AZMED, Medical School Curriculum Redesign**
2006-2008	**Faculty Search Committee**
2007-present	**Key Faculty, AZMED CPR block**
2006-present	**Faculty Mentoring Committee**
2008	**Coordinator, Departmental Science Retreat, Tohono Chul**
2008-2011	**Department Representative, Faculty advocate ADVANCE**
2008-2010	**Department Representative, AZMED Intercessions** Curriculum Redesign Team
2008-2010	**Member, Mentoring Committee, Dr Fiona Bailey**
2009-present	**Member, Mentoring Committee, Dr Erika Eggers**
2010-2012	**Seminar Series Coordinator**
2008-2010	**Coordinator, Outreach Program, Southern Arizona Math and Science Fest**
2010-2014	**Course Coordinator, PSIO 603 Systems Physiology**
2012-2017	**Course Coordinator, PSIO 696A/C Student Forum/Seminar Series**
2020-2022	**Member, Mentoring Committee, Dr Paulo Pires**
2020-2022	**Member, Mentoring Committee, Dr Chris Banek**
2020-2022	Member, Department Advisory Committee

COLLEGE OF MEDICINE COMMITTEES-ARIZONA

2004-2007	**Honors and Awards Committee**
2005-2006	**Dean's Faculty Salary Incentive Committee**
2005- 2011	**Women in Academic Medicine Committee**
2007-2009	**Honor Code Committee**
2008-2013	**Dean's Council for Faculty Affairs**
2010	**5 Year Review Committee, Dr Glenn Sipes, Pharmacology Chair**
2011-2013	**Chair, Dean's Council for Faculty Affairs**
2011-present	**Chair, Dean's Graduate Program Advisory Council**

2011-2019	**MD-PhD Admissions Committee**
2013-2014	**Chair, MD-PhD Admissions Committee**
2014-2020	**Committee of Ten (College of Medicine Oversight Committee)**
2015-2016	**Faculty Forward Committee, Education**
2017-2020	**Chair, Committee of Ten (College of Medicine Oversight Committee)**
2018-current	**Member, Promotion and Tenure Committee, College of Medicine, Phoenix**

UNIVERSITY COMMITTEES-ARIZONA

2004-2012	**Committee of Eleven (Faculty Oversight Committee)**
2002-2004	**Recruiting and Admissions Committee, Physiological Sciences GIDP**
2006-2009	**Program Committee Physiological Sciences GIDP**
2006-2010	**UA Faculty Membership Committee**
2007	**University Special Task Force for General Education** College of Medicine faculty representative
2009	**Senate Budget and Strategic Planning Committee**
2010-2016	**T32 External Advisory Board** Cardiovascular Biomedical Engineering Training Grant PI Dr Jennifer Barton
2010-2012	**T32 Steering Committee** Cardiovascular Training Grant PI Dr Janis Burt
2010	**President Shelton Advisory, Committee, UA Athletic Director Search**
2011-2012	**Chair, Resources Committee, Physiological Sciences GIDP**
2011-2018	**Human Resources Advisory Council, Management in Action** Human Resources Professional Development Programs
2012-2017	**Graduate Interdisciplinary Program Advisory Council (GIDPAC)**
2012-2014	**Undergraduate Biology Research Program (UBRP) Selection Committee**
2012-2014	**MHIRT/BRAVO Selection Committee** Minority Health and Health Disparities International Research Training Program
2013	**UA Police Department Lieutenant Oral Board**
2013-2014	**UA 5-Year Review Committee**, Vice-President for Institutional Effectiveness and Human Resources
2013-2017	**Arizona Biological and Biomedical Sciences (ABBS) Executive Committee**
2012-2017	**Department Chair, Physiological Sciences Graduate Interdisciplinary Program (GIDP)**
2018-2020	**Member, Graduate Council, UA**
2020-present	**Recruiting and Admissions Committee, Physiological Sciences GIDP**

UNIVERSITY/STATE OUTREACH COMMITTEES- ARIZONA

2001-2006	**Mentor, Arizona Biology Network** Undergraduate Program for Minorities, Pima Community College
2004	**Mentor, Summer Research Institute** Undergraduate Minorities Program, University of Arizona
2008	**Mentor, Baird Foundation Scholar** University of Arizona
2001-present	**Mentor, Undergraduate Biology Research Program,** University of Arizona
2008-2012	**Mentor, Arizona Assurance Scholars**
2008-2011	**Faculty Coordinator, Physiology Understanding Week (PhUN)** Department of Physiology K-12 program, University of Arizona
2008-2018	**Mentor, Keep Engaging Youth in Science** High School Outreach Program, BIO5, University of Arizona
2010-2015	**Mentor, Minority Access to Research Career (MARC)**, University of Arizona
2011-2016	**Board Member "Keep Engaging Youth in Science"** High School Outreach Program, University of Arizona
2012-now	**Mentor, Undergraduate Research Opportunities Consortium/ Minimizing Health Disparities Summer Research Programs,** University of Arizona

UNIVERSITY OF ARIZONA AFFILIATIONS

2001-2008	Neuroscience Graduate Interdisciplinary Program
2001-present	Physiological Sciences Graduate Interdisciplinary Program
2003-present	Biomedical Engineering Graduate Program
2006-present	BIO5 Institute, Faculty Member
2012-present	Arizona Aging Institute, Faculty Member
2011-present	Sarver Heart Center, Faculty Member

TULANE UNIVERSITY AFFILIATIONS

2022-present	Member, Tulane Center of Aging, Medicine
2022-present	Member, Tulane Center of Excellence in Sex-Based Biology & Medicine
2024-present	Member, Tulane Brain Institute

NATIONAL/INTERNATIONAL SERVICE

2000-2002	**Member**, **Renal Awards Committee** Renal Section, American Physiological Society
2002-2004	**Co-Chair**, **Renal Awards Committee** Renal Section, American Physiological Society
2003	**Moderator, American Society of Nephrology** Symposia "Vasopressin and Aquaporins**"**
2003-present	**Member, Renal Section Steering Committee**

	American Physiological Society
2007-2011	**Member, Committee on Committees** American Physiological Society
2007, 2011, 2013	**Member, Nominating Committee** American Physiological Society, Presidential and Council Ballot
2006-2007	**Board Member, Women in Nephrology**
2008	**Program Chair, West Coast Salt and Water Club Annual Meeting**
2008	**Moderator, High Blood Pressure Research Conference** Renal Tubular Transport and Natriuretic Factors
2010	**Symposium Chair**, **American Society of Nephrology, Denver**
2010	**Featured Topic Chair, American Society of Nephrology, Denver**
2011-2014	**Chair, Renal Section, American Physiological Society**
2015-2018	**Member, Joint Programming Committee Representative, Sex Differences Interest Group,** American Physiological Society
2015-2018	**Member**, **Education Committee**, American Physiological Society
2016	**Symposium Co-Chair, Experimental Biology 2016**. Title "Still Unraveling the Mysteries of the Kidney with Isolated Tubules after All These Years". San Diego, CA.
2016	**Symposium Organizer and Chair, Physiology 2016 – Dublin** (Joint meeting of The Physiological Society and the American Physiological Society). Title "Making new connections: Novel insights into renal crosstalk" Dublin, Ireland, July 2016
2016-2017	**Planning committee, NDOGS** (National Directors of Graduate Studies) in Pharmacology and Physiology Conference, APS representative, Stonybrook, NY, July 2017.
2015-2019	**Member, Hypertension Nominating Committee**, American Heart Association
2019-2021	**Member**, **Hypertension Program Committee**, American Heart Association
2020-2022	**Member, Women in Hypertension**, International Society of Hypertension, World Working Group
2022-present	**Elected Councilor**, American Physiological Society, Executive Leadership Council
2023	**Moderator Symposium**, AHA Hypertension, "Sglt2 Inhibitors: The Kidney and Beyond", Boston September 2023
2023	**Member**, Hypertension Fall Specialty Conference Planning Committee, AHA
2023-2024	**Chair**, Committee on Committees, American Physiological Society
2024-present	**Lead**, American Physiological Society Women's Health Initiative for APS Summit
2024-present	**Co-Chair and Organizer**, American Physiological Society Conference on Sex Differences and Women's Health, Sept 2025
2024-present	**Chair and Conference Organizer**: Deep South Excellence in Women's Health Conference, Tulane 2024 December. In collaboration with UAB, LSU and UMMC

GRANT REVIEW PANELS

2007-2009	**Regular Member, American Heart Association National** Basic Science & Molecular Biology 3 Study Section
2008	**NIH reviewer** Cell and Molecular Biology of the Kidney Study Section
2009-2011	**American Federation for Aging Research**
2011-2014	**Member, Veterans Affairs Merit Review Board** Nephrology Panel
2017-2023	**Member, American Heart Association National Review**, Established Investigator Study Section
2019-2021	**Ad Hoc, Member, NIH** Hypertension and Microcirculation Study Section, Fall 2019 IVPP Study Section, Spring 2021
2023	**Member/Chair**, **George M. O'Brien Kidney Consortium Review Panel** RFA-DK22-007: George M. O'Brien Kidney National Resource Centers (U54) RFA-DK22-008: National Coordinating Center for the George M. O'Brien Kidney National Resource Centers (U24)
2023	**Member SEP ZRG1 BP-P**, RFA-OD22-028: The Intersection of Sex and Gender Influences on Health and Disease

JOURNAL EDITORIAL BOARDS

2001-2020	**American Journal of Physiology-Renal**
2011-2013	**Gender Medicine**
2013-2019	**Associate Editor**, *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*
2020-present	**Editor-in-Chief,** *American Journal of Physiology-Renal*

MANUSCRIPT REVIEWER (LAST 5 YEARS)

JASN
American Journal of Physiology-Heart and Circulatory Physiology
Circulation Research
Hypertension
JCI/JCI Insight

PROFESSIONAL MEMBERSHIPS

1997-present	American Physiological Society
2001-present	American Society of Nephrology
2001-present	American Heart Association (AHA) Council for Kidney in Cardiovascular Disease
2020-present	International Society of Hypertension

PUBLICATIONS/CREATIVE ACTIVITY (PUBLISHED/ACCEPTED)

Place an * to left of title of any publication substantially based on work done as a graduate student.

SCHOLARLY BOOKS/CHAPTERS AND MONOGRAPHS

1) **Ganong's Review of Medical Physiology, 23rd Edition**, McGraw Hill (July 2009)
   Authors: Dr's Kim Barrett, Heddwen Brooks, Scott Boitano and Susan Barman
   July 2009-December 2009, 10,000 copies sold worldwide
2) **Ganong's Review of Medical Physiology, 24th Edition**, McGraw Hill (July 2012)
   Authors: Dr's Kim Barrett, Heddwen Brooks, Scott Boitano and Susan Barman
   July 2012-December 2014, 25,000 copies sold worldwide
3) **Ganong's Review of Medical Physiology, 25th Edition**, McGraw Hill (July 2015)
   Authors: Dr's Kim Barrett, Heddwen Brooks, Scott Boitano and Susan Barman
   July 2015-present, 30,000 copies sold worldwide
4) **Ganong's Review of Medical Physiology, 26th Edition**, McGraw Hill (Feb 2019)
   Authors: Dr's Kim Barrett, Heddwen Brooks, Jason Yuan and Susan Barman
5) **Ganong's Physiology Examination and Board Review**, **2nd Edition**, McGraw Hill (Jan 2024)
   Authors: Dr's Kim Barrett, Heddwen Brooks, Jason Yuan and Susan Barman
6) **Chapter 7: Regulation of Postmenopausal Hypertension**
   Dennis P. Pollow, Josh Uhlorn, Nathaniel Husband, Heddwen L Brooks
   In book: Sex Differences in Cardiovascular Physiology and Pathophysiology, 2019 Editors Babbette La Marca, Barbara Alexander.

REFEREED JOURNAL ARTICLES AND EDITORIALS

1. Drake, L.J., Barker, G.C., Korchev, Y., Lab, M., **Brooks, H.L.**, Bundy, D.A.P. (1998) *Molecular and functional characterization of a recombinant protein of *Trichuris trichiura*. *Proceedings of the Royal Society of London* B, **265**(1405), 1559-65.

2. **Brooks, H.L.,** Regan, J.W., Yool, A.J. (2000) Inhibition of aquaporin-1 water permeability by tetraethylammonium: Involvement of the loop E pore region. *Molecular Pharmacology* **57**, 1021-1026

3. Anthony, T.L., **Brooks, H.L.,** Boassa, D., Leonov, S., Yanochko, G.M., Regan, J.W., Yool, A.J. (2000) Cloned human aquaporin-1 is a cyclic GMP-gated ion channel. *Molecular Pharmacology* **57**, 576-588.

4. Lynch, R.M., Tompkins, L.S., **Brooks, H.L.,** Dunn-Meynell, A.A., Levin, B.E. (2000) Localization of glucokinase gene expression in the rat brain. *Diabetes* **49** (5), 693-700.

5. Ho, H.T.B., Chung, S.K., Law, J.W.S, Ko, B.C.B., Tam, S.C.F., **Brooks, H.L.,** Knepper, M.A., Chung, S.S.M. (2000) Aldose reductase-deficient mice develop nephrogenic diabetes insipidus. *Molecular and Cellular Biology* **20**, 5840-5846.

6. **Brooks, H.L.,** Sorensen, A-M., Terris, J., Schultheis, P.J., Lorenz, J.N., Shull, G.E., and Knepper, M.A. (2001) Profiling of renal tubule Na^+ transporter abundances in NHE3 and NCC/TSC null mice using targeted proteomics. *Journal of Physiology* **530**, 359-66.

7. Hager, H., Kwon, T.H., Vinnikova, A.K., Masilamani, S., **Brooks, H.L.,** Frokiaer, J., Knepper, M.A., Nielsen, S. (2001) Immunocytochemical and immunoelectron microscopic localization of alpha-, beta-and gamma-ENaC in rat kidney. *American Journal of Physiology-Renal Physiology* **280**, F1093-106.

8. Wang, X-Y., Masilamani, S., Nielsen, J., Kwon, T.H., **Brooks, H.L**., Nielsen, S., Knepper, M.A. (2001) The renal thiazide-sensitive transporter as mediator of the aldosterone-escape phenomenon. *Journal of Clinical Investigations* **108**, 215-22.

9. Takahashi, N., **Brooks, H.L.**, Wade, J.B., Liu, W., Kondo, Y., Ito, S., Knepper, M.A., Smithies, O. (2002) Post-transcriptional compensation for heterozygous disruption of the kidney-specific NaK2Cl cotransporter gene. *Journal of the American Society of Nephrology* **13**, 604-610.

10. **Brooks, H.L.,** Allred, A.J., Beutler, K.T., Coffman, T.M., Knepper, M.A. (2002) Profiling of renal sodium transporter abundances in AT1a receptor knockout mice. *Hypertension* **39** (2), 470-473.

11. Masilamani, S., Wang, X., Kim, G-H., **Brooks, H.L.,** Nielsen, J., Nielsen, S., Nakamura, K., Stokes, J.B., Knepper, M.A. (2002). Time course of changes in renal NHE3, NKCC2, NCC, NaKATPase and ENaC expression with dietary NaCl restriction. *American Journal of Physiology-Renal Physiology* **283**, F648–F657.

12. **Brooks, H.L.**, Ageloff, S., Kwon, T.H., Brandt, W., Terris, J.T., Seth, A., Michea, L., Nielsen, S., Fenton, R., Knepper, M.A. (2003) cDNA Array identification of genes regulated in rat renal medulla in response to vasopressin infusion. *American Journal of Physiology-Renal Physiology* **284**, F218-228.

13. Beutler K.T., Masilamani, S., Turban, S., Nielsen, J., **Brooks, H.L.**, Ageloff, S., Fenton R.A., Packer, R.K., Knepper, M.A. (2003) Long-term regulation of ENaC expression in kidney by angiotensin II. *Hypertension* **41**, 1143-50

14. Zhang, Z., Ferraris, J., **Brooks, H.L.**, Brisc, I., Burg, M. (2003) Expression of osmotic stress-related genes in tissues of normal and hypo-osmotic rats. *American Journal of Physiology-Renal Physiology* **285**, F688-93.

15. McReynolds, M.R., Garcia-Taylor, K., Greer, K.A., Hoying, J.B., **Brooks, H.L.** (2005) Renal medullary gene expression in aquaporin-1 null mice. *American Journal of Physiology-Renal Physiology*, **288**, F315-21.

16. Sutherland, V.L., McReynolds, M.R., Tompkins, L.S., Freidman, M., **Brooks, H.L.**, Lynch R.M. (2005) Analysis of the initial steps for glucose utilization in hypothalamic nuclei involved in glucose-sensing. *Developmental Brain Research*, **154**, 255-258.

17. Cai, Q, Dmitrieva, N.I., Ferraris, J.D., **Brooks. H.L.,** van Balkom, B.W.M, Burg, M. (2005) Pax2 expression occurs in renal medullary epithelial cells in vivo and in cell culture, is osmoregulated, and promotes osmotic tolerance. *Proceedings of the National Academy of Science*, **102**, 503-8.

18. Rojek, A, Nielsen, J., **Brooks, H.L.**, Gong, H., Kim, Y-H., Kwon, T-H., Frøkiær, J., Nielsen, S. (2005) Altered expression of selected genes in kidney of rats with lithium-induced NDI. *American Journal of Physiology-Renal Physiology*, **288,** F1276-89.

19. Morris, R.G., Uchida, S., **Brooks, H.L.**, Knepper, M.A., Chou, C-L. (2005) Altered expression profile of transporters in the IMCD of aquaporin 1 knockout mice. *American Journal of Physiology-Renal Physiology*, **289**, F194-99.

20. Alwardt C.M., Yu, Q., **Brooks, H.L.**, McReynolds, M.R., Vasquez, R., Watson, R.R. Larson DF. (2006) Comparative effects of dehydroepiandrosterone sulfate on ventricular diastolic function with young and aged mice. *American Journal of Physiology*: *Regulatory, Integrative and Comparative Physiology,* **290**, R251-6.

21. Greer, K.A., McReynolds, M.R., **Brooks, H.L.** and Hoying, J.B. (2006) CARMA: A platform for analyzing microarray datasets that incorporate replicate measures. *BMC Bioinformatics*, **7**, 149.

22. Cai, Q., Keck, M; McReynolds, M.R., Klein, J.M., Greer, K.A, Sharma, K; Hoying, JB., Sands, J.M., **Brooks, H.L**. (2006) Effect of water restriction on gene expression in mouse renal medulla: Identification of 3βHSD4 as a collecting duct protein. *American Journal of Physiology-Renal Physiology* **291**, F218-224.

23. Carminoso M., **Brooks, H.L.**, Cai, Q., Davis, L.S., Opalenik, S., Breyer M. (2007) Axial heterogeneity of vasopressin receptor subtypes along the human and mouse collecting duct. *American Journal of Physiology-Renal Physiology***, 292**, F351-360

24. Chakraborty, A., **Brooks, H.L.**, McReynolds, M.R., Smith, C.; Hoying, J.B., Bick, R., Zhang, P., Truong, L., Poindexter, B., Lan, H., Elbjeirami, W., Sheikh-Hamad, D. (2007) Stanniocalcin-1 regulates endothelial gene expression and modulates trans-endothelial migration of leukocytes. *American Journal of Physiology-Renal Physiology*,**292**, F895-F904.

25. Hawkins, B.D., King, T., **Brooks, H.L.**, Egleton R. (2007) Increased blood-brain barrier permeability and altered tight junctions in experimental diabetes in the rat: contribution of hyperglycemia and matrix metalloproteinases. *Diabetologia* **50**,202-11.

26. Kim, D., Wang, M., Cai, Q., **Brooks, H.L.**, Dressler, G.R. (2007) Pax transactivation-domain interacting protein is required for urine concentration and osmotolerance in collecting duct epithelia. *Journal of the American Society of Nephrology* **18**, 1458-65.

27 Keck, M., Romero-Aleshire, M.J., Cai, Q., Hoyer, P.B., **Brooks, H.L.** (2007) Hormonal status affects the progression of STZ-induced diabetes and diabetic renal damage in the VCD mouse model of menopause. *American Journal of Physiology – Renal Physiology* **293**, F193-9.

28. Pysher, M.D., Sollome, J.J., Regan, S., Cardinal, T.R., Hoying, J.B., **Brooks, H.L.,** Vaillancourt, R.R. (2007) Increased hexokinase II expression in the renal glomerulus of mice in response to arsenic. *Toxicology & Applied Pharmacology* **224**, 39-48.

29. Cai, Q., McReynolds, M.R., Keck, M., Greer, K.A., Hoying, J.B., **Brooks, H.L.** (2007) Vasopressin receptor (V2R) activation increases cell proliferation in the renal medulla of AQP1 null mice. *American Journal of Physiology – Renal Physiology* **293**, F1858-1864.

30. Fernandez, S.M., Keating, AF, Christian, P.J., Sen, N., Hoying, J.B., **Brooks, H.L.**, Hoyer, P.B. (2008) Involvement of the KIT/KITL signaling pathway in 4-vinylcyclohexene diepoxide-induced ovarian follicle loss in rats. *Biology of Reproduction* **79,** 318-27.

31. Rivera, Z., Christian, P.J., Marion, S., **Brooks, H.L.**, Hoyer, P.B. (2009) Steroidogenic Capacity of Residual Ovarian Tissue in 4-Vinylcyclohexene Diepoxide-Treated Mice. *Biology of Reproduction* **80**, 328-36.

32. Romero-Aleshire, M.J., Diamond-Stanic, M.K., Hasty, A.H., Hoyer, P.B., **Brooks, H.L.** (2009) Loss of ovarian function in the VCD mouse-model of menopause leads to insulin resistance and a rapid progression into the metabolic syndrome. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* **297**, R587-92

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35. Cai Q, **Brooks H.L.** (2011) Phosphorylation of eIF2α via the general control kinase, GCN2, modulates the ability of renal medullary cells to survive high urea stress. *American Journal of Physiology-Renal* **301**, F1202-7.

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38. Chen, H., Perez, J.N., Constantopoulos, E., McKee, L., Regan, J., Hoyer, P.B., **Brooks, H.L.**, Konhilas, J. (2014). A method to study the impact of chemically-induced ovarian failure on exercise capacity and cardiac adaptation in mice. *J Vis Exp*. **86**, doi: 10.3791/51083. PMID: 24747886.

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    Editorial Commentary: Sex Differences in Blood Pressure Control: Are T Lymphocytes the Missing Link? Hypertension, 64, 237-239

40. Goldberg, E.L., Romero-Aleshire, M.J., Renkema, K.R., Ventevogel, M.S., Chew, W.M., Uhrlaub, J.L., Smithey, M.J., Limesand, K., Sempowski, G.D., **Brooks, H.L.,** Nikolich-Žugich, J. (2015) Lifespan-extending caloric restriction or mTOR inhibition impair adaptive immunity of old mice by distinct mechanisms**.** *Aging Cell* **14,** 130-138

41. Pollow D.P., Romero-Aleshire M.J., Sanchez J.N., Konhilas J.P., **Brooks H.L**. (2015) Ang Ii-Induced Hypertension In The VCD Mouse Model Of Menopause Is Prevented By Estrogen Replacement During Perimenopause. *Am J Physiol Regul Integr Comp Physiol*. **309**, R1546-52

42. Moore-Dotson, J.M., Beckman, J.J., Mazade, R.E., Hoon M., Bernstein, A.S., Romero-Aleshire, M.J., **Brooks H.L.**, Eggers, E.D. (2016) Early Retinal Neuronal Dysfunction in Diabetic Mice: Reduced Light-Evoked Inhibition Increases Rod Pathway Signaling. *Invest Ophthalmol Vis Sci*. **57**, 1418-30. PMID: 27028063

43. Poulsen, S.B., Kristensen, T.B., **Brooks, H.L**. Kohan, D.E., Rieg, T., Fenton. R.A. (2017) Role of adenylyl cyclase 6 in the development of lithium-induced nephrogenic diabetes insipidus. *JCI Insight* **2** (7) e91042.

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45. **Brooks HL**, Lindsey ML. (2018) Guidelines for Authors and Reviewers on Antibody Use in Physiology Studies. Am J Physiol Heart Circ Physiol. **314**: H724-H732. PMID:29351459

46. Sundaresh Ram, Mohammed S. Majdi, Jeffrey J. Rodriguez, Yang Gao, and **Heddwen L. Brooks**. (2018) "Classification of Primary Cilia in Microscopy Images Using Convolutional

Neural Random Forests," *2018 IEEE Southwest Symp. on Image Analysis and Interpretation*, published online. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8470320

47. Irsik DL, Romero-Aleshire MJ, Chavez EM, Fallet RW, **Brooks HL**, Carmines PK, Lane, PH. (2018) Renoprotective impact of estrogen receptor-α and its splice variants in female mice with type 1 diabetes. *American Journal of Physiology-Renal.* **315**:F512-F520. PMID:29667912

48. Pollow DP Jr, Uhlorn JA, Sylvester MA, Romero-Aleshire MJ, Uhrlaub JL, Lindsey ML, Nikolich-Zugich J, **Brooks H.L** (2019) Menopause and FOXP3+ Treg cell depletion eliminate female protection against T cell-mediated angiotensin II hypertension. *Am J Physiol Heart Circ Physiol.* **317**: H415-H423. PMID: 31099612

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50. Staruschenko A, **Brooks HL**.(2020) O'Brien Kidney Research Centers. *Am J Physiol Renal Physiol.* **319**: F1042. PMID: 33166180

51. Uhlorn JA, Husband NA, Romero-Aleshire MJ, Moffett C, Lindsey ML, Langlais PA and **Brooks, HL** (2021). $CD4^+$ T cell specific proteomic pathways identified in progression of hypertension across postmenopausal transition. *Journal of the American Heart Association*, Jan **19**; 10(2):e018038 PMID: 33410333

52. **Brooks HL** (2021) Kidney physiology: our future is now. *Am J Physiol Renal Physiol*. 2021 **320**:F1021-F1024. PMID: 33870732

53. Bodine SC, **Brooks HL**, Bunnett NW, Coller HA, Frey MR, Joe B, Kleyman TR, Lindsey ML, Marette A, Morty RE, Ramírez JM, Thomsen MB, Yosten GLC (2021) An American Physiological Society cross-journal Call for Papers on "Inter-Organ Communication in Homeostasis and Disease" *Am J Physiol Lung Cell Mol Physiol*. **321**, L42-L49 PMID: 34010064

54. Sylvester MA, Pollow DP Jr, Moffett C, Nunez W, Uhrlaub JL, Nikolich-Zugich J, **Brooks HL** (2022) Splenocyte transfer from hypertensive donors eliminates premenopausal female protection from Ang II-induced hypertension *Am J Physiol Renal Physiol* **322**, F245-F257 PMID: 35001661

55. Gauthier, M, Dennis, M., Morales, M., **Brooks, H.L**., and Banek, C (2022) Contribution of Afferent Renal Nerves to Renal Dysfunction and Cystogenesis in a Preclinical Model of Autosomal Recessive Polycystic Kidney Disease *Am J Physiol Renal Physiol* **322**, F680-F691 PMID:35466689

56. Pederson W., Ellerman, LM., Sandoval, E., Boitano, S., Frye JB., Doyle, KP., **Brooks HL**. Polverino F., Ledford, JG. (2022) Development of a Novel Mouse Model of Menopause-Associated Asthma. *Am J Respir Cell Mol Biol*. **67**:605-609. PMID: 36318015

57. Blackwell, JA, Silva, JF., Louis EM., Savu, A., Largent Milnes, TM., **Brooks, H.L.,** Pires, PW (2022) Cerebral arteriolar and neurovascular dysfunction after chemically induced menopause in mice *Am J Physiol Heart Circ Physiol*. **323**, H845-H860. PMID: 36149767

58. Bodine SC, Brooks HL, Coller HA, Domingos AI, Frey MR, Goodman BE, Kleyman TR, Lindsey ML, Morty RE, Petersen OH, Ramirez JM, Schaefer L, Thomsen MB, Yosten GLC (2022) An

American Physiological Society cross-journal Call for Papers on "The Physiology of Obesity. Am *J Physiol Lung Cell Mol Physiol*. 2022 Oct 12. PMID: 36223636

59. Gannon, OJ., Naik, J, , Mansour, F, Salinero, AE., Riccio, D., Abi-Ghanem, C Kelly, RD., **Brooks, HL.,** Zuloaga, KL. (2023) Menopause causes metabolic and cognitive impairments in a chronic cerebral hypoperfusion model of vascular contributions to cognitive impairment and dementia. *Biol Sex Differ*. **14** (1):**34**. PMID: 37221553

60. Kumar P, **Brooks HL** (2023) Sex-specific epigenetic programming in renal fibrosis and inflammation. *Am J Physiol Renal Physiol*. **325**, F578-F594. PMID: 37560775

61. Salinero AE, Venkataganesh H, Abi-Ghanem C, Riccio D, Kelly RD, Gannon OJ, Sura A, **Brooks HL**, Zuloaga DG, Zuloaga KL. (2024) Effects of high fat diet on metabolic health vary by age of menopause onset. *Int J Obes* (Lond) PMID: 39152337

62. **Brooks HL**, de Castro Brás LE, Brunt KR, Sylvester MA, Parvatiyar MS, Sirish P, Bansal SS, Sule R, Eadie AL, Knepper MA, Fenton RA, Lindsey ML, DeLeon-Pennell KY, Gomes AV (2024). Guidelines on Antibody Use for Physiology Research. *Am J Physiol Renal Physiol.* **326,** F511-F533 PMID: 38234298

63. Abi-Ghanem C, Salinero AE, Smith RM, Kelly RD, Belanger KM, Richard RN, Paul AS, Herzog AA, Thrasher CA, Rybka KA, Riccio D, Gannon OJ, Kordit D, Kyaw NR, Mansour FM, Groom E, **Brooks HL**, Robison LS, Pumiglia K, Zuloaga DG, Zuloaga KL.J (2024) *Alzheimers Dis.* 2024;101(4):1177-1194. doi: 10.3233/JAD-231332. PMID: 39302361

64. Adams-Sherrod GA, **Brooks HL**, Kumar P. Sex-specific modulation of renal epigenetic and injury markers in aging kidney. (2024) *Am J Physiol Renal Physiol*. Sep 1;**327**(3):F543-F551. doi: 10.1152/ajprenal.00140.2024.PMID: 38961843

REFEREED REVIEW ARTICLES

1. Walker, R.J., **Brooks, H.L**., Holden-Dye, L. (1996) Evolution and overview of classical transmitter molecules and their receptors. *Parasitology* **113**, S3-S33.

2. Knepper, M.A. and **Brooks, H.L.** (2001) Regulation of the sodium transporters NHE3, NKCC-2 and NCC/TSC in the kidney. *Current Opinion in Nephrology and Hypertension* **10**, 655-9.

3. **Brooks HL.,** Pollow, D.P., Hoyer. (2016) The VCD mouse model of menopause and perimenopause for the study of sex differences in cardiovascular disease and the metabolic syndrome. *Physiology*, **31**(4), 250-7

4. Sylvester M.A., **Brooks H.L.** (2019) Sex-Specific Mechanisms in Inflammation and Hypertension. *Curr Hypertens Rep*. 2019 May 23; 21(7):53.PMID: 31123838

MEDIA

Keep engaging youth in science (KEYS), BIO5 high school intern program
https://ondemand.azpm.org/videoshorts/watch/2009/7/2/kuat-youth-in-science/

Vaillancourt and Brooks Describe Their Pilot Project, SWEHSC
https://www.youtube.com/watch?v=OCiSdsOd-vA

American Physiological Society Living History Project. Interviewer of Dr Lise Bankir, Experimental Biology, Chicago April 2014.
https://youtu.be/6rqJANOczcg?list=PLW3R7lwluzvfywUFg9LZ9y9K0l_EVBgZd

Immune System Changes May Cause High Blood Pressure in Postmenopausal Women
https://news.arizona.edu/story/immune-system-changes-may-cause-high-blood-pressure-postmenopausal-women

Leading By Example: A Community of Support for Women and Girls in Science
https://bio5.org/news/leading-example-community-support-women-and-girls-science

Dr. Heddwen Brooks Elected to the American Physiological Society Leadership Council
https://healthsciences.arizona.edu/connect/announcements/dr-heddwen-brooks-elected-american-physiological-society-leadership-council

CONFERENCES / SCHOLARLY PRESENTATIONS

SYMPOSIA: INVITED NATIONAL AND INTERNATIONAL

1. **Global Conference for Nephrogenic Diabetes Insipidus Foundation, 2002**

   Amsterdam, Holland, 2002

2. **Understanding Renal / Cardiovascular Function through Physiological Genomics, 2003**

   Invited Symposia Speaker, Renal and Cardiovascular Disease Markers, American Physiological Society Summer Conference, Augusta, GA, 2003

3. **Global Conference for Nephrogenic Diabetes Insipidus Foundation, 2004**

   Invited Symposia Speaker, Phoenix, AZ, 2004

4. **World Congress on Neurohypophyseal Hormones, 2005**

   Invited Symposia Speaker, Renal Actions of Neurohypophyseal Hormones, Snowmass, CO, 2005

5. **Arizona Chapter, American Physiological Society**
   Invited Speaker. Title: *Disrupted Signaling: Cause or Consequence in Cardiovascular Diseases*. Tucson, Arizona, November 2008

6. **Experimental Biology 2009. Young Investigator Award, American Physiological Society Award Lecture Title**: *New targets of vasopressin action in the renal medulla*. New Orleans, April 2009

7. **American Society of Physiology Summer Conference: Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology**
   Invited Symposium Speaker. Title: *Sex and Sex Steroids in Renal Function*. Colorado, July 2009

8. **Plenary Speaker. Renal Satellite Meeting, Queenstown Research Week**
   Invited Plenary Speaker. Title: *Novel mechanisms of vasopressin action: role in renal function and disease.* Queenstown, New Zealand, August 2010

9. **American Society of Physiology Conference, Physiology of Cardiovascular Disease: Gender Disparities, 2011** Invited Symposium Speaker. Title: *Diabetes and Metabolic Syndrome: Progression Across the Perimenopause Transition*. Jackson, Mississippi, October 2011

10. **FASEB Summer Research Conference "Renal Hemodynamics: Integrating with the Nephron and Beyond"** Invited Symposium Speaker, Title: *Hypertension, menopause and kidney inflammation*. Saxton River, Vermont, July 2013.

11. **Experimental Biology 2014, Sex Differences in Physiology and Pathophysiology**. Invited Symposium Speaker. Title: *Progression of hypertension and diabetes across the perimenopause to menopause transition.* San Diego, California, April 2014.

12. **Experimental Biology 2016. Early life stress and sex-specific manifestations of cardio-respiratory dysfunction.** Invited Symposium Speaker. San Diego, California, April 2016.
13. **FASEB Summer Research Conference 2016** "**Renal Hemodynamics and Cardiovascular Function in Health and Disease"** Invited Symposium Speaker, Title: *Hypertension, menopause and kidney inflammation*. June 2016, Big Sky, MT.
14. **Organization for the Study of Sex Differences** (**OSSD**) **Annual Meeting 2017 "Adverse experiences and sex-based differences in cardio-respiratory function".** Invited Symposium Speaker, Title: *T cell mediated Hypertension: Role of menopause in disease progression.* Montreal, Canada, May 2017.
15. **Keynote Address, 7th Annual Cardiovascular and Metabolic Disease Signature Program Research Day,** University of New Mexico School of Medicine, Feb 2018
16. **Keynote Address, Healthy Heart for Women Symposium 2020**, Lexington, University of Kentucky, Feb 2020
17. **40th Anniversary, Angiotensin Gordon Conference, Italy Feb 2020**. Invited Symposium Speaker
18. **Renal Hypertension Meeting, Tromse, Norway**. Organizing Committee and Speaker, June 2020
19. **50th Anniversary Australian Physiological Society**. Invited Keynote Speaker, Brisbane Nov 2021
20. **Speaker, High Blood Pressure Council of Australia, Annual Scientific Meeting,** Women in Hypertension Session, Dec 2021
21. **Co-organizer and Speaker, Symposium "The Heterogeneity of Inflammation in Cardiovascular Disease", 39th World Congress of the International Union of Physiological Sciences (IUPS), China May 2022**
22. **Porter Award Fellows, American Physiological Society,** Professional Development Session: Publishing Your Work June 2022, Feb 2023, March 2024
23. **Symposium Organizer and Chair**. "The intersection of metabolic and inflammatory mechanisms underlying cardiovascular disease; emerging evidence of sex differences" PANAM Physiological Sciences 2023 Puerta Varas, Chile, November 2023
24 **Speaker, Symposium** 'The role of the immune system in Hypertension and Diabetes" PANAM Physiological Sciences 2023 Puerta Varas, Chile, November 2023
25. **Coordinator and Speaker**, Workshop "Best practices for publishing in the American Journal of Physiology" PANAM Physiological Sciences 2023 Puerta Varas, Chile, November 2023
26. **Symposium Speaker** 'Need to Know in Hypertension: Integrating Sex as a Biological Variable in Research' International Society of Hypertension, Cartagena, Colombia, September 2024
27. **Speaker** 'How to Session: Meeting the Editors: Strategies for Successfully Publishing in Indexed Journals, International Society of Hypertension, Cartagena, Colombia, September 2024
28. **Symposium Speaker** 'Exploring Novel Therapeutic Approaches to Kidney Disease' International Society of Hypertension, Cartagena, Colombia, September 2024

RESEARCH SEMINARS- INVITED

1. Department of Molecular and Cellular Physiology, University of Cincinnati, 2001
2. Department of Cell Biology and Anatomy, University of Arizona, 2002
3. The Water and Salt Research Center, University of Aarhus, Denmark, 2002
4. Department of Physiology and Biophysics, University of Nebraska Medical Center, 2003

5. Department of Medical Physiology, College of Medicine, Texas A&M, 2003
6. Department of Biochemistry and Molecular Biophysics, University of Arizona, 2004
7. Department of Molecular Physiology and Biophysics, Vanderbilt University, 2006
8. Laboratory of Kidney and Electrolyte Metabolism, NHLBI, NIH, 2006
9. Biomedical Engineering Program, University of Arizona, 2007
10. Frontiers in Medical Research, College of Medicine, University of Arizona, 2008
11. Department of Physiology, University of Maryland, April 2008
12. Department of Physiology, Odense University, Denmark, May 2009
13. The Water and Salt Research Center, University of Aarhus, Denmark, May 2009
14. Department of Pharmacology and Toxicology, College of Pharmacy, UA, Sept 2009
15. Department of Basic Medical Sciences, College of Medicine, Phoenix Jan 2010
16. Department of Nutritional Sciences, College of Agricultural Life Sciences, UA, Feb 2010
17. Department of Cellular and Integrative Physiology, University of Nebraska, Feb 2010
18. Department of Physiology, University of Mississippi Medical Center, May 2010
19. Department of Biochemistry, University of Arizona, November 2010
20. Department of Physiology/Pharmacology, University of Missouri Medical Centre, March 2011
21. Department of Pharmacology, College of Medicine, University of Arizona, Sept 2013
22. Translational Research Institute, Brisbane, Australia, July 2014
23. Centre for Kidney Disease Research, Princess Alexandra Hospital, Brisbane, Australia, July 2014
24. NIH Women's Health Conference, Student Ballroom, University of Arizona, Sept 2014
25. Grand Rounds, Department of Obstetrics and Gynecology, College of Medicine, University of Arizona, Dec 2014
26. Red Dress Lecture. Department of Pharmacology, Tulane University, LA, Feb 2016
27. Department of Physiology, Augusta University, Feb 2016.
28. Grand Rounds, Division of Endocrinology, College of Medicine, University of Arizona, April 2017
29. Mississippi Center for Heart Research/Department of Physiology, University of Mississippi Medical Center, October 2017.
30. Department of Basic Medical Sciences, College of Medicine, Phoenix Dec 2019
31. Department of Physiology, LSUHSC New Orleans, Jan 2023
32. Department of Biomedical Engineering, Tulane University, New Orleans, August 2023
33. Department of Cell and Molecular Biology, Tulane University, New Orleans, Sept 2023
34. Department of Medicine, Nephrology Division, Stonybrook University, December 2023
35. Michigan Biological Research Initiative on Sex Differences in Cardiovascular Disease (M-BRISC), University of Michigan Frankel Cardiovascular Center, March 2024
36. **Virendra B. Mahesh Lectureship**, Medical College of Georgia Department of Physiology at Augusta University, April 2024

37. Plenary, George O'Brien Kidney Center Annual Retreat, University of Michigan, April 2024

38. Department of Physiology and Molecular Biophysics, Medical College of Wisconsin, August 2024

PEER REVIEWED ABSTRACTS (Oral presentations; trainee presenters underlined)

(selection since 2007)

1. Diamond-Stanic, M.K., Romero-Aleshire, M.J., Smith, A., Cai, Q., Hoyer, P.B., **Brooks, H.L.** Early diabetic kidney damage in the mouse VCD model of menopause. American Physiological Society Conference, Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology, Austin, TX, August, 2007.

2. **Brooks, H.L**., Patricia B Hoyer, Tsu-Shuen Tsao, and Melissa J Romero-Aleshire. Toll-like receptor 4 mutation delays the onset of insulin resistance in post- menopausal mice fed a high fat diet. *FASEB J*, 2011 25:835.11

3. Moore-Dotson, J.M., Mazade, R.E., *Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L**., and Eggers ED. Retinal inhibitory signalling is increased in streptozotocin-induced diabetes. Arizona Physiological Society Annual Meeting. Tucson, Arizona, November 2012.

4. **Brooks, H.L.** Role of mTOR signaling in lithium-induced nephrogenic diabetes insipidus (NDI). West Coast Salt and Water Club, Annual Meeting, Morro Bay, California, March 2013

5. Pollow, D.P., Uhrlaub, J.L., Romero-Aleshire, M.J., Nikolich-Zugich J, Hay, M., **Brooks, H.L.** University of Arizona, Tucson, AZ. T cell-dependent hypertension is attenuated in female mice during angiotensin II infusion. Arizona Physiological Society Annual Meeting, Phoenix, Arizona, November 2013

6. Moore-Dotson, J.M., Mazade, R.E, Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L**., and Eggers, E.D. Light evoked retinal inhibition is decreased in streptozotocin-induced diabetes. Arizona Physiological Society Annual Meeting, Phoenix, Arizona, November 2013.

7. Gao, Y., Romero-Aleshire, M.J., McDermott, K., **Brooks, H.L**. Lithium regulates primary cilia length in renal collecting duct cells. West Coast Salt and Water Club, Annual Meeting, San Luis Obispo, California, March 2014.

8. Moore-Dotson, J.M., Mazade, R.E., Bernstein A., Romero-Aleshire, M.J., **Brooks H.L.,** and Eggers, E.D. Retinal inhibitory signaling is compromised in diabetes. The Association for Research in Vision and Ophthalmology, Orlando, Florida, May 2014.

9. Pollow, DP, Husband, N, Romero-Aleshire, M.J, Uhlorn, J., Moffet, C. Uhrlaub, J., Nikolich-Zugich, J., Langlais, P., **Brooks, H.L**. Angiotensin II Induces a Proinflammatory Shift in the Splenic CD4+ T Cell Proteome in Menopausal Mice. American Physiological Society Conference, Sex and Gender in Cardiovascular-Renal Physiology and Pathophysiology, Knoxville, Tennessee, October 2018

10. Jade Blackwell, Emma Louis, Joshua Uhlorn, Heddwen L. Brooks and Paulo W. Pires. Post-menopausal cerebral microvascular alterations in wild-type mice and a mouse model of Alzheimer's disease. Experimental Biology, Philadelphia 2022, Featured Topic Presentation – Wiggers Award: Sex and Aging in the Microcirculation

PEER REVIEWED ABSTRACTS (Poster presentations; trainee presenters underlined)

(*selection since 2007)*

1. Fernandez, S.M., **Brooks, H.L.**, Hoyer, P.B. (2007) Involvement of the c-kit signaling pathway in 4-vinylcyclohexene diepoxide-induced follicle loss in rat whole ovarian cultures. *Society of Toxicology*, abstract #1865.
2. Rivera, Z., Christian, P.J., Marion, S.L., **Brooks, H.L.**, Hoyer, P.B. (2007) Androgenic capacity of the follicle-depleted ovary in VCD-treated mice. *Biology of Reproduction*, 173

3. Keck, M., Romero-Aleshire, M.J., Cai, Q., Hoyer, P.B., **Brooks, H.L.** (2007) The development of early diabetic kidney damage in the mouse VCD model of menopause. *FASEB Journal* 21 (6): A1415
4. Romero-Aleshire, M.J., Keck, M., Hoyer, P.B., **Brooks, H.L.** (2007) The role of estrogen on the development of high fat diet induced metabolic syndrome. *FASEB Journal* 21 (6): A1416
5. Cai, Q., McReynolds, M.R., Keck, M., **Brooks, H.L.** (2007) V2 receptor activation induces renal medullary cell proliferation in mice with a reduced urinary concentrating ability. *FASEB Journal* 21 (6): A906
6. Lynch, R.M. Barthelson, R., Cates, J., **Brooks, H.L.,** Galbraith, D.W. (2007). Nucleomics of glucose sensing cells: methodology for cell-type specific analysis of gene expression. *FASEB Journal* 21 (5): A476-A477
7. Keck, M., Romero-Aleshire, M.J., Cai, Q., Hoyer, P.B., **Brooks, H.L.** (2007) Early diabetic kidney damage in the mouse VCD model of menopause. APS meeting, Sex Steroids and Gender in Cardiovascular -Renal Physiology and Pathophysiology
8. Cai, Q, Keck, M., **Brooks, H.L.** Hyperosmolality activates the integrated stress response in mouse medullary cells. *Experimental Biology*, San Diego 2008
9. Nelson, S., Cai, Q., Keck, M., Jon Tse, **Brooks, H.L.** Long term vasopressin regulates renal AQP's differently in mice with a reduced urinary concentrating ability. *Experimental Biology*, San Diego 2008
10. Tse, J., Cai, Q., Weber, C., Lynch, R.M., and **Brooks, H.L.** Reduction of GRP78 increases expression of ATF4, GRP94, GADD153 in mIMCD3 cells. *FASEB J*, 2009 23:970.1
11. Cai, Q and **Brooks, H.L.** GCN2 activation by urea protects cells from osmotic stress. *FASEB J*, 2009, 23:970.8
12. Romero-Aleshire, M.J., Diamond-Stanic, M.K., Hoyer, P.B. and **Brooks, H.L.** Ovarian failure contributes to the onset of the metabolic syndrome. *FASEB J* 2009 23:1013.1
13. Cai, Q., Sarah Nelson, and **Brooks, H.L**. Long term dDAVP increases the expression of urea transporters and ER stress pathway genes in kidneys of mice with urinary concentrating defect. *FASEB J*, 2010 24:1024.25
14. **Brooks, H.L.,** Patricia B Hoyer, Tsu-Shuen Tsao, and Melissa J Romero-Aleshire. Toll-like receptor mutation delays the onset of insulin resistance in post- menopausal mice fed a high fat diet. *FASEB J*, 2011 25:835.11
15. Cai, Q., Romero-Aleshire, M.J., Gao Y., Chandra S., and **Brooks, H.L**. Loss of GCN2, an eIF2alpha kinase, does not impair urinary concentrating ability. *FASEB J*, 2011 25:840.11
16. Gao, Y., Cai, Q., Adun, E., **Brooks, H.L**. Vasopressin increases ATF3 mRNA expression in mouse renal inner medulla *FASEB J*, 2012 26:1100.12
17. Chandra, S., Romero-Aleshire, M.J., Cai, Q., Funk, J., **Brooks, H.L**. Role of Estrogen in the Urinary Concentrating Mechanism. *FASEB J*, 2012 26:1100.9
18. Booth, A., Cai, Q., Romero-Aleshire, M.J., Chandra, S., **Brooks, H.L.** AVP infusion increases the expression of urea transporters and ER stress pathway genes in medullae of female mice with urinary concentrating defect. *FASEB J*, 2012 26:1100.13
19. Romero-Aleshire, M.J., Tsao, TS., Hoyer, P.B., **Brooks, H.L**. Loss of estrogen increases leptin levels, liver dysfunction and insulin resistance in Toll-like receptor 4 mutation mice. *FASEB J*, 2012 26:1096.7
20. Pollow D.P., Perez, J.N., Booth, A., Constantopoulos, E., Konhilas, J.P., **Brooks H.L.** Postmenopausal response to angiotensin II-induced hypertension is blunted during perimenopause: a study in the accelerated ovarian failure (AOF) model of menopause. *FASEB J*, 2013, 27:1112.3
21. Gao Y., Romero-Aleshire, M.J., Cai, Q., Price, T., Brooks H.L. Rapamycin, the inhibitor of mTOR signaling pathway, reverses lithium induced cell proliferation in renal collecting ducts. *FASEB J*, 2013, 27:1111.10

22. Irsik, DL, Fallet, RW, Adun, E, Chavez, E, **Brooks, HL**, Carmines, PK, Lane, PH ER alpha 66 contributes to early diabetic renal disease in mice. *FASEB J*, 2013, 27: 702.12

23. Moore-Dotson J.M., Mazade, R.E., Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L.** and Eggers E.D. Retinal Inhibitory Signaling is Increased in Streptozotocin-induced Diabetes.The Association for Research in Vision and Ophthalmology, May 2013

24. Pollow, D.P., Uhrlaub, J.L., **Brooks, H.L.,** Nikolich-Zugich, J., Hay, M. University of Arizona, Tucson, AZ. Females are protected from hypertension and kidney and brain infiltration of T lymphocytes during angiotensin II infusion. American Heart Association High Blood Pressure Research Council 2013. Abstract #42.

25. Moore-Dotson J.M., Mazade R.E., Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L.,** and Eggers E.D. Retinal GABAergic activity is increased in streptozotocin-induced diabetes. Society for Neuroscience, November 2013.

26. Pollow D.P., Romero-Aleshire, M.J., Uhrlaub J., Nikolich-Zugich J., Hay M., **Brooks H.L**. Tcell-dependent hypertension is attenuated in female mice during angiotensin II infusion FASEB 2014, A751.

27. Beckman J., Moore-Dotson J.M., Romero-Aleshire M.J., **Brooks H.L.,** and Eggers E.D. Morphology of the Retina in Early Diabetes. The Association for Research in Vision and Ophthalmology (ARVO), May 2014.

28. Moore-Dotson JM, Mazade R.E., Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L**., and Eggers ED. Light-evoked rod bipolar cell inhibition is decreased in diabetes. FASEB Summer Research Conference, Retinal Neurobiology and Visual Processing, June 2014.

29. Pollow DP, Perez JN, Constantopoulos E, Konhilas JP, **Brooks HL**. Menopause impairs cardiovascular resilience and blood pressure regulation. MEDICINE AND SCIENCE IN SPORTS AND EXERCISE, 46, 334.

30. Pollow DP, Romero-Aleshire MJ, Goldberg E, Nikolich-Zugich J, **Brooks H.L**. 17-β estradiol treatment prevents angiotensin II-induced hypertension in VCD-treated menopausal female mice, independent of renal T lymphocyte infiltration. American Heart Association Council for High Blood Pressure Research, San Francisco, Sept 2014.

31. Moore-Dotson, J.M., Beckman, J., Mazade, R.E., Bernstein, A.S., Romero-Aleshire, M.J., **Brooks, H.L.** and Eggers, E.D**.** Spontaneous GABAergic signaling in the retinal OFF pathway is reduced in diabetes. Society for Neuroscience, November 2014.

32. Pollow DP, Romero-Aleshire MJ, Davies J, Nikolich-Zugich J, **Brooks HL**. ET_A Receptor Antagonism and Estrogen Replacement Prevent Ang II Hypertension in Menopausal Mice. *FASEB J.* 2016

33. Soren Brandt Poulsen, Tina Bogelund Kristensen, **Heddwen L. Brooks**, Timo Rieg, Robert A Fenton. Importance of adenylyl cyclase 6 in developing lithium-induced nephrogenic diabetes insipidus *FASEB J.* Apr 2017

34. Nathaniel A. Husband, Caitlin Moffet, Melissa J. Romero-Aleshire, Joshua A. Uhlorn, Jennifer Uhrlaub, Natalie Barker, Franchesca Nunez, Janko Nikolich-Zugich, Paul Langlais, **Heddwen L. Brooks**. Differential Responses in the Splenic CD4+ T Cell Proteome Following Ang II-Induced Hypertension in VCD-Treated Menopausal Mice. *FASEB J*, 2018

35. Joshua Uhlorn, Nathaniel A. Husband, Melissa J. Romero-Aleshire, Dennis P. Pollow, Jennifer L. Uhrlaub, Janko Nikolich-Zugich, **Heddwen L. Brooks.** Does T Cell Specific Knockdown of Estrogen Receptor-a Eliminate Premenopausal Protection from Angiotensin II-Induced Hypertension? *FASEB J*, 2018

36. Sylvester MA, Pollow DP, Husband NA, Uhlorn JA, Romero-Aleshire MJ, Uhrlaub J, Nikolich-Zugich J, Brooks HL. Sex difference in T regulatory cell expansion after adoptive transfer from hypertensive donors leads to protection against T cell-mediated hypertension in premenopausal mice. Poster presented at: Cardiovascular, Renal and Metabolic Diseases: Sex-Specific Implications for Physiology; 2018 Oct 1-3; Knoxville, TN. **Abstract travel award winner (American Physiological Society)**

37. Joshua Uhlorn, Nathaniel A. Husband, Melissa J. Romero-Aleshire, Dennis P. Pollow, Jennifer L. Uhrlaub, Janko Nikolich-Zugich, **Heddwen L. Brooks** T Cell Specific Knockdown of Estrogen Receptor-α Does Not Eliminate Premenopausal Protection from Angiotensin II Induced Hypertension, but Does Impact Renal T Cell Expression of CD28 and CTLA-4. Poster presented at: Cardiovascular, Renal and Metabolic Diseases: Sex-Specific Implications for Physiology; 2018 Oct 1-3; Knoxville, TN. **Abstract travel award winner (American Physiological Society)**

38. Pollow, DP, Husband, N, Romero-Aleshire, M.J, Uhlorn, J., Moffet, C. Uhrlaub, J., Nikolich-Zugich, J., Langlais, P., **Brooks, H.L**. Angiotensin II Induces a Proinflammatory Shift in the Splenic CD4+ T Cell Proteome in Menopausal Mice. American Physiological Society Conference, Sex and Gender in Cardiovascular-Renal Physiology and Pathophysiology, Knoxville, Tennessee, October 2018

39. Sylvester MA**,** Pollow DP, Husband NA, Uhlorn JA, Romero-Aleshire MJ, Uhrlaub J, Nikolich-Zugich J, **Brooks HL**. Sex difference in T cell mediated hypertension: are T regulatory cells the key to sex-specific therapeutics? Poster presented at: 2018 APSA West Regional meeting; 2018 Dec 1; Sacramento, CA. **Poster award winner (American Physician Scientist Association)**

40. Uhlorn JA, Husband NA, Romero-Aleshire MJ, Moffett CK, Kelly AC, Langlais PR, Nikolich-Zugich J, Brooks HL. Transcriptomic and Proteomic Analysis of $CD4^+$ T Cells to Identify Sex Differences in Angiotensin II Signaling Pathways**.** Hypertension Council Annual Meeting, American Heart Association, New Orleans, October 2019 **Trainee Onsite Poster Award, Hypertension and the Kidney in Cardiovascular Disease Trainee Advocacy Committee**

41. Sylvester MA, Pollow DP, Uhlorn JA, Romero-Aleshire MJ, Uhrlaub J, Nikolich-Zugich J, **Brooks HL**. Exploring Sex Differences In Immune Cell Profiles Of Male, Premenopausal Female, And Postmenopausal Female Mice To Understand Susceptibility To Immune Mediated Hypertension. Hypertension Council Annual Meeting, American Heart Association, New Orleans, October 2019 **Trainee Onsite Poster Award, Hypertension and the Kidney in Cardiovascular Disease Trainee Advocacy Committee**

42. Jade Blackwell, Emma Louis, Joshua Uhlorn, **Heddwen L. Brooks** and Paulo W. Pires. Post-menopausal cerebral microvascular alterations in wild-type mice and a mouse model of Alzheimer's disease. Experimental Biology, Philadelphia 2022, APS Cerebral Circulation Poster Session, Poster E71

43. Olivia J. Gannon, Janvie S. Naik, Charly Abi-Ghanem, Febronia Mansour, Abigail E. Salinero, David Riccio, Richard Daniel Kelly, **Heddwen L. Brooks**, Kristen L. Zuloaga. Menopause Diminishes Female Protection against Vascular Contributions to Cognitive Impairment and Dementia, Experimental Biology, Philadelphia 2022, APS Central Nervous System Poster Session, E524

COLLOQUIA- ORAL (*) (trainee presenters underlined) ***selection since 2007***

1. ***Brooks, H.L**. Role of Menopause in Development of Diabetic Kidney Disease. Diabetes Data Blitz, Frontiers in Medical Research, College of Medicine, University of Arizona, Tucson, AZ, March 2007.

2. Pollow DP, Perez, JN, Booth A, Konhilas JP, **Brooks HL**. Validating the VCD-treated mouse as a model of postmenopausal angiotensin II-induced hypertension. University of Arizona Frontiers in Biomedical Research 2012.

3. Pollow DP, Perez, JN, Booth A, Konhilas JP, **Brooks, H.L**. Validating the VCD-treated mouse as a model of postmenopausal angiotensin II-induced hypertension. University of Arizona Student Showcase 2012.

4. Pollow DP, Perez JN, Both A, Konhilas JP, **Brooks HL**. Validating the VCD treated mouse as a model of postmenopausal angiotensin II-induced hypertension. Arizona Physiological Society Annual Meeting. Tucson Arizona, November 2012.

5. Pollow D.P., Uhrlaub J., Nikolich-Zugich J., Hay M., **Brooks H.L**. T cell-dependent hypertension and renal injury are attenuated in female mice during angiotensin II infusion. FASEB Summer Research Conference, Renal Hemodynamics, Saxton River, Vermont, July 2013

6. Pollow DP, Uhrlaub JL, Nikolich-Zugich J, Hay M, **Brooks HL**. T cell-dependent hypertension is attenuated in female mice during angiotensin II infusion. University of Arizona Frontiers in Biomedical Research. Tucson Arizona, November 2013

7. Moore-Dotson JM, Mazade RE, *Bernstein AS, Romero-Aleshire MJ, **Brooks HL** and Eggers ED. Light evoked retinal inhibition is decreased in streptozotocin-induced diabetes. Arizona Physiological Society Annual Meeting, Phoenix Arizona November 2013.
8. Pollow DP, Uhrlaub JL, Nikolich-Zugich J, Hay M, **Brooks HL**. T cell-dependent hypertension is attenuated in female mice during angiotensin II infusion. University of Arizona Student Showcase 2013.

9. Pollow DP, Romero-Aleshire MJ, Uhrlaub JL, Nikolich-Zugich J, **Brooks HL**. T cell-dependent hypertension is attenuated in female mice during angiotensin II infusion. Arizona Physiological Society Annual Meeting 2014.

10. Pollow, DP, **Brooks, H.L**. Keynote Speaker, ARCS Foundation-Phoenix Chapter annual scholarship committee luncheon, 2015.

11. Pollow, DP. Sarver Heart Center Advisory Board, University of Arizona, October 2014.

12. Pollow, DP, **Brooks, H.L** Estrogen and T cell-Mediated Regulation of Ang II Hypertension in Female Mice. Invited Seminar, Department of Physiology and Biophysics, University of Mississippi Medical Center, January 2016.

13. Uhlorn JA, Husband NA, Romero-Aleshire MJ, Moffett CK, Kelly AC, Langlais PR, Nikolich-Zugich J, Brooks HL. Sex Differences in Response to Angiotensin II Identify Transcriptomic and Proteomic Signatures 2020 ASN Early Program - Basic Research Forum for Emerging Kidney Scientists

14. Jade Blackwell, Emma Louis, Joshua Uhlorn, **Heddwen L. Brooks** and Paulo W. Pires. Post-menopausal impairment in brain arteriolar endothelial K^+ channel function in a mouse model of Alzheimer's disease. Arizona Chapter Annual Meeting of American Physiological Society, November 2021, Phoenix College of Medicine.

COMMUNITY OUTREACH PRESENTATIONS

1. **Brooks, H.L**. Diabetes and Diabetic Kidney Disease in Women. Sarver Heart Center, Women's Heart Health Education Committee, Swede Johnson Building, September 2009

2. **Brooks, H.L**. Role of Menopause in Development of Hypertension. Sarver Heart Center, Women's Heart Health Education Committee and Minority Outreach Program, Swede Johnson Building, Feb 2016

GRANTS AND CONTRACTS (LIMITED TO PERIOD IN CURRENT RANK)

FEDERAL, CURRENT

2019-2024 R01 NINDS PI Zuloaga (PI) **Brooks** (PI of subcontract with Albany Medical College) Metabolic and Hormonal Mechanisms of Vascular Cognitive Impairment and Dementia

2017-2024 R01HL131834 **Brooks** (PI) Nikolich-Zugich (Co-I) Total $1,535,000
T cell-mediated regulation of blood pressure in postmenopausal hypertension

2022-2027 RO1 NHLBI McDonough (PI) Brooks (Co-I)
Renal Electrolyte Handling in Females vs. Males Over Life Cycle

FEDERAL, UNDER REVIEW

2024-2029 NIH/T32 IDEA

TuLEAD: Training the Next Generation of Physician Scientists

Kolls/**Brooks** Co-Principal Investigators, Scored (50), resubmission Jan 2025

2024-2029 RO1 DK067299 Zhou (PI) **Brooks** Co-I

Novel roles and mechanisms of proximal tubule mitochondrial angiotensin-II and Sirtuin-3 in hypertension. A0 scored 21% JIT, resubmitted under review Oct 29th 2024

2024-2029 RO1 Zhou (PI) **Brooks** Co-I

The Na+/H+ Exchanger 3 in The Proximal Tubule of The Kidney As A Potential New Target in Aging Hypertension

2024-2029 NIH R01 HL133619 Lindsey PI, **Brooks** Co-I

Eliciting Estrogen's Protective Vascular Effects. $2,210,868. JIT resubmitted under review Oct 29th 2024

2024-2029 RO1 McCarthy (PI) Role: Subaward PI: **Brooks,** HL
Vascular smooth muscle O-GlcNAcylation exacerbates aortic stiffness in aging, under review resubmitted under review Oct 29th 2024

STATE/LOCAL GRANTS CURRENT

2017-2021 Arizona Biomedical Research Commission (ABRC).
"Targeted Therapeutics for Polycystic Kidney Disease"
Principal Investigator Total: $750,000
(Co-I's: Ronald Lynch, Josef Vagner, subcontract Donald Kohan)

FEDERAL

2021-2022 NIDDK O'Brien Pilot Award – Brooks (PI) National Institute of Diabetes and Digestive and Kidney Diseases // University of Michigan
Sex differences diabetic kidney disease: role of renal inflammation and impact of COVID 19 infection

2015-2022 R01EY024626-01 Eggers (PI) **Brooks** (Co-I) Total $ per annum $1,865,000
Retinal neuronal signaling in early diabetes

2015-2017 R41DK108620-01 STTR Templeton (PI), Pappas (PI), Brooks (Co-I) $224,587
Portable Multimode Persufflation/Perfusion System for Extended Hypothermic Kidney Preservation

2015-2020 NSF SBE-RCUK Hammond (PI) **Brooks** (Co-I)
Experimental and Descriptive Investigations of Welsh Consonant Mutation

2011-2017 RO1DK323030 Pannabecker (PI) Brooks (Co-I) $1,638,000

Integrated Tubular and Vascular Structure and Function in Renal Inner Medulla

2007-2014 R01DK073611 Brooks (PI) $1,314,900
"Role of vasopressin in regulating renal medullary gene expression"

2009-2011 R01DK073611Z ARAA "Role of vasopressin in regulating renal medullary gene expression" Total: $149,000

FEDERAL TRAINING GRANTS

2023-current **Mentor, T32 KUH PRIME TL1** Deep South Predoctoral Fellowship (Kidney, Urology, Non-Malignant Hematology Premier Research Interdisciplinary Mentored Education TL1 Training Grant) (*to Rebecca Horowitz, MDPhD candidate, Tulane SOM*) $32,000/year

1977-2022 Training Mentor (since 2006), T32 HL07249-37 (JM Burt, PI)
Title: Interdisciplinary Training in Cardiovascular Research
Total: $523,909 per annum 5% effort w\trainee
The Cardiovascular award has positions for pre- and post-doctoral trainees. The goal of training program is to prepare young scientists for careers in biomedical science.
Trainee: Maggie Keck Pre-Doctoral 8/1/2007-7/31/2008
Trainee: Dennis Pollow Pre-Doctoral 7/1/2012-6/30/2014
Trainee: Surabhi Chandra Post-Doctoral 7/1/2010-6/30/2012
Trainee: Johnnie Moore-Dotson Post-Doctoral Co-mentor 7/1/2012-6/30/2014
Trainee: Joshua Uhlorn, Pre-Doctoral 8/1/2017-7/31/2019
Trainee: Megan Sylvester, Pre-Doctoral 8/1/2018-2020

1991-2012 Training Mentor (since 2004), T32 GM08400 (Hoyer, Pat, PI)
Title: Interdisciplinary Training in Integrative and Systems Physiology
Total: $218,945 per annum ($1,102,421 from 2007-2011) 5% effort w\trainee
The Systems and Integrative had positions for pre-doctoral trainees. The goal of the training program was to train young scientists in the principles of whole animal studies and systems physiology.
Trainee: Maggie Keck Pre-Doctoral 8/1/2004-7/31/2005

STATE/LOCAL GRANTS PAST

2016-2017 **Novel Research Project Award in the Area of Cardiovascular Disease and Medicine Donors: William and Dorothy Shaftner.**
Sarver Heart Center Research Award
Principal Investigator $20,000

2009-2010 **ADVANCE NSF**
"Risk Reduction of Diabetic Kidney Disease in Menopause using Dietary Botanicals"
Principal Investigator (Co-I Janet Funk) $35,000

2009-2010 **The John T. and Janet K. Billington Research Award for Heart Disease in Women**
Sarver Heart Center Research Award
"Inflammation and its role in increasing cardiovascular and kidney disease in women."
Principal Investigator (Co-I John Konhilas) $15,000

2008-2009 **Southwest Environmental Health Sciences Center** P30 ES06694
"Mechanisms of arsenic-induced hyperglycemia and renal toxicity"
Co-Investigator (PI Richard Vaillancourt) $40,000

PRIVATE FOUNDATION GRANTS/GIFTS

Clock genes and estrogen in cardiovascular health

2016-2018 **American Heart Association Grant in Aid**
Konhilas (PI) Brooks (Co-I)
Angiotensin II-induced pathological cardiac remodeling in menopausal mice

2013-2016 **Southern Arizona Foundation**
Brooks (PI) $10,000/year
Targeted Therapeutics for Polycystic Kidney Disease

2013-2014 **Juvenile Diabetes Research Foundation**
Innovation Award, Eggers (PI), Brooks (Co-PI) $110,000
Identification of early mechanisms of diabetic retinal damage 1.2 calendar months

2007-2009 **Gottschalk Career Development Award**
American Society of Nephrology, $200,000
3 calendar months (declined as overlap with NIH)

2007-2008 **Lazaro J. Mandel Young Investigator Award**
American Physiological Society, $7500

MENTORED GRANTS/AWARDS TO STUDENTS AND FELLOWS

2023-current **Mentor, T32 KUH PRIME TL1** Deep South Predoctoral Fellowship (Kidney, Urology, Non-Malignant Hematology Premier Research Interdisciplinary Mentored Education TL1 Training Grant) (*to Rebecca Horowitz, MDPhD candidate, Tulane SOM*) $32,000/year

2019-2021 **Mentor, Achievement Rewards for College Scientists Foundation (ARCS) Scholarship** (*Josh Uhlorn, graduate student PSIDP)* $10,000

2016-2017 **University Fellow**, Graduate College, University of Arizona
Joshua Uhlorn, graduate student PSGIDP, $30,000

2014-2016 **Mentor, American Heart Association, Predoctoral Fellowship**
Sex differences in Tcell-mediated regulation of blood pressure and cardiovascular disease *(to Dennis Pollow, graduate student PSGIDP)* $50,000

2014-2016 **Co-Mentor**, **Juvenile Diabetes Foundation, Post-Doctoral Fellowship**
Identification of novel mechanisms of diabetic retinal disease (to Johnnie Moore-Dotson, postdoctoral fellow) $103,180

2014-2015 **Mentor, Achievement Rewards for College Scientists Foundation (ARCS) Scholarship** (*Dennis Pollow, graduate student PSIDP)* $7500

2013-2014 **Mentor, TRIF Imaging Fellowship**
(to Yang Gao, graduate student PSIDP) Dynamic Phase Imaging Interference 4D Microscope for the Study of Primary Cilia Function 0.5 FTE/GTA

2013-2014 **Mentor, Sarver Heart Center Heart Disease in Women Research Award** (to *Dennis Pollow, graduate student PSIDP)* $25,000

2013-2014 **Mentor, Achievement Rewards for College Scientists Foundation (ARCS) Scholarship** (to *Dennis Pollow, graduate student PSIDP)* $7500

2006-2008 **Mentor, Postdoctoral Fellowship in Physiological Genomics**, American Physiological Society (*to Dr Qi Cai, post-doctoral fellow*) $87,000

2006-2008 **Mentor, Achievement Rewards for College Scientists Foundation (ARCS) Scholarship** (to *Maggie Keck, graduate student PSIDP)* $13,000

2005-2007 **Mentor, National Science Foundation Integrative Graduate Education and Research Traineeship (NSF-IGERT) Fellowship (**to *Maggie Keck graduate student PSIDP 2004-2005)* $64,00

TEACHING AND ADVISING – EXTENT OF TEACHING

LIST OF COURSES TAUGHT- ARIZONA

GRADUATE AND UNDERGRADUATE LECTURES

PSIO 480 -- HUMAN PHYSIOLOGY, taught GI section (**5 CREDITS)**

Years as Instructor 2003-2006

BME 411/511- PHYSIOLOGY FOR BIOMEDICAL ENGINEERS (3 CREDITS)

Years as Instructor 2003-2007

NURSING N696A – BIOMETHODS IN NURSING RESEARCH, MOLECULAR METHODS

Years as Instructor 2004-2006

PHYSIOLOGY FOR BIOMEDICAL ENGINEERS (3 CREDITS)

Years as Instructor 2003-2007

PHARMACY PHPR 887 APPLIED PHARMOCOGENETICS

Years as Instructor 2010-2013

PHARMACOLOGY 595B BIOETHICS FOR BIOMEDICAL RESEARCHERS (2 CREDITS)

Years as Instructor 2014-2018 Course Coordinator Dr. Pat Mantyh

PS696C PHYSIOLOGICAL SCIENCES STUDENT FORUM

Years as Course Coordinator 2011-2017

PS696A PHYSIOLOGY SEMINAR SERIES (1 CREDIT)

Years as Course Coordinator 2011-2017

PSIO 603 -- HUMAN PHYSIOLOGY (6 CREDITS)

Years as Instructor 2007-present

Teach entire renal physiology block

Served as Course Coordinator 2009-2016

PSIO 503 MOLECULAR PHYSIOLOGY (6 CREDITS)

Years as Instructor 2003-present
Course Coordinator Dr. Ron Lynch

BME511- PHYSIOLOGY FOR BIOMEDICAL ENGINEERS (3 CREDITS)

Years as Instructor 2007-present
Course Coordinator Dr. Erika Eggers

AZMED MEDICAL SCHOOL CURRICULUM: 1ST AND 2ND YEAR MED STUDENTS

AZMED Cardiovascular, Pulmonary, and Renal Block

2006-present Teach entire Renal Physiology Section & serve as key faculty
Block Director, Ed French/Dr. John Bloom

ADVANCED TOPICS Block (block ended with new curriculum 2019)
2008-2017 Block Director: Amy Waer

LIST OF COURSES TAUGHT- TULANE

SYSTEMS BIOLOGY COURSE

2024-current **Course Director** and lecturer. Biomedical Sciences Graduate Program, Tulane School of Medicine

EXTERNAL TEACHING ACTIVITIES

UNIVERSITY OF NEBRASKA

Department of Physiology

2003 Lecturer, PHYS 930, Advanced Renal Physiology

2010 Lecturer, PHYS 930, Advanced Renal Physiology

2010-2013 **Member, Thesis and Comprehensive Exam Committee**
Debra Irsik PhD 2013
Members: Dr's Zucker, Carmines, Lane, Toews and Brooks

UNIVERSITY OF SOUTHERN FLORIDA

2021 **Chair of Defense** and External Committee Member, PhD Thesis

Jianxiang Xue, Ph.D. Student in Biomedical Science

Department of Molecular Pharmacology and Physiology, Morsani College of Medicine,

AMERICAN PHYSIOLOGICAL SOCIETY

2009-present **Professional Skills Training Course for Graduate Students and Postdoctoral Fellows**
APS Education Committee, Faculty lecturer, Orlando, Florida

2013 **Professional Skills Training Course for Graduate Students and Postdoctoral Fellows**
APS Education Committee, Faculty lecturer, University of Sao Paulo, Ribeirao Preto Medical School, Brazil

UNIVERSITY OF COPENHAGEN, DENMARK

Department of Physiology

2009 Honorable Opponent, **PhD Thesis**
Faculty of Health Sciences,
PhD Candidate: Ulla van Deurs

INDIVIDUAL STUDENT CONTACT

A majority of the undergraduate and graduate students who have completed independent studies are described in the tables below including honors thesis, MS thesis and dissertation sections of the teaching portfolio.

UNDERGRADUATE AND HIGH SCHOOL STUDENT RESEARCH SUPERVISION

Italics, URM student

Year	Student Name	Academic Level	Program of Study
2002	Molly Friedman	Undergraduate	Undergraduate Biology Research Program
2002-2006	*Katherine Taylor-Garcia*	*Undergraduate*	*Undergraduate Biology Research Program*
2004	Mary Pawlowski	Undergraduate	Undergraduate Independent Study-Physiology
2005	*Marcos Teran*	*Undergraduate*	*Summer Institute Research Program, University of Arizona*
2005	*Carlos Hidalgo*	*Undergraduate*	*Arizona Biology Network, Minorities Program Pima Community College*
2005-2006	*Marcos Teran*	*Undergraduate*	*Undergraduate Independent Study-Physiology*
2006-2007	Sarah Nelson	Undergraduate	Undergraduate Independent Study-Molecular and Cell Biology
2006	*Anna Sugeng*	*Undergraduate*	*Undergraduate Independent Study-Physiology*
2007-2009	Sarah Nelson	Undergraduate	Undergraduate Biology Research Program
2007-2009	Alexis Smith	Undergraduate	Undergraduate Independent Study-Physiology
2008	*Kalonda Johnson* Univ. of Alabama	Undergraduate	NSF Research Experience for Undergraduates Summer Program
2008-2011	*Lauren Black*	*Undergraduate*	*Undergraduate Biology Research Program*
2008-2009	Ravi Ram	High School	KEYS program, University of Arizona
2009	*Brooke Moreno*	High School	KEYS program, University of Arizona
2009-2011	*Brooke Moreno*	Undergraduate	Undergraduate Independent Study-Physiology
2010	Charlene Kim	High School	KEYS program, University of Arizona
2009-2010	Alexis Smith	Undergraduate	Undergraduate Biology Research Program
2010-2012	*Ese Adun*	Undergraduate	MARC program, University of Arizona
2010-2011	*Patricia Espiritu*	Undergraduate	Undergraduate Honors Thesis-Physiology
2012	Somya Bhatnagar	High School	KEYS program, University of Arizona
2012	*Manuel González*	Undergraduate	Latin America Summer Research Program
2013	Vy Nguyen	High School	KEYS program, University of Arizona
2015-2018	*Clayton Moralez*	Undergraduate	Undergraduate/STEP UP NIDDK

2015	*Talisa Nez*	High School	KEYS program, University of Arizona/Navajo Nation
2016-2019	Caitlin Moffet	Undergraduate	Undergraduate Independent Study-BME, UBRP
2018-2019	*Wendy Nunez*	Undergraduate	UROC AND WAESO awardee
2019-2020	Emma Louis	Undergraduate	Physiology UA
2019-2020	*Tobi Odeneye*	Undergraduate	Physiology UA/UA Medical Student
2020-2021	Mary Schnellmann	Undergraduate	Neuroscience UA

SERVICE ON DISSERTATION AND GRADUATE COMMITTEES

PhD Comprehensive Exam Committee Service (*Chair of Exam Committee) (*Italics:URM student*)

Years of Service	**Student Name**	**Graduate Program**
2006	Maggie Keck	Physiological Sciences GIDP
2006	*Renata Ramos*	Biomedical Engineering GIDP
2006	*Zelieann Rivera*	Physiological Sciences GIDP
2007	*** Yodying Dangrapai**	Physiological Sciences GIDP
2009	Mandy Sin	Aerospace and Mechanical Engineering
2010	*Debra Irsik*	University of Nebraska, Dept of Physiology
2010	Nathaniel Hart	Physiological Sciences GIDP
2010	Xenia Kachur	Biomedical Engineering GIDP
2010	Jennifer Watson	Biomedical Engineering GIDP
2011	Yang Gao	Physiological Sciences GIDP
2011	***Andrew Busch**	Physiological Sciences GIDP
2011	Gabe Orsinger	Biomedical Engineering GIDP
2011	Courtney Wheatley	Clinical Research Program
2011	*Yulia Lipovka*	Biochemistry/Molecular Cellular Biology
2012	*Lucy Guerrero*	Physiological Sciences GIDP
2012	Kameswari Ananthakrishnan	Physiological Sciences GIDP
2012	Jordan Cabray	Biomedical Engineering GIDP
2013	Dennis Pollow	Physiological Sciences GIDP
2013	***Brandon Thompson**	Physiological Sciences GIDP
2014	Min, Gyongeun	Physiological Sciences GIDP
2017-2018	Foy, Caroline	Animal Sciences, CALS
2016-2018	**Joshua Uhlorn**	Physiological Sciences GIDP
2017-2018	**Megan Sylvester**	Physiological Sciences GIDP, MD/PhD
2018-2021	***Nunez, Franchesca**	Physiological Sciences GIDP
2018-2020	William Pederson	Physiological Sciences GIDP

2018-2020	*Epiphani Simmons*	Neuroscience GIDP
2021-2022	Madeline Gauthier	Physiological Sciences GIDP, MD/PhD
2020-2022	Jade Blackwell	Physiological Sciences GIDP
2021-2022	Stephanie Bruggink	Physiological Sciences GIDP
2023-current	Rebecca Horowitz	MD PhD Candidate, Tulane University
2024-current	*Katie Mantilla*	BMS PhD Candidate, Tulane University

Masters Thesis/Dissertation Committee Service (*primary advisor, *italics*, URM student)

Years of Service	**Student Name**	**Graduate Program**	**Current Position**
2001-2002	Jamie Drees	Physiological Sciences/MS	Graduated with M.S.
2002-2004	Christina Cummings	Physiological Sciences/MS	Graduated with M.S.
2004-2005	***Matt McReynolds**	Physiological Sciences/MS	Perfusion Specialist, Dublin
2005-2007	****Melissa J Romero***	Physiological Sciences/MS	Research Specialist, UA
2007-2009	***Jonathan Tse**	Physiological Sciences/MS	Medical School, Las Vegas
2010-2012	***Allyson Booth**	Physiological Sciences/MS	Faculty, UA Dept Physiology
2010-2012	Rebecca Gilbert	Physiological Sciences/MS	Research Technician, Colorado
2010-2012	****Erin Chavez***	Biomedical Engineering/MS	Proctor and Gamble
2011-2013	*Lauren Querin*	Physiological Sciences/MS	Medical Student, UA PHX
2013-2015	****Austen Thompson***	Physiological Sciences/MS	MD/PhD Student, UA
2012-2014	Max Serowoky	Physiological Sciences/MS	Adjunct Faculty, UA
2012-2014	Jamie Beckman	Physiological Sciences/MS	Research Technician, SD
2015-2017	*Luis Cruz*	Physiological Sciences/MS	Research Technician, CA
2016-2018	***Nathaniel Husband**	**Physiological Sciences/MS**	Medical Student, UA
2020-2022	****Keila Espinoza***	**Physiological Sciences/MS**	PhD program UA
2020-2021	***Ann Thomas**	**Physiological Sciences/MS**	Nursing school
2021-2023	****Lauren Loreto***	**Physiological Sciences/MS**	Nursing School, UA
2021-2022	Jade Blackwell	**Physiological Sciences/MS**	PhD program/OHSU

PhD Dissertation Committee Service (*primary advisor, *italics* URM student)

Years of Service	**Student Name**	**Graduate Program**	**Current Position**
2003-2005	Karen Sweazea	Physiological Sciences/Ph.D	Assistant Professor, ASU
2004-2007	*Sharon Fernandez*	Physiological Sciences/Ph.D	Scientist, Pfizer
2004-2008	***Maggie Keck**	**Physiological Sciences/Ph.D**	**Postdoctoral Fellow, UCSD**
2004-2008	*Renata Ramos*	Biomedical Engineering/Ph.D	Scientist, UT Texas

2005-2009	*Zelieann Rivera*	Physiological Sciences/Ph.D	Assistant Dean, UA CALS
2006-2011	Yodying Dangrapai	Physiological Sciences/Ph.D	Professor, Mahidol, Thailand
2009-2013	*Ingrid Druwe*	Pharm/Toxicology/Ph.D	Postdoctoral Fellow, NIEHS
2009-2015	***Yang Gao**	**Physiological Sciences/Ph.D**	Postdoctoral Fellow, U. Utah
2010-2013	*Debra Irsik*	University of Nebraska, Dept of Physiology/PhD	Faculty VA, Augusta, Georgia
2010-2013	Nathaniel Hart	Physiological Sciences/PhD	Postdoctoral Fellow, Vanderbilt
2010-2013	Courtney Wheatley	Clinical Research Program/PhD	Postdoc, Mayo, MN
2012-2015	*Yulia Lipovka*	Biochemistry/Molecular Cellular Biology/PhD	Postdoctoral Fellow, UA
2013-2015	Brandon Thompson	Physiological Sciences/PhD	Industry Post-doc
2012-2016	***Dennis Pollow**	**Physiological Sciences/Ph.D**	Postdoctoral Fellow, Burnham, UCSD
2018-2021	***Joshua Uhlorn**	**Physiological Sciences/Ph.D**	Pharmaceutical Company, NC
2017-2018	*Lopez-Pier, Marissa*	Biomedical Engineering/Ph.D.	Research Scientist, Ventana
2018-2022	***Megan Sylvester**	**Physiological Sciences MD/Ph.D Program**	Resident OBGYN, University of Colorado
2020-2022	Kristen Cleveland	Pharmacology and Toxicology, PhD Program	Postdoctoral Fellow, UW
2022-2023	Madeline Gauthier	Physiological Sciences MD/Ph.D Program	Medical School student University of Arizona
2018-2022	Stephanie Brugginik	Physiological Sciences/Ph.D	Postdoctoral Fellow, U Colorado
2023-current	***Rebecca Horowitz**	**MD PhD Candidate, Tulane University**	
2024-current	****Katie Mantilla***	**PhD Candidate, Tulane University**	
2024-current	***Madison Altom**	**PhD Candidate, Tulane University**	
2024-current	**Mary Schultz**	**PhD Candidate, Tulane University**	
2024-current	**Mary Schultz**	**MD PhD Candidate, Tulane University**	

Postdoctoral Fellowship/ Faculty Research Mentoring

Years in training	**Postdoctoral Fellow/ Faculty Name**	**Current Position**
2004	Dixie Kullman MS	Faculty, Pima Community College
2004-2005	Elwira Sliwinska, Ph.D.	Professor, Head of the Laboratory of Molecular Biology and Cytometry, Poland
2005-2012	Qi Cai, M.D./Ph.D.	Pathology Residency, U E Carolina
2010-2012	Surahbi Chandra, Ph.D.	Lecturer, University of Nebraska
2018-2019	Dennis Pollow, Ph.D.	Research Scientist Senior, Ventana Medical
2024-current	Shaina D'Souza	

Junior Faculty Mentorship

2008-2010	Dr. Fiona Bailey, Physiology
2009-2016	Dr. Erika Eggers, Physiology
2020-2022	Dr. Paulo Pires, Physiology
2020-2022	Dr. Chris Banek, Physiology
2017-2018	Dr. Alicia Allen, Family and Community Medicine, Provost Office, Faculty Mentoring Program Received **Outstanding Mentor Award**

MS THESIS DIRECTED

UNIVERSITY OF ARIZONA

2003-2005	Matthew McReynolds	M.S.	Physiological Sciences
	Thesis: *Diabetic Kidney Disease in the VCD Model of Menopause*		
2005-2007	Melissa J Romero-Aleshire	M.S.	Physiological Sciences
	Thesis: *Lithium-induced Nephrogenic Diabetes Insipidus: mTOR signaling and renal cell proliferation*		
2007-2009	Jonathan Tse	M.S.	Physiological Sciences
	Thesis: *Hypoxia/Reoxygenation Stress Modulates Atorvastatin Transport at the Blood Brain Barrier: a Role for Organic Anion Transporting Polypeptide*		
2010-2012	Allyson Booth	M.S.	Physiological Sciences
	Dissertation: *Sex Differences in Vasopressin Regulation of Renal Function*		
2011-2012	Erin Chavez	M.S.	Biomedical Engineering
	Thesis: *Novel Computer Threshold analysis for Quantification of Inflammation and Fibrosis of Renal and Cardiac Tissue in Immunohistochemistry Images*		
2013-2015	Austen Thompson	M.S.	Physiological Sciences
	Thesis: *Lithium-induced Nephrogenic Diabetes Insipidus: Regulation of Primary Cilia and Tubular Function*		
2016-2018	Nathaniel Husband	M.S.	Physiological Sciences
	Thesis: *Genome wide analysis of CD4+ T cells from hypertensive females*		
2020-2022	Keila Espinoza	M.S.	Physiological Sciences
	Thesis: *Sex differences in metabolic syndrome and renal inflammation*		

TULANE UNIVERSITY

2023-2024	**Emily Hickman**	M.S.	Physiology
	Thesis: Epigenetic signaling in the aging kidney		

PhD and MD/PhD DISSERTATIONS DIRECTED

UNIVERSITY OF ARIZONA

2004-2008	Maggie Keck Diamond-Stanic	PhD	Physiological Sciences
	Dissertation: *Diabetic Kidney Disease in the VCD Model of Menopause*		
2009-2015	Yang Gao	PhD	Physiological Sciences
	Dissertation: *Lithium-induced Nephrogenic Diabetes Insipidus: mTOR signaling and renal cell proliferation.*		
2011-2014	Brandon Thompson	PhD	Physiological Sciences
	Dissertation: *Hypoxia/reoxygenation stress modulates atorvastatin transport at the*		

	blood brain barrier: a role for organic anion transporting polypeptide Co-Advisor with Dr Patrick Ronaldson (Defense Sept 4th, 2014)		
2011-2016	Dennis Pollow	PhD	Physiological Sciences Dissertation: *Sex Differences in the Genesis of Angiotensin II Hypertension*
2016-2021	Joshua Uhlorn,	PhD,	Physiological Sciences Dissertation: *Omics in the study of Postmenopausal Hypertension*
2017-2022	Megan Sylvester	MD/PhD	Physiological Sciences GIDP
	Exploring the Role of the Immune System in Hypertension Development Before and After Menopause		

TULANE UNIVERSITY

2023-current	Rebecca Horowitz Dissertation: *Sex differences in Vaccine Responsiveness in Hypertension*	MD PhD program, Tulane
2024-current	Madison Altom 2nd[t] year PhD student	Biomedical Sciences PhD Program
2024-current	Katherine Mantilla 2nd year PhD student	Biomedical Sciences PhD Program

COLLABORATION ON CURRICULAR REDESIGN, ASSESSMENT, DIVERSIY AND EQUITY, AND RESEARCH MENTORING

1) Member of the General Education Task Force, a campus wide task force for the University of Arizona
2) Member, Curricular Redesign Team for AZMED (2006) and from 2008-2020 was Department Representative for Curricular Redesign Team for AZMED Intercessions
3) Member of the Academic Program Review Self Study Team in 2008 for the Physiological Sciences Graduate Interdisciplinary Program in 2011.
4) I served on the five year review for the Department of Pharmacology in 2010, reviewing teaching curriculum and faculty mentoring plans
5) Member, Senate Budget and Strategic Planning Committee in 2009. Participated in the Educational Task Force for Review of Academic Programs. Committee reviewed requirements (undergraduate and graduate program metrics) and formalized recommendations to the Provost and President.
6) Advisory board service: I served on several advisory boards for student training programs including UBRP/BRAVO and the T32 Interdisciplinary Training in Cardiovascular Research T32 HL07249 (JM Burt, PI). I am a mentor of record on the IMSD (Initiative for Maximizing Student Development) training grant, and I serve as a mentor in several undergraduate research programs including the Western Alliance to Expand Student Opportunities (WAESO) program, Undergraduate Research Opportunities Consortium and Minimizing Health Disparities (MHD) Program

   I served on the Keep Engaging Youth in Science, High School Program, external advisory board (2008-2015) and as a member (2010-2016) of the T32 External Advisory Board for the Cardiovascular Biomedical Engineering Training Grant, PI Dr Jennifer Barton, Director of Bio5, University of Arizona
7) As Chair of the Graduate Interdisciplinary Program it was my role to prepare tenure and promotion letters for faculty promotion and tenure packets. I currently serve on the promotion and tenure committee for the COM Phoenix.

8) Attended the UA assessment workshops and implemented the assessment criteria for the graduate program in preparation for the APR in 2019.
9) In 2015 as Chair of the MD PhD Committee and Chair of the GIDP I assisted all departments in designing and preparing their applications to the Graduate College joint degree programs for their MD/PhD programs, including departments in College of Agriculture and Life Sciences, College of Science, College of Engineering, College of Pharmacy and College of Medicine.
10) I have worked with the Disability Research Center (DRC) as instructor of record and course coordinator to implement student accommodations.
11) Participant: NSF Module 1 Introduction to Indigenous Mentoring Models (IGESE-SW) Indigenous Mentoring Program
12) Participant: NSF/UA all day workshop on unconscious bias and microaggressions. Unconscious Bias for Search Committees and Microaggressions: Coordinator Dr Marie Chisholm-Burns
13) Inclusion and Mutual Respect of Women in the Orthopedic Workplace-video training

Director of new undergraduate program in College of Medicine, BS in Medicine, U of Arizona

In August 2021 I was appointed Director of a new undergraduate four year degree program (BS in Medicine) in the College of Medicine, at University of Arizona, and was tasked with the responsibility by the Provost to put in place the required curriculum and degree for the fall of 2022. This involved developing the curriculum, scheduling classes, hiring the administrative team (advisors, program coordinators) and working on the marketing and recruitment.

Fall 2022, we matriculated 200 freshman into the major and 500 high school students pre-enrolled for the major starting Fall 2023.

TEACHING/TRAINEE AWARDS AND GRANTS (selected since 2007)

2006-2008	Postdoctoral Fellowship in Physiological Genomics, American Physiological Society Awarded to Dr. Qi Cai, Postdoctoral Fellow
2007-2014	Training Mentor, Interdisciplinary Training in Cardiovascular Research T32 HL07249 (JM Burt, PI) Awarded to: Maggie Keck Diamond-Stanic Pre-Doctoral 2007-2008 Dr. Surabhi Chandra Post Doctoral 2010-2012 Dennis Pollow Pre-Doctoral 2012-2014 Dr. Johnnie Moore-Dotson Post Doctoral 2012-2014 (co-mentor)
2012	Predoctoral Finalist in Renal Excellence, American Physiological Society Awarded to Yang Gao, PhD Candidate
2012	Herb Carter Travel Award, University of Arizona Graduate College Awarded to Yang Gao, PhD Candidate
2013	FASEB Summer Conference Travel Award, Renal Hemodynamics, Saxton River, VT Awarded to Dennis Pollow, PhD Candidate
2014	Predoctoral Finalist in Renal Excellence, American Physiological Society Investigation Awarded to Dennis Pollow, PhD Candidate
2014-2016	Juvenile Diabetes Research Foundation Predoctoral Fellowship Awarded to Johhnie Moore-Dotson (co-mentor)
2014-2016	American Heart Association, Predoctoral Fellowship Awarded to Dennis Pollow, PhD Candidate

2015 American Journal of Physiology, RIC Research Recognition Award.
APS Physiology/Gender Conference, 2015.
Awarded to Dennis Pollow, PhD Candidate

2016 STEP-UP APS/NIDDK Program, Minority Research Fellowship
Awarded to Clayton Moralez, UA Undergraduate Physiology Student

2016 Trainee Recognition Award, APS Renal Section. Experimental Biology, 2016.
Awarded to Dennis Pollow, PhD Candidate

2017 Predoctoral Finalist in Renal Excellence, American Physiological Society
Awarded to Joshua Uhlorn, PhD Candidate

2018 Trainee Recognition Award, APS Sex Differences Conference, Knoxville
Awarded to Megan Sylvester, MDPhD candidate

2018 Trainee Recognition Award, APS Sex Differences Conference, Knoxville
Awarded to Joshua Uhlorn, PhD Candidate

2019 Outstanding Poster Presentation Award, Council for Hypertension, New Orleans
Awarded to Megan Sylvester, MDPhD candidate

2019 Outstanding Poster Presentation Award, Council for Hypertension, New Orleans
Awarded to Joshua Uhlorn, PhD Candidate

2019-2021 Achievement Awards for College Scholars (ARCS) Arizona Chapter, Outstanding Award for Predoctoral Students
Awarded to Joshua Uhlorn, PhD Candidate