Paul Michael O'Connor, Ph.D – Curriculum Vitae

Personal Details

Name: Paul Michael O'Connor

Current Appointment: Associate Professor (Tenured), Department of Physiology, Medical College of Georgia, Augusta University

Contact Information:

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Education and Training

2005- 2008: Post-Doctoral Fellow**,** Department of Physiology, Medical College of Wisconsin**,** Supervisor: Prof A.W. Cowley Jr.

2001-2005: Doctor of Philosophy (Physiology), Department of Physiology, Monash University, Australia

Thesis title: "Renal medullary oxygenation and antihypertensive mechanisms"

2000: B.Sc. Honors (Physiology), Department of Physiology, Monash University, Australia

Thesis title: "The effect of papillary osmolality on lipid droplets of RMICs"

1997-1999: Bachelor of Biomedical Science (Majors: Physiology & Immunology), Monash University, Victoria, Australia

1995-1996: High School, St Bede's College, Mentone, Victoria, Australia

Professional

Academic Appointments:

July 2017 –current:	Program Director: Department of Physiology Graduate Program Associate Professor Department of Physiology, Augusta University, Augusta, Ga.
July 2017:	Tenure Awarded
July 2016-current:	Associate Professor Department of Physiology, Augusta University Augusta, GA.
Jan 2014-June 2016:	Assistant Professor (tenure-track) Department of Physiology, Augusta University, Augusta, Ga

Dec 2011 –Dec 2013: Assistant Professor (tenure-track)
Department of Medicine, Section of Experimental Medicine, Augusta University, Augusta, Ga.

Oct 2008-August 2011: Assistant Professor (Research)
Department of Physiology, Medical College of Wisconsin

Administrative Responsibilities/Appointments:

Editorial Boards:

Clinical and Experimental Pharmacology and Physiology (2008)

American Journal of Physiology – Renal (2010 – Current)

Frontiers in Physiology: Genomic Physiology (2010)

Physiological Reports (2013-current)

Ad-Hoc Reviewer (manuscripts):

Clinical and Experimental Pharmacology and Physiology, American Journal of Physiology, Hypertension, Circulation Research, Journal of the Renin Angiotensin System, FASEB Journal, Acta Physiologica, Behavior and Physiology, JASN, Free Radicals in Biology and Medicine, American Journal of Hypertension, Kidney International, Translational research.

Administrative roles:

2019: Co-director with Yingsan Yoon, Physiology Graduate Program

2018: Director, Physiology Graduate Program

July-2017-Dec 2017: Co-Director with Adviye Ergul, Physiology Graduate Program

Committees:

2018 – CURs undergraduate research review committee

2018 – Augusta University Physiology Chair search committee

2018 – Physiology new faculty search committee.

2016-19 – American Physiological Society, Water and Electrolyte Homeostasis section, Steering committee.

2017- Organize Department of Physiology Greenblatt lecture/oversee Mahesh Lecture.

2016-17 Augusta University Software Committee (Representative for Physiology)

2015-16 Reviewer, Augusta University Intramural grants program

2014-2016 American Physiological Society – Renal section Awards Committee.

2015-GRU Faculty Compensation Committee

2015 Experimental Biology Meeting Mentor

2014-15 MCG teaching Faculty search committee (Representative for Physiology). Organized Physiology Teaching faculty candidate recruitment (Anthony Payne)

American Physiological Society: John F. Perkins Jr. Memorial Committee (2014-2017)

Ad Hoc Reviewer Georgia Regents University IACUC – (2013 – 2016).

Director of Journal Club (Experimental Medicine (2011-13)

Department for Physiology, Medical college of Wisconsin, Exam Editing Committee, 1st year Medical Physiology (2009)

Representative for Department of Physiology; MCW Post-Doctoral Association (2006-2008)

International/National/Local Societies:

2018-Current: American Association of Immunologists

2012-Current: Member American Society of Nephrology

2008- Current: Member American Heart Association

2006-Current: Member American Physiological Society

Peer Review:

2018 June 15 – reviewer NIH NIDDK (Re) Building a Kidney Consortium, Pilot & Feasibility applications

2014- 2016: VA merit Review Committee -Nephrology.

2014-2016: APS Renal section Awards committee

2012-2017: AHA Cardio-renal review section (April 2012, 2013, 2015, Oct 2016, May 2017)

Judge – Graduate Research Day June 2012, 2017, 2018.

Dissertation Defense:

2014 Reader: Dissertation Defense – Student: Jonathan Heimlich; Supervisor: David Pollock (Professor UAB)

2012 Doctoral dissertation Committee member - Student: Margarette Zimmerman; Supervisor: Jennifer Sullivan (Associate Prof GRU)

2009 Doctoral dissertation Committee member - Student: Carmen De Miguel; Supervisor: David Mattson (Prof MCW).

Teaching

Teaching

Augusta University

2015- spring 2018, fall 2019:

Problem Based Learning Facilitator (M1 and M2)

4.5 teaching hours per week each semester, 10% effort, average student evaluation 4.8/5 (consistently evaluated above 4.7/5). 2018 MCG exemplary teaching award for PBL.

2015-current: First year Medical Students MEDI-Phase 1

Approximately 13 teaching hours each year, average student evaluation 4.25/5, Classes taught include:

Body fluid balance (1 hour)
Renal clearance and renal failure (1 hour)
Renal blood flow and glomerular filtration (2 hours)
Tubular Reabsorption and secretion (2 hours)
Renal Handling Na, Cl, H20 (2 hours)
Regulation of K, Ca, PO4 (2 hours)
Regulation Acid/Base (2 hours)
Control of Micturition & Diuretics (1 hour)

2017-2018: Second year Medical Students; Medical Renal Physiology

Assist in Chronic Heart failure Simulation case/Physical Diagnosis
12 hours total each year)

2014-2018: Second year Medical Students; Medical Renal Physiology

Renal Physiology Review Lecture (1 hour each year)

2014-2018 Graduate school

Approximately 10 teaching hours each year, average student evaluation 4.15/5. Received 2018 Graduate School Teaching Award based on student evaluations.

Classes taught include:

COGS 8033: Integrated Systems Biology

Body Fluids (2 hours)

Renal Structure Function (1 hour)

Renal Hemodynamics and GFR (1 hour)

Electrolyte Balance (1 hour)

Electrolyte Balance II (1 hour)

Fluid Balance (1 hour)

COGS 8011: Responsible conduct of research

Research Misconduct (1 hour)

COGS 8030: Experimental Therapeutics

Drug Discovery (2 hours)

PHYS8350 – Current trends in Physiology (Fall 2018). Developed and taught (In combination with Jennifer Sullivan) PBL format course on Hypertension and its experimental models (1 hour per week) for physiology graduate students.

2014-current: Pre-matriculation

Renal physiology (4-hours)

2013: **Graduate school**

Advanced Study of Renal Physiology (PSIO-8360) Acid-Base Homeostasis

Current trends in Physiology (PSIO-8350)

University of Alabama Birmingham - GBS747 Advance Renal Physiology – September 12th, Loop of Henle (2hrs)

Medical College of Wisconsin

Problem based Learning: Renal acid/base homeostasis (1st year medical students; In combination with M Riess (Anesthesiology)

Practical laboratory Demonstrator:

Cardiovascular pig lab (1st year medical students; involved guiding students through a large animal surgery, and explaining fundamentals of cardiac physiology).

Monash University 2000-2005

Supervisor/Tutor: 1st Year Medicine Course Rural Placement (Mentor for students on retreat for 1 week in northern Victoria)

Medicine:

Blood Pressure Measurement (1st Year)

Biomedical Science:

Human Cardiovascular (2nd Year)

Science (Physiology):

Mammalian Blood Pressure (3rd Year)

Exercise Simulation (2nd Year)

Cardiovascular Simulation (2nd Year)

Clinical & Experimental Cardiovascular Physiology (3rd Year)

Muscle & Exercise (3rd Year; mentored a group of 6 students through a research project~60 hours, year)

Scientific Mentoring:

2018 - Current:

Major Dissertation Advisor

- Sarah Ray
- Eleanor Mannon (MD/PhD)

Medical Scholars program (9 weeks) – Trevin Wilkes (M1)

Rotating student (7 weeks) – Sarah Ray

2017 – Rotating graduate student Bhaumik Pandya

- Rotating MD/PHD student Elinor Mannon (M1)
- Summer student/technician Kyu Chul Chang (M1)
- Summer student/technician Alec Seaton (M1)

2017-(current): Co-mentor K99 period (with Prof Clinton Webb) Camilla Ferreira Wenceslau. Project entitled 'Intrarenal arteries sense trauma-derived mitochondrial N-formyl peptides and lead to kidney injury in SIRS'

2015- Rotating Graduate students (Candace Poole, Heath Robinson)

2014-2017 Graduate student (Co-mentor with Jennifer Sullivan) Gene Ryan Crislip Department of Physiology – AHA predoctoral fellowship 15PRE25850008 entitled 'The Impact of Sex on Renal Medullary Pericytes in Ischemia Reperfusion Injury' $52,000 total award.

2014 Ashwin Ajith (rotating graduate student)

2014 Sawsan Elattar (rotating graduate student)

2014 Sandip Darji (rotating graduate student)

2013 Volunteer: Roshan Patel (MD)

2012-14 Cardiology Fellow (GRU): Avirup Guha (MBBS)

2012 Deans Medical Scholar Program: Brent Birmingham

2012 UPSTaRT program: Carly Stilphen

2012 DODI research fellowship (GHSU): Student: Benjamin Aaron Mazer

2011 Summer student Program (MCW): Student Kachia Moua

Research and Training Grants Awarded

Current Funding

2/2017-2/2021 – P03 – NIH P01 HL134603-03 Program Project Grant NHLBI – A0 'Damage Associated Molecular Patterns in Hypertension' Role: Project leader – (P3 - $398,115 p.a)

2014-19: R01 NIH NIDDK DK099548 'HV1 in the development of salt-sensitive hypertension and kidney disease' (Awarded: $200,000 annual direct costs 15,16,17,18 and 250,000 2019; 4/1/2014-3/30/2019)). Role: Principle Investigator

2019 – Augusta IGP 'Sodium bicarbonate protects against CKD progression by activating splenic anti-inflammatory pathways' $50,751. Role: Principle Investigator.

Student Funding

Camilla Ferreira Wenceslau: Co-mentor K99 2015-17 period (with Prof Clinton Webb). Project entitled 'Intrarenal arteries sense trauma-derived mitochondrial N-formyl peptides and lead to kidney injury in SIRS'

Gene Ryan Crislip: Co-mentor with Jennifer Sullivan. Gene – AHA pretdoctoral fellowship 15PRE25850008 entitled 'The Impact of Sex on Renal Medullary Pericytes in Ischemia Reperfusion Injury' $52,000 total award.

Pending

Multi-PI NIH R01 – (O'Connor, Harris, Baban) 'Oral $NaHCO_3$ protects CKD progression via activation of cholinergic anti-inflammatory pathways' $499,000 p.a direct costs (5 years)(reviewed June 28/29 – 2018) – A0 scored 45% - planned resubmission (summer/fall 2019)

Novel 'neuronal like' signaling between mesothelial cells is the bridge between gastro-intestinal function and the immune system' in response to the #RFA-RM-18-009, NIH Directors Transformative Research Award (R01 – clinical trial optional)

$NaHCO_3$ loading limits renal inflammation in Lupus Nephritis. Lupus Research Alliance (NRG program)

Past Funding

2016-2017. University of Alabama at Birmingham/University of California San Diego O'Brien Core Award. $10,000 credit for use of the Obrien Center Core Facilities.

2015 American Physiological Society Guyton Award: $25,000. Role: Principle Investigator

2015: Georgia Regents Intramural PSRP award 'Na/H exchange promotes stroke by activation of Hv1 in microglia' $25,000, 1 year. Role: Principle Investigator

2010-14: American Heart Association Scientist Development Grant (National) 10SDG4150061, Principal Investigator, 2010-2014 ($70,000 per year direct costs: $308,000 total funding)

2010-13: Hypoxia is the common pathway of renal failure' NHMRC Research Grant Australia, Associate Investigator ($478,125AU total cost, 3 years)

2008-9: Effect of O_2 tension on tubular-vascular cross talk and medullary perfusion' American Heart Association Post-Doctoral Research Fellowship, Principal Investigator, ($88,000 total funding)

2001-04 Australian Postgraduate Award (Full scholarship Monash University Department of Physiology Graduate Program and 20,000p.a stipend).

Products/Patents

2019 – Patent pending 'COMPOSITIONS OF ORAL ALKALINE SALTS AND METABOLIC ACID INDUCERS AND USES THEREOF' Inventors Paul O'Connor and Ryan Harris.

Awards and Honors

2017-18, Medical College of Georgia Exemplary Teaching Award (PBL)

2018, Excellence in Teaching Award (Augusta University Graduate School)

2015, American Physiological Society Arthur C. Guyton Award for Excellence in Integrative Physiology ($25,000).

2014, American Physiological Society Water and Electrolyte Homeostasis Section New Investigator Award.

2013, Fellow of the American Heart Association

2012, American Heart Association, Council on Kidney in Cardiovascular Disease, New Investigator Travel Award

2011, Research Recognition Award: APS Renal Section

2005, Postdoctoral Travel Award: Heart foundation of Australia

2004, Travel Grant: Heart Foundation of Australia

2004, Poster Prize: Monash University Postgraduate Association

2001, Australian Doctoral Fellowship (Full PhD Scholarship, 20,000pa stipend – 3.5 years)

Community Activities

2010-2011, USAFL Milwaukee Bombers Australian Rules Football Team, Head Coach

Popular media

Television

Interviewed for Russian Broadcasting Co NTV November 2018.

Interviewed by WRDW Channel 12: about 2018 Journal of Immunology manuscript 'Oral NaHCO3 activates the splenic anti-inflammatory pathway; evidence vagal signals are transmitted via mesothelial cells http://www.wrdw.com/nbc26/content/news/Baking-soda-could-help-fight-Autoimmune-disease--479379903.html

News story picked up nationally and internationally https://www.facebook.com/CustomizedHeathSolutions/videos/2009133212661283/; http://www.wcax.com/content/news/479652283.html; http://www.kwtx.com/content/news/479779193.html; https://www.msn.com/en-us/video/news/baking-soda-has-potential-to-treat-autoimmune-disease/vp-AAwyoB9

https://www.facebook.com/dennisantenorjr/videos/1771410782957770/UzpfSTYwODY0ODY3NjoxMDE1ODA4MDY3MTk3ODY3Nw/

Story discussed on popular television 'the Doctors' https://www.thedoctorstv.com/articles/smell-farts-better-health and Dr Oz show https://www.doctoroz.com/article/5-reasons-you-should-use-baking-soda

Radio

Interviewed for KGNU Boulder/Denver (Howonearthradio.org) November 15th 2018. http://howonearthradio.org/archives/6927

Interviewed for ReachMD, the USA's largest learning platform for physicians and other healthcare professionals. June 2018 (https://reachmd.com/programs/clinicians-roundtable/could-a-daily-dose-of-baking-soda-combat-autoimmune-disease/10261/)

Interviewed by Superhuman radio: https://www.stitcher.com/podcast/super-human-radio/e/54308414; May 2018

Interviewed by KCBS radio San Francisco; https://kcbsradio.radio.com/media/audio-channel/baking-soda-could-help-prevent-autoimmune-diseases; April 2018

Podcast

Interviewed by Dr Samir Kakodkar (MD) a gastroenterologist, specialist in inflammatory bowel disease and Assistant professor at Rush University Medical Center in Chicago for his podcast, Against the Grain.

https://itunes.apple.com/us/podcast/against-the-grain/id1155874017?mt=2

Press

Interviewed about 2018 Journal of Immunology manuscript 'Oral $NaHCO_3$ activates the splenic anti-inflammatory pathway; evidence vagal signals are transmitted via mesothelial cells' by

- Men's Journal https://www.mensjournal.com/health-fitness/how-drinking-baking-soda-with-water-could-ease-your-sore-muscles/ Sep 2018 issue.
- Food Technology Magazine
- Orthopedics This Week
- Mother Nature Network
- Arthritis Digest
- ALN magazine
- Down To Earth magazine, Delhi
- The Mighty
- IG magazine

Press release picked up by major national and international news media http://app.trendkite.com/newsletter/view/cce6c398-81b6-4a86-a589-3cce68cd3045 including the Daily Mail, India Times, The Sun, Health line, Jerusalem Post and the Economic Times. http://www.radionz.co.nz/national/programmes/thepanel/audio/2018643343/baking-soda-to-combat-autoimmune-disease

"Drinking baking soda could be an inexpensive, safe way to combat autoimmune disease" was #2 in EurekAlert!'s top 10 most-visited releases of 2018: https://www.eurekalert.org/pub_releases/2018-12/jn-etn122018.php. EurekAlert is an editorially independent, non-profit science news service founded by the American Association for the Advancement of Science (AAAS). Article was one of top 2018 news stories on Medical Express: https://bestoflifecentral.com/2018/12/21/best-of-last-year-the-top-medical-xpress-articles-of-2018-medical-xpress/ and Genenews: https://www.genengnews.com/insights/top-10-gen-news-articles-of-2018/

Invited presentations

2019 'A basic solution to activate the cholinergic anti-inflammatory pathway' invited talk International Society of Autonomic Neuroscience (ISAN), UCLA, July 25-27th Los Angeles, CA, 2019,

2019 'to be determined' Department of Physiology Monash University, April 2019

2019 'to be determined' Howard Florey Research Institute, April 2019

2019 'to be determined' Department of Anatomy and Physiology, Latrobe University April 2019

2019 'A basic solution to activate the cholinergic anti-inflammatory pathway via the mesothelium' Department of Oral Biology, Augusta University, Feb 27th.

2018 'Voltage-gated proton channels in the mitochondria of thick ascending limb modulate production of reactive oxygen species by complex 1' Southern Salt and Water Conference, Lido Beach FL. Dec 6th.

2018 'A basic solution to activate splenic anti-inflammatory pathways; a new role for the mesothelium?' December, Department of Biomedical Sciences, Quillen College of Medicine, East Tennessee State University, Johnson City, TN Dec 17th.

2018 'Mild inflammation paradoxically prevents red cell aggregation in the renal medulla following I/R'. S Ray, Paul M O'Connor. APS Cardiovascular, Renal & Metabolic Disease: Gender-Specific Implications for Physiology Conference, Knoxville TN September 2018.

2018 'A basic solution to activate the cholinergic anti-inflammatory pathway' September 27th. Department of Chemistry and Biochemistry, Albright College, Reading PA

2018 'A basic solution to activate the cholinergic anti-inflammatory pathway' September 13th, Department of Cell Biology and Anatomy, Medical College of Georgia. Augusta University, Augusta, GA.

2018 'Hv1, a little known mediator of renal oxidative stress?' Redox biology: A unifying theme in the etiology of human diseases' Experimental Biology Meeting. April 24th, 2018 San Diego CA. Session co-sponsored by the society of redox biology and medicine (SfRBM) and American Physiological Society (APS).

2017 'Activation of the cholinergic anti-inflammatory pathway by oral $NaHCO_3$? Southern salt water kidney conference, Lido Beach Fl Dec 1 2017.

2016 'Mechanisms underlying the protective effect of bicarbonate supplementation on kidney injury' University of Alabama Birmingham. September 12th

2016 ''Activation of proton channels in medullary thick ascending limb drives superoxide production and promotes hypertensive kidney injury' FASEB summer conference 'Renal Hemodynamics and Cardiovascular Function in Health and Disease' Big Sky Montana USA June 22nd 2016

2016 'Bicarbonate therapy has no effect on renal T-cell infiltration or blood pressure but markedly reduces tubular casts/fibrosis and is associated with an M1 to M2 shift in Dahl salt-sensitive rats' Experimental Biology, San Diego April

2015 'High salt, pseudo-acidosis, Hv1 and hypertensive renal end-organ damage' Baker IDI, Melbourne Australia May 29th 2015.

2015 'Hv1 and the kidney' Kennesaw State University, Atlanta, GA (20th February)

2014 'Hv1 and hypertensive kidney disease' Southern Salt Water and Kidney Club. December 4-7 Lido Beach, Fl, USA.

2014 'Hv1 and Hypertensive Kidney Injury' Department of Physiology, Monash University, Victoria,

Australia, Nov 7th.

2014 'Water and Electrolyte Homeostasis Section: New Investigator Award Lecture 'Searching for the link between high salt-diet and renal oxidative stress'. San Diego CA

2014 'Na sensing and the proton channel: a new paradigm' Experimental Biology. San Diego CA.

2014 'Tubular control of renal medullary perfusion and hypertenson' ISN Forefronts Symposium 'Intrinsic Regulation of Kidney Function' Charleston, South Carolina March 6-9

2013 'Renal tubular Na sensing by the voltage-gated proton channel Hv1' University of Alabama Birmingham, Department of Nephrology Sep 22, 2013.

2013 'HVCN1 promotes superoxide production by mTAL when [Na] is low' FASEB Conference of renal hemodynamics, Saxtons River, VT 2013.

2013 'Looking for the Source of Free Radicals in Hypertension and Kidney Disease: The Emerging Role of HVCN1' Rush University Medical Center, Department of Molecular Biophysics and Physiology. Feb 18.

2012 'HVCN1 drives superoxide production by medullary thick ascending limb' American Society of Nephrology, Kidney Week 2012, San Diego CA

2012 'HVCN1 contributes to superoxide production in the medullary thick ascending limb' American Heart Association, Council for High Blood Pressure Research Scientific Sessions, Washington D.C

2011, 'Inhibition of cellular H^+ efflux through Na^+/H^+ exchangers promotes renal injury in Dahl salt-sensitive rats', American Heart Association Council for High Blood Pressure Research Scientific sessions, Orlando, FL.

2011, 'Cellular H^+ efflux, NADPH oxidase and renal disease in the Dahl Salt-sensitive rat', Department of Physiology, Medical College of Wisconsin, Milwaukee, WI.

2010, 'Amiloride-sensitive superoxide production in the medullary thick ascending limb of salt-sensitive rats', Vascular Biology Center, Medical College of Georgia - renal symposium, Augusta, GA.

2010, 'Tubular-vascular cross-talk in the renal medulla', FASEB Summer Research Conference (Renal), Saxtons River, VT.

2009 'Identifying the source of oxidant stress in the salt-sensitive kidney' Hypertension Vascular Research Center, Henry Ford Hospital, Detroit, MI.

2009 'Amiloride-sensitive superoxide production in the medullary thick ascending limb; a role in salt-sensitive hypertension?' Monash University, Department of Physiology, Melbourne, VIC, Australia.

2009 'Identifying the source of oxidant stress in the salt-sensitive kidney', Department of Physiology, Medical College of Wisconsin, Milwaukee, WI.

2007 'Using fluorescent microscopy to investigate tubular-vascular cross talk in the renal medulla', Department of Physiology, Medical College of Wisconsin, Milwaukee, WI.

2007, 'Medullary thick ascending limb buffer the vasoconstrictor actions of angiotensin II in salt-resistant rats but not salt-sensitive rats', International Meeting for the Council for High Blood Pressure Research, Tuscon, AZ.

Sessions organized/Chaired

2018 Co-Organizer/Chair: APS Water and Electrolyte Homeostasis section Data diuresis session.

2017 Co-Organizer/Chair: APS Water and Electrolyte Homeostasis section Data diuresis session.

2016 Chair: APS Water and Electrolyte Homeostasis section Data diuresis session.

2016 Chair: Advances in Renal Physiology II. Experimental Biology 2016

2016 Chair: Hypertension developing Concepts. Experimental Biology 2016

2014 Symposium Chair/Organizer: Physiological roles of HVCN1; APS cell and molecular section, Experimental Biology 2014.

Abstracts

1. Aaron Polichnowski, Jacqueline Potter, Conor Miles, Devin Eagan, George Youngberg, **Paul O'Connor**, Maria Picken, Geoffrey Williamson. Aberrant renal and mesenteric responses to a high salt diet and blood pressure salt-sensitivity are abolished in consomic SS.BN1 vs. Dahl SS rats. International Society of Nephrology April 2019, Victoria Melbourne Australia.
2. Mannon EC, Wilson K, **O'Connor PM.** Dietary Na^+ loading with NaCl or $NaHCO_3$ produces similar changes in circulating Th17 and regulatory T cells. International Society of Nephrology April 2019, Victoria Melbourne Australia.
3. Sarah C Ray, Bansari Patel, **Paul M O'Connor**. Pretreatment with low dose lipopolysaccharide attenuates ischemia-reperfusion induced renal vascular congestion in WKY rats. International Society of Nephrology April 2019, Victoria Melbourne Australia.
4. Katie Wilson, Trevin Wilkes, Bansari Patel, Babak Baban, **Paul M O'Connor**. Disruption of mesothelial connections to the spleen, inhibits splenic anti-inflammatory responses and protects from the development of insulin resistance in rats. Submitted Experimental Biology 2019, Orlando Fl.
5. **Paul O'Connor**, Katie Wilson. Gastric rather than Systemic Alkalization Promotes Splenic Anti-inflammatory Responses. Pan-American Congress of Physiological Sciences (Panam 2019) May 27-31, Havana Cuba, 2019.
6. Sarah Ray, **Paul M O'Connor**. Pretreatment with low dose lipopolysaccharide attenuates medullary congestion in male WKY following acute kidney injury. 2018 APS Cardiovascular, Renal & Metabolic Disease: Gender-Specific Implications for Physiology Conference, Knoxville TN September 2018.
7. **Paul M O'Connor**, Sarah Ray, Babak Baban, Ryan Harris. Oral $NaHCO_3$ activates the splenic anti-inflammatory pathway; evidence vagal signals are transmitted via neuronal like signaling in mesothelial cells. Immunology 2018, Austin TX
8. **Paul M O'Connor**, Sarah Ray, Babak Baban, Ryan Harris. Oral $NaHCO_3$ activates the splenic anti-inflammatory pathway; evidence vagal signals are transmitted via neuronal like signaling in mesothelial cells. Experimental Biology 2018, San Diego, CA
9. **Paul M O'Connor**, Babak Baban, Sarah Ray, Mathew A Tucker, Ryan A Harris. Oral $NaHCO_3$ activates the Splenic Anti-Inflammatory pathway promoting M2-Macrophage Polarization. American Society of Nephrology, Kidney Week Nov 2017. New Orleans LA.
10. Sarah C Ray, Jingping Sun, Hiram Ocasio, **Paul M O'Connor**. Inactivation of Hv1 proton channels is not responsible for bicarbonate-mediated reduction in tubular cast formation in Dahl salt-sensitive rats. Experimental Biology, Chicago 2017.

11. **Paul M O'Connor**, Jian-Kang Chen, Sara Ray, Lia Taylor, Jacqueline Musall, Hiram Ocasio, Babak Baban, Jennifer C Sullivan. Bicarbonate treatment promotes M1 to M2 polarization in Dahl salt-sensitive rats. Joint Meeting of the Physiological Society and American Physiological Society. July 29-31. Dublin, Ireland.
12. Gene R Crislip, Jennifer C Sullivan, **Paul M O'Connor**. Outer-medullary pericyte density correlates with red blood cell aggregation following ischemia/reperfusion in rats. Joint Meeting of the Physiological Society and American Physiological Society. July 29-31. Dublin, Ireland.
13. **Paul M O'Connor**, Jian-Kang Chen, Sarah Ray, Lia Taylor, Jacqueline Musall, Hiram Ocasio, Babak Baban, Jennifer Sullivan. Bicarbonate therapy has no effect on renal T-cell infiltration or blood pressure but markedly reduces tubular casts/fibrosis and is associated with an M1 to M2 shift in Dahl salt-sensitive rats. Experimental Biology 2016 (was top ranked abstract for Advances in Renal Physiology)
14. Li, W, Ward, R, Sun, J.P, Guo, X, Ergul, A, **O'Connor, P.M.** Inhibition of Na^+/H^+ Exchanger Isoform 1 and/or Voltage Gated Proton Channel Improves Outcomes In An Embolic Stroke Model. American Heart Association International Stroke Conference 2016. Feb 17-19 Los Angeles CA, USA.
15. **O'Connor, P.M**, Crislip, Layton, Sullivan. Renal medullary vasa recta pericytes act to prevent red blood cell aggregation. Neuronal, hormonal and renal mechanisms of blood pressure control – December 7-9 Mussoorie, India.
16. **O'Connor, P.M.** The voltage-gated proton channel Hv1 acts as an intracellular Na sensor and contributes to whole body Na and H_20 homeostasis by actively modulating NADPH oxidase activity. Neuronal, hormonal and renal mechanisms of blood pressure control – December 7-9 Mussoorie, India.
17. Ralph E, Sullivan J.C, **O'Connor P.M**. Aged female $Hv1^{-/-}$ Dahl salt-sensitive rats develop a pro-inflammatory T-cell profile. Experimental Biology, Boston MA April 2015
18. Zheleznova, N.N, **O'Connor P.M**, Cowley A.W Jr. Role of NOX4 in superoxide production stimulated by H^+ efflux in mTAL of SS rat. Experimental Biology, Boston MA April 2015
19. Crislip, G.R, **O'Connor P.M**, Sullivan J.C. Pericytes protect against renal ischemia-reperfusion injury in male and female spontaneously hypertensive rats (SHR). Experimental Biology, Boston MA April 2015
20. Mas A, Laknaur A, **O'Connor P.M**, Walker C.L, Diamond MP, Simon C, Al- Hendy A. Myometrial Tumor-Forming Stem Cells Reside in Unique Hypoxic Niches in the Uterus of a Murine Model of Uterine Fibroids. Society for Reproductive Investigation, San Francisco CA, March 2015. (Best poster Award at meeting)
21. Debra L. Irsik, Hiram Ocasio, Jingping Sun, Jian-Kang Chen, **Paul M. O'Connor**. Bicarbonate therapy alleviates hypertension-induced renal injury in male Dahl salt-sensitive rats independent of blood pressure. Experimental Biology, Boston MA April 2015.
22. Weiguo Li, Becca Ward, Mohammed Abdelsaid, Tianzheng Yu, Yisang Yoon, **Paul M. O'Connor**, Adviye Ergul. Deletion of voltage gated proton channel in microglial cells is neurovascular protective after ischemic brain injury. International Stroke Conference, Nashville TN, 2015.
23. Stilphen C, Sun J, Lambert N, **O'Connor P.M**. The proton channel HVCN1 is expressed on the apical membrane of renal medullary thick ascending limb. Experimental Biology, San Diego CA 2014

24. Guha A, **O'Connor P.M**. Apical NH_4^+ acts to reduce intracellular Na concentration in mTAL via inhibition of NKCC2. Experimental Biology, San Diego CA 2014

25. **O'Connor P.M**, Jin C, Sun JP, Mazer B.A, Lambert N. HVCN1 contributes to superoxide production independent of pH regulation. Experimental Biology, Boston MA 2013

26. C Jin, J.P Sun, **O'Connor P.M.** HVCN1 Is Required for Superoxide Production in Medullary Thick Ascending Limb in Response to H^+ Efflux. American Society of Nephrology, San Diego, CA. November 2012.

27. **O'Connor P.M**, Sun J.P. HVCN1 contributes to superoxide production in the medullary thick ascending limb. American Heart Association Council for High Blood Pressure Research, Washington D.C 2012.

28. Evans R.G, Ngo J.P, Smith D.W, Thompson S.L, Abdelkader A, **O'Connor P.M**, Gardiner B.S. Kidney oxygenation during ischemia and hypoxaemia: influence of diffusional oxygen shunting. Global Hypoxia Summit, Delhi India 2012.

29. Pavlov T.S., Levchenko V, **O'Connor P.M**, Sorokin A, Mattson D.L, Lombard J.H, Cowley A.W.Jr, Staruschenko A. EGF deficiency contributes to the development of salt-sensitive hypertension via upregulation of EnaC activity. Experimental Biology, San Diego, 2012.

30. Pavlov T.S, Levchenko V, Ilatovskaya D.V, **O'Connor P.M**, Cowley A.W.Jr, Staruschenko, A. Role of epithelial sodium channel (ENaC) in the development of salt-sensitive hypertension. Experimental Biology, San Diego, 2012.

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1. 'Na balance for dummies' commissioned review for AJP renal. **Paul O'Connor**, Michael Brands, Peter Bie. Commissioned review AJP renal.
2. Ultrasound Measurements of Regional Kidney Volume a sensitive indicator of severity of parenchymal injury in ischemic acute kidney injury. Crislip, G.R, Sullivan J.C, **O'Connor P.M**.
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