

J. Thomas Cunningham

Department of Integrative Physiology
and Anatomy
University of North Texas Health Science
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Education

Ph.D. in Biological Psychology 1988: University of Iowa, Iowa City, IA.

M.A. in Biological Psychology 1984: University of Iowa, Iowa City, IA.

B.S. with Honors in Psychology 1982: Eastern Illinois University, Charleston, IL.

Professional Background

2021-ONGOING

Associate Vice President for Research Administration, UNT Health Science Center, Fort Worth, Texas, United States

2020 - 2021

Associate Dean For Research, GSBS, UNT Health Science Center, Fort Worth, Texas, United States

2019 - 2020

Interim Chair, Physiology and Anatomy, UNT Health Science Center, Fort Worth, Texas, United States

2018 - 2019

Interim Dean, GSBS, UNT Health Science Center, Fort Worth, Texas, United States

2017 - 2018

Interim Associate Dean For Research, GSBS, UNT Health Science Center, Fort Worth, Texas, United States

2016 - ONGOING

Regents Professor, Department of Integrative Physiology, UNT Health Science Center, Fort Worth, Texas, United States

2009 - 2016

Professor, Department of Integrative Physiology, UNT Health Science Center, Fort Worth, Texas, United States

2009 - 2015

Director, Cardiovascular Research Institute, UNT Health Science Center, Fort Worth, Texas, United States

2003 - 2009

Associate Professor, Department of Pharmacology, UT Health San Antonio, San Antonio, Texas, United States

2001 - 2003

Associate Professor, Department of Physiology, University of Missouri, Columbia, Missouri, United States

1995 - 2001

Assistant Professor, Department of Physiology, University of Missouri, Columbia, Missouri, United States

1992 - 1995

Research Fellow: Cardiovascular Research Center, University of Iowa, Francois M. Abboud, M.D., supervisor.

1990-1992

Research Associate : University of Ottawa & the Loeb Research Institute, Leo P. Renaud, M.D., Ph.D., supervisor.

1988-1990

Postdoctoral Fellow : McGill University, Leo P. Renaud, M.D., Ph.D., supervisor.

Other Professional Experience

Graduate Faculty Advisor: September 2010-2015, Department of Integrative Physiology, UNTHSC

Adjunct Professor: July 2009 - present, Depart. of Pharmacology, UTHSCSA.

Director: July 2009 – September 2015, Cardiovascular Research Institute, UNTHSC.

Chair of Committee for Graduate Studies: September 2007 to May 2008, Department of Pharmacology, UTHSCSA.

Postdoctoral Fellow: May 1988 - October 1988; A. K. Johnson, Ph.D.; Depts. Of Psychology and Pharmacology and the Cardiovascular Center, University of Iowa.

Graduate Research Assistant: July 1985 - May 1988; A. K. Johnson, Ph.D.; Dept. of Psychology and Pharmacology; University of Iowa.

Graduate Research Assistant: June 1982 - July 1985; Walter Randall, Ph.D.; Dept. of Psychology; University of Iowa.

Undergraduate Research Assistant: September 1981 - May 1982; Frank E. Hustmyer Jr., Ph.D.; Dept. of Psychology, Eastern Illinois University.

Summer Study in the Republic Ireland: July 1981 - August 1981; Frank E. Hustmyer Jr., Ph.D.; Dept. of Psychology, Eastern Illinois University.

Awards

Lenard Share Service Award, Water and Electrolyte Homeostasis Section of American Physiological Society. 2018

Regents Professor, Board of Regents of the University of North Texas System, UNT Health Science Center, 2017

Outstanding Graduate Faculty Member of the Year, Graduate Student Association, UNT Health Science Center, 2016

Star Reviewer for *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, Fall 2013.

Golden Apple Teaching Award, Graduate School of Biomedical Sciences, UNTHSC, Spring 2013

President's Award for Faculty Research, UNTHSC, Spring 2012

Excellence in Preclinical Education, School of Dentistry, UNTHSC, Spring 2009

Award for Excellence in Preclinical Medical Education, University of Missouri-Columbia. Spring 2001.

Dorsett L. Spurgeon, MD, Distinguished Medical Research Award. University of Missouri-Columbia School of Medicine, Fall 2000.

American Physiological Society Young Investigator Award in Regulatory and Integrative Physiology, April 1999.

Award for Excellence in Preclinical Medical Education, University of Missouri-Columbia. Spring 1998.

Grant Support

Current:

DHHS F32 HL158145 Role of Estrogen Receptors and Neurohypophyseal Gene Expression in Vasopressin Release in a Model of Dilutional Hyponatremia
For Dianna H. Nguyen
February 1, 2022 - January 31, 2026),
\$64,940 Total Costs
Mentor: J. Thomas Cunningham

DHHS R01 HL155977 Intermittent Hypoxia and Hypertension: Role on the Lamina Terminalis, January 18, 2021 - December 31, 2024
\$3,832,340 Total Costs
Principle Investigator: J. Thomas Cunningham

DHHS R01 HL142341 Neural Regulation of Vasopressin Release in a Model of Dilutional Hyponatremia
04/01/2018 – 03/31/2024 NCE
\$560,000 total annual costs
Principle Investigator: J. Thomas Cunningham

Completed:

DHHS R01 HL 141406 Central mechanisms and novel biomarkers of the salt sensitivity of blood pressure

Principle Investigator: R. Wainford

4/1/2018 – 3/31/2022

Subcontract

\$32,500 total annual costs

Role: Subcontract PI

American Heart Association Postdoctoral Fellowship, Roles of the CRH-containing Projections from the PVN to the NTS in the Sleep Apnea Induced Hypertension

Lei Wang

July 1, 2018 - June 30, 2020

\$

Mentor: Tom Cunningham

DHHS R01 HL119458, *Neural Regulation of Vasopressin Release: Role of BDNF.*

April 2014-March 2018

\$1,460,000 total costs.

Principle Investigator: J. Thomas Cunningham, Ph.D.

DHHS R01 HL122813 Intermittent Hypoxia-Induced Hypertension: Roles of Angiotensin and Chloride Transport in the Lamina Terminalis

July 2015-June 2020

Declined

Principle Investigator: J. Thomas Cunningham, Ph.D.

DHHS P01 HL088052-06 Neurohumoral adaptations to chronic intermittent hypoxia

July 2008-June 2022

\$1,511,360 total annual costs

PI: Steven W. Mifflin

Role: Project 2 Leader and Core Director

DHHS R56 HL62576, *Neural Control of Vasopressin Release.*

September 2013 – August 2014.

\$362,500 total costs.

Principle Investigator: J. Thomas Cunningham, Ph.D.

DHHS R01 HL62576, *Neural Control of Vasopressin Release.*

September 2000 – August 2011.

\$963,208 total costs.

Principle Investigator: J. Thomas Cunningham, Ph.D.

Awarded AHA Affiliate Postdoctoral Fellowship, *Autonomic Control by Delta FosB and Renin-Angiotensin Signaling in the MnPO During Chronic Intermittent Hypoxia.*

January 2012.

Trainee: W. David Knight, Ph.D.

Mentor: J. Thomas Cunningham, Ph.D.
(declined)

DHHS F30 DK083884 Role of Angiotensin in an animal model of dilutional hyponatremia
July 2008-June 2014
PI: Joseph D. Walch
Role: Mentor

DHHS R01 MH83933 Vagal Nerve Stimulation and Antidepressants: c-Fos, Δ FosB and
Activation of TrkB
July 2008 – June 2013
\$1,825,000 total costs
PI: Alan Frazer
Role: Co-Investigator

Awarded AHA Affiliate Postdoctoral Fellowship, *Central Opioid Control of Cardiovascular
and Renal Function: CNS Sites and Neural-Humoral Mechanisms.*
June 2006.
Trainee: Helmut Gottlieb, Ph.D.
Mentor: J. Thomas Cunningham, Ph.D.

DHHS R01 HL62576, *Neural Control of Vasopressin Release.*
September 2006 – August 2012
\$1,450,000 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.

Cyberonics Corp. Extramural Grant, *Brain Areas Activated by Vagus Nerve Stimulation*
January 2006 – February 2008
\$125,000 total costs.
Role: Co-Investigator

DHHS T32 HL007446 Pathobiology of Occlusive Vascular Disease
July 2007 – June 2012
\$337,504 annual costs
PI: Linda McManus
Role: Training Grant Faculty

DHHS R01 DK57822, *Control of Sodium Intake in the Hindlimb Unweighted Rat.*
February 2001 – January 2007
\$1,103,765 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.

Central Mechanisms of Cardiovascular Disease: Neural Plasticity Resulting in Chronic
Sympathetic and HPA Activation.
October 2004-September 2005
PI: Steve Mifflin
Agency: Presidential Research Enhancement Fund UTHSCSA
Role: Co-Investigator.

- American Heart Association Missouri Affiliate, Standard Grant-In-Aid, *Cardiovascular Control of Vasopressin Release*.
July 2000 – June 2001.
\$40,000 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.
- DHHS K02 HL03882 Independent Scientist Award, *Neural Systems Regulating Vasopressin Release*.
August 1998 – July 2003.
\$337,500 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.
- DHHS T32 HL0721 Training Grant to The Department of Physiology
Cardiovascular-Renal Physiology, Pharmacology and Biochemistry,
September 2000-May 2005
\$926,220 Total Costs
Principle Investigator: Virginia Huxley, Ph.D.
Co-investigator: J. Thomas Cunningham, Ph.D.
- DHHS R01 HL36245, *Ovarian Hormone Metabolites and Neural Circulatory Control*.
January 1998 – December 2002.
\$636,489 total costs.
Principle Investigator: Cheryl M. Heesch, Ph.D.
Co-investigator: J. Thomas Cunningham, Ph.D.
- American Heart Association Missouri Affiliate Predoctoral Fellowship, *Arterial Baroreceptor Regulation of Vasopressin Release*.
July 1998 – June 1999.
\$12,000 total costs.
Trainee: Ryan J. Grindstaff
Mentor: J. Thomas Cunningham, Ph.D.
- American Physiological Society Frontiers in Physiology Local Outreach Team grant.
Spring 1998.
\$3,620 total costs.
Principle Investigator: James C. Schadt, Ph.D.
Co-investigator: J. Thomas Cunningham, Ph.D.
- American Heart Association Missouri Affiliate Postdoctoral Fellowship, *Central Pathways Involved in the Response to Isotonic Volume Expansion in Rats*.
July 1998.
Trainee: Kathleen S. Curtis, Ph.D.
Mentor: J. Thomas Cunningham, Ph.D.
(declined)
- American Heart Association Missouri Affiliate, Standard Grant-In-Aid, *Neurophysiology of Forebrain Neurons Involved in Blood Pressure Control*.
July 1997 – June 1999.
\$77,000 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.
- University of Missouri Research Board Award, *Antisense Therapy in Experimental Hypertension*.
1997.
\$38,000 total costs.
Principle Investigator: J. Thomas Cunningham, Ph.D.
Co-Investigator: William Dale, Ph.D.

American Heart Association Missouri Affiliate, Standard Grant-In-Aid, *Neural Basis of Angiotensin Hypertension*.

July 1995 – June 1997.

\$66,000 total costs.

Principle Investigator: Edward H. Blaine, Ph.D.

Co-investigator: J. Thomas Cunningham, Ph.D.

DHHS R29 HL55692, First Award, *Neural Substrates of AVP Release*.

June, 1995-May 2000.

\$494,275 total costs.

Principle Investigator

Institutional Fellowship from the Cardiovascular Center, University of Iowa, October 1992-September 1994.

Fellowship from the Heart and Stroke Foundation of Ontario, *Neural Substrates Mediating Baroreceptor Inhibition of Vasopressin Secreting Neurons*.
November 1990 - October 1992.

DHHS NRSA F32 MH09766, *Neural Substrates of Drinking Behavior and ADH Release*,
November 1988 - October 1990.

Traineeship from the Pharmacological Sciences Program Training Grant to the Dept of Pharmacology, University of Iowa.
May 1986 - August 1988.

Teaching Experience

UNTHSC

BMSC 5315 Scientific Communications: Co-Course Director, Student contact hours 15. Developed an in-person and online version of this course. The online version was reviewed and approved by Quality Matters™.

BMSC 6204 Fundamentals in Biomedical Science 4: Course Director Student contact hours 12. Lectures on neurophysiology, membrane transport, autonomic function neuroendocrinology. Developed a TBL on Myasthenia Gravis.
Fall 2017-Fall 2022.

BMSC 6303 Integrative Biomedical Science 3:Physiology: Course Director; Student contact Hrs.: 8. Lectures on cell physiology an membrane transport, Neuroendocrinology. Developed 3 TBL sessions on Neurophysiology and experimental design.
Spring 2012-Fall 2017.

IPAN 6380 Neurohumoral control of autonomic function: Course Director 2012-2014; Student contact hrs: 10. This is a literature-based course with discussions on History and systems, Neuroendocrinology, paraventricular nucleus, circumventricular organs, and salt and water intake.
Fall 2012 – Fall 2017.

DPHT 7501 Clinical Medicine: Student cotact hrs: 5. Lectures on cell physiology, action potential propagation, neurotransmission motor systems and autonomic nervous system.
Fall 2012 – Fall 2018.

MPAS 5612 Human Physiology: Student contact Hrs: 9. Lectures on membrane potential, action potential propagation, neurotransmission motor systems and autonomic

nervous
Fall 2009-Fall 2016.

system.

UTHSCSA

PHAR5091 Special Topics: Student Contact Hrs: 20; Micro-elective: Homeostasis, Peptides, and Catecholamines were based on student presentations and preparing a research proposal. The student was required to read and present 12 papers selected from the literature and to write an NRSA-style research proposal based on information from the course. Students who had not taken their comprehensive exam were required to do an oral presentation of the proposal.
August 2005 – present.

INTD5043 Fundamentals of Neuroscience II: Student contact Hrs: 4; Lectures on the autonomic nervous system, neuroendocrinology, and the hypothalamus.
January 2005 – 2009.

PHAR6016 Dental Pharmacology: Student contact Hrs: 3; Lectures on general and local anesthetics, opiates and NSAIDs, and pharmacogenomics.
January 2005 – present.

PHAR2005 Pharmacology: Student Contact Hrs: 2; Group sessions for 2nd-year medical students in Medical Pharmacology.
August 2003 - present

University of Missouri - Columbia

Spring Term 1999-2003 Block Director for Block 3 Neurobiology for first-year medical students. Lectures on neurotransmission, the hypothalamus & neuroendocrinology, and extrapyramidal motor systems. Neuroanatomy labs on the spinal cord, brain stem, cerebellum, diencephalon, telencephalon, and cerebrovascular system

Spring Term 2002-2003 Co-taught a course on the Neural Control of Circulation as a Topics in Physiology course.

Fall Term 1999-2003 Mammalian Physiology 305, University of Missouri, section on autonomic physiology and neuroscience.

Fall Term 1999-2002 Block 2; Lecture on the autonomic nervous system.

Spring Term 1999 Developed and Co-taught a course on the Neural Control of Circulation as a Topics in Physiology course.

Fall Term 1998 Block 2; Lecture on the autonomic nervous system.

Fall Term 1998 Mammalian Physiology 305, University of Missouri, section on autonomic physiology and neuroscience.

Spring Term 1998 Block Director for Block 3 Neurobiology. Lectures on neurotransmission of the hypothalamus, neuroendocrinology, and extrapyramidal motor systems. Neuroanatomy labs on the spinal cord, brain stem, cerebellum, diencephalon, telencephalon, and cerebrovascular system

Fall Term 1997 Block 2; lecture on the autonomic nervous system and physiology lab.

Fall Term 1996 Block Director for Block 2 Neurobiology for first year medical students; lectures on neurotransmission, the hypothalamus, extrapyramidal motor systems and autonomic physiology.

Spring Term 1996 Tutor for PBL in Block 4 Immunology and Endocrinology.

Fall Term 1995 - 1997; Mammalian Physiology 401, University of Missouri, Section on autonomic physiology and neuroscience.

Fall Term 1995 Block 2 Neurobiology, University of Missouri, Lectures on neurotransmission and autonomic physiology.

Other

Discussion Leader: Fall term 1990; G. P. Biro, Ph.D., University of Ottawa, PHY2182 Medical Physiology, Section on the cardiovascular system.

Teaching Assistant: Spring Term 1984, Donald D. Dorfman, Ph.D.; University of Iowa; 31:003 General Psychology.

Teaching Assistant: Fall Term 1984; Robert S. Baron, Ph.D.; University of Iowa; 31:015 Introduction to Social Psychology.

Trainees

Postdoctoral Fellows Supervised

Past

Caroline Gusson Shimroa, PhD, UNTHSC, 2019-2022

Courtney Brock, PhD, UNTHSC, 2018-2022

Lei Wang, PhD, UNtHSC, 2017-2020

George (Gef) Farmer, PhD, UNTHSC 2016-2022

T. Prashant Nedugadi, Ph.D., UNTHSC 2010-2014

Daniela Pereira, Ph.D., UTHCSA & UNTHSC 2008-2010

W. David Knight, Ph.D., UTHSCSA & UNTHSC 2008-2012

Awarded AHA Affiliate Postdoctoral Fellowship, *Autonomic Control by Delta FosB and Renin-Angiotensin Signaling in the MnPO During Chronic Intermittent Hypoxia*. January 2012

Flavia Correno, Ph.D., UTHSCSA & UNTHSC 2006 – 2010

Helmut Gottlieb, Ph.D., UTHSCSA, 2005 – 2007

Awarded AHA Affiliate Postdoctoral Fellowship, *Central Opioid Control of Cardiovascular and Renal Function: CNS Sites and Neural-Humoral Mechanisms*. June 2006.

Qian Li, M.D., Ph.D., University of Missouri-Columbia 1996-1997.

Kathleen S Curtis, Ph.D. University of Missouri-Columbia 1997-1999.

Supported by NIH Training Grant T32 HL0721

Awarded AHA Missouri Affiliate postdoctoral fellowship *Central Pathways Involved in the Response to Isotonic Volume Expansion in Rats*, July 1998.

Graduate Students Supervised

Current:

Dianna H. Nguyen, 2019- present DO/PhD
Title: Role of Estrogen Receptors and Neurohypophyseal Gene Expression in Vasopressin Release in a Model of Dilutional Hyponatremia

Supported by NIH Training Grant T32 AG020494

Supported by F30 HL158145

Obed Paudraligga 2019-Present PhD
Title: Projections to the PVN from the cNTS and MnPO: Contribution to sympathetic long-term facilitation

Cephas Appiah 2021 – present PhD
Title: The Role Of Nitric Oxide In The Median Preoptic Nucleus In Chronic Intermittent Hypoxia

Past

Ryan J. Grindstaff, Ph.D. 1995-2000. University of Missouri – Columbia; Degree awarded May 2000. Dissertation Title: *Arterial Baroreceptor Regulation of Vasopressin Release*.

Awarded AHA Missouri Affiliate predoctoral fellowship *Arterial Baroreceptor Regulation of Vasopressin Release*.
1998-1999

Awarded First Place for Graduate Student Research at Student Research Day 1997 University of Missouri-Columbia School of Medicine.

Received a Proctor & Gamble Award from the Water and Electrolyte Homeostasis section of APS at Experimental Biology 1999.

Regina Randolph Grindstaff, Ph.D. University of Missouri – Columbia; 1996-2000. Degree awarded August 2000. Dissertation Title: *Cardiopulmonary Regulation of Neurohypophysial Hormones*.

Supported by NIH training Grant T32 HL0721

Awarded First Place for Graduate Student Research at Cardiovascular Research Day 2000 at University of Missouri-Columbia.

Received a Proctor & Gamble Award from Water and Electrolyte

Homeostasis section of APS at Experimental Biology 2000.

Superior Graduate Student Award from the Department of Physiology.

James Austgen, M.S. 2001-2003. University of Missouri – Columbia; Degree Awarded August 2003. Thesis Title: *Effects of Leptin of Fos Expression in the Paraventricular Nucleus of the Hypothalamus.*

Maurice L Penny, M.S. 2001-2003 University of Missouri – Columbia; Degree awarded May 2003. Thesis Title: *Comparison of Fos B and C-FOS Staining in the rat SON and PVN.*

Kristen Matthews, M.S. 2006 Texas State University,
Title: *Drinking Behavior and Sodium Appetite in Rats with Hepatic Cirrhosis.*

Adam McGovern, MS 2009-2011 UNTHSC. Degree awarded 2011.
Title: Regulation of Secretin in the Neurohypophysis

Joseph Walsh, MD/PhD 2009-2013 Degrees awarded 2014, UTHCSA
Title: Subfornical organ angiotensin type 1 receptor expression and drinking behavior in bile duct ligated rats

Supported by F30 DK083884

Ashwini Saxena, PhD 2010-2015 UNTHSC Degree Awarded 2015.
Title: The Role of Angiotensin II in Central Autonomic and Endocrine Regulation

Blayne Knapp, MS 2011-2014 UNTHSC
Title: Water Deprivation evokes changes in glutamate neurotransmission in magnocellular neurosecretory cells to alter vasopressin release from the hypothalamic supraoptic nucleus

Katelynn Faulk PhD 2010-2016 UNTHSC
Title: The Role of Angiotensin Converting Enzyme 1 within the Median Preoptic Nucleus following Chronic Intermittent Hypoxia.

Brent Shell PhD 2011-2016 UNTHSC
Title: The Role of Angiotensin II in Central Control of Blood Pressure and Body Fluid Homeostasis.

Alexandria B. Marciante 2015-2019 PhD UNTHSC
Title: The Role of the MnPO in Body Fluid Balance and Blood Pressure Regulation

Supported by NIH Training Grant T32 AG020494

Received Dean's Award for Excellence in Scholarship.

Kirthikaa Balapattab 2015-2019 PhD UNTHSC
Title: Regulation of Supraoptic Vasopressin Neurons during Hypernatremia and Hyponatremia

Supported by American Heart Association Predoctoral Fellowship.

Received Chancellor's Award for Excellent in Research

Ato O. Aikinis 2018-2023 PhD UNTHSC
Title: Role of A1/A2 Neurons in the Dysregulation of Vasopressin Release
and Dilutional Hyponatremia in Liver Disease

Undergraduate Students Supervised

Arej Sawani, B.S. with Honors in 1997. Howard Hughes Research
Internship 1996-1997, *The role of the medial preoptic region on osmotic
activation of vasopressin neurons in the supraoptic nucleus.*

Awarded first place in biological sciences research at Missouri Academy of
Sciences Meeting 1997.

Christopher Blannner, Life Science Undergraduate Summer Fellow, 2003.
*Comparison of Jun-D staining in the Supraoptic nucleus with different
commercially available antibodies.*

Elizabeth Rubino, Texas State University, 2004.

Heath Jones, Texas State University, 2005.

Stephen Hatley, Texas State University, 2006. ASPET Summer Fellow.

Jennifer Carlile, Texas State University, 2006.

Summer Fellowships and Advanced Basic Science for Medical Students

Advanced Basic Science for fourth-year medical students
Stephen J. Colbert, Fall 1999. *Hypotension-induced Fos expression in rats
with A-V fistulas*

Farrel Douglas, Spring 1999. *Effects of osmotic stimulation of vasopressin
gene expression using RT-PCR.*

Dalton Summer Fellowships for first-year medical students.
Alex K Jenkins, 1997. *Effects of AT1 receptor antisense injection in the area
postrema on angiotensin II hypertension.*

Joseph Carmichael, 1998. *Identifying nerve fibers in rat mesentery.*

Dannillo Mazzela, 1999. *Effects of diagonal band lesions on angiotensin-
induced vasopressin release.*

B. Matthew Howe, 2002. *Fos B expression after acute volume expansion.*

Bradley Harrison, 2002. *Effects of AT1 receptor blockade on sodium
appetite produced by 24 h Hindlimb Unloading.*

Professional Service

2024- Present Editorial Board Member, *Biology of Sex Differences*

2023 Chair. ZRG1 ICN -U Center for Scientific Review Special Emphasis Panel.

2023 Member NIA F99/K00 Study Section

2021- Present, Member, Research Advisory Committee, UNTHSC

2021-Present, Member, Research Inquiry Committee, UNTHSC

2021-2022, Reviewer, P01 Council, NHLBI

2020-2021, Reviewer Special Emphasis Panel, NIDDK

2021, Chair, Special Emphasis Panel for R13 grants NIA

2017-Present, Editorial Board Member, *Journal of Neuroendocrinology*

2017-2019, Chair, Neuroendocrinology, Neuroimmunology, Rhythms, and Sleep study section, NIH Center for Scientific Review.

2015-2017; Regular Member, Neuroendocrinology, Neuroimmunology, Rhythms, and Sleep study section, NIH Center for Scientific Review.

2014-2020; Consulting Editor, *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*.

2013-2014 Chair of AHA Cardioresenal 3 Study Section.

2011-2014; Joint Programming Representative for the Water and Electrolyte Section of APS.

2010-2017; Graduate Faculty Council, UNTHSC

2010-2017, Graduate Faculty Advisor for Integrative Physiology, UNTHSC

2010-2016, Research Advisory Council, UNTHSC

2010-2015 Departmental Promotion and Tenure Committee, Department of Integrative Physiology UNTHSC

2008-2011; Secretary/Treasurer of Water and Electrolyte Section of APS.

2007-2010; Member of the Careers Committee of APS.

2007-2009: Chair of Committee for Graduate Studies, Department of Pharmacology, UTHSCSA.

2004-2007: Member of Committee for Graduate Studies, Department of Pharmacology, UTHSCSA.

2006-2009: Member of Internal Research Program grant review committee, UTHSCSA.

2005-2008: Member and Chair of the Graduate School of Biomedical Sciences Awards Committee, UTHSCSA.

2005 Organizing Committee APS Conference, *Neurohypophyseal Hormones: From Genomics and Physiology to Disease*, July 16-20, 2005, Steamboat Springs, CO

2005 – 2008; Councilor for Steering Committee APS section Water and Electrolyte Homeostasis

2002: Co-Chair for American Society of Physiology Refresher Course on Neuroscience.

2001-2010: Member of the Editorial Board for *Experimental Neurology*.

2001 Symposium Co-organizer for American Physiological Society Experimental Biology Meeting 2001, Vasopressin: An Integrative Look at Regulation and Function. Co-Organizers, Joey P. Granger, University of Mississippi. and Celia D. Sladek, Finch University Health Science/Chicago Med. School.

2001-2020: Member of the Editorial Board for *Hypertension*

2001 Invited Speaker for American Society of Physiology Refresher Course on Integrating Endocrinology into Modern Medical School Curricula.

2000 Member of the programming committee for Cardiovascular Day 2000 at the University of Missouri-Columbia.

2000 – 2002: Member of American Physiological Society Standing Committee for Education.

1999- 2001: Editorial Board for *American Journal of Physiology: Heart and Circulatory Physiology*.

1999: Reviewer for the Wellcome Trust.

1999: Co-organized a Featured Topic Symposium, *Neural and Humeral Control of Blood Pressure and Volume* for the Water and Electrolyte section of the American Physiological Society that was presented at the Experimental Biology 99 meeting.

1999- 2014: Editorial Board for *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*.

1997-2003: Member of the Committee for Student Promotions, University of Missouri-Columbia School of Medicine.

1996-present: Ad hoc Reviewer for *Hypertension, Brain Research, Brain Research Bulletin, Circulation Research*.

1996: Judge for Sigma Xi Research day at the University of Missouri-Columbia School of Veterinary Medicine.

1995: Grant Reviewer for Missouri affiliate of the American Heart Association.

Invited Presentations

1. Baroreceptor regulation of hypothalamic neurosecretory neurons, Department of Pharmacology, University of Texas at San Antonio Health Sciences Center. January, 1996
2. Mechanosensitive ion channels in rat aortic baroreceptor neurons, Medical Research Colloquium, University of Missouri. March 1996
3. Cardiovascular regulation of hypothalamic neurosecretory neurons, Department of Anatomy and Physiology, School of Veterinary Medicine, Kansas State University. November 1997.
4. Cardiovascular regulation of hypothalamic neurosecretory neurons. Department of Physiology and Biophysics, University of Mississippi Medical Center. July, 1998.
5. Young Investigator Award from the Water and Electrolyte Homeostasis Section of the American Physiological Society. Neural Regulation of Vasopressin Release, Experimental Biology Meeting in Washington D.C. April, 1999.
6. Regulation of Vasopressin Secreting Hypothalamic Neurons, UM-Columbia Department of Pharmacology. September, 1999.
7. Invited Speaker for American Society of Physiology Refresher Course on Integrating Endocrinology into Modern Medical School Curricula. Experimental Biology 2001. April, 2001.
8. Symposium Speaker for American Physiological Society, Experimental Biology Meeting 2001, Vasopressin: An Integrative Look at Regulation and Function. April, 2001.
9. Invited Speaker, Cardiovascular Regulation of Supraoptic Vasopressin Neurons. World Congress on Neurohypophysial Hormones, Bordeaux, France. September, 2001.
10. Featured Speaker and session Co-Chair, Cardiovascular Regulation of Supraoptic Vasopressin Neurons. FASEB Summer Conference, Snowmass, CO. August, 2002.
11. Featured Speaker, Regulation of supraoptic neurons in the rat: synaptic inputs and cellular signals. Neurohumoral control of cardiovascular function—from genes to physiology, Bristol Symposium I. Organized by Drs. Murphy, Paton and Kasprov from the University of Bristol, UK. June, 2003.
12. Regulation of vasopressin supraoptic neurons in the rat, Neuroscience Program, University of Minnesota (Invited Speaker). February 2004.
13. Featured Speaker, Hypothalamus integration and body fluid homeostasis, eFESBE meeting Aqua de Lindoia, Brazil, August, 2005.
14. Regulation of vasopressin neurosecretory neurons, Department of Physiology, School of Medicine at Ribeirao Preto, University of San Paulo, San Paulo, BR (Invited Speaker), August, 2005.
15. The role of oropharyngeal afferents in the regulation of supraoptic neurons, Department of Physiology and Pathology, School of Dentistry, Universidade Estadual Paulista, Araraquara, BR (Invited Speaker), August, 2005.

16. Changes in c-Fos and ICER expression in the regulation of supraoptic neurons, Departments of Physiology and Pharmacology, School of Medicine, UNIFESP - Escola Paulista, San Paulo, BR (Invited Speaker), August 2005.
17. SON and body fluid homeostasis, Canadian Physiological Society Meeting, Lake Louise, Alberta, CA (Invited Speaker), February 2006.
18. The hypothalamus and body fluid homeostasis, Seminar Series, Department of Pharmacology, University of Texas Health Science Center, San Antonio, TX. February, 2006.
19. Hypothalamic integration and cardiovascular regulation, Experimental Biology, Sponsored by the Association of Latin American Physiological Societies, San Francisco, CA (Invited Speaker), April, 2006.
20. Regulation of Vasopressin Release: Physiology and Pathophysiology. Department of Pharmacology and Physiology. St. Louis University School of Medicine. May, 2006.
21. Brain Regions activated by chronic vagal nerve stimulation. Cyberonics Medical Advisory Board, Palm Beach, FL. August, 2006.
22. Role of the central nervous system in chronic increases in vasopressin associated with cirrhosis. International Symposium of neuroendocrinology: Neuroendocrine control of body fluid homeostasis: Past Present and Future. Department of Physiology, School of Medicine of Ribeiro Preto– USP, Brazil. September, 2006.
23. Neural Regulation of Vasopressin Release in a Model of SIADH, Department of Pharmacology and Neuroscience Program, UNTHSC, September 2009.
24. Neural Regulation of Vasopressin Release in a Model of SIADH, Neuroscience Program, University of Wyoming, January 2008.
25. Neural Regulation of Vasopressin Release: Physiology and Pathophysiology, Department of Pharmacology, Louisiana State University Health Science Center, October 2009.
26. Neural Control of the Circulation in Chronic Intermittent Hypoxia: Role of the Lamina Terminalis, Department of Physiology, Pennsylvania State University-Hershy, October 2011.
27. Neural Control of the Circulation in a Model of Sleep Apnea, Department of Biology, Tarleton State University, November 2011.
28. Neural Control of the Circulation in a Model of Sleep Apnea, Department of Biology, Trinity University, October 2012.
29. Neural Control of the Circulation in a Model of Sleep Apnea: Update, Department of Biology, Tarleton State University, November 2012.
30. Neural Regulation of Vasopressin Release: Physiology and Pathophysiology, Neuroscience Program, Colorado State University, March 2013.
31. Role of the Lamina Terminalis in Intermittent Hypoxia Induced Hypertension, Department of Pharmacology, Louisiana State University Health Science Center. 2015.
32. Role of the Lamina Terminalis in Intermittent Hypoxia Induced Hypertension, Department of Physiology and Pharmacology, St Louis University. 2015.
33. Regulation of vasopressin in neurons and fluid balance in a model of diluational hyponatremia, World Congress of Neurohypophysial Hormones 11, Queenstown, New Zealand. 2016.

34. Neural regulation of vasopressin release: Physiology and pathophysiology, Neuroscience Program, Pennsylvania State University-Hershey 2016.
35. Neural control of vasopressin release: Physiology and pathophysiology, Department of Physiology, Tulane University Medical School, 2018.
36. Role of the Brain Angiotensin System in Intermittent Hypoxia-Induced Hypertension, Department of Physiology, Tulane University Medical School. 2018
37. Role of the brain angiotensin system in intermittent hypoxia-induced hypertension, Department of Neuroscience, Medical College of Georgia, Augusta University, Augusta, GA 2018
38. Role of the Brain Angiotensin System in Chronic Intermittent Hypoxia-Induced Hypertension, Angiotensin Gordon Research Conference, Ventura, CA, 2018
39. Sex differences in a model of hyponatremia, The neurohumoral control of body fluid and cardiovascular homeostasis in males and female-vive la difference, Ferreyra Institute (INIMEC-CONICET-UNC), Cordoba, Argentina. 2019
40. Role of the brain angiotensin system in intermittent hypoxia-induced hypertension, Department of Pharmacology, University of Iowa, Iowa City, IA. 2019.
41. Central Renin-angiotensin-aldosterone system in cardiovascular regulation Reg Pep 23, 23rd International Symposium on Regulatory Peptides Accuplco Mexico, 2020.
42. Old Peptides, New Functions, Cayman Peptide XIV, St. Kitts, 2022.
43. Sex Differences in Neurohypophysial Hormone Release in a Model of Dilutional Hyponatremia, Reg Pep 24, 24th International Symposium on Regulatory Peptides, Stirling, Scotland.
44. Spatial Transcriptomics of the Supraoptic Nucleus, Leng Symposium Sponsored by the European Neuroendocrine Society. Edinburgh, Scotland, 2022.
45. Intermittent Hypoxia and Changes in Central Autonomic Function. The Mechanisms of Allostasis Conference: Stressed or Stressed Out, Endocrine Society, 2022.
46. Sex Differences in Blood Pressure Regulation and Behavioral Responses to Intermittent Hypoxia, Organization for the Study of Sex Differences, Calgary, Canada, 2023.

Publications

1. Randall, W., Johnson, R.F., Randall, S., & **Cunningham, J.T.** (1985). Circadian rhythms in food intake and activity in the domestic cat. *Behavioral Neuroscience*, *99*, 1162-1175.
2. Randall, W., **Cunningham, J.T.**, Randall, S., Liittschwager, J., & Johnson, R.F. (1987). A two-peak circadian system in activity and body temperature in the domestic cat. *Journal of Thermal Biology*, *12*, 27-37.
3. McRae-Degueurce, A., **Cunningham, J.T.**, Bellin, S., Landas, S. Wilkin, L., & Johnson, A.K. (1987). Fetal noradrenergic cell suspensions transplanted into amine-depleted nuclei of adult rats. *Annals of the New York Academy of Sciences*, *495*, 757-759.
4. Callahan, M.F., **Cunningham, J.T.**, Kirby, R.F., Johnson, A.K., & Gruber, K.A. (1988). Role of the anteroventral third ventricle (AV3V) region of the rat brain in the pressor response to gamma2-melanocyte-stimulating hormone (gamma2-MSH). *Brain Research*, *444*, 177-180.
5. **Cunningham, J.T.** & Johnson, A.K. (1989). Decreased norepinephrine in the ventral lamina terminalis region is associated with angiotensin II drinking response deficits following local 6-hydroxydopamine injections. *Brain Research*, *480*, 65-71.
6. Callahan, M.F., Kirby, R.F., **Cunningham, J.T.**, Sloop, S. L., Johnson, A.K., McCarty, R., & Gruber, K.A. (1989). Central oxytocin systems may mediate a cardiovascular response to acute stress in rats. *American Journal of Physiology*, *256*, H1369-H1377.
7. Edwards, G.L., **Cunningham, J.T.**, Beltz, T. G., & Johnson, A. K. (1990). Neuropeptide Y immunoreactive cells in the caudal medulla project to the median preoptic nucleus. *Neuroscience Letters*, *102*, 29-34.
8. Randall, W., **Cunningham, J.T.**, & Randall, S. (1990). Sounds from an animal colony entrain circadian rhythms in the cat, *Felis catus* L. *Journal of Interdisciplinary Cycle Research*, *21*, 51-64.
9. **Cunningham, J.T.**, Sullivan, M.J., Edwards, G.L., Farinpour, R., Beltz, T.G. & Johnson, A.K. (1991). Dissociation of experimentally induced drinking by ibotenate injections into the median preoptic nucleus. *Brain Research*, *554*, 153-158.
10. **Cunningham, J. T.** & Johnson, A.K. (1991). The effects of central norepinephrine infusions on drinking behavior induced by angiotensin after 6-hydroxydopamine injections into the anteroventral region of the third ventricle (AV3V). *Brain Research*, *558*, 112-116.
11. Hu, B., **Cunningham, J.T.**, Nissen, R., Renaud, L.P., & Bourque, C.W. (1992). Rat supraoptic nucleus is histologically and physiologically resistant to glutamate neurotoxicity. *NeuroReport*, *3*, 87-90.
12. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1992). Ibotenate lesions of the diagonal band of Broca attenuate baroreceptor sensitivity of rat supraoptic vasopressin neurons. *Journal of Neuroendocrinology*, *4*, 303-309.

13. **Cunningham, J.T.**, Beltz, T.G., Johnson, R.F., & Johnson, A.K. (1992). The effects of ibotenate lesions of the median preoptic nucleus on experimentally induced and circadian drinking behavior in rats. *Brain Research*, 580, 325-330.
14. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1992). Catecholamine depletion of the diagonal band attenuates baroreceptor-induced inhibition of rat supraoptic vasopressin neurons. *American Journal of Physiology*, 263, R363-R367.
15. **Cunningham, J.T.**, Nissen, R., & Renaud L.P. (1993). Noradrenaline injections in the diagonal band selectively reduce supraoptic vasopressin neural activity. *Brain Research*, 610, 152-155.
16. Nissen, R, **Cunningham, J.T.**, & Renaud, L.P. (1993). Lateral hypothalamic lesions alter baroreceptor- and diagonal band-evoked inhibition of rat supraoptic vasopressin neurones. *Journal of Physiology*, 470, 751-766.
17. **Cunningham, J.T.**, Nissen, R., & Renaud, L. P. (1994). Perinuclear zone and diagonal band lesions enhance angiotensin responses of rat supraoptic nucleus neurons. *American Journal of Physiology*, 267, R916-R920.
18. **Cunningham, J.T.**, Wachtel, R.E., & Abboud, F.M. (1995) Whole cell currents stimulated by hypoosmotic stretch in putative aortic baroreceptor neurons in vitro. *Journal of Neurophysiology*, 73, 2094-2098.
19. Chapleau, M.W., **Cunningham, J.T.**, Sullivan, M.J., Wachtel, R.E., & Abboud, F.M. (1995) Structural versus functional modulation of the arterial baroreflex. *Hypertension*, 26, 341-347.
20. Johnson A.K., **Cunningham J.T.**, & Thunhorst R.L. (1996). Integrative Role of the Lamina Terminalis in the regulation of cardiovascular and body fluid homeostasis. *Clinical and Experimental Pharmacology and Physiology*, 23, 183-191.
21. **Cunningham, J.T.**, Wachtel, R.E., & Abboud, F.M. (1997) Whole cell currents produced by neurite stimulation in putative aortic baroreceptor neurons in vitro. *Brain Research*, 757, 149-157.
22. Li, Q., Sullivan, M.J., Dale, W.E., Hassler, E.M., Blaine, E.H. & **Cunningham, J.T.** (1998) Fos-like immunoreactivity in the medulla following acute and chronic angiotensin II infusion. *J. Pharmacol. Exper. Therap*, 284, 1165-1173.
23. Randolph, R.R. Li, Q., Curtis, K.S., Sullivan, M.J., & **Cunningham, J.T.** (1998) Fos Expression following isotonic volume expansion of the unanesthetized male rat. *American Journal of Physiology: Reg. Int. Comp. Physiol.*, 274, R1345-R1352.
24. Kraske, S., **Cunningham, J.T.**, Sullivan, M.J., Haduczok, G., Wachtel, R.E., & Abboud, F.M. (1998). Mechanosensitive ion channels in putative aortic baroreceptor neurons. *American Journal of Physiology: Heart & Circulatory Physiology*, 275, H1497-H1501.
25. Curtis, K.S., **Cunningham, J.T.**, & Heesch, C.M. (1999). Fos expression in brain stem nuclei of pregnant rats after hydralazine-induced hypotension. *American Journal of Physiology: Reg. Int. Comp. Physiol.*, 277, R532-R540
26. Grindstaff, R.J., Grindstaff,, R.R., Sullivan, M.J. & **Cunningham, J.T.** (2000). The role of the locus coeruleus in the baroreceptor regulation of vasopressin supraoptic neurons. *American Journal of Physiology: Reg. Int. Comp. Physiol.* 279, R306-R319.

27. Grindstaff R.R, Grindstaff, R.J. & **Cunningham, J.T.** (2000). Effects of atrial stretch on vasopressin and oxytocin supraoptic neurons in the rat. *American Journal of Physiology: Reg. Int. Comp. Physiol.* 278, R1605-R1615.
28. Grindstaff RJ. Grindstaff RR. **Cunningham JT.** (2000). Baroreceptor sensitivity of rat supraoptic vasopressin neurons involves noncholinergic neurons in the DBB. *American Journal of Physiology - Regulatory Integrative & Comparative Physiology.* 279(5):R1934-R1943.
29. Grindstaff RR. **Cunningham JT.** (2001). Lesion of the perinuclear zone attenuates cardiac sensitivity of vasopressinergic supraoptic neurons. *American Journal of Physiology - Regulatory Integrative & Comparative Physiology.* 280(3):R630-R638.
30. **Cunningham, J.T.**, Freeman, R.H., & Howokawa, M. (2001). Integration of neuroscience and endocrinology in hybrid PBL curriculum. *Adv. Physiol. Educ.* 25: 233-240.
31. Lohmeier, T.E. Lohmeier, J.R. Warren, S., May, P.J. & **Cunningham, JT.** (2002) Sustained activation of the central baroreceptor pathway in angiotensin hypertension. *Hypertension* . 39:550-556.
32. **Cunningham JT**, Grindstaff, RJ, Grindstaff RR & Sullivan MJ (2002) Fos immunoreactivity in the diagonal band and the perinuclear zone of the supraoptic nucleus after hypertension and hypervolemia in unanesthetized rats. *J. Neuroendo.* 14: 219-227.
33. **Cunningham J.T.** Bruno, S.B., Higgs, K.A.N. & Sullivan, M.J. (2002). Intrapericardial procaine affects volume expansion-induced Fos Immunoreactivity in unanesthetized rats. *Exp. Neurol.* 174: 181-192.
34. Lohmeier, T.E., Warren,S. & **Cunningham J.T.** (2003). Sustained activation of the central baroreceptor pathway in obesity hypertension. *Hypertension* 42(1):96-102.
35. Foley CM, Stanton JJ, Hasser EM, **Cunningham JT**, Price EM, Heesch CM. (2003). GABA α receptor α 1, α 2, and α 3 subunit expression in discrete cardiovascular related brainstem regions in nonpregnant and pregnant rats. *Brain Research* 975(1-2):196-206.
36. Sullivan, M.J., **Cunningham, J.T.**, Mazzella, D., Allen, A.M. Nissen, R., & Renaud L.P. (2003) Lesions of the diagonal band of Broca enhance drinking in the rat. *J Neuroendo.* 15: 907-915.
37. Howe BM, Stiegers RL, Higgs KAN, Bruno SB **Cunningham JT** (2004). FosB expression in the central nervous system following isotonic volume expansion in unanaesthetized rats. *Exp. Neurol.* 187(1):190-8.
38. Sullivan, M.J., Hasser, E.M., Moffitt, J.A., Bruno, S.B. & **Cunningham, J.T.** (2004) Rats exhibit aldosterone dependent sodium appetite during 24 h hindlimb unloading. *J. Physiol.* 557(Pt 2):661-70.
39. **Cunningham JT**, Penny ML, Murphy D. (2004). Cardiovascular regulation of supraoptic neurons in the rat: synaptic inputs and cellular signals. *Prog. Molec Neurobiol.* 84: 183-196.
40. Stocker S, **Cunningham JT**, Toney GL (2004). Water deprivation increases Fos immunoreactivity in PVN autonomic neurons with projections to the spinal cord and rostral ventrolateral medulla. *American Journal of Physiology - Regulatory Integrative & Comparative Physiology.* 287: R1172-R1183.
41. Ji LL, Penny ML, Flemming T, Toney GM, **Cunningham JT** (2005). Effects of water deprivation and rehydration on c-Fos and FosB staining in the supraoptic nucleus and the lamina terminalis region. *American Journal of Physiology - Regulatory Integrative & Comparative Physiology.* 288: R311-R321.

42. Penny ML, Cornelius J, Bruno SB, Higgs KAN, **Cunningham JT** (2005). The effects of osmotic stimulation and water availability on c-Fos and FosB staining in the Supraoptic and Paraventricular nuclei of the Hypothalamus. *Experimental Neurology*. 194:191-202.
43. Lohmeier TE, Hildebradt DA, May P, Warren SE, **Cunningham JT** (2005). Recent insight into interaction between the baroreflex and the kidneys in hypertension. *American Journal of Physiology - Regulatory Integrative & Comparative Physiology*. 288: R828-R836.
44. Mueller PJ, Sullivan MJ, Grindstaff RR, **Cunningham JT** and Hasser EM (2006) Regulation of plasma vasopressin and renin activity in conscious hindlimb unloaded rats. *Am J. Physiol. – Reg. Int. Comp.* 291(1): R46-52.
45. Gottlieb HL, Ji LL, Penny ML, Fleming T and **Cunningham JT** (2006). Differential effects of water and saline intake on water deprivation induced c-Fos staining in the rat. *Am J. Physiol. – Reg. Int. Comp.* 290(5):R1251-1261.
46. Mueller, P. J., Foley, C. M., Heesch, C. M., **Cunningham, J. T.**, Zheng, H., Patel, K. P. and Hasser, E. M. (2006) Increased nitric oxide synthase activity and expression in the hypothalamus of hindlimb unloaded rats. *Brain Res*, **1115**, 65-74.
47. Ji LL, Gottlieb HB, Penny ML, Fleming T, Toney GM, **Cunningham JT** (2007) Differential effects of water deprivation and rehydration on Fos and FosB/DeltaFosB staining in the rat brainstem. *Exp Neurol* 203:445-456.
48. **Cunningham JT**, Herrera-Rosales M, Martinez MA, Mifflin S (2007) Identification of active central nervous system sites in renal wrap hypertensive rats. *Hypertension* 49:653-658.
49. Gottlieb, H. B., Fleming, T. M., Ji, L. and **Cunningham, J. T.** (2007) Identification of central nervous system sites involved in the water diuresis response elicited by central microinjection of nociceptin/ Orphanin FQ in conscious rats via c-Fos and inducible cAMP early repressor immunocytochemistry. *J Neuroendocrinol*, **19**, 531-542.
50. **Cunningham, J. T.**, Mifflin, S. W., Gould, G. G. and Frazer, A. (2008) Induction of c-Fos and DeltaFosB immunoreactivity in rat brain by Vagal nerve stimulation. *Neuropsychopharmacology*, **33**, 1884-1895.
51. Shi, P., Martinez, M. A., Calderon, A. S., Chen, Q. H., **Cunningham, J. T.**, & Toney, G. M. (2008). Intra-carotid hyperosmotic stimulation increases Fos staining in forebrain organum vasculosum laminae terminalis neurons that project to the hypothalamic paraventricular nucleus. *Journal Of Physiology-London*, **586**(21), 5231-5245.
52. Zhang, W. R., Carreno, F. R., **Cunningham, J. T.**, & Mifflin, S. W. (2008). Chronic sustained and intermittent hypoxia reduce function of ATP-sensitive potassium channels in nucleus of the solitary tract. *American Journal Of Physiology-Regulatory Integrative And Comparative Physiology*, **295**(5), R1555-R1562.
53. Ma, S., Mifflin, S. W., **Cunningham, J. T.** and Morilak, D. A. (2008) Chronic intermittent hypoxia sensitizes acute hypothalamic-pituitary-adrenal stress reactivity and Fos induction in the rat locus coeruleus in response to subsequent immobilization stress. *Neuroscience*, **154**, 1639-1647.
54. Carreno, F. R., Ji, L. L., & **Cunningham, J. T.** (2009). Altered central TRPV4 expression and lipid raft association related to inappropriate vasopressin

secretion in cirrhotic rats. *American Journal Of Physiology-Regulatory Integrative And Comparative Physiology*, 296(2), R454-R466.

55. Zhang, W. R., Carreno, F. R., **Cunningham, J. T.**, & Mifflin, S. W. (2009). Chronic Sustained Hypoxia Enhances Both Evoked EPSCs and Norepinephrine Inhibition of Glutamatergic Afferent Inputs in the Nucleus of the Solitary Tract. *Journal Of Neuroscience*, 29(10), 3093-3102.
56. Knight, W. D., Ji, L. L., Little, J. T., & **Cunningham, J. T.** (2010). Dehydration followed by sham rehydration contributes to reduced neuronal activation in vasopressinergic supraoptic neurons after water deprivation. *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*, 299(5), R1232-R1240. doi: 10.1152/ajpregu.00066.2010
57. Knight WD, Little JT, Carreno FR, Toney GM, Mifflin SW & **Cunningham JT** (2011). Chronic intermittent hypoxia increases blood pressure and expression of FosB/ Δ FosB in central autonomic regions. *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology* **301**, R131-R139.
58. Carreno FR, Walch JD, Dutta M, Nedungadi TP & **Cunningham JT** (2011). Brain-derived neurotrophic factor-tyrosine kinase B pathway mediates NMDA receptor NR2B subunit phosphorylation in the supraoptic nuclei following progressive dehydration. *J Neuroendocrinol* **23**, 894-905.
59. Gottlieb HB, Ji LL, **Cunningham JT** (2011) Role of superior laryngeal nerve and Fos staining following dehydration and rehydration in the rat. *Physiology and Behavior* 104:1053-1058.
60. **Cunningham JT**, Knight WD, Mifflin SW & Nestler EJ (2012). An Essential Role for Δ FosB in the Median Preoptic Nucleus in the Sustained Hypertensive Effects of Chronic Intermittent Hypoxia. *Hypertension* **60**, 179-187.
61. Nedungadi TP, Carreno FR, Walch JD, Bathina CS & **Cunningham JT** (2012). Region-specific changes in transient receptor potential vanilloid channel expression in the vasopressin magnocellular system in hepatic cirrhosis-induced hyponatraemia. *J Neuroendocrinol* **24**, 642-652.
62. Nedungadi TP, Dutta M, Bathina CS, Caterina MJ & **Cunningham JT** (2012). Expression and distribution of TRPV2 in rat brain. *Exp Neurol* **237**, 223-237.
63. Yao ST, Gouraud SS, Qiu J, **Cunningham JT**, Paton JFR, Murphy D (2012) Selective Up-Regulation of JunD Transcript and Protein Expression in Vasopressinergic Supraoptic Nucleus Neurones in Water-Deprived Rats. *Journal of Neuroendocrinology* 24:1542-1552.
64. **Cunningham JT**, Nedungadi TP, Walch JD, Nestler EJ & Gottlieb HB (2012). Δ FosB in the supraoptic nucleus contributes to hyponatremia in rats with cirrhosis. *Am J Physiol Regul Integr Comp Physiol* **303**, R177-185.
65. Bathina CS, Rajulapati A, Franzke M, Yamamoto K, **Cunningham JT**, Mifflin S (2013) Knockdown of tyrosine hydroxylase in the nucleus of the solitary tract reduces elevated blood pressure during chronic intermittent hypoxia. *Am J Physiol Regul Integr Comp Physiol* 305:R1031-1039.
66. Knight WD, Saxena A, Shell B, Nedungadi TP, Mifflin SW, **Cunningham JT** (2013) Central losartan attenuates increases in arterial pressure and expression of FosB/ Δ FosB along the autonomic axis associated with chronic intermittent hypoxia.

67. Sharpe AL, Calderon AS, Andrade MA, **Cunningham JT**, Mifflin SW, Toney GM (2013) Chronic intermittent hypoxia increases sympathetic control of blood pressure: role of neuronal activity in the hypothalamic paraventricular nucleus. *Am J Physiol Heart Circ Physiol* 305:H1772-1780.
68. Walch JD, Carreño FR, **Cunningham JT** (2013) Intracerebroventricular losartan infusion modulates angiotensin II type 1 receptor expression in the subfornical organ and drinking behaviour in bile-duct-ligated rats. *Experimental Physiology* 98:922-933.
69. Wang Y, Ding M, Chaudhari S, Ding Y, Yuan J, Stankowska D, He S, Krishnamoorthy R, **Cunningham JT**, Ma R (2013) Nuclear Factor κ B Mediates Suppression of Canonical Transient Receptor Potential 6 Expression by Reactive Oxygen Species and Protein Kinase C in Kidney Cells. *Journal of Biological Chemistry* 288:12852-12865.
70. **Cunningham JT** (2013) Editorial Focus: the brain renin-angiotensin system and hypertension. Focus on: hypertension in mice with transgenic activation of the brain renin-angiotensin system is vasopressin dependent. *Am J Physiol Regul Integr Comp Physiol* 305:R173-174.
71. Nedungadi TP, **Cunningham JT** (2014) Differential regulation of TRPC4 in the vasopressin magnocellular system by water deprivation and hepatic cirrhosis in the rat. *Am J Physiol Regul Integr Comp Physiol* 306:R304-314.
72. Saxena A, Bachelor M, Park YH, Carreno FR, Nedungadi TP, **Cunningham JT** (2014) Angiotensin II induces membrane trafficking of natively-expressed Transient Receptor Potential vanilloid type 4 channels in hypothalamic 4B cells. *Am J Physiol Regul Integr Comp Physiol* 307:R945-R955.
73. Walch JD, Nedungadi TP, **Cunningham JT** (2014) ANG II receptor subtype 1a gene knockdown in the subfornical organ prevents increased drinking behavior in bile duct-ligated rats. *Am J Physiol Regul Integr Comp Physiol* 307:R597-607.
74. Choe KY, Han SY, Gaub P, Shell B, Voisin DL, Knapp BA, Barker PA, Brown CH, **Cunningham JT**, Bourque CW (2015) High Salt Intake Increases Blood Pressure via BDNF-Mediated Downregulation of KCC2 and Impaired Baroreflex Inhibition of Vasopressin Neurons. *Neuron* 85:549-560.
75. Saxena A, Little JT, Nedungadi TP, **Cunningham JT** (2015) Angiotensin II type 1a receptors in subfornical organ contribute towards chronic intermittent hypoxia-associated sustained increase in mean arterial pressure. *Am J Physiol Heart Circ Physiol* 308:H435-446.
76. Carmichael CY, Carmichael AC, Kuwabara JT, **Cunningham JT**, Wainford RD (2016), Impaired sodium-evoked paraventricular nucleus neuronal activation and blood pressure regulation in conscious Sprague-Dawley rats lacking central Galphai2 proteins. *Acta Physiol (Oxf)* 216:314-329. doi: 310.1111/apha.12610. Epub 12015 Oct 12619.
77. Faulk K, Shell B, Nedungadi TP, **Cunningham JT** (2017), Role of angiotensin-converting enzyme 1 within the median preoptic nucleus following chronic intermittent hypoxia. *Am J Physiol Regul Integr Comp Physiol* 312:R245-r252.
78. Faulk KE, Nedungadi TP, **Cunningham JT** (2017), Angiotensin converting

enzyme 1 in the median preoptic nucleus contributes to chronic intermittent hypoxia hypertension. *Physiological reports* 5.

79. Snyder B, Shell B, **Cunningham JT**, Cunningham RL (2017), Chronic intermittent hypoxia induces oxidative stress and inflammation in brain regions associated with early-stage neurodegeneration. *Physiological reports* 5.
80. Balapattabi K, Little JT, Farmer GE, **Cunningham JT** (2018), High salt loading increases brain derived neurotrophic factor in supraoptic vasopressin neurones. *J Neuroendocrinol* 30:e12639.
81. Farmer GE, Balapattabi K, Bachelor ME, Little JT, **Cunningham JT** (2018), AT1a influences GABAA-mediated inhibition through regulation of KCC2 expression. *Am J Physiol Regul Integr Comp Physiol* 315:R972-r982.
82. Wu Q, **Cunningham JT**, Mifflin S (2018), Transcription factor DeltaFosB acts within the nucleus of the solitary tract to increase mean arterial pressure during exposures to intermittent hypoxia. *Am J Physiol Heart Circ Physiol* 314:H270-h277.
83. Balapattabi K, Farmer GE, Knapp BA, Little JT, Bachelor M, Yuan JP, **Cunningham JT** (2019), Effects of Salt Loading on Supraoptic Vasopressin Neurons Assessed by ClopHensorN Chloride Imaging. *J Neuroendocrinol*:e12752.
84. Farmer GE, Amune A, Bachelor ME, Duong P, Yuan JP, **Cunningham JT** (2019), Sniffer cells for the detection of neural Angiotensin II in vitro. *Scientific reports* 9:8820.
85. Frame AA, Carmichael CY, Kuwabara JT, **Cunningham JT**, Wainford RD (2019), Role of the afferent renal nerves in sodium homeostasis and blood pressure regulation in rats. *Exp Physiol*.
86. Marciante AB, Wang LA, Farmer GE, **Cunningham JT** (2019), Selectively Inhibiting the Median Preoptic Nucleus Attenuates Angiotensin II and Hyperosmotic-Induced Drinking Behavior and Vasopressin Release in Adult Male Rats. *eNeuro* 6.
87. Balapattabi K, Little JT, Bachelor M, **Cunningham JT** (2020), Brain-Derived Neurotrophic Factor and Supraoptic Vasopressin Neurons in Hyponatremia. *Neuroendocrinology* 110:630-641.
88. Carmichael CY, Kuwabara JT, Pascale CL, Moreira JD, Mahne SE, Kapusta DR, Rosene DL, Williams JS, et al. (2020), Hypothalamic Paraventricular Nucleus Galphai2 (Guanine Nucleotide-Binding Protein Alpha Inhibiting Activity Polypeptide 2) Protein-Mediated Neural Control of the Kidney and the Salt Sensitivity of Blood Pressure. *Hypertension* 75:1002-1011.
89. Marciante AB, Farmer GE, **Cunningham JT** (2020), G(q) DREADD activation of CaMKIIa MnPO neurons stimulates nitric oxide activity. *J Neurophysiol* 124:591-609.
90. Marciante AB, Wang LA, Little JT, **Cunningham JT** (2020), Caspase lesions of PVN-projecting MnPO neurons block the sustained component of CIH-induced hypertension in adult male rats. *Am J Physiol Heart Circ Physiol* 318:H34-h48.
91. Balapattabi K, Little JT, Bachelor ME, Cunningham RL, **Cunningham JT** (2021), Sex Differences in the Regulation of Vasopressin and Oxytocin Secretion in Bile Duct-Ligated Rats. *Neuroendocrinology* 111:237-248.
92. Farmer GE, Little JT, Marciante AB, **Cunningham JT** (2021), AT1a-dependent GABA(A) inhibition in the MnPO following chronic intermittent hypoxia. *Am J Physiol Regul Integr Comp Physiol* 321:R469-r481.

93. Kasanga EA, Little J, McInnis TR, Bugnariu N, **Cunningham JT**, Salvatore MF (2021), Cardiovascular Metrics Associated With Prevention of Aging-Related Parkinsonian Signs Following Exercise Intervention in Sedentary Older Rats. *Front Aging Neurosci* 13:775355.
94. Marciante AB, Shell B, Farmer GE, **Cunningham JT** (2021), Role of angiotensin II in chronic intermittent hypoxia-induced hypertension and cognitive decline. *Am J Physiol Regul Integr Comp Physiol* 320:R519-r525.
95. Aikins AO, Little JT, Rybalchenko N, **Cunningham JT** (2022), Norepinephrine innervation of the supraoptic nucleus contributes to increased copeptin and dilutional hyponatremia in male rats. *Am J Physiol Regul Integr Comp Physiol* 323:R797-r809.
96. Jia S, Rybalchenko N, Kunwar K, Farmer GE, Jr., Little JT, Toney GM, **Cunningham JT** (2022), Chronic intermittent hypoxia enhances glycinergic inhibition in nucleus tractus solitarius. *J Neurophysiol* 128:1383-1394.
97. Salvatore MF, Soto I, Kasanga EA, James R, Shifflet MK, Doshier K, Little JT, John J, et al. (2022), Establishing Equivalent Aerobic Exercise Parameters Between Early-Stage Parkinson's Disease and Pink1 Knockout Rats. *J Parkinsons Dis* 12:1897-1915.
98. Aikins AO, Farmer GE, Little JT, Cunningham JT (2023) Effects of bile duct ligation on the inhibitory control of supraoptic vasopressin neurons. *J Neuroendocrinol* 35:e13312.
99. Nguyen DH, Duque V, Phillips N, Mecawi AS, **Cunningham JT** (2023) Spatial transcriptomics reveal basal sex differences in supraoptic nucleus gene expression of adult rats related to cell signaling and ribosomal pathways. *Biol Sex Differ* 14:71.

Chapters and Reviews

1. Johnson, A.K. & **Cunningham, J.T.** (1987). Brain mechanisms and drinking: The role of lamina terminalis-associated systems in extracellular thirst. *Kidney International*, 32, S35-S42.
2. **Cunningham, J.T.** & Johnson, A.K. (1988). Models for the integration of humoral and neural factors critical to body fluid homeostasis. In *Recent Progress in Posterior Pituitary Hormones*. S. Yoshida & L. Share Eds. Excerpta Medica: Amsterdam, 97-106.
3. Johnson, A.K. & **Cunningham, J.T.** (1989). The role of basal forebrain norepinephrine and the control of extracellular depletion-induced drinking. *Acta Physiologica Polonica* 40, 282-292.
4. Renaud, L.P., **Cunningham, J.T.**, Jarvis, C.R., Nissen, R., Sullivan, M.J., Van Vulpen, E.E., & Yang, C.R. (1991). Neural afferent connections to magnocellular vasopressin-secreting neurons. In *Vasopressin* (Eds. S. Jard & R. Jamison) J. Libbey Eurotext Ltd, 223-230.
5. Renaud, L.P., Allen, A.M., **Cunningham, J.T.**, Jarvis, C.R., Johnson, S., Nissen, R., Sullivan, M.J., Van Vulpen, E.E., & Yang, C.R. (1992). Synaptic and neurotransmitter regulation of activity in mammalian hypothalamic magnocellular neurosecretory cells.

In *Progress in Brain Research vol. 92 "Peptidergic Neuron"* (Eds. J. Joose, R. Buijs & S.H. Tilders) Elsevier, Amsterdam, 277-288.

6. Renaud, L.P., **Cunningham, J.T.**, Nissan, R., and Yang, C.R. (1993). Electrophysiology of central pathways controlling the release of neurohypophysial hormones: Focus on the lamina terminalis and diagonal band inputs to the supraoptic nucleus. *Annals of the New York Academy of Sciences*, 689, 122-132.
7. Blaine, E.H., **Cunningham, J.T.**, Hasser, E.M., Dale W.E., Li, Q., & Sullivan, M.J. (1998). Angiotensin hypertension. *Clin. Exper. Pharmacol. Physiol.* 25(S), S16-S20.
8. Hasser, E.M., **Cunningham, J.T.**, Sullivan, M.J., Curtis, K.S., Blaine, E. H. & Hay, M.H. (2000). Area postrema and sympathetic nervous system effects of vasopressin and angiotensin II. *Clin. Exper. Pharmacol. Physiol.*, 27, 432-436.
9. Grindstaff, R.R. & **Cunningham, J.T.** (2001). Cardiovascular regulation of vasopressin neurons in the supraoptic nucleus. *Exp. Neurol.* 171, 219-226.
10. **Cunningham, J.T.**, Bruno, S.B., Grindstaff, R.J., Grindstaff, R.R., Higgs, K.A.N., Mazzella, D. & Sullivan, M.J. (2002). Cardiovascular regulation of supratopic vasopressin neurons. *Prog. Brain Res.* 139, 257-273.
11. Mueller, P.J. **Cunningham, J.T.**, Patel, K.P. & Hasser E.M. (2003) Proposed role of the paraventricular nucleus in cardiovascular deconditioning. *Acta Physiol Scand*, 177, 27-35.
12. Toney GM, **Cunningham JT**, Mifflin SW (2010) Early neural adaptations to intermittent hypoxia: triggers for the pathophysiology of sleep apnea. In: *Recent Advances in Cardiovascular Research: From Sleep to Exercise* (Ally, A. et al., eds), pp 75-96 Kerala, India: Research Signpost.
13. Mifflin S, **Cunningham JT**, Toney GM (2015), Neurogenic mechanisms underlying the rapid onset of sympathetic responses to intermittent hypoxia. *Journal of Applied Physiology* 119:1441-1448. doi: 1410.1152/jappphysiol.00198.02015. Epub 02015 May 00121.
14. Shell B, Faulk K, **Cunningham JT** (2016), Neural Control of Blood Pressure in Chronic Intermittent Hypoxia. *Curr Hypertens Rep* 18:19. doi: 10.1007/s11906-11016-10627-11908.
15. Aikins AO, Nguyen DH, Paundralingga O, Farmer GE, Shimoura CG, Brock C, **Cunningham JT** (2021), Cardiovascular Neuroendocrinology: Emerging Role for Neurohypophysial Hormones in Pathophysiology. *Endocrinology* 162.
16. Nguyen DH, **Cunningham JT**, Sumien N (2021), Estrogen receptor involvement in vascular cognitive impairment and vascular dementia pathogenesis and treatment. *Geroscience* 43:159-166.
17. Sumien N, **Cunningham JT**, Davis DL, Engelland R, Fadeyibi O, Farmer GE, Mabry S, Mensah-Kane P, et al. (2021), Neurodegenerative Disease: Roles for Sex, Hormones, and Oxidative Stress. *Endocrinology* 162.
18. Brock C, Farmer GE, **Cunningham JT** (2023) Neural Control of Cardiovascular Function: Role of Osmosensation. *Masterclass In Neuroendocrinology: Cardiovascular Neuroendocrinology*.
19. Appiah CB, Gardner JJ, Farmer GE, Cunningham RL, **Cunningham JT** (2024)

Book Edited

1. Cardiovascular Endocrinology, Editors: G.L.C. Yosten & J. T. Cunningham. [Masterclass in Neuroendocrinology](#) (MANEURO, volume 14). Springer, October 2023.

Abstracts

1. **Cunningham, J.T.** (1982). Hemispheric differences in the processing of emotional and nonemotional stimuli. *Psi Chi Undergraduate Convention*, Indiana State University at Evansville.
2. **Cunningham, J.T.**, Callahan M.F., Kirby, R.F., Gruber, K. A., & Johnson, A.K. (1986). AV3V lesions block the cardiovascular effects of gamma-MSH. *Federation Proceedings*, *45*, 391.
3. Johnson, A.K., Callahan, M.F., **Cunningham, J.T.**, & Kirby, R.F., (1986). Lesions of the AV3V attenuate cardiovascular responses to acute footshock stress. *Federation Proceedings*, *45*, 897.
4. McRae-Degueurce, A., **Cunningham, J.T.**, Bellin S., Landas, S., Wilkin, L., & Johnson, A.K. (1986) Fetal neuronal catecholamine transplantation into brain damaged adult rats: The role of norepinephrine in drinking and hypertension elicited by angiotensin II. *The New York Academy of Science*.
5. **Cunningham, J.T.**, McRae-Degueurce, A., Bellin, S.I., Wilkin, L.D., Landas, S., & Johnson, A.K. (1986). Locus coeruleus transplants reverse central angiotensin II drinking response deficits in 6-hydroxydopamine lesioned rats. *Society for Neuroscience Abstracts*, *12*, 1475.
6. Callahan, M.F., Kirby, R.F., Eskridge, S.L., **Cunningham, J.T.**, Johnson, A. K., & Gruber, K. A. (1987). Blockade of hindbrain V1 vasopressin receptors blocks the tachycardia response to acute footshock stress. *Federation Proceedings*, *46*, 1251.
7. **Cunningham, J.T.**, McGinity, K., Kirby, R.F., & Johnson, A.K. (1987). Decreases in AV3V norepinephrine content produce drinking response deficits to angiotensin II (ANG II). *Federation Proceedings*, *46*, 1235.
8. **Cunningham, J.T.**, Sullivan, M.J., Edwards, G.L., Farinpour, R., & Johnson, A.K. (1987). The effects of ibotenate lesions of the median preoptic nucleus on drinking behavior in the rat. *Society for Neuroscience Abstracts*, *13*, 1170.
9. Edwards, G.L., **Cunningham, J.T.**, Beltz, T.G., & Johnson, A.K. (1987). Medullary projections to the pons and basal forebrain: possible substrates involved in drinking behavior. *Society for Neuroscience Abstracts*, *13*, 528.
10. **Cunningham, J.T.**, Sullivan, M.J., Edwards, G.L., Farinpour, R., Beltz, T. G., & Johnson, A.K. (1988). Differential effects of anesthetic on drinking deficits produced by ibotenate lesions of the median preoptic nucleus. *FASEB Journal*, *2*, A1320.

11. Edwards, G.L., **Cunningham, J.T.**, Beltz, T.G., & Johnson, A.K. (1988). Medullary neuropeptide-Y immunoreactive neurons project to the median preoptic nucleus of the hypothalamus. *FASEB Journal*, 2, A1319.
12. **Cunningham, J.T.** & Johnson, A.K. (1988). Central infusions of norepinephrine reverse angiotensin-induced drinking response deficits produced by 6-hydroxydopamine injections into the median preoptic nucleus and the organum vasculosum of the lamina terminalis. *Society for Neuroscience Abstracts*, 14, 196.
13. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1989). Lamina terminalis input to rat supraoptic nucleus visualized with retrograde transport of labeled microspheres. *Society for Neuroscience Abstracts*, 15, 1078.
14. Ohta, H., **Cunningham, J.T.**, Beltz, T., Johnson, A.K., & Brody, M.J. (1989). Effects of ibotenic acid (IBO)-induced lesions in the median preoptic nucleus (MnPO) on cardiovascular function in rats. *Society for Neuroscience Abstracts*, 15, 336.
15. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1990). Ibotenate lesions of the diagonal band of Broca (DBB) attenuate baroreceptor inhibition of putative-vasopressin (Vp) neurons in the supraoptic nucleus (SON) in the rat. *FASEB Journal*, 4, A683.
16. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1990). Catecholamine depletions of the diagonal band of Broca (DBB) attenuate baroreceptor sensitivity of rat supraoptic (SON) vasopressin neurons. *Society for Neuroscience Abstracts*, 16, 1141.
17. Nissen, R., **Cunningham, J.T.**, & Renaud, L.P. (1990). Ibotenate lesions in the perinuclear region of the supraoptic nucleus (SON) attenuates baroreceptor but not median preoptic nucleus-induced inhibition of vasopressin (VP) neurons in the rat. *Society for Neuroscience Abstracts*, 16, 867.
18. Renaud, L.P., Nissen, R., & **Cunningham, J.T.** (1990). Angiotensin II (All) enhanced activity of supraoptic vasopressin (VP) neurons is potentiated in rats with ibotenate lesions of either the diagonal band of Broca (DBB) or the perinuclear zone (PNZ). *Society for Neuroscience Abstracts*, 16, 867.
19. Hu, B., **Cunningham, J.T.**, Renaud, L.P., & Bourque, C.W. (1990). Rat hypothalamic magnocellular neurosecretory cells (MNCs) are morphologically and physiologically resistant to glutamate neurotoxicity. *Symposium on Excitatory Amino Acids*, Montreal Neurological Institute.
20. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1991). Ibotenate lesions of the perinuclear zone (PNZ) attenuate diagonal band of Broca (DBB) mediated inhibition of supraoptic vasopressin neurons in the rat, *FASEB Journal*, 5, A373.
21. **Cunningham, J.T.**, Nissen, R., & Renaud, L.P. (1991). Injections of norepinephrine (NE) in the diagonal band of Broca (DBB) attenuate the activity of rat supraoptic (SON) vasopressin neurons. *Society for Neuroscience Abstracts*, 17, 1189.
22. Nissen, R., **Cunningham, J.T.**, Allen, A.M., & Renaud, L.P. (1991). Ibotenic acid lesions of the median preoptic nucleus do not influence baroreceptor induced inhibition of supraoptic vasopressin secreting neurons in the rat. *Society for Neuroscience Abstracts*, 17, 1189.
23. Sullivan, M.J., **Cunningham, J.T.**, Nissen, R., Allen, A.M., Coderre, E., & Renaud, L. P. (1991). Ibotenic acid lesions of the diagonal band of Broca results in

exaggerated polyethylene glycol-induced drinking behavior. *Society for Neuroscience Abstracts*, 17, 885.

24. **Cunningham, J.T.**, Jarvis, C.R., Hu, B., & Renaud, L.P. (1992). Intracellular recordings from rat diagonal band of Broca (DBB) neurons and responses to norepinephrine (NE) in basal-forebrain hypothalamic explants. *Society for Neuroscience Abstracts*, 18, 1175.
25. **Cunningham, J.T.**, Sullivan, M.J., Nissen, R. & Renaud L.P. (1993). Lesions of the diagonal band of broca (DBB) enhance neuroendocrine and behavioral responses to peripheral angiotensin II (A II). *FASEB J*, 7, A434.
26. Shaffer, R.A., Davission, R.L., **Cunningham, J.T.**, Ohta, H., Johnson, A.K., & Lewis, S.J. (1993). Identification of NADPH diaphorase by in vivo injection of nitro blue tetrazolium (NBT). *FASEB J*, 7, A432.
27. **Cunningham, J.T.**, Zardetto-Smith, A.M., Cicha, M. Z., Johnson, A. K., & Lewis, S. J. (1993). Forebrain fos staining produced by carotid sinus nerve stimulation in nembutal and urethane anesthetized rats. *Society for Neuroscience Abstracts*, 19, 956.
28. **Cunningham, J.T.**, Kraske, S., Fankhauser, L.J., Wachtel, R.E., Chapleau, M.W. & Abboud, F.M. (1994). Whole cell currents induced by hypoosmotic stretch in nodose ganglion neurons. *FASEB J*, 8, A332.
29. **Cunningham, J.T.**, Waite L, Wachtel, R.E. & Abboud, F.M. (1994) Mechanical stimulation of neurites of nodose baroreceptor neurons in culture induces a whole cell current. *The Physiologist*, 37, A11.
30. **Cunningham, J.T.**, Kraske, S., Sullivan, M.J., Wachtel, R.E., & Abboud, F.M. Mechanosensitive ion channels in putative aortic baroreceptor neurons. (1995) *Society for Neuroscience Abstracts*. 21,
31. Allen, A.M., **Cunningham, J.T.**, Sullivan, M.J., Wachtel, R.E., & Abboud, F.M. (1995). Angiotensin supresses an M-type currnet in nodose ganglia neurons in vitro. *Society for Neuroscience Abstracts*, 21
32. **Cunningham, J.T.**, Kraske, S., Sullivan, M.J., Wachtel, R.E., & Abboud, F.M. (1995) Mechanosensitive ion channels in putative aortic baroreceptor neurons are influenced by culture conditions. American Heart Association.
33. Li, Q., Ohman, L.E., Sullivan, M.J., Dale W.E., Blaine, E.H., & **Cunningham, J.T.** (1996) Expression of Fos-like immunoreactiviey in the medulla following acute and chronic angiotensin infusion. *FASEB Journal*, 10, .
34. **Cunningham, J.T.**, Ohman, L.E. Hasser, E.M., Sullivan, M.J. & Schadt, J.C. (1996) Fos immunoreactivity after nonhypotensive and hypotensive hemorrhage in conscious rabbits. *FASEB Journal*, 10, .
35. Li, Q., Sullivan, M.J., Dale W.E., Hasser, E.M., Blaine, E.H., & **Cunningham, J.T.** (1997) Fos-like immunoreactivity in the medulla following acute and chronic angiotensin II in sinoaortic denervated rats. *FASEB Journal*, 11, A255.
36. Curtis, K.S., Li, Q., Sullivan, M.J., Dale W.E., Hasser, E.M., Blaine, E.H., & **Cunningham, J.T.** (1997) Attenuated pressor responses and Fos-like immunoreactivity to chronic angiotensin infusion in rats with area postrema lesions. *FASEB Journal*, 11, A255.

37. Randolph, R.R., Curtis, K.S., Li, Q., Sullivan, M.J., & **Cunningham, J.T.** (1997) Fos Expression in male rats following isotonic volume expansion. *FASEB Journal*, 11, A255.
38. Grindstaff R.J, Sawani A., Baker J.W., Sullivan M.J., & **Cunningham, J.T.** (1997) Baroreceptor afferents to the diagonal band of Broca. *Society for Neuroscience Abstracts*.
39. Curtis, K.S., Laiprasert, J.D., Heesch, C.M., **Cunningham J.T.** (1997) Attenuated Fos expression in the rostral ventrolateral medulla of pregnant rats after hydralazine treatment. *Society for Neuroscience Abstracts*.
40. Moffitt, J.A., Hasser, E.M., Curtis, K.S., Smith, J.A., Sullivan, M.J. & **Cunningham, J.T.** (1998). Attenuated Fos expression in the rostral ventrolateral medulla (RVLM) of hindlimb unloaded rats after hydralazine treatment. *FASEB J.*, 12, A63.
41. Curtis, K.S., Randolph, R.R., Sullivan, M.J. & **Cunningham, J.T.** (1998) Attenuated Fos expression in the caudal ventrolateral medulla of rats with area postrema lesions after isotonic volume expansion. *FASEB J.*, 12, A692.
42. Grindstaff, R.J., Randolph, R.R., Sullivan, M.J. & **Cunningham, J.T.** (1998) The effects of atrial stimulation on magnocellular supraoptic neurons in the rat. *FASEB J.* 12, A692.
43. Randolph, R.R., Curtis, K.S. Sullivan, M.J. & **Cunningham, J.T.** (1998) Comparison of volume expansion-induced Fos expression among proestrus, diestrus and ovariectomized female rats. *FASEB J.*, 12, A695.
44. Meyer, D.J., **Cunningham, J.T.**, Sullivan, M.J., Curtis, K.S., Vuchetich, J.P., & Hay, M (1998) In vivo neural activation measured with FM1-43 in rat mesenteric microcirculation. *FASEB J.*, 12, A741.
45. Carmichael JC, **Cunningham JT**, Sullivan MJ, Curtis KS, Meyer DJ, Huxley VH. (1999) Nerves associated with microvessels are adrenergic. *FASEB J.*, 13, A33
46. Curtis KS, Randolph RR, Sullivan MJ, **Cunningham JT.** (1999) Fos expression in the hypothalamus of rats with area postrema lesions after isotonic volume expansion. *FASEB J.* 13, A125.
47. Grindstaff RJ, **Cunningham JT.** (1999) Excitotoxic lesions of the locus coeruleus attenuate baroreceptor-mediated inhibition of vasopressin neurons in the supraoptic nucleus. *FASEB J.*, 13, A457.
48. Randolph RR, Grindstaff RJ, Curtis KS, **Cunningham JT.** (1999) Effect of sinoaortic denervation on phenylephrine-induced Fos expression in the brainstem of rats. *FASEB J.*, 13, A779.
49. Grindstaff RJ, Randolph RR, Curtis KS, **Cunningham JT.** (1999) Effect of sinoaortic denervation on Fos expression in the locus coeruleus following 2 hour phenylephrine-induced hypertension. *FASEB J.*, 13, A779.
50. **Cunningham JT**, Bruno SB, Higgs KAN, Sullivan MJ. (2000) Intrapericardial procaine effects volume expansion-induced Fos expression in conscious rats. *FASEB J.*, 14.
51. Grindstaff RR, Grindstaff RJ, **Cunningham JT.** (2000) Activation of cardiac receptors alters the activity of supraoptic vasopressin but not oxytocin neurons in the rat. *FASEB J.*, 14.

52. Mazzella D, **Cunningham JT**, Sullivan MJ. (2000) The effects of diagonal band (DBB) on vasopressin release. *FASEB J.*, 14.
53. Stanton JJ, Foley CM, **Cunningham JT**, Price EM, Hasser EM, Heesch CM. (2000) Alterations in GABA α receptor α 1 and α 2 subunit expression in the supraoptic and paraventricular nuclei of pregnant rats. *FASEB J.*, 14.
54. Foley CM, Stanton JJ, Hasser EM, **Cunningham JT**, Price EM, Heesch CM. (2000). GABA α receptor α 1, α 2, and α 3 subunit expression in discrete cardiovascular related brainstem regions in nonpregnant and pregnant rats. *FASEB J.*, 14.
55. Hasser, EM, Sullivan MJ, **Cunningham JT**. (2000) Reflex control of vasopressin release following hindlimb unloading *Society for Neurosciences*, 26, 1948.
56. Grindstaff, RR, **Cunningham JT**. (2000) Sensitivity of vasopressin SON neurons of PNZ lesioned rats to caval-atrial stretch. *Soc. for Neurosciences*, 26, 130.
57. Bruno, S.B., Cornelius, J., Foley, C.M. Hasser E.M., **Cunningham, J.T.** (2002) Increased Sodium Intake is Maintained in 2 Week Hindlimb Unloaded (HU) Rats. *FASEB J.*
58. Sullivan, M.J., Hasser, E.M., Moffitt, J.A., Bruno, S.B., **Cunningham J.T.** (2002). Changes in Salt Intake, Plasma Volume and Aldosterone during 24 Hindlimb Unloading in Male Rats. *FASEB J.*
59. Penny, M., Higgs, K.A.N., Cornelius, J., **Cunningham, J.T.** (2002). Fos B staining in rat supraoptic nucleus (SON) after hypertonic saline injection. *FASEB J.*
60. Mueller, P.J., **Cunningham, J.T.**, Grindstaff, R.R., Laughlin M.H., Hasser, E.M. (2002) Hypotension-induced Fos in the hypothalamus of exercise trained rats. *FASEB J.*
61. Mueller, P.J., **Cunningham, J.T.**, Grindstaff, R.R., Zheng, H., Patel K.P., & Hasser, E.M. (2002) NADPH-diaphorase positive neurons in the hypothalamus of hindlimb unweighted rats. *FASEB J.*
62. Bruno, S.B., Cornelius, J., Hasser E.M. & **Cunningham, J.T.** (2003) Spironolactone blocks increased salt intake during 24-h hindlimb unloading in male rats. *FASEB J.*
63. Hollenbeck A.C., **Cunningham J.T.**, Higgs K.A.N., Bruno, S.B. & Cornelius J. (2003). Rat hindlimb unweighting increases Fos B expression in the nucleus of the solitary tract. *FASEB J.*
64. Howe, B.M., Higgs K.A.N., Bruno S.B. & **Cunningham J.T.** (2003). Chronic Fos B expression in the hypothalamus after volume expansion in conscious rats. *FASEB J.*
65. Penny, M., Higgs, K.A.N., Cornelius, J. and **Cunningham, J.T.** (2003). Effect of water restriction on Fos B staining in rat supraoptic nucleus (SON) after hypertonic saline injection. *FASEB J.*
66. Austgen, J.R., Higgs K.A.N, Bruno S.B., Cornelius, J., & **Cunningham, J.T.**, (2003) c-Fos expression in the paraventricular nucleus of the hypothalamus is influenced by murine leptin. *FASEB J.*
67. **Cunningham, J.T.**, Cornelius, J., Ghorbel, M. & Murphy D. (2003) Water deprivation suppresses Jun D staining in the supraoptic nucleus of the rat. *FASEB J.*

68. Stocker SD, Cunningham JT, Toney GM (2004) Water deprivation increases Fos immunoreactivity in parvocellular neurons of the hypothalamic paraventricular nucleus. *FASEB J.* 18: A295.
69. Penny ML, Fleming T, Ji LL, Stocker SD, Toney GM, **Cunningham JT** (2004) The effects of water deprivation on cFos activation in the ventrolateral medulla. *FASEB J.* 18:A296.
70. **Cunningham JT**, Penny ML, Fleming T, Ji LL (2004) The effects of water deprivation and rehydration on cFos and FosB in the rat forebrain. *FASEB J.* 18: A296.
71. Lau YE, **Cunningham JT**, Fink GD (2004) Fos expression in the brain during systemic stimulation of endothelin ETB receptors *FASEB J.* 18: A646.
72. L.L. Ji, T. Fleming, M.L. Penny, H.B. Gottlieb and **J.T. Cunningham** (2005) The effects of water deprivation and rehydration on c-Fos staining in the supraoptic nucleus and perinuclear zone. EB2005
73. T. Fleming, M.L. Penny, L.L. Ji and **J.T. Cunningham** (2005) Region specific effects of water deprivation and rehydration on c-Fos and FosB staining in the brainstem. EB2005.
74. H.B. Gottlieb, T. Fleming, L.L. Ji and **J.T. Cunningham** (2005) The renal effects and forebrain cFos activation produced by microinjection of a kappa opioid agonist, U-50488H, into the lateral ventricle of conscious rats. EB2005
75. C. Maric, R. Babayan, **J.T. Cunningham**, S.W. Mifflin and C. Hinojosa-Laborde (2005) Increased superoxide anion generation and p47phox expression with intermittent hypoxia. EB2005
76. S. Ma, D.A. Morilak, T. Fleming, L.L. Ji, S.W. Mifflin and **J.T. Cunningham** (2005) Chronic cold stress and intermittent hypoxia enhance the ACTH response to acute stress but not c-Fos staining in the paraventricular nucleus of the hypothalamus. EB2005.
77. **J.T. Cunningham**, T. Fleming, S. Ma, D.A. Morilak and S.W. Mifflin (2005) Chronic intermittent hypoxia increases FosB staining in the rat brain stem. EB2005
78. C.S. Kim; H. Yao; W. Zhang; **J.T. Cunningham***; X.Y. Lu (2005) Arcuate nucleus is a component of stress circuits. Washington, DC: Society for Neuroscience, 2005. Online
79. D.A.Morilak^{*}; S.Ma²; T.Fleming²; L.L.Ji²; S.W.Mifflin²; JT. Cunningham². (2005) Chronic cold stress and chronic intermittent hypoxia sensitize acute stress-induced ACTH secretion and Fos staining in LC and forebrain of rats. Washington, DC: Society for Neuroscience, 2005. Online
80. Cunningham JT, Fleming T, Penny ML, Herrera-Rosales M, Mifflin SW (2006) Increased c-Fos in medullary cardiovascular nuclei in acute and chronic renal wrap hypertension. *FASEB J* 20:A1205-A1206.
81. Cunningham JT, Ji LL, Penny ML, Martinez MA, Gottlieb HB (2006) Role of the central nervous system in chronic increases in vasopressin associated with cirrhosis. *Front Neuroendocrinol* 27:127-127.
82. Garza JC, Martinez MA, Gottlieb HB, Cunningham JT (2006) Co-localization of FosB and cFos in the supraoptic nucleus (SON) of dehydrated male rats. *FASEB J* 20:A359-A359.

83. Gottlieb H, Ji L, Martinez M, Cunningham JT (2006) ICER and c-Fos expression in the hindbrain following central administration of nociceptin. *Front Neuroendocrinol* 27:13.
84. Gottlieb HB, Fleming TM, Ferguson A, Cunningham JT (2006) Central Nociceptin/Orphanin (N/OFQ) increases inducible cAMP element repressor (ICER) expression in the rat forebrain. *FASEB J* 20:A331-A331
85. Gottlieb HB, Penny M, Ji L, Cunningham JT (2006) Intracerebroventricular (ICV) microinjection of a selective kappa opioid agonist increases inducible cAMP element repressor (ICER) expression in the supraoptic nucleus of conscious rats. *FASEB J* 20:A332-A333
86. Hinojosa-Laborde C, Craig T, Herrera-Rosales M, Tolstykh O, Cunningham JT, Mifflin S (2006) Sodium and water homeostasis during chronic intermittent hypoxia in female rats. *FASEB J* 20:A1193-A1194
87. Toney GM, Hunwick K, Cunningham JT, Mifflin SW (2006) Chronic intermittent hypoxia (CIH) enhances the lumbar sympathoexcitatory response to central hyperosmotic NaCl. *FASEB J* 20:A360-A360.
88. Carlisle JN, Martinez MM, Little JT, Carreno FR, Ji LL, Matthews KI, Cunningham JT (2007) TRPV1 and Fos staining in the forebrain of rats following water deprivation. *FASEB J* 21:A516-A516
89. Carreno FR, Ji LL, Cunningham JT (2007) Compartmentalization of hypothalamic TRPV4 in lipid rafts in the rat: putative role in the central control of body fluid homeostasis. *FASEB J* 21:A1406-A1406
90. Cunningham JT, Martinez MA, Little JT, Gottlieb HB, Ji LL (2007) Oropharyngeal receptors and Fos staining following dehydration and rehydration in the rat. *FASEB J* 21:A515-A515
91. Cunningham JT, Mifflin SW (2007) Brain regions activated by chronic vagus nerve stimulation. *Biol Psychiatry* 61:29S-30S.
92. Gottlieb HB, Ji L, Martinez M, Little JT, Cunningham JT (2007) ICER and c-Fos expression in the hindbrain following central administration of U-50488 (U-50), a selective kappa opioid agonist. *FASEB J* 21:A509-A509
93. Matthews K, Ji LL, Lumia AR, Cunningham JT (2007) Water and salt intake in rats with hepatic cirrhosis. *FASEB J* 21:A507-A507
94. Shi P, Martinez MA, Cunningham JT, Toney GM (2007) Central hyperosmolality increases Fos immunoreactivity in OVLT neurons projecting to the hypothalamic PVN. *FASEB J* 21:A1391-A1391.
95. Carreno, F. R., Acosta, J., Ji, L., & Cunningham, J. T. (2008). Acute dehydration increases tyrosine kinase B receptor (TrkB) phosphorylation in the supraoptic nucleus (SON) of the rat. *FASEB J.*, 22(1_MeetingAbstracts), 1161.1163
96. Carreno, F. R., Zhang, W., Cunningham, T., & Mifflin, S. (2008). Chronic sustained and intermittent hypoxia reduce expression of ATP-sensitive K⁺ (K-ATP) channel subunits in the caudal NTS. *FASEB J.*, 22(1_MeetingAbstracts), 960.918.
97. Cunningham, J. T., Toney, G. M., Hinojosa-Laborde, C., Chakravarty, S., Nestler, E. J., & Mifflin, S. W. (2008). Inhibition of FosB in the lamina terminalis (LT) blocks sustained hypertension in intermittent hypoxia (IH). *FASEB J.*, 22(1_MeetingAbstracts), 969.925.
98. Gottlieb, H., Martinez, M., Ji, L., & Cunningham, J. (2008). Microinjection of a selective kappa opioid agonist into the supraoptic nucleus (SON) increases inducible cAMP element repressor (ICER) expression. *FASEB J.*, 22(1_MeetingAbstracts), 1159.1151.

99. Ji, L. L., Matthews, K., Carreno, F. R., Hinojosa-Laborde, C., Chakravarty, S., Nestler, E. J., & Cunningham, J. T. (2008). Role of FosB in the supraoptic nucleus of rats with hepatic cirrhosis. *FASEB J.*, 22(1_MeetingAbstracts), 1161.1110.
100. Carreno, F. R., Ji, L., & Cunningham, J. T. (2009). TrkB pathway may mediate NR1 phosphorylation in the supraoptic nuclei following dehydration in the rat. *FASEB J.*, 23(1_MeetingAbstracts), 1015.1017.
101. Carreno, F. R., Ji, L., & Cunningham, J. T. (2009). Specific changes in TRPV4 expression in the vasopressinergic cells in supraoptic nucleus of the rat brain following bile duct ligation (BDL) induced cirrhosis. *FASEB J.*, 23(1_MeetingAbstracts), 967.910.
102. Gottlieb, H. B., Ji, L., & Cunningham, J. (2009). Cardiovascular and Renal Responses Produced by the Central Microinjection of Salvinorin A in Ketamine/Xylazine-Anesthetized Rats. *FASEB J.*, 23(1_MeetingAbstracts), 1015.1018.
103. Hinojosa-Laborde, C., Mehring, C., Tang, K., Fortepiani, L., Cunningham, T., & Mifflin, S. (2009). Intermittent hypoxia increases blood pressure in old female rats. *FASEB J.*, 23(1_MeetingAbstracts), 968.912.
104. Knight, W. D., Ji, L., Little, J., Gottlieb, H., & Cunningham, J. T. (2009). Sham rehydration contributes to reduced Fos staining in the supraoptic nucleus (SON) after water deprivation. *FASEB J.*, 23(1_MeetingAbstracts), 1015.1016.
105. Knight, W. D., Ji, L. L., Campos, P., Gottlieb, H., & Cunningham, J. T. (2009). Oropharyngeal regulation of urine output and cardiovascular function in rats with osmotic stimulation by sham ingestion. *FASEB J.*, 23(1_MeetingAbstracts), 605.608.
106. Truong, H., Shah, A., Cunningham, J. T., Mifflin, S., & Frazer, A. (2009). Optimization of stimulation parameters for VNS therapy for treatment- Refractory depression. *Society for Neuroscience Abstracts*.
107. Walch, J. D., Ji, L., Carreno, F. R., Hinojosa-Laborde, C., & Cunningham, J. T. (2009). Effects of Bile Duct Ligation (BDL) and Enalapril on Angiotensin receptors in the Subfornical Organ (SFO) in Rats. *FASEB J.*, 23(1_MeetingAbstracts), 967.961.
108. Carreno, F. R., & Cunningham, J. T. (2010). Brain-derived neurotrophic factor (BDNF) binding is required for its receptor TrkB activation in the supraoptic nuclei (SON) following dehydration in the rat. *FASEB J.*, 24(1_MeetingAbstracts), 1025.1015.
109. Gottlieb, H. B., Knight, D. W., Ji, L., & Cunningham, J. (2010). Oropharyngeal regulation of urine output and cardiovascular function in rats with osmotic stimulation by sham ingestion. *FASEB J.*, 24(1_MeetingAbstracts), 1025.1018.
110. Knight, W. D., Mifflin, S., & Cunningham, J. T. (2010). Intermittent Hypoxia in Rats Increases expression of AP-1 target genes in the median preoptic nucleus. *FASEB J.*, 24(1_MeetingAbstracts), 809.812.
111. Little, J. T., Knight, W. D., Ji, L. L., Gottlieb, H., & Cunningham, J. T. (2010). Sham rehydration contributes to increased Fos staining in the hindbrain after water deprivation in the rat. *FASEB J.*, 24(1_MeetingAbstracts), 1025.1016.
112. McGovern, A. A., Carreno, F. R., & Cunningham, J. T. (2010). Fyn kinase-TrkB receptor-NMDAR2B glutamate receptor subunit (NR2B) physical interaction is increased in the supraoptic nuclei (SON) following dehydration in the rat. *FASEB J.*, 24(1_MeetingAbstracts), 1025.1017.
113. Walch, J. D., Little, J., Ji, L., Carreno, F., Knight, D., & Cunningham, J. T. (2010). Effects of water deprivation and Indomethacin on c-Fos staining in the Rat Supraoptic Nucleus (SON) of the hypothalamus. *FASEB J.*, 24(1_MeetingAbstracts), 794.799.

114. Bathina, C., Nedungadi, T., Cunningham, J. T., & Mifflin, S. (2011). Angiotensin AT1 receptor subtypes AT1A and AT1B mRNAs are expressed in tyrosine hydroxylase immunoreactive (TH-ir) neurons in the rat caudal nucleus of the solitary tract (NTS). *The FASEB Journal*, 25(1_MeetingAbstracts), lb608.
115. Griffith, B., Knight, W. D., Little, J. T., & Cunningham, J. T. (2011). Time course expression of FosB/{Delta}FosB in the forebrain of chronic intermittently hypoxic rats: relationship with arterial pressure. *The FASEB Journal*, 25(1_MeetingAbstracts), 823.811.
116. Knight, W. D., Little, J., Mifflin, S., & Cunningham, J. T. (2011). Dominant negative inhibition of {Delta}FosB in the MnPO blocks increases in arterial pressure and increased expression of FosB/{Delta}FosB along the autonomic axis in chronic intermittently hypoxic rats. *The FASEB Journal*, 25(1_MeetingAbstracts), 822.815.
117. Nedungadi, T. P., Carreno, F. R., Walch, J. D., Niu, X., & Cunningham, J. T. (2011). Changes in TRPV2 expression in paraventricular nucleus of bile duct ligated cirrhotic rats. *The FASEB Journal*, 25(1_MeetingAbstracts), 1080.1081.
118. Nedungadi, T. P., Dutta, M., Little, J. T., & Cunningham, J. T. (2011). Anatomical distribution of TRPV2 in the rat brain. *The FASEB Journal*, 25(1_MeetingAbstracts), 1080.1082.
119. Spear, M., Cunningham, J. T., & Carreno, F. R. (2011). Transient receptor potential vanilloid 4 channel (TRPV4) tyrosine phosphorylation and membrane expression are affected by angiotensin II treatment. *The FASEB Journal*, 25(1_MeetingAbstracts), 1080.1083.
120. Walch, J. D., Carreno, F. R., & Cunningham, J. T. (2011). Intracerebroventricular (ICV) Losartan infusion modulates Angiotensin type 1 receptor (AT1R) expression in the subfornical organ (SFO) and drinking behavior in bile duct ligated rats. *The FASEB Journal*, 25(1_MeetingAbstracts), 823.812.