

## William B. Farquhar, PhD

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### CURRENT POSITIONS

<b>Professor</b> , Department of Kinesiology & Applied Physiology University of Delaware	(2014-)
<b>Chair</b> , Institutional Review Board University of Delaware	(2018-)
<b>Interim Associate Dean of Research</b> , College of Health Sciences University of Delaware	(2020-)

### RECENT LEADERSHIP POSITIONS

<b>Department Chair</b> , Kinesiology & Applied Physiology, University of Delaware	(2011-2017)
<b>Vice-President and Board Member</b> , American College of Sports Medicine	(2021-)
<b>Board of Directors</b> , Federation of the American Societies for Experimental Biology	(2017-2021)
<b>NIH Study Section Chair</b> , Hypertension and Microcirculation study section	(2019-2021)
<b>Board of Trustees</b> , American College of Sports Medicine	(2016-2019)
<b>Committee Chair</b> , Chairs' Caucus Steering Committee, University of Delaware	(2016-2017)
<b>Co-Chair</b> , Basic Science World Congress on Exercise and Vascular Health, ACSM	(2021-2022)
<b>Committee Chair</b> , College of Health Sciences Research Advisory Committee	(2020-)
<b>Associate Director</b> , COBRE in Cardiovascular Health, NIH (PI Dave Edwards),	(2021-)

### EDUCATION AND TRAINING

<b>Bachelor of Science</b> , Physical Education/Exercise Physiology East Stroudsburg University, PA	(1985-1989)
<b>Master of Science</b> , Cardiac Rehabilitation & Exercise Science East Stroudsburg University, PA	(1989-1991)
<b>Doctor of Philosophy</b> , Exercise & Sports Science/Exercise Physiology Pennsylvania State University, PA	(1994-1998)
<b>Research Fellow</b> , Department of Neurology Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, MA	(1998-2001)
<b>Instructor of Medicine</b> , Division of Aging Harvard Medical School, Hebrew Rehabilitation Center for the Aged, Boston, MA	(2001-2002)

## CHRONOLOGICAL POSITIONS

<b>Exercise Physiologist</b> , Stress Testing & Holter Lab, and Cardiac Rehabilitation Department of Cardiology, Easton Hospital, Easton, PA	(1991-1992)
<b>Exercise Physiologist</b> , Inpatient and Outpatient Cardiac Rehabilitation Cardiac Rehabilitation Department, Lehigh Valley Hospital, Allentown, PA	(1992-1994)
<b>Graduate Assistant</b> , Department of Kinesiology, Penn State University, University Park, PA	(1994-1998)
<b>Research Fellow</b> Department of Neurology, Beth Israel Deaconess Medical Center Harvard Medical School, Boston, MA	(1998-2001)
<b>Instructor in Medicine</b> Harvard Medical School Division on Aging, Boston, MA	(2001-2002)
<b>Assistant Scientist</b> HRCA Research and Training Institute, Boston, MA	(2001-2002)
<b>Assistant Professor</b> University of Delaware, College of Health Sciences, Department of Health, Nutrition and Exercise Sciences, Newark, DE	(2002-2008)
<b>Associate Professor</b> University of Delaware, College of Health Sciences, Department of Health, Nutrition and Exercise Sciences (renamed KAAP), and joint appointments in Biological Sciences and Nursing, Newark, DE	(2008-2014)
<b>Professor</b> University of Delaware, College of Health Sciences, Department of Kinesiology & Applied Physiology, Newark, DE (joint appointment in Biological Sciences)	(2014-)
<b>Chairperson</b> Department of Kinesiology & Applied Physiology, University of Delaware, Newark, DE	(2011-2017)
<b>Interim Associate Dean of Research</b> College of Health Sciences, University of Delaware, Newark, DE	(2020-)

## OTHER FACULTY POSITIONS

<b>Faculty Member</b> Biomechanics and Movement Science Interdisciplinary Master's and PhD Program, University of Delaware, Newark, DE	(2002-2010)
<b>Faculty Member</b>	(2010-)

Applied Physiology Graduate PhD program, University of Delaware,  
Newark, DE

**Specified Health Professional** (2004-2016)

Department of Medicine, Section of Cardiology, Christiana Care Health  
Services, Newark, DE

**DBI Affiliated Faculty** (2007-2014)

Delaware Biotechnology Institute, Newark, DE

**Faculty Member** (2010-2015)

Delaware Cardiovascular Research Center, Newark, DE

#### FEDERAL STUDY SECTION SERVICE

**Outside Reviewer for NIH Office of Scientific Review, GMS** (2004-2005)

**CICS Study Section, Temporary Member** (2012)

**CICS Study Section, Temporary Member** (2012)

**Study Section (reviewing AREA grants)** (2013)

**Study Section (CICS: ZRG1 CVRS-P/M (02))** (2013)

**NIH Study Section (ad hoc)** (2014)

**Study Section (CV & Resp Sci ZRG1 CVRS-B 02)** (2014)

**Study Section (CV & Resp Sci ZRG1 CVRS-Q (80))** (2014)

**Study Section (ZRG1 CVRS-Q (02))** (2014)

**NIH Study Section (ad hoc, CICS)** (2015)

**NIH Study Section (CICS, member conflict panel)** (2015)

**NIH Study Section (ad hoc, HM)** (2016)

**NIH Study Section (HLBP 1 WG 017, PPG review)** (2016)

**NIH Study Section (HM; 4 year term)** (2017-2021)

**NIH Study Section Chair (HM, renamed IVPP; 2 year term)** (2019-2021)

## PROFESSIONAL, COMMUNITY, & UNIVERSITY COMMITTEE ASSIGNMENTS

<b>Strategic Planning Committee, Student Representative</b> American College of Sports Medicine	(1996-1999)
<b>Task Force for Election Policies</b> American College of Sports Medicine	(2000-2001)
<b>Student Affairs Committee</b> American College of Sports Medicine	(1996-1999)
<b>Executive Committee Member, Student Representative</b> Mid-Atlantic Regional Chapter of ACSM	(1995-1997)
<b>Board Member, Student Representative</b> American College of Sports Medicine	(1997-1999)
<b>Task Force for Trainees</b> American Physiological Society	(2001-2002)
<b>Membership Committee</b> American College of Sports Medicine	(2003-2007)
<b>Membership Committee Chair</b> American College of Sports Medicine	(2006-2007)
<b>Departmental Graduate Studies Committee</b> University of Delaware	(2004)
<b>Institutional Review Board, Alternative Member</b> A.I. DuPont Hospital for Children	(2004-2006)
<b>Tributes and Memorial Task Force</b> American College of Sports Medicine	(2006)
<b>Center for Wellness &amp; Longevity Advisory Board</b> Christiana Care Health Center	(2006-2007)
<b>Executive Committee (Member-at-Large)</b> MARC-American College of Sports Medicine	(2007-2008)
<b>Task Force to Examine the Affiliate Society Model</b> American College of Sports Medicine	(2007)
<b>Officer, Phi Kappa Phi Honor Society</b> University of Delaware Chapter	(2006-2008)
<b>President, Phi Kappa Phi Honor Society</b> University of Delaware Chapter	(2009)

<b>Task Force Member for the UD Center on Aging</b> University of Delaware	(2007)
<b>Amer. Inst. Of Biological Sciences Program Review</b> USARIEM, Natick, PA	(2007)
<b>Departmental Safety Committee</b> University of Delaware	(2005-2009)
<b>Chair, Dept Safety Committee</b> University of Delaware	(2010)
<b>Institutional Review Board</b> University of Delaware	(2008-2012)
<b>HSAEC Committee</b> University of Delaware	(2009-2011)
<b>Member, Research Review Committee</b> MARC-American College of Sports Med.	(2007)
<b>Chair, Research Review Committee</b> MARC-American College of Sports Med.	(2008)
<b>Executive Committee (Treasurer/Secretary)</b> MARC-American College of Sports Med.	(2009-2010)
<b>Research Proposal Review</b> PA Department of Health (Oak Ridge)	(2009)
<b>Planning committee for Applied Physiology PhD</b> University of Delaware	(2009)
<b>President-Elect, MARC-ACSM</b> MARC-American College of Sports Med.	(2010-2011)
<b>Vascular BioBP Study Section</b> American Heart Association	(2011)
<b>President, MARC-ACSM</b> MARC-American College of Sports Med.	(2011-2012)
<b>Research Proposal Review</b> PA Department of Health (Oak Ridge)	(2012)
<b>Vascular BioBP Study Section</b> American Heart Association	(2013)
<b>Great Rivers Affiliate Research Committee</b>	(2013)

American Heart Association

**Advisory Board, Center for Premedical Studies** (2013)  
University of Delaware

**Chairs Caucus Steering Committee** (2013-2017)  
University of Delaware

**Member, Search Committee for a Chair of Nursing** (2014)  
University of Delaware

**Guest Editor, Exercise and the Nervous System** (2015)  
Autonomic Neuroscience

**ACSM Board of Trustees, Basic & Applied Science** (2016-2019)  
American College of Sports Medicine

**SFRN Go Red for Women review panel** (2016)  
American Heart Association

**Publications Committee** (2016-2018)  
American Kinesiology Association

**Chair of the Chairs' Caucus Steering Committee** (2016-2017)  
University of Delaware

**Administrative Council Member** (2017-2018)  
American College of Sports Medicine

**COBRE in Cardiovascular Health, advisory board** (2017-Present)  
University of Delaware

**FASEB Board of Directors** (2017-2021)  
FASEB

**Representative-at-Large** (2017-Present)  
International Society of Autonomic Neuroscience

**Chair, IRB** (2018-Present)  
UD Institutional Review Board

**Vice President and Board Member** (2021-Present)  
American College of Sports Medicine  
Committees: Budget & Finance, Strategic Planning, Admin Council

**FASEB Committees** (2020-Present)  
Membership and Leadership Development Committees

**Chair, Research Advisory Committee** (2020-Present)  
College of Health Sciences

**Member, Research Deans Council** (2020-Present)  
University of Delaware

**Search Committees – Department and College** (2002-Present)  
I have served on many staff and faculty search committees

#### HONORS & AWARDS

**Fellow**, American College of Sports Science (2004)

**INBRE Research Summit Award**, Delaware INBRE (2011)

**CHS Excellence in Research Award**, University of Delaware (2011)

**Distinguished Service Award**, MARC ACSM (2015)

**Fellow**, National Academy of Kinesiology (2018)

#### PROFESSIONAL MEMBERSHIPS

**American Physiological Society** (1995-)

**American College of Sports Medicine (Regional and National Member)** (1991-)

**American Heart Association** (2006 - 2010)  
(2015 – 2019)

**International Society of Autonomic Neuroscience** (2017-)

**American Autonomic Society** (2018-)

#### PUBLICATIONS

##### Publications [Professional, Peer Reviewed Journals]

1. Kenney WL, Morgan AL, Farquhar WB, Brooks EM, Pierzga JM, and Derr JA. Decreased active vasodilator sensitivity in aged skin. *Am J Physiol* 272: H1609-1614, 1997.
2. Farquhar WB and Kenney WL. Age and renal prostaglandin inhibition during exercise and heat stress. *J Appl Physiol* 86: 1936-1943, 1999.
3. Farquhar WB, Morgan AL, Zambraski EJ, and Kenney WL. Effects of acetaminophen and ibuprofen on renal function in the stressed kidney. *J Appl Physiol* 86: 598-604, 1999.
4. Farquhar W and Kenney L. Renal effects of ibuprofen during sodium restriction in the aged [letter]. *J Am Geriatr Soc* 48: 106-108, 2000.
5. Farquhar WB, Taylor JA, Darling SE, Chase KP, and Freeman R. Abnormal Baroreflex Responses in Patients With Idiopathic Orthostatic Intolerance. *Circulation* 102: 3086-3091, 2000.

6. Farquhar WB, Zambraski EJ. ACSM Abstracts: A need for more data [commentary]. *Med. Sci. Sports Exerc.* 32:2146-2147, 2000.
7. Hunt BE, Fahy L, Farquhar WB, and Taylor JA. Quantification of mechanical and neural components of vagal baroreflex in humans. *Hypertension* 37: 1362-1368, 2001.
8. Hunt BE, Farquhar WB, and Taylor JA. Does reduced vascular stiffening fully explain preserved cardiovagal baroreflex function in older, physically active men? *Circulation* 103: 2424-2427, 2001.
9. Volek JS, Mazzetti SA, Farquhar WB, Barnes BR, Gomez A, and Kraemer WJ. Physiological responses to short-term exercise in the heat after creatine loading. *Med Sci Sports Exerc* 33: 1101-1108, 2001.
10. Farquhar WB, Zambraski EJ. The effects of creatine use on the athlete's kidney [review]. *Current Sports Medicine Reports.* 1:103-106, 2002.
11. Farquhar WB, Hunt BE, Taylor JA, Darling SE, and Freeman R. Blood volume and its relation to peak O<sub>2</sub> consumption and physical activity in patients with chronic fatigue. *Am J Physiol Heart Circ Physiol* 282: H66-H71, 2002.
12. Freeman R, Lirofonis V, Farquhar WB, and Risk M. Limb venous compliance in patients with idiopathic orthostatic intolerance and postural tachycardia. *J Appl Physiol* 93: 636-644, 2002.
13. Myers CW, Farquhar WB, Forman DE, Williams TD, Dierks DL, and Taylor JA. Carotid Distensibility Characterized via the Isometric Exercise Pressor Response. *Am J Physiol Heart Circ Physiol*, 283 (6): H2592-8, 2002.
14. Pescatello LS, Franklin BA, Faggard R, Farquhar WB, Kelley GA, Ray CA. Exercise and Hypertension: American College of Sports Medicine Position Stand [position stand]. *Med. Sci. Sports Exerc.* 36: 533-553, 2004.
15. Hunt BE and Farquhar WB. Nonlinearities and Asymmetries of the Human Cardiovascular Baroreflex. *Am J Physiol Regul Integr Comp Physiol*, 288(5):R1339-46, 2005.
16. Farquhar WB, Paul EE, Prettyman AV, Stillabower ME. Blood Pressure and Hemodynamic Responses to an Acute Sodium Load in Humans. *J Appl Physiol* 99: 1545-1551, 2005.
17. Wenner MM, Prettyman AV, Maser RE, Farquhar WB. Preserved Autonomic Function in Amenorrheic Athletes. *J Appl Physiol*, 101 (2): 590-7, 2006.
18. Farquhar WB, Wenner MM, Delaney EP, Prettyman AV, Stillabower ME. Sympathetic Neural Responses to Increased Osmolality in Humans. *Am J Physiol Heart Circ Physiol*, 291(5): H2181-6, 2006.
19. Young CN, Stillabower ME, DeSabatino A, Farquhar WB. Venous Smooth Muscle Tone and Responsiveness in Older Adults. *J Appl Physiol*, 101(5):1362-7, 2006.
20. Schell K, Richards JG and Farquhar WB. The Effects of Anatomical Structures on Adult Forearm and Upper Arm Non-invasive Blood Pressures. *Blood Pressure Monitoring*, Feb;12(1):17-22, 2007.



21. Wenner MM, Delaney EP, Rose WC, Stillabower ME, Farquhar WB. The Influence of Plasma Osmolality on Baroreflex Control of Sympathetic Activity. *Am J Physiol Heart Circ Physiol*, Oct; 293(4): H2319-9, 2007.
22. Young CN, Prasad RY, Fullenkamp AM, Stillabower ME, Farquhar WB, and Edwards DG. Ultrasound Assessment of popliteal vein compliance during a short deflation protocol. *J Appl Physiol*, May; 104(5): 1374-80, 2008.
23. Delaney EP, Young CN, DiSabatino A, Stillabower ME, Farquhar WB. Limb venous tone and responsiveness in hypertensive humans. *J Appl Physiol*, Sep; 105(3): 894-901, 2008. PMID: PMC2536820.
24. Maser RE, Stabley JN, Lenhard MJ, Owusu-Griffin P, Provost-Craig MA, Farquhar WB. Zinc intake and biochemical markers of bone turnover in type 1 diabetes. *Diabetes Care*, Dec; 31(12): 2279-80, 2008.
25. Sausen MT, Delaney EP, Stillabower ME, Farquhar WB. Enhanced metaboreflex sensitivity in hypertensive humans. *Eur J Appl Physiol*, Feb; 105(3):351-6, 2008.
26. Reisman DS, Rudolph KS, Farquhar WB. Influence of speed on walking economy poststroke. *Neurorehabil Neural Repair*, Jul-Aug; 23(6):529-34, 2009.
27. Greaney JL, Ray CA, Prettyman AV, Edwards DG, Farquhar WB. Influence of increased plasma osmolality on sympathetic outflow during apnea. *Am J Physiol Regul Integr Comp Physiol*, Oct; 299(4): R1091-6, 2010.
28. Delaney EP, Greaney JL, Edwards DG, Rose WC, Fadel PJ, Farquhar WB. Exaggerated sympathetic and pressor responses to handgrip exercise in older hypertensive humans: role of the muscle metaboreflex. *Am J Physiol Heart Circ Physiol*. Nov; 299(5): H1318-27, 2010. PMID: PMC2993192
29. Wenner MM, Edwards DG, Ray CA, Rose WC, Gardner TJ, Stillabower M, Farquhar WB. Celecoxib Does Not Alter Cardiovascular and Renal Function During Dietary Salt Loading. *Clinical and Experimental Pharmacology and Physiology*. Aug; 38(8): 543-9, 2011.
30. DuPont JJ, Farquhar WB, Edwards DG. Intradermal microdialysis of hypertonic saline attenuates cutaneous vasodilation in response to local heating. *Exp Physiol*. July; 96(7): 674-80, 2011.
31. DuPont JJ, Farquhar WB, Townsend RR, Edwards DG. Ascorbic acid or L-arginine improves cutaneous microvascular function in chronic kidney disease. *J Appl Physiol*. Dec; 111(6):1561-7, 2011.
32. Kuczmarski JM, Daroki MD, DuPont JJ, Sikes RA, Cooper CR, Farquhar WB, Edwards DG. The effect of moderate-to-severe chronic kidney disease on flow-mediated dilation and progenitor cells. *Exp Biol Med*. Sept 1; 236(9): 1085-92, 2011.
33. Greaney JL, Farquhar WB. Why do veins stiffen with advancing age? [Invited Editorial]. *J Appl Physiol*. Jan; 110(1): 11-2, 2011.
34. Greaney JL, DuPont JJ, Lennon-Edwards SL, Sanders PW, Edwards DG, Farquhar WB. Dietary sodium loading impairs microvascular function independent of blood pressure in humans: role of

oxidative stress. *J Physiol*. Nov 1;590(Pt 21):5519-28, 2012. [article received an editorial highlight; shared senior/corresponding author with DG Edwards]

35. Greaney JL, Farquhar WB. Skeletal muscle contraction triggers rapid onset pressor responses in cardiovascular disease. [Invited Editorial] *J Physiol*. Dec 1;590(Pt 23):5933-4, 2012.
36. DuPont JJ, Greaney JL, Wenner MM, Lennon-Edwards SL, Sanders PW, Farquhar WB, and Edwards DG. High dietary sodium intake impairs endothelium-dependent dilation in healthy salt-resistant humans. *J Hypertens*. Mar;31(3): 530-536, 2013. [article received an editorial highlight; shared senior/corresponding author with DG Edwards]
37. Reisman DS, Binder-Macleod S, and Farquhar WB. Changes in Metabolic Cost of Transport Following Locomotor Training Post-Stroke, *Topics in Stroke Rehabilitation*, Mar-Apr; 20(2): 161-70, 2013.
38. Needle AR, Swanik CB, Farquhar WB, Thomas SJ, Rose WC, Kaminski TW. Muscle Spindle Traffic in Functionally Unstable Ankles During Ligamentous Stress. *J Athl Train*. 48(2): 192-202, 2013.
39. Greaney JL, Schwartz CE, Edwards DG, Fadel PJ, Farquhar WB. The neural interaction between the arterial baroreflex and muscle metaboreflex is preserved in older men. *Experimental Physiology*, Oct; 98(10): 1422-31, 2013.
40. Lennon-Edwards S, Farquhar WB. 'Cold as ice,' why do old coronary arteries pay the price? [Invited Editorial] *J Physiol*, Jun 1;591(Pt 11): 2775-7, 2013.
41. Greaney JL, Matthews EL, Boggs ME, Edwards DG, Duncan RL, Farquhar WB. Exaggerated exercise pressor reflex function in adults with elevated systolic blood pressure: role of purinergic receptors. *Am J Physiol Heart Circ Physiol*, Jan;306(1):H132-41, 2014.
42. Lennon-Edwards S, Schellhardt T, Allman B, Farquhar WB, and Edwards DG. Lower potassium intake is associated with increased wave reflection in young healthy males. *Nutr J*, Apr 28;13:39, 2014.
43. DuPont JJ, Ramick MG, Farquhar WB, Townsend RR, Edwards DG. NADPH oxidase-derived reactive oxygen species contribute to impaired cutaneous microvascular function in chronic kidney disease. *Am J Physiol Renal Physiol*. June 15; 306(12): F1499-506, 2014.
44. Needle AR, Swanik CB, Schubert M, Reinecke K, Farquhar WB, Higginson JS, Kaminski TW, Baumeister J. Decoupling of laxity and cortical activation in functionally unstable ankles during joint loading. *Eur J Appl Physiol*, Oct;114(10):2129-38, 2014.
45. Lennon-Edwards S, Ramick M, Matthews EL, Brian MS, Farquhar WB, and Edwards DG. Salt loading has a more deleterious effect on flow-mediated dilation in salt-resistant men than women. *Nutr Metab Cardiovasc Dis*, Sept;24(9):990-5, 2014.
46. Needle AR, Baumeister J, Kaminski TW, Higginson WB, Farquhar WB, Swanik CB. Neuromechanical coupling in the regulation of muscle tone and joint stiffness [Review] *Scandinavian Journal of Medicine & Science in Sports*, Oct; 24(5):737-48, 2014.

47. Greaney JL, Fadel PJ, Edwards DG, Farquhar WB. Rapid onset pressor and sympathetic responses to static handgrip in older hypertensive adults. *Journal of Human Hypertension*, Jul;29(7):402-8, 2015.
48. Edwards DG, Farquhar WB. Vascular effects of dietary salt [review article]. *Current Opinion in Nephrology and Hypertension*, Jan;24(1):8-13, 2015.
49. Matthews EL, Brian MS, Ramick MG, Lennon-Edwards SL, Edwards DG, Farquhar WB. High Dietary Sodium Reduces Flow Mediated Dilation in Humans with Salt Sensitive & Salt Resistant Blood Pressure. *J of Appl Physiol*, June 15;118(2):1510-5, 2015.
50. Stocker SD, Lang SM, Simmonds SS, Wenner MM, and Farquhar WB. Cerebrospinal Fluid Hypernatremia Elevates Sympathetic Nerve Activity and Blood Pressure via the Rostral Ventrolateral Medulla. *Hypertension*, Dec;66(6), 1184-90, 2015.
51. Greaney JL, Wenner MM, and Farquhar WB. Autonomic function and isometric exercise: age and hypertension [review article]. *Auton Neurosci*, Mar; 188:51-7, 2015.
52. Farquhar WB, Edwards DG, Jurkowitz CT, Weintraub WS. Dietary sodium and health: more than just blood pressure [review article]. *J Am Coll Cardiol*, Mar 17;65(10): 1042-1050, 2015.
53. Pescatello LS, MacDonald HV, Ash GI, Lamberti LM, Farquhar WB, Arena R, Johnson BT. Assessing the existing recommendations for hypertension: a review and recommendations for future research priorities [review article]. *Mayo Clin Proc*. Jun; 90(6):801-812, 2015. PMID: PMC5098396
54. Farquhar WB, Greaney JL. Autonomic exercise physiology in health and disease [commentary to accompany a special exercise issue of the journal]. *Auton Neurosci*, Mar;188:1-2, 2015.
55. Matthews EL, Brian MS, Coyle DE, Edwards DG, Stocker SD, Wenner MM, Farquhar WB. Peripheral venous distension elicits a blood pressure raising reflex in young and middle-age adults. *Am J Physiol Regul Integr Comp Physiol*. Jun 1; 310(11):R1128-33, 2016.
56. Needle AR, Kaminski TW, Baumeister J, Higginson JS, Farquhar WB, Swanik CB. The Relationship Between Joint Stiffness and Muscle Activity in Unstable Ankles and Copers. *J Sport Rehabil*, Jan; 26(1):15-25, 2017.
57. Brian MS, Dalpiaz A, Matthews EL, Lennon-Edwards S, Edwards DG, Farquhar WB. Dietary sodium and nocturnal blood pressure dipping in normotensive men and women. *Journal of Human Hypertension*, Feb; 31(2):145-150, 2017.
58. Matthews EL, Brian MS, Edwards DG, Stocker SD, Wenner MM, Farquhar WB. Blood pressure responses to dietary sodium: Association with autonomic cardiovascular function in normotensive adults. *Auton Neurosci*, Dec; 208:51-56, 2017. PMID: PMC5739975
59. Needle AR, Baumeister J, Farquhar WB, Greaney JL, Higginson JS, Kaminski TW, Swanik CB. The relationship between the sensory responses to ankle-joint loading and corticomotor excitability. *Int J Neurosci*. Nov 7: 1-7, 2017.
60. Muth BJ, Brian MS, Chirinos JA, Lennon SL, Farquhar WB, and Edwards DG. Central systolic blood pressure and aortic stiffness response to dietary sodium in young and middle-aged adults. *J Am Soc Hypertens*. Oct; 11(10): 627-634, 2017.

61. Brian MS, Matthews EL, Watso JC, Babcock MC, Wenner MM, Rose WC, Stocker SD, and Farquhar WB. The influence of acute elevations in plasma osmolality and serum sodium on sympathetic outflow and blood pressure responses to exercise. *J Neurophysiol*. Apr 1; 119(4): 1257-1265, 2018.
62. Babcock MC, Brian MS, Watso JC, Edwards DG, Stocker SD, Wenner MM, Farquhar WB. Alterations in dietary sodium intake affect cardiovagal baroreflex sensitivity. *Am J Physiol Regul Integr Comp Physiol* Oct 1;315(4): R688-R695, 2018. PMID: PMC6174209.
63. Wenner MM, Paul EP, Robinson AT, Rose WC, Farquhar WB. Acute NaCl loading reveals a higher blood pressure for a given serum sodium in black compared to white adults. *Frontiers in Physiology*, Oct 1;9: 1354, 2018. PMID:PMC6174209.
64. Guers JJ, Kasecky-Lardner L, Farquhar WB, Edwards DG, Lennon SL. Voluntary wheel running prevents salt-induced endothelial dysfunction: role for oxidative stress. *Journal of Applied Physiology* Feb 1;126(2):502-510, 2019.
65. Babcock MC, Robinson AT, Watso JC, Migdal KU, Stocker SD, Wenner MM, and Farquhar WB. Reducing dietary sodium to 1000 mg per day reduces neurovascular transduction without stimulating sympathetic outflow. *Hypertension* Mar;73(3);587-593, 2019.
66. Robinson AT, Babcock MC, Watso JC, Brian MS, Migdal KU, Wenner MM, Farquhar WB. Sex differences in the relation between sympathetic outflow and vascular sympathetic transduction in young healthy adults. *Am J Physiol Regul Integr Comp Physiol* May 1;316(5): R463-R471, 2019.
67. Robinson AT, Edwards DG, and Farquhar WB. The influence of dietary salt beyond blood pressure [review article]. *Current Hypertension Reports*, April 25; 21(6):42, 2019.
68. Ramick MG, Brian MS, Matthews EL, Seals DR, Lennon SL, Farquhar WB, Edwards DG. NADPH oxidase derived reactive oxygen species contribute to dietary sodium-induced declines in microvascular function in salt resistant hypertension. *Am J Physiol Heart Circ Physiol* July 1; 317(1): H97-H103, 2019.
69. Patterson F and Farquhar WB. Cigarettes at 35 cents a pack, in 2019...[images in public health]. *Journal of Epidemiology & Community Health*, Jul;73(7):589, 2019.
70. Robinson AT, Watso JC, Babcock MC, Joyner MJ, Farquhar WB. Record-breaking performance in a 70-year-old marathoner [correspondence]. *New England Journal of Medicine*, April 11; 380(15):1485-1486, 2019.
71. Robinson AT, Joyner MJ, Farquhar WB. More on the Record-breaking performance in a 70-year-old marathoner [correspondence; our response to 2 letters regarding our earlier correspondence above]. *New England Journal of Medicine*, July 18; 381(3):294, 2019.
72. Watso JC, Babcock MC, Robinson AT, Migdal KU, Stocker SD, Wenner MM, Farquhar WB. Water deprivation does not augment sympathetic or pressor responses to sciatic afferent nerve stimulation in rats or to static exercise in humans. *Journal of Applied Physiology*, JUL 1;127(1): 235-245, 2019.

73. Migdal KU, Robinson AT, Watso JC, Babcock MC, Serrador JR, Farquhar WB. A High Salt Meal Does not Augment Blood Pressure Responses During Maximal Exercise. *Applied Physiology, Nutrition, and Metabolism*, Jun 25:1-6, 2019.
74. Watso JC and Farquhar WB. Hydration Status and Cardiovascular Function [review article]. *Nutrients* August 11;11(8), 2019.
75. Mansoori S, Kushner N, Suminski RR, Farquhar WB, Chai SC. Added Sugar Intake is Associated with Blood Pressure in Older Females. *Nutrients* Sep 3;11(9), 2019.
76. Babcock MC, Robinson AT, Watso JC, Migdal KU, Martens CR, Edwards DG, Pescatello LS, Farquhar WB. Salt Loading Blunts Central and Peripheral Postexercise Hypotension. *Med Sci Sports Exerc* Oct 9, 2019.
77. Frame AA, Farquhar WB, Latulippe ME, McDonough AA, Wainford RD, Wynne BM. Moving the Needle on Hypertension: What Knowledge is Needed? *Nutrition Today* 54 (6), 248-256, 2019.
78. Watso JC, Robinson AT, Babcock MC, Migdal KU, Wenner MM, Stocker SD, Farquhar WB. *Am J Physiol Regul Integr Comp Physiol* Jan 1;318(1): R112-R121, 2020.
79. Migdal KU, Babcock, MC, Robinson AT, Watso JC, Wenner MM, Stocker SD, Farquhar WB. The Impact of High Dietary Sodium Consumption on Blood Pressure Variability in Healthy, Young Adults, accepted for publication, *Am Jnl of Hypertens*, 2020.
80. Kinsman BJ, Simmonds SS, Browning KN, Wenner MM, Farquhar WB, Stocker SD. Integration of Hypernatremia and Angiotensin II by the Organum Vasculosum of the Lamina Terminalis Regulates Thirst. *J Neurosci* Jan 29 Epub ahead of print, 2020.
81. Migdal, K. U., Babcock, M. C., Robinson, A. T., Watso, J. C., Wenner, M. M., Stocker, S. D., Farquhar, W. B. The Impact of High Dietary Sodium Consumption on Blood Pressure Variability in Healthy, Young Adults. *American Journal of Hypertension*, 2020.
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87. Hoopes, E. K., Berube, F. R., D'Agata, M. N., Patterson, F., Farquhar, W. B., Edwards, D. G., Witman, M. A. H. Sleep duration regularity, but not sleep duration, is associated with microvascular function in college students. *Sleep*, 2020.
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95. Hoopes, E. K., Patterson, F., Berube, F. R., D'Agata, M. N., Brewer, B., Malone, S. K., Farquhar, W. B., & Witman, M. A. Actigraphy-derived rest–activity rhythms are associated with nocturnal blood pressure in young women. *Journal of Hypertension*, 39(12), 2021.
96. Obrusnikova, I., Firkin, C. J., & Farquhar, W. B. A systematic review and meta-analysis of the effects of aerobic exercise interventions on cardiorespiratory fitness in adults with intellectual disability. *Disability and Health Journal*, 2021.
97. Hoopes, E. K., D'Agata, M. N., Berube, F. R., Ranadive, S. M., Patterson, F., Farquhar, W. B., Edwards, D. G., & Witman, M. A. Consistency where it counts: Sleep regularity is associated with circulating white blood cell count in young adults. *Brain, Behavior, & Immunity - Health*, 13, 2021
98. Stocker, S. D., Wenner, M. M., Farquhar, W. B., & Browning, K. N. Activation of the Organum Vasculosum of the Lamina Terminalis Produces a Sympathetically Mediated Hypertension. *Hypertension*. Published. 2021
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101. Nathaniel S, McGinty S, Witman MA, Edwards DG, Farquhar W.B., Hosmane V, Wenner MM. A new lead: Sacubitril-valsartan's unique benefit in HFREF could lie with sympathoinhibition. *Auton Neurosci*. 238:102947. PMID: 35131651, Online ahead of print. Jan 20, 2022.

**Note: published abstracts available upon request**

**Misc. Publications (Book Chapters, Letters, Op-Eds, Blog Posts)**

1. Farquhar WB, Kenney, WL. Anti-inflammatory drugs, kidney function, and exercise [review]. *GSSE* 11, 1997.
2. Buskirk ER, Farquhar WB. Sodium in exercise and sport [book chapter]. In: *Macronutrients, electrolytes and macroelements in sports nutrition*: CRC Press, 1999.
3. Forman DE, Farquhar W. Cardiac Rehabilitation and Secondary Prevention Programs for Elderly Cardiac Patients [book chapter]. *Clin Geriatr Med*. 16:619-630, 2000.
4. Frey IC, Farquhar WB. Summer Exercise Tips For Older Adults [for the lay public]. *ACSM Fit Society Page*. 2001.
5. Wenner MM, Irwin S, and Farquhar WB. Exercise Treatment of the Rehabilitated Patient: Cardiopulmonary and Peripheral Responses [book chapter]. *Orthopaedic Physical Therapy*, 2009.
6. Farquhar WB. High blood pressure [book chapter, for the lay public]. In: *ACSM's Complete Guide to Fitness & Health*: Editor Barbara Bushman, Human Kinetics, 2011.
7. Carmean, G, Davis, S, Farquhar, W & Martin, S. *Fitness Tests for NBA Referees*. MED-TOX Health Services [Technical Report submitted to the NBA], 6/17/2011.
8. Farquhar WB and Lee I-M. Fitness Levels of World Cup Soccer Players: Lessons for the rest of us [op-ed essay, for the lay public] *Huffington Post*, July 2014.
9. Farquhar WB and Quinci CE. Planning a career in Healthcare? Ten tips for getting headed in the right direction as an undergraduate. *The College Puzzle* (a Stanford University Educational Blog), May 2015.
10. Farquhar WB. Sodium rich diets can cause damage beyond high blood pressure. *STAT* (Boston Globe Media), December 24, 2015.
11. Farquhar WB. 'Sodium bomb' labels and cardiovascular health. *News Journal* (local newspaper). December 22, 2015.
12. Farquhar WB. What is physiology?...and Why you should care. *I Spy Physiology Blog, The American Physiological Society*, September 8, 2016.

13. Farquhar WB. Another reason to exercise every day during the holidays. *The Conversation*. December 18, 2016.
14. Farquhar WB. Fainting and the summer heat: warmer days can make you swoon so be prepared. *The Conversation*. May 15, 2017. Note: published in *The Washington Post* on June 17, 2017.
15. Farquhar WB. Urge congress to allow more research funding. Editorial, *The News Journal* (local paper). August 24, 2017.
16. Lennon-Edwards S, and Farquhar WB. Cardiovascular Health [book chapter, for the lay public]. In: ACSM's Complete Guide to Fitness & Health, 2<sup>nd</sup> edition: Editor Barbara Bushman, Human Kinetics, 2017.
17. Farquhar WB. Relieve stress and anxiety with exercise in the New Year. *I Spy Physiology Blog, The American Physiological Society*. January 25, 2018.
18. Farquhar WB. Delaware benefits from federal science funding. Editorial, *The News Journal* (local paper). March 19, 2018.
19. Farquhar WB. Federal research funding saves lives, is good for Delaware. Editorial, *The News Journal* (local paper). November 15, 2018.
20. Farquhar WB. Daily exercise, even just a brisk walk, has been shown to lower blood pressure. *Perspective (op-ed), The Washington Post*. December 22, 2018. [the Washington Post republished this piece from *The Conversation*]
21. Farquhar WB. 2020 federal budget won't give enough money to science, and that directly harms Pa. (op-ed), *The Philadelphia Inquirer*, March 17, 2019.
22. Farquhar WB. ACSM and FASEB Partnership Delivers Effective Advocacy. *ACSM Sports Medicine Bulletin*, June 2019.
23. Farquhar B and Smith A. Helping people walk, run use wheelchair on streets will cut pedestrian deaths (op-ed), *The News Journal* (local paper). Jan 10, 2020.
24. Farquhar WB. 2021 As federal budget stalemate continues, funding for local research is in limbo. (op-ed), *Philadelphia Inquirer*, December 14, 2021.

### Google Scholar Statistics:

Citations: 6154  
h-index: 33  
i10-index: 66

Reference: <http://scholar.google.com/citations?user=v-EKA8wAAAAJ&hl=en>

### Link to "My NCBI, My Bibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/william.farquhar.1/bibliography/43927814/public/?sort=date&direction=descending>



## CONSULTATION

**Clinical Physiologist, Department of Cardiology** (1999-2002)  
Beth Israel Deaconess Medical Center, Boston, MA

**Roxbury Heart Center, Roxbury, MA** (1999-2002)  
Exercise Test Supervision in Cariology and Nuclear Medicine

**BioAssessments, LLC** (2008)  
Morristown, NJ

**Innovative Science Solutions** (2020)  
Morristown, NJ

### Other:

**Textbook review for several publishing companies**

**Med-Tox Health Services, Ontario, CA** (contract to NBA Services Corp.)

## EDITORIAL CONTRIBUTIONS

**Member, Editorial Board** (2003-2007)  
Journal of Applied Physiology

**Member, Editorial Board** (2008-)  
Autonomic Neuroscience: Basic and Clinical

**Member, Editorial Board** (2009-)  
Journal of Applied Physiology

**ad hoc Reviewer** (1998-2009)  
Journal of Applied Physiology

**ad hoc Reviewer** (2007-)  
Medicine & Science in Sports and Exercise

**ad hoc Reviewer** (1998)  
American Journal of Physiology

**ad hoc Reviewer** (1998)  
Clinical Autonomic Research

**ad hoc Reviewer** (2005-2008)  
Autonomic Neuroscience: Basic and Clinical

**ad hoc Reviewer** (2006-)  
American Journal of Physiology --- Heart and Circulatory Physiology

**ad hoc Reviewer** (2007-)  
American Journal of Physiology --- Reg., Integrative, & Comparative Physiology

<b>ad hoc Reviewer</b> American Journal of Physiology --- Endocrinology and Metabolism	(2008-)
<b>ad hoc Reviewer</b> American Journal of Cardiology	(2006-)
<b>ad hoc Reviewer</b> Journal of Physiology London	(2006-)
<b>ad hoc Reviewer</b> Experimental Biology and Medicine	(2007)
<b>ad hoc Reviewer</b> Exercise and Sport Science Reviews	(2008)
<b>ad hoc Reviewer</b> Applied Physiology, Nutrition, and Metabolism	(2007)
<b>ad hoc Reviewer</b> Hypertension	(2012-)
<b>Guest Editor</b> Special Exercise Issue, Autonomic Neuroscience: Basic and Clinical	(2015)

#### CONFERENCE ATTENDANCE

**Conference Attendance.** My lab routinely presents data at regional (Mid-Atlantic Regional Chapter of the ACSM) and national (Experimental Biology and the American College of Sports Medicine) meetings. We have also presented at international meetings including the International Society for Autonomic Neuroscience in Brazil in 2011, Italy in 2015, and Japan in 2017. I also traveled to China in 2019 to deliver 4 invited lectures.

#### INVITED PRESENTATIONS

<b>Department of Kinesiology, University of Massachusetts</b> Seminar	(2000)
<b>John B. Pierce Laboratory, Yale University School of Medicine</b> Seminar	(2001)
<b>New England Regional Chapter of ACSM</b> Symposium	(2001)
<b>U.S. Army Research Institute of Environmental Medicine</b> Seminar	(2002)
<b>Noll Physiological Research Seminar Series at Penn State</b> Seminar	(2005)
<b>John B. Pierce Laboratory, Yale University School of Medicine</b>	(2006)

Seminar	
<b>Department of Exercise Science, University of Massachusetts</b> Seminar	(2006)
<b>Vascular Biology Workshop, University of Florida</b> Workshop	(2006)
<b>Medical School Lecture to 1st year students, Drexel Med. School</b> Lecture	(2006-2010)
<b>ACSM membership committee presentation at national meeting</b> Symposium	(2007)
<b>Christiana Care, Lunch and Learn seminar series</b> Seminar	(2007)
<b>Delaware Biotechnology Institute</b> Seminar	(2007)
<b>International Coaching Enrichment Certificate Program at UD</b> Lecture (annual)	(2008)
<b>AI DuPont Hospital for Children, Cardiac Center</b> Seminar	(2008)
<b>UD Biology Dept. Advanced Mammalian Physiology Course</b> Guest Lecture	(2008)
<b>ACSM National Student Colloquium Presenter</b> Symposium	(2008)
<b>Syracuse University Dept of Exercise Science</b> Seminar	(2009)
<b>Red Lion High School Health Careers Presentation</b> Lecture	(2009)
<b>Christiana Care “Mini-Medical School” for the General Public</b> Lecture	(2010)
<b>Cardiology Grand Rounds, Christiana Care</b> Lecture	(2010)
<b>Mid-Atlantic Regional Chapter – ACSM</b> Lecture	(2010)
<b>UD Biology Dept. Cardiovascular Physiology (2 lectures, annual</b>	(2010)

Guest Lectures

- ACSM National Student Colloquium presenter** (2011)  
Symposium
- Sports Medicine Grand Rounds, Christiana Care** (2011)  
Lecture
- Cardiology Grand Rounds, Christiana Care** (2013)  
Lecture
- ACSM Symposium on Exercise & Special populations** (2013)  
Symposium
- Dept of Cellular and Molecular Physiology, Penn State Hershey** (2013)  
Seminar
- Delaware Cardiovascular Research Center Conference** (2013)  
Speaker
- ACCEL Innovation Discovery Series – Christiana Care** (2015)  
Speaker
- American Kinesiology Association Symposium** (2016)  
Speaker
- Delaware Academy of Medicine – Osher Lifelong Learning Institute** (2017)  
Seminar
- Michigan Technological University (grant writing presentation)** (2017)  
Seminar
- Michigan Technological University (research presentation)** (2017)  
Seminar
- North American Artery Annual Meeting, Chicago, IL** (2018)  
Symposium
- Integrated Physiology of Exercise Meeting, San Diego, CA** (2018)  
Symposium
- University of Texas Health Science Center (research presentation)** (2018)  
Seminar
- Lectures on Exercise/Diet and Blood Pressure in Shanghai, China** (2019)  
Conf / Symposium (x2)
- Lecture on Exercise/Diet and Blood Pressure in Tonglu, China** (2019)

Seminar

**Lecture on Exercise/Diet and Blood Pressure in Beijing, China** (2019)  
Seminar

**Augusta University, Vascular Biology Research Seminar Series** (2020)  
Seminar

**Responsible Conduct of Research Training, UD** (2020)  
Seminar - *"The Scientist as a Responsible Member of Society"*

**Responsible Conduct of Research Training, UD** (2022)  
Seminar - *"The Scientist as a Responsible Member of Society"*

## FUNDING

### Past Research Support (since 2000-)

#### **F32 HL10211-03**

National Heart, Lung, and Blood Institute

Role: Principal Investigator

Project Baroreflex Hysteresis and Arterial Stiffness

Dates of 5/1/2000 - 8/2/2002

Project Goals: The purpose of this individual NRSA was to obtain training in the area of autonomic function and blood pressure regulation.

Award: \$100,000

#### **Endowment Award**

American College of Sports Medicine

Role: Principal Investigator

Project Autonomic Function in Coronary Artery Disease

Dates of 7/1/2002 - 6/30/2003

Project Goals: The purpose of this project was to examine the neural and mechanical aspects of baroreflex function in patients with coronary artery disease.

Award: \$10,000

#### **UDRF Award**

University of Delaware Research Foundation

Role: Principal Investigator

Project Title: Mechanisms Underlying Sympathetic Nervous System Activity in Humans

Dates of 7/1/2003 - 6/30/2005

Project Goals: The purpose of this project is to collect pilot data allowing the PI to investigate short vs. long term control of sympathetic activity in healthy adults.

Award: \$30,000

**1 R03 AG023836-01A1**

National Institute on Aging

Role: Principal Investigator

Project Title: Venous Hemodynamic Function in Older Hypertensive Adults

Dates of 1/1/2005 - 12/31/2006

Project Goals: The purpose of this project is to investigate age- and disease-related differences in limb venous compliance and smooth muscle tone.

Award: \$151,000

**R15 HL074851-01**

National Heart, Lung, and Blood Institute

Role: Principal Investigator

Project Title: Sympathetic – Osmotic Interactions in Humans

Dates of 2/23/2004 - 1/31/2007

Project Goals: The purpose of this project is to investigate the osmotic regulation of sympathetic nervous system activity in normotensive and hypertensive humans.

Award: \$226,500

**5 R43 HL077016-02**

NHLBI

Role: Consultant, Oversee Subcontract (PI: Hyde)

Project Title: Real-Time Angiotensin Monitor for Salt Sensitivity

Dates of 4/1/2006 - 3/31/2008

Project Goals: The purpose of this project is to assess physiological responses to an oral salt load, including blood pressure and heart rate variability.

Award: \$43,000

**2R15 HL074851-02**

National Heart, Lung, and Blood Institute

Role: Principal Investigator

Project Title: Sympathetic – Osmotic Interactions in Humans

Dates: 5/3/2007 - 4/30/2009

Project Goals: The purpose of this project is to investigate the osmotic regulation of sympathetic nervous system activity in salt sensitive and salt resistant hypertensive humans. This project is a competitive renewal of the R15 referenced above.

Award Total: \$223,000

**AHA Proposal**

American Heart Association

Role: Co-I, oversee subcontract (PI: Reisman)

Project Title: Relationship between speed and walking function following stroke

Dates: 7/1/2007 - 6/30/2009

Project Goals: The goal of this project is to examine metabolic cost and overall economy of walking in patients that have suffered a stroke.  
Award Total: \$10,000 (per year for 2 years)

**5 R01 HL071159-05**

NIH-NHLBI

Role: Co-I, oversee subcontract (PI: Stachenfeld, Yale University)  
Project Title: Estrogen and Progesterone Effects on Orthostatic Tolerance  
Dates: 5/1/2008 - 4/30/2009  
Project Goals: The purpose of this project is to determine the effects of estradiol and progesterone on sympathetic outflow and cardiovagal baroreflex function and to determine the effects of these hormones on peripheral blood flow in women with high and low orthostatic tolerance.  
Award Total: \$25,000 per year (1 year)

**2 P20 RR016472-08**

NIH-NCRR

Role: Co-I (oversee subproject titled: Physiological Effects of Dietary Sodium in Salt Resistant Humans) (PI: Steiner)  
Project Title: Delaware INBRE IDeA Network of Biomedical Research Excellence  
Dates: 5/1/2009 - 11/1/2011  
Project Goals: The purpose of this subproject is to examine the effects of dietary salt on circadian blood pressure rhythm, arterial vascular function, and venous vascular function in a group of salt resistant humans. This project was successfully transitioned into an R01 (consistent with the aims of the INBRE subproject funding).  
Award Total: \$280,000 over a period of 3 years

**5 R01 HL071159-05**

NIDDK

Role: Co-I, oversee subcontract (PI: Binder-Macleod)  
Project Title: Fast Treadmill Training/Functional Electrical Stimulation to Improve Walking Post Stroke  
Dates: 9/12/2007 - 5/32/2012 (1 year extension)  
Project Goals: The overall goal of this project is to develop a physiologically based intervention to improve functional ambulation in individuals who have sustained a stroke. This proposal was in response to an NIH program announcement for "Research Partnerships for Improving Functional Outcomes."  
Award Total: \$30,000 per year (5 years)

**1R21HD071042-01A1**

NIH-NCMRR

Role: Co-I (PI: Reisman)  
Project Title: Intervention to Improve Physical Activity after Stroke  
Dates: 4/1/2012 - 3/31/2015

Project Goals: The goal of the proposed research is to develop interventions that improve daily walking activity after stroke.

Amount funded (direct + indirect): \$420,740

Amount of Subcontract to KAAP: \$38,474

**1 R01 HL104106**

NIH-NHLBI

Role: PI (multi-PI proposal with D. Edwards)

Project Title: Vascular Effects of Dietary Salt in Humans with Salt-Resistant BP

Dates: 7/01/2011 - 06/30/2016

Project Goals: The purpose of this project is to identify the vascular effects of dietary salt in humans that are salt resistant.

Award Total: \$1.5 million over 4 years

**5P20GM103446-14 (DE INBRE)**

NIH-NIGMS

Role: Co-I of pilot project (Pilot project led by Shannon Lennon-Edwards) (PI of parent award: Stanhope)

Project Title: Vascular Effects of Dietary Potassium in Humans  
5% effort

Dates: 11/10/2014 - 11/09/2016

Award Total: \$248,801

**1 P20 GM113125-01**

NIH/NIGMS

Role: Subproject Co-I (PI of subproject: Lennon; PI of COBRE: Edwards)

Project Title: Center of Biomedical Research Excellence in Cardiovascular Health

Dates: 5/15/2016 - 02/28/2021

Subproject: Interaction of Dietary Potassium with High Dietary Sodium on the Vasculature of Humans

Project Goals: The purpose of this project is to determine if dietary potassium can attenuate the effects of sodium on the vasculature.

Award Total: \$1.0 million over 3 years

**Current Research Support:**

**1 R01 HL128388-01A1**

NIH-NHLBI

Role: PI (multi-PI proposal with S. Stocker).

Project Title: Adverse Neurogenic Actions of Dietary Salt

Dates: 4/01/2016 - 3/31/2020 (2nd NCE to 3/31/2022)



Project Goals: The purpose of this project is to examine the effects of low, medium and high salt diets on cardiovascular reactivity and blood pressure variability. This proposal will identify novel mechanisms in the brain that contribute to abnormal responses.

Award Total: \$2.6 million over 4 years

**1 R01 HL104106-05A1**

NIH

Role: PI (multi-PI proposal with D. Edwards)

Project Title: Vascular Effects of Dietary Salt in Humans with Salt-Resistant BP

Dates: 7/01/2017 - 6/30/2022

Project Goals: The purpose of this project is to identify the vascular effects of dietary salt in humans that are salt resistant. This submission was a competitive renewal of the R01, which was first funded in 2011.

Award Total: \$2.97 million over 5 years

**5R01 HL145055**

Role (co-I; PI is S. Lennon)

Project Title: Mechanisms Underlying the Protective Vascular Effects of Dietary Potassium in Humans

Dates: 9/1/2019 – 7/31/2024

Project Goals: The purpose of this project is to test the hypothesis that dietary potassium will protect the vasculature from sodium's harmful effect by preserving nitric oxide and reducing oxidative stress and endothelial cell stiffness.

Award total: \$2.7 million over 5 years

**R21 AG074544**

NIA

Role: PI

Project Title: Central Sodium Sensing in Older Humans: Implications for BP Regulation

Dates: 2/1/22 – 1/31/24

Project Goals: The purpose of this project is to identify key NaCl-sensing regions of the brain in older adults and determine if NKCC2 mediates the neurohumoral response to acute hyponatremia.

Award Total: \$440,000 over 2 years

**Submitted – scored by not funded; resubmitting for the July 5<sup>th</sup> (cycle II) deadline**

**R01 HL163906**

NHLBI

Role: PI (multi-PI proposal with S. Stocker from UPitt)

Project Title: Forebrain electroneutral transporters in salt sensitive hypertension

Dates: TBD

Project Goals: The purpose of this project is to test the hypothesis that ingestion of excess salt elevates extracellular [NaCl] to activate NaCl-sensing neurons in the OVLT/SFO through NKCC2, which in turn stimulates AVP secretion, sympathetic activity, and BP. We also hypothesize that these responses are greater in salt sensitive compared to salt resistant adults.

Award Total: \$2.4 million over 5 years

## MENTORING

### Undergraduate:

I routinely host undergraduate students in my lab (1-3 per semester). These students come from KAAP and Biological Sciences (I formerly hosted Nursing students as well). KAAP students generally register for "485" credit, and the Nursing students that I previously worked with completed a rotation in conjunction with Dr. Erlinda Wheeler's research class. The nursing students presented a research poster at the end of each semester. One undergraduate Biology student worked in my lab and published a first-authored paper (see above, Sausen et al *Eur J Appl Physiol*). He went on to complete his PhD at Hopkins.

### Undergraduate Academic Advising:

From 2008-2011, I advised approximately 45 students per academic year. I was twice nominated for an Excellence in Undergraduate Advising Award.

**Undergraduate Twitter Feed:** I created a twitter account to reach our undergraduate students. I routinely tweet, with the theme of "Health-related information viewed through a physiology lens." Account: @farquhar\_wbf ([https://twitter.com/farquhar\\_wbf](https://twitter.com/farquhar_wbf))

**Department Facebook Page:** I created the department Facebook page with the original goal to push information out to the community. Account: UD KAAP (<https://www.facebook.com/udkaap/?ref=hl>)

### Former and Current Graduate Students:

Dr. Megan M. Wenner	graduated with M.S. in 2005 and PhD in 2009; completed a post-doc at the Pierce Lab, Yale University, in New Haven, CT. She is currently an Associate Professor at UD with an R01.
Dr. Erin P. Delaney	graduated with M.S. in 2006 and PhD in 2010; currently works in industry for Actelion Pharmaceuticals (she supports the cardiopulmonary portfolio)
Dr. Colin N. Young	graduated with M.S. degree in 2005; completed PhD in Pharmacology and Physiology at the Univ. of Missouri, and postdoc at Cornell. He is currently an Associate Professor in Pharmacology and Physiology at George Washington University with R01 funding.
Dr. Jody Greaney	graduated with MS in 2009, PhD in 2013 (Biological Sciences). She received full stipend support from the American Heart Association for the last 2 years of her PhD training. She completed post-doctoral training at Noll Laboratory, Penn State University and is now an Assistant Professor at the University of Texas at Arlington.
Richard Wilson	graduated with MS in 2009
Rebecca McPhearson	Applied Physiology PhD student in my lab for one year
Tyler Kmiec	Applied Physiology PhD student in my lab for one year (2013-14)

Ryan Michael Ward	graduated with MS in 2010. Attended PT school.
Dr. Evan Matthews	graduated with a PhD in Applied Physiology PhD in 2015. He received an ACSM Foundation Award (2013). He is currently an Associate Professor at Montclair State University.
Dr. Michael Brian	graduated with a PhD in Applied Physiology PhD in 2016. Currently an Assistant Professor at Plymouth State in New Hampshire.
Dr. Joseph Watso	former Applied Physiology PhD student in my lab, postdoc at UT Southwestern Medical Center. Accepted a TT position at Florida State University.
Dr. Matthew Babcock	former Applied Physiology PhD student in my lab, currently post doc at the University of Denver
Dr. Kamila Migdal	former Applied Physiology PhD, currently completing post doc training
Dr. Austin Robinson	former post-doctoral fellow in my lab, currently tenure track assistant professor at Auburn University with NIH funding
Ron McMillan	Biological Sciences PhD student currently in my lab.
Dr. Joseph Stock	Post-doctoral fellow currently in my lab. Funded with an F32.
Nathan Romberger	Applied Physiology PhD student currently in my lab.

**Note:** Graduate students in my lab have received support from the American College of Sports Medicine, the American Heart Association, and NIH.

**Note:** I have served on multiple thesis and dissertation committees.

## TEACHING

<b>Clinical Electrocardiography – 2 credit class</b> Penn State University	(1996)
<b>Exercise Prescription - 3 credit class</b> Penn State University	(1997)
<b>Exercise Specialist Workshop – 1 week, annual</b> East Stroudsburg University	(1995-1998)
<b>Health and Fitness Workshop – 1 week, annual</b> Indiana University of Penn	(1997-1998)
<b>Case Studies in Exercise Science – 1 credit class</b> Penn State University	(1994-1997)
<b>Fitness Appraisal – 1 credit laboratory class</b> Penn State University	(1996)

<b>Advanced Physiology of Exercise – 3 credit graduate class</b> University of Delaware	(2002)
<b>Human Cardiovascular Control – 3 credit graduate class</b> University of Delaware	(2003)
<b>Cardiovascular Assessment II - 3 credit graduate class</b> University of Delaware	(2003)
<b>Seminar in Exercise Phys. – 1 credit undergraduate class</b> University of Delaware	(2003)
<b>Human Cardiovascular Control – 3 credit graduate class</b> University of Delaware	(2004-2005)
<b>Seminar in Exercise Physiology – 1 credit graduate class</b> University of Delaware	(2005)
<b>Physiology of Activity – 3 credit class</b> University of Delaware	(2005)
<b>Advanced Physiology of Exercise – 3 credit grad. class</b> University of Delaware	(2005)
<b>Physiology of Activity – 3 credit undergrad. class</b> University of Delaware	(2006)
<b>Applied Physiology of Activity – 3 credit class</b> University of Delaware	(2006)
<b>Seminar in Exercise Physiology – 1 credit grad. class</b> University of Delaware	(2006)
<b>Advanced Physiology of Exercise – 3 credit grad. class</b> University of Delaware	(2007)
<b>Medical Physiology Graduate class – 3 credit, team taught</b> University of Delaware	(2007)
<b>Applied Physiology of Activity – 3 credit undergrad.</b> University of Delaware	(2007)
<b>Pre-Professional Ex. Phys Seminar – 1 credit undergrad Credit</b>	(2007)
<b>Graduate Seminar in Exercise Science – 1 credit grad Credit</b>	(2007-2011)

<b>Applied Physiology of Activity – 3 credit undergrad</b> Credit	(2008-2010)
<b>Seminar in Exercise Physiology – 1 credit grad. class</b> Credit	(2008)
<b>Advanced Physiology of Exercise – 3 credit grad. class</b> Credit	(2008-2010)
<b>Practicum in Exercise Science</b> University of Delaware	(2008)
<b>Medical Physiology Graduate class - 3 credit</b> University of Delaware	(2009-2010)
<b>Advanced Physiology of Exercise - 3 credit graduate class</b> University of Delaware	(2009)
<b>Advanced Physiology of Exercise - 3 credit graduate class</b> University of Delaware	(2010)
<b>Advanced Mammalian Physiology - 4 credit</b> University of Delaware	(2010)
<b>Readings in Physiology - 1 credit</b> University of Delaware	(2010)
<b>Practicum in Exercise Science</b> University of Delaware	(2010)
<b>Health Sciences Honors Seminar (1 credit)</b> University of Delaware	(2011)
<b>Advanced Physiology of Exercise</b> University of Delaware	(2011)
<b>Advanced Mammalian Physiology - 4 credit</b> University of Delaware	(2011)
<b>Advanced Mammalian Physiology - 4 credit</b> University of Delaware	(2012)
<b>Advanced Physiology of Exercise</b> University of Delaware	(2012)
<b>Advanced Physiology of Exercise</b> University of Delaware	(2013)
<b>Advanced Mammalian Physiology - 4 credit</b>	(2013)

University of Delaware

**Advanced Mammalian Physiology - 4 credit** (2014)  
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**Advanced Physiology of Exercise** (2014)  
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**Advanced Physiology of Exercise** (2015)  
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**Advanced Mammalian Physiology - 4 credit** (2015)  
University of Delaware

**Advanced Physiology of Exercise** (2015)  
University of Delaware

**Advanced Mammalian Physiology - 4 credit** (2016)  
University of Delaware

**Advanced Physiology of Exercise** (2017)  
University of Delaware

**Freshman Seminar in Exercise Science (1 credit, 3 sections)** (2017)  
University of Delaware

**Advanced Physiology of Exercise** (2019-21)  
University of Delaware

**Advanced Human Physiology (taught 1/3<sup>rd</sup> of this class)** (2019-21)  
University of Delaware

#### CERTIFICATIONS

**Advanced Cardiac Life Support** (1991-2005)  
American Heart Association

**ACSM Exercise Specialist** (1991-)  
American College of Sports Medicine

**CPR** (1991-)  
American Heart Association

#### REFERENCES

Available upon request