**CURRICULUM VITAE**



**Nicholas W. Gilpin**

**Current Title:** Professor

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**Citizenship:** U.S.A.

**Education:**

**Undergraduate** University of Texas at Austin 1996-2000

B.A. in Psychology

B.A. in Spanish Language

**Graduate/Medical** Purdue University 2001-2005

Ph.D. in Psychology

**Post-Doctoral Fellowship** The Scripps Research Institute 2005-2011

**Academic, Professional, and Research Appointments:**

Assistant Professor, Physiology Department, LSUHSC 2011-2016

Assistant Professor, Neuroscience Ctr. of Excellence, LSUHSC 2011-2016

Assistant Professor, Alcohol & Drug Abuse Ctr. of Excellence, LSUHSC 2013-2016

Associate Director, Alcohol & Drug Abuse Ctr. of Excellence, LSUHSC 2015-

Associate Professor w/Tenure, Physiology Department, LSUHSC 2016-2019

Associate Professor w/Tenure, Neuroscience Center, LSUHSC 2016-2019

Associate Professor w/Tenure, Alcohol & Drug Abuse Center, LSUHSC 2016-2019

Research Physiologist, Department of Veteran Affairs (V.A.) 2017-

Professor w/Tenure, Physiology Department, LSUHSC 2019-

Professor w/Tenure, Neuroscience Center, LSUHSC 2019-

Professor w/Tenure, Alcohol & Drug Abuse Center, LSUHSC 2019-

Vice Chair of Research, Physiology Department, LSUHSC 2020-

**Membership in Professional Organizations:**

Research Society on Alcoholism (RSA); member 2001-

Society for Neuroscience (SfN); member 2004-

Int’l. Society for Biomedical Res. on Alcoholism (ISBRA); member 2010-

National Hispanic Science Network on Drug Abuse (NHSN); member 2010-

International Drug Abuse Research Society (IDARS); member 2013-

American Coll. of Neuropsychopharmacology (ACNP), Assoc. member 2014-

American Coll. of Neuropsychopharmacology (ACNP), Member 2019-

*Membership in ACNP is competitive and considered prestigious in the fields of*

*neuroscience, pharmacology, and psychobiology.*

**Awards and Honors:**

University of Texas at Austin Honors Colloquium Scholarship 1996

U. of Texas Academic Hispanic Award; 4-year academic scholarship 1996-2000

RSA Memorial Award, San Diego, CA 2009

Young Investigator Award; Alcoholism & Stress meeting, Volterra, Italy 2011

*Awarded to 4 young alcohol researchers each 3 years for research excellence*

NHSN National Award of Excellence in Research by a New Investigator 2011

*Awarded to 1 young investigator each year for research excellence*

ACNP Travel Award 2012

Honorable Mention for Ziskind-Somerfeld Award, Soc. of Biol. Psychiatry 2012

*Annual award for most outstanding research investigation in biological psychiatry*

IDARS Young Investigator Award 2013

*Awarded to 1 young investigator each 2 years for research excellence*

Presidential Early Career Award for Scientists & Engineers (PECASE) 2017

*Awarded by the White House Office of Science & Technology to 102 scientists and engineers in the early stages of their independent research careers*

Elected Co-Chair of Gordon Research Conference on Alcohol & CNS 2018

*Will serve as co-vice chair 2018-2020 and co-chair 2020-2022.*

**TEACHING EXPERIENCE AND RESPONSIBILITIES**

**Curriculum Development/Implementation**

Created curriculum for LSUHSC Physiology Special Topics Course (PHYSIO 289) titled “Biostatistics for Graduate Students.” *This course includes lectures, discussions, and work with datasets. Covered topics include bio-statistical concepts, statistical theory and foundations in probability, how to design experiments, design & statistical considerations related to using vertebrate animals in research, analysis of sex differences, decision-making in statistical tests, power analyses, data transformation, outlier tests, post-hoc tests, data interpretation, data ethics, data replication, and how to assess statistics in review of manuscripts and grants. I am the creator of content for this course, an activity that consumed many hours before this class was offered the first time in Summer 2013.*

**Creation of Enduring Teaching Materials**

None

**Formal Course Responsibilities**

**Graduate Teaching**

**Course Director:**

**LSU Health Sciences Center**

Human Physiology for dental students (DENT 1115) 2016-present

70 clock hours per year, D.D.S. students

*This course covers whole-organism physiology for Dental students. My*

*role as Director is to coordinate and oversee lectures, create and proctor exams, manage grades, and meet with students during office hours.*

Biostatistics for graduate students (PHYSIO 289) 2013-present

15 lecture hours, Ph.D students & post-doc fellows

*This course covers bio-statistical concepts for Ph.D. students and post-doctoral fellows training for research careers. My role as Director is to create course content, schedule all aspects of the course, and to deliver all material or recruit faculty to cover specialized topics.*

**Course Co-Director:**

**LSU Health Sciences Center**

Human Physiology for dental students (DENT 1115) 2013-2016

88 clock hours per year, D.D.S. students

*This course covers whole-organism physiology for Dental students. My*

*role as co-director is to, along with the course director, coordinate and oversee lectures, create and proctor exams, to manage grades, and meet with students during office hours.*

**Co-Instructor/Lecturer:**

**LSU Health Sciences Center**

Human Physiology (DENT 1115) 2011-present

2-10 lecture hours per year x 7 years

*This course covers whole-organism physiology for Dental students. My lectures cover electrical properties of membranes, electrical and chemical aspects of synaptic transmission, sensory systems from receptors to brain, motor systems from brain to muscle, learning & memory, and sleep & behavior.*

Modern Breakthroughs in Biomedical Sciences: 2014

A Focus on New Techniques and Technologies (PHYSIO 289)

2 lecture hours to Ph.D. students

*This course introduces graduate students to cutting-edge basic science techniques. My lectures cover optogenetics and chemogenetics.*

Synaptic Organization of Behavior (ANAT 264) 2014

4 lecture hours to Ph.D. students

*This course relates synaptic transmission to behavior across organisms. My lectures cover the limbic system.*

Molecular Neurobiology (NEURO 250) 2014

4 lecture hours to Ph.D. students

*This course emphasizes problem solving and experimental design as they relate to hypothesis-driven research. My lectures cover neural control of behavior.*

Dental Grand Rounds (DENT 4112) 2017-2019

10 contact hours per year

*In this course, D.D.S. students (D1-D4) analyze a clinical case study and prepare a presentation, under the guidance of mentors, that describes the clinical problem, solution, and outcome. My role is basic science mentor.*

**Undergraduate Teaching**

**Course Director:**

**San Diego State University**

Statistical Methods in Psychology (PSY 270) 2008

30 lecture hours per semester x 1 semesters

*This course covered bio-statistical concepts for undergraduates. I was the course director and lecturer for all course material.*

**Univ. of California-San Diego**

Introduction to Statistics (PSYC 60) 2009-2011

30 lecture hours per semester x 2-3 semesters/year

*This course covered bio-statistical concepts for undergraduates. I was the course director and lecturer for all course material.*

Physiological Psychology (PSYC 106) 2010

30 lecture hours per semester x 2 semesters

*This course covered behavioral neuroscience for undergraduates. I was the course director and lecturer for most course material.*

**Co-Instructor:**

**LSU Health Sciences Center**

Human Physiology for nursing students (HS 2410) 2011-2016

2-4 lecture hours per semester x 8 semesters

*This course covers whole-organism physiology for nursing students. My lectures cover motor systems from brain to muscle, learning & memory, and sleep & behavior.*

Human Pathophysiology for nursing students (HS 3410) 2012-2016

2 lecture hours per semester x 6 semesters

*This course covers whole-organism pathophysiology for nursing students. My lectures cover disorders of brain function and disorders of neuromuscular function.*

General & Oral Physiology for dental hygiene (DHY 3202) 2012

2 lecture hours

*Course covers whole-organism physiology for dental hygiene students.*

*My lectures covered nerve excitation and sensory physiology.*

**Departmental/Interdisciplinary Teaching Conferences**

None

**Junior Faculty Professional Development Program (PDP) Committee Chair:**

1. Scott Edwards, Ph.D., Physiology, LSUHSC 2016-
2. Tiffany Wills, Ph.D., Cell Biology, LSUHSC 2016-
3. Liz Simon, Ph.D., Physiology, LSUHSC 2016-
4. Jason Gardner, Ph.D., Physiology, LSUHSC 2016-
5. Lisa Harrison-Bernard, Ph.D., Physiology, LSUHSC 2016-2019
6. Flavia Souza-Smith, Ph.D., Physiology, LSUHSC 2016-
7. Xinping Yue, Ph.D., Physiology, LSUHSC 2016-
8. Stefany Primeaux, Ph.D, Physiology, LSUHSC 2016-
9. Robert Siggins, Ph.D., Physiology, LSUHSC 2016-
10. Rajani Maiya, Ph.D., Physiology, LSUHSC 2020-

**Junior Faculty & Fellows & Students Trained:**

**Assistant Professor:**

* + 1. Michael Salling, Ph.D. 2019-
* Mentor on K99/R00 from NIAAA

**Instructor:**

1. Elizabeth Avegno, Ph.D. 2018-
2. Lucas Albrechet-Souza, Ph.D. 2018-

**Post-Doctoral Fellows:**

**LSU Health Sciences Center**

1. Brandon Baiamonte, Ph.D. 2012-2013
2. Emily Roltsch, Ph.D. 2012-2014
3. Annie Whitaker, Ph.D. 2012-2016
4. Christy Itoga, Ph.D. 2014-2016
5. Elizabeth Avegno, Ph.D. 2016-2018
   * Mentor on F32 from NIAAA
6. Udita Datta, Ph.D. 2017-2018
7. Marcus Weera, Ph.D. 2017-
   * Mentor on F32 from NIAAA
8. Amanda Pahng, Ph.D. (co-mentor) 2017-
   * Primary mentor starting January 2020
   * Mentor on CDA from V.A.
9. Elizabeth Fucich, Ph.D. (co-mentor) 2017-
   * Co-mentor on F32 from NIAAA
10. Lucas Albrechet-Souza, Ph.D. 2018
11. Christian Montanari, Ph.D. 2019-
12. Alejandra Jacotte, Ph.D. 2019-

**Graduate Students**

**LSU Health Sciences Center**

Major Professor

1. Brittni Baynes; Physiology; chair M.S. committee 2013-2014
2. Allyson Schreiber; Physiology; chair Ph.D. committee 2014-2018
   * Mentor on F30 from NIAAA
3. Alicia Ray-Botello; Physiology; chair M.S. committee 2015-2017
4. Zachary Stielper; Physiology; chair Ph.D. committee 2017-2020
   * Mentor on F30 from NIAAA
5. Taylor Templeton; Physiology; chair Ph.D. committee 2018-
6. Nathan Sharfman; Physiology; chair Ph.D. committee 2019-

Dissertation Committee (member)

1. Xu “Sophie” Teng; Ph.D., LSUHSC Physiology 2012-2014
2. Travis Doggett; Ph.D., LSUHSC Physiology 2013-2014
3. Aram Asatryan; Ph.D., LSUHSC Neuroscience 2013-2014
4. Jacques Mayeux; Ph.D., LSUHSC Physiology 2014-2016
   * Co-mentor on F31 from NIAAA
5. Alan Mouton; Ph.D., LSUHSC Physiology 2014-2017
6. Adrienne McGinn; Ph.D., LSUHSC Physiology 2015-2019
   * Co-mentor on F31 from NIAAA
7. Krystal Belmonte; Ph.D., LSUHSC Physiology 2018-2021
8. Eleanor Holmgren; Ph.D., LSUHSC Cell Biology 2020-
9. Jessica Cucinello; Ph.D., LSUHSC Physiology 2020-

**Other universities**

1. Xin Fu; Ph.D., Tulane Neuroscience 2016-
2. Dennis Parker Kelley; Ph.D., LSU Comp. Biomed. Sci. 2019-
3. Matthew Watson; Ph.D., Tulane Neuroscience 2020-

**Medical Students**

Summer Research Rotations

1. Madelyn Weil 2012

2. Abdelrahim Abdel 2012

**Foreign Research Interns**

1. Pauline Estival 2015

Pharmacy student at Université d’Auvergne, France

1. Tomasz Bielwaski 2019

Ph.D. student at Wroclaw Medical University, Poland

**Undergraduate Student Researchers**

**LSU Health Sciences Center**

Abigail Olinde, Andrew Schroth, Alissa Ice, Margaret Hazelton, Ryan

Jones, Carrie Lloyd, many others

**University of California-San Diego**

Ben Isakson, Lisa Zazworsky, Hillary Cormier, Lindsey Ong, Darshan Patel, Shin Trieu, Alfonzo Luna, Casey Carmichael, Michael Barrus, Brent Costa, Tyler Sprague, Neha Jaiswal, Daniel Ramirez, Brittni Baynes, Eva Martinez

**San Diego State University**

Juliana Todesco

**Undergraduate Student Teachers-in-Training**

**University of California-San Diego**

Joanna Ho (PSYC 60) 2009

**High School Student Researchers**

**LSU Health Sciences Center**

Reuben Hogan (1st Place; LSUHSC Summer Research Poster Session),

many others

**Grade School Teacher Researchers**

**LSU Health Sciences Center**

Melissa Faucheux, Kathleen Stewart

**Funding for Mentees**

**LSU Health Sciences Center**

Melissa Faucheux (New Orleans area science teacher) 2012

APS “Frontiers in Physiology” Award

Melissa Faucheux (New Orleans area science teacher) 2013

APS “Frontiers in Physiology” Award

Annie Whitaker (post-doctoral fellow) 2013

LSUHSC ADACE Pilot $10,000

*Glucocorticoid co-chaperone, FKBP5, as a target for stress-induced escalation of alcohol intake*

Brittni Baynes (graduate student) 2013

SPINES month-long Research Program in Woods Hole (all expenses paid)

Kathleen Stewart (Atlanta area science teacher) 2014

APS “Frontiers in Physiology” Award

Allyson Schreiber (graduate student) 2015

NIH/NIAAA NRSA F30 fellowship

Elizabeth Avegno (post-doctoral fellow) 2017

NIH/NIAAA NRSA F32 fellowship

Adrienne McGinn (graduate student in Edwards lab) 2017

NIH/NIAAA NRSA F31 fellowship

Zachary Stielper (graduate student) 2018

NIH/NIAAA NRSA F30 fellowship

Elizabeth Fucich (post-doctoral fellow in Molina lab) 2018

NIH/NIAAA NRSA F32 fellowship

Marcus Weera (post-doctoral fellow) 2019

NIH/NIAAA NRSA F32 fellowship

Nathan Sharfman (graduate student) 2020

NIH/NIAAA NRSA F30 fellowship

**University of California-San Diego**

Casey Carmichael (undergraduate research assistant) 2010

UCSD Warren College Undergraduate Research Award

**Awards for Mentees**

**LSU Health Sciences Center**

Annie Whitaker (post-doctoral fellow) 2015

American Physiological Society CNS Section Excellence in Research Award

*Awarded to 1-2 young investigators per year for meritorious research at EB.*

Annie Whitaker (post-doctoral fellow) 2015

American College of Neuropsychopharmacology Travel Award

*This prestigious award funds travel to the 2015 ACNP meeting.*

Elizabeth Avegno (post-doctoral fellow) 2017

Volterra Stress & Alcohol Meeting Travel Award

*This award funds travel to the 2017 Stress & Alcohol meeting in Volterra, Italy.*

Elizabeth Avegno (post-doctoral fellow) 2018

Elected chair of the 2020 Gordon Research Seminar (GRS) on Alcohol & CNS

Allyson Schreiber (graduate student) 2018

LSUHSC Chancellor’s Award for Most Outstanding Student

*This award is given to one Ph.D. graduate at LSUHSC each year.*

Elizabeth Avegno (post-doctoral fellow) 2018

Winner of RSA Enoch Gordis Research Recognition Award

*This award is given to one biomedical post-doctoral fellow at each year’s meeting.*

**RESEARCH AND SCHOLARSHIP**

**Grants and Contracts:**

**Active**

1R01AA023305-01 2014-2025

National Institutes of Alcoholism and Alcohol Abuse & General Medical Sciences

Role of Neuropeptides in Stress-Induced Escalation of Alcohol Drinking

*The overall goal of this project is to test the role of amygdala neuropeptides in co-morbid high stress reactivity and alcohol abuse.*

Role: PI

1I01BX003451-01A1 2017-2021

Department of Veteran Affairs

Targeting Melanocortin-4 Receptors to Reduce Pain in U.S. Veterans

*The goal of this project is to test the role of brain melanocortin signaling in mediating hyperalgesia after traumatic stress or induction of alcohol dependence.*

Role: PI

1R01AA026531-01 2017-2022

NIH/NIAAA

Traumatic stress increases alcohol drinking via endocannabinoid disinhibition of

basolateral amygdala

*This study examines the role of brain endocannabinoid signaling in post-stress escalation of alcohol drinking.*

Role: MPI (with Jeffrey Tasker)

1R01HL135635-01 (PI: Jason Gardner) 2017-2021

NIH/NHLBI

Chronic Nicotine Inhalation Increases Susceptibility to Cardiovascular and Pulmonary Diseases Through Inhibition of Local Compensatory Mechanisms.

*This study examines the effects of chronic nicotine inhalation on cardiovascular and pulmonary outcomes.*

Role: Co-I

1R44DA046300-01 (PI: Maury Cole) 2018-2021

NIH/NIDA

Development of Nicotine Vapor Inhalation Chambers for Rodent Self-Administration

*This study develops and optimizes nicotine e-cigarette vapor self-administration in rats.*

Role: Subcontract PI

1R01AA025792-01A1 2018-2023

NIH/NIAAA

Alcohol and Traumatic Brain Injury; Neuronal and Behavioral Consequences

*This study examines the neurobiological basis for traumatic brain injury effects on alcohol-related behavior and physiology.*

Role: MPI (with Patricia Molina)

3R01AA025792-03S1 2020-2021

NIH/NIAAA

Alcohol and Traumatic Brain Injury; Neuronal and Behavioral Consequences

*This supplement examines the underlying mechanisms of post-TBI neurodegeneration and risk for Alzheimer’s Disease.*

Role: MPI (with Patricia Molina)

1U01AA028709-01 2020-2025

NIH/NIAAA

8/8 NADIA U01 Long-Term Effects of Adolescent Alcohol on Pain

*This study tests the role of amygdala peptide systems in heightened pain after adolescent alcohol exposure.*

Role: MPI (with Tiffany Wills)

1R21AA026022-01A1 2018-2020

NIH/NIAAA

Generation and validation of a CRFR1-cre transgenic rat to study alcohol dependence

*This study generates and validates a new transgenic rat for the neuroscience field.*

Role: PI

1R13AA028237-01 2019-2023

NIH/NIAAA

Travel Support for the 7th International Drug Abuse Research Society (IDARS) Meeting

*This award provides travel support for junior U.S.-based scientists attending the IDARS meeting.*

Role: PI

1F32AA025831-01 (PI: Elizabeth Avgeno) 2017-2021

NIH/NIAAA

Brain Reward and Stress System Interactions in Alcohol Dependence

*This fellowship trains a post-doctoral fellow in alcohol research and examines the interaction of brain stress and reward systems in alcohol dependence.*

Role: Mentor

1F32AA027145-01A1 (PI: Marcus Weera) 2019-2021

NIH/NIAAA

The role of amygdala outputs in stress-induced escalation of alcohol drinking

*This fellowship trains a post-doctoral fellow in alcohol research and examines the neurobiology underlying stress-induced escalation of alcohol drinking.*

Role: Mentor

1F30AA026468-01A1 (PI: Zachary Stielper) 2018-2023

NIH/NIAAA

The Role of Amygdalar Endocannabinoids in Alcohol Drinking after Traumatic Brain Injury (TBI)

*This fellowship trains an M.D./Ph.D. student in alcohol research and examines the neurobiological basis for TBI effects on alcohol-related behavior and physiology.*

Role: Mentor

1F31AA028445-01 (PI: Jessica Cucinello) 2020-2023

NIH/NIAAA

Regulation of Pain by Alcohol and Endocannabinoids in the Basolateral Amygdala

*This project tests the role of BLA eCBs in mediating pain-alcohol interactions.*

Role: Co-mentor

1F30AA028691-01A1 (PI: Nathan Sharfman) 2021-2026

NIH/NIAAA

Amygdala Modulation of Adolescent Alcohol Effects on Pain

*This project tests the role of amygdala neuropeptide & glutamate systems in hyperalgesia that results from adolescent alcohol exposure.*

Role: Mentor

**Completed**

Underrepresented minority supplement to R01AA12857 2002-2005

NIH/NIAAA

Neuropeptide Y and Alcohol Related Behaviors

Role: Student (PI: Badia-Elder)

*The overall goal of this project was to train a graduate student in neuroscience research aimed at understanding the genetic basis for alcoholism.*

1F32 AA016436-01A1 2007-2009

Ruth L. Kirschstein NRSA Postdoctoral Fellowship

NIH/NIAAA

Neuropeptide Y and Ethanol Abstinence

Role: PI

*The overall goal of this project was to train a post-doctoral fellow in neuroscience research aimed at understanding the neurobiological basis of alcohol dependence.*

5R00AA018400-05 2010-2015

K99/R00 Pathway to Independence (PI) Award

NIH/NIAAA

Post-traumatic Stress Disorder and Alcohol Dependence

Role: PI

*The overall goal of this project was to identify neurobiological mechanisms that underlie excessive alcohol drinking by rats with high traumatic stress reactivity.*

PFund Pilot Funding for New Research 2013

Louisiana Board of Regents

Using Optogenetic Stimulation to Measure Reward Function in Drug- and Alcohol-Dependent Rats

Role: PI

*The overall goal of this project was to establish the use of optogenetic stimulation in the lab for the measurement of brain reward function in rodents.*

ABMRF 2013-2015

ABMRF Foundation for Alcohol Research Role of Melanocortin-4 Receptors (MC4Rs) in Chronic Alcohol-Induced Changes in Thermal Sensitivity

Role: PI

*The overall goal of this project was to test the role of brain MC4Rs in excessive alcohol drinking and hyperalgesia during alcohol withdrawal in alcohol-dependent rats.*

2P60AA009803-22 2014-2016

NIH/NIAAA

LSUHSC-NO Comprehensive Alcohol-HIV/AIDS Research Center

Role: PI of Information Dissemination Core

*The overall goal of this Core was to impact alcohol- and HIV-related knowledge, attitudes and behaviors by educating lay people, practicing and in-training health care providers, and scientists on the neurobiological basis and biomedical consequences of alcohol use and abuse, and the risk factors and biological underpinnings of HIV.*

1R21AA022690-01A1 2014-2016

NIH/NIAAA

Ethanol-Induced Cardiac Fibrosis and Dysfunction are Mediated by NADPH Oxidases

Role: Co-I (PI: Jason Gardner)

*The overall goal of this project was to identify the mechanisms responsible for alcohol-induced cardiac injury.*

P30GM103340 2015-2016

NIH COBRE Pilot

Synaptic Mechanism of Inhibitor-2 in the Escalated Anxiety in Alcohol Disorder

Role: Collaborator (Pilot PI: Houhui Xia, Ph.D.)

3R01AA023305-02S1 2015-2016

NIH Office of Research on Women’s Health & NIAAA

Role of Neuropeptides in Stress-Induced Escalation of Alcohol Drinking

Role: PI

*The goal of this supplement was to test Aim 1 of the parent R01 in female rats.*

1F30AA023696-01 (PI: Allyson Schreiber) 2015-2020

National Institute of Alcoholism and Alcohol Abuse

Prefrontal Cortex Stress Peptides in Traumatic Stress-Induced Escalation of Alcohol Drinking

*This fellowship trains an M.D./Ph.D. student in neuroscience research aimed at understanding the neurobiological basis of stress-induced escalation of alcohol drinking.*

Role: Mentor

1F31AA025812-01A1 (PI: Adrienne McGinn) 2017-2019

NIH/NIAAA

Alcohol Dependence and Pain: Role of Cingulate Cortex Glucocorticoid Receptors

*This fellowship trains a Ph.D. student in alcohol research and examines the neurobiological intersection of pain and alcohol dependence.*

Role: Co-mentor

1R01AA026531 Supplement 2018-2020

Cohen Veterans Biosciences (CVB)

Traumatic stress increases alcohol drinking via endocannabinoid disinhibition of

basolateral amygdala

*This study examines traumatic stress reactivity and its association with specific central and peripheral biomarkers.*

Role: PI

1R21AA025736-01 (PI: Scott Edwards) 2017-2019

NIH/NIAAA

Role of GluA1 in the Escalation of Alcohol Drinking in Nicotine-Dependent Animals

*This study examines the role of brain AMPA receptors in mediating nicotine-alcohol interactions.*

Role: Co-I

1F32AA026779-01A1 (PI: Elizabeth Fucich) 2018-2020

NIH/NIAAA

Stress effects on traumatic brain injury: neural mechanisms of escalated alcohol drinking.

*This project tests the neurobiology underlying stress and TBI interaction effects on alcohol drinking.*

Role: Co-mentor

**Journal Publications:**

**Refereed:**

Empirical Articles:

1. **Gilpin, N.W.**, Stewart,R.B., Murphy, J.M., Li, T.-K., Badia-Elder, N.E. (2003). Neuropeptide Y reduces oral ethanol intake in alcohol-preferring (P) rats following a period of imposed ethanol abstinence. *Alcoholism: Clinical and Experimental Research* 27:787-94.
2. **Gilpin, N.W.**, Stewart, R.B., Murphy, J.M., Li, T.-K., Badia-Elder, N.E. (2004). Neuropeptide Y in the paraventricular nucleus of the hypothalamus increases ethanol intake in high- and low-alcohol-drinking rats. *Alcoholism: Clinical and Experimental Research* 28:1492-8.
3. **Gilpin, N.W.**, Stewart, R.B., Elder, R.L., Kho, Y., Murphy, J.M., Li, T.-K., Badia-Elder, N.E. (2004). Sedative and motor-impairing effects of neuropeptide Y and ethanol in selectively-bred P and NP rats. *Pharmacology, Biochemistry & Behavior* 78:65-73.
4. **Gilpin, N.W.**, Stewart, R.B., Murphy, J.M., Badia-Elder, N.E. (2005). Sensitized effects of neuropeptide Y on multiple ingestive behaviors in P rats following ethanol abstinence. *Pharmacology, Biochemistry & Behavior,* 81:740-9.
5. **Gilpin, N.W.**, Stewart, R.B., Badia-Elder, N.E. (2008). Neuropeptide Y (NPY) suppresses ethanol responding in ethanol-abstinent, but not non-ethanol-abstinent, Wistar rats. *Alcohol* 42:541-51.
6. **Gilpin, N.W.**, Badia-Elder, N.E., Elder, R.L., Stewart, R.B. (2008). Schedule-induced polydipsia in lines of rats selectively bred for high and low ethanol preference. *Behavior Genetics* 38:515-24*.*
7. **Gilpin, N.W**., Richardson, H.N., Koob, G.F. (2008). Effects of CRF1-receptor and opioid-receptor antagonists on dependence-induced increases in alcohol drinking by alcohol-preferring (P) rats. *Alcoholism: Clinical and Experimental Research* 32:1535-42.
8. **Gilpin, N.W.**, Richardson, H.N., Lumeng, L., Koob, G.F. (2008). Dependence-induced alcohol drinking by alcohol-preferring (P) rats and outbred Wistar rats. *Alcoholism: Clinical and Experimental Research* 32:1688-96.
9. Roberto, M., **Gilpin, N.W.**, O’Dell, L.E., Morse, A.C., Siggins, G.R., Koob, G.F. (2008). Cellular and behavioral rationale for gabapentin treatment of alcohol dependence. *Journal of Neuroscience* 28:5762-71.
   * 1. Press release by *Journal of Neuroscience* published in:
        1. *Nature News*: online 28 May 2008; doi:10.1038/news.2008.859
        2. *Science Daily*: online May 28, 2008; retrieved from

<http://www.sciencedaily.com­/releases/2008/05/080528121256.htm>

* + 1. Gilpin, N.W., Koob, G.F., Roberto, M. (2008) Response to “Anxious to drink:

gabapentin normalizes GABAergic transmission in the central amygdala and reduces symptoms of ethanol dependence.” *Journal of Neuroscience*.

1. **Gilpin, N.W.**, Stewart, R.B., Badia-Elder, N.E. (2008). Neuropeptide Y administration into the amygdala suppresses ethanol drinking in alcohol-preferring (P) rats following multiple deprivations. *Pharmacology, Biochemistry & Behavior* 90:470-4.
2. **Gilpin, N.W.**, Misra K., Koob G.F. (2008). Neuropeptide Y in the central nucleus of the amygdala suppresses dependence-induced increases in alcohol drinking. *Pharmacology, Biochemistry & Behavior* 90:475-80.
3. Ji, D.\*, **Gilpin, N.W.**\*, Richardson, H.N., Rivier, C.L., Koob, G.F. (2008). Effects of naltrexone, duloxetine, and a CRF­1 receptor antagonist on binge-like alcohol drinking in rats. *Behavioral Pharmacology* 19:1-12.
4. **Gilpin, N.W.**, Smith, A., Cole, M., Weiss, F., Koob, G.F., Richardson, H.N. (2009) Operant behavior and alcohol levels in blood and brain of alcohol-dependent rats. *Alcoholism: Clinical and Experimental Research* 33:2113-23.
5. **Gilpin, N.W.**, Koob, G.F. (2010) Effects of β-adrenoceptor antagonists on alcohol drinking by alcohol-dependent rats. *Psychopharmacology* 212:431-9.
6. Roberto M., Cruz M.T., **Gilpin N.W.**, Sabino V., Schweitzer P., Cottone P., Madamba S.M., Stouffer D., Zorrilla E.P., Koob G.F., Siggins G.R., Parsons L.H. (2010) Corticotropin Releasing Factor–Induced Amygdala Gamma-Aminobutyric Acid Release Plays a Key Role in Alcohol Dependence. *Biological Psychiatry* 67:831-9.
   * 1. Press release by The Scripps Research Institute published in:
        1. *USA Today*: online January 29, 2010; retrieved from <http://www.usatoday.com/news/health/2010-01-29-stress-alcoholism_N.htm?csp=usat.me>
        2. *Science Daily*: online January 26, 2010; retrieved from

<http://www.sciencedaily.com/releases/2010/01/100125173452.htm>

1. **Gilpin, N.W.**, Wright, Jr., M.J., Dickinson, G., Vandewater, S.A., Price, J.U., Taffe, M.A. (2011) Influences of activity wheel access on the body temperature response to MDMA and methamphetamine. *Pharmacology, Biochemistry & Behavior* 99:295-300.
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\*indicates that both authors contributed equally to the manuscript

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44. Whitaker, A.M., Stewart, K., **Gilpin, N.W.** Stress-induced neuroadaptations in the paraventricular hypothalamic nucleus of animals that exhibit persistent avoidance. *FASEB J* 29:836.3.
45. Mayeux, J., Katz, P., **Gilpin, N.W.**, Molina, P.E. (2015) Prefrontal cortex traumatic brain injury produces greater neurobehavioral dysfunction and delayed behavioral recovery versus TBI localized to the sensorimotor cortex. *FASEB J* 29:840.10.
46. **Gilpin, N.W.**, Roltsch E.A., Lu, Y.-L., Whitaker, A.M., Baynes, B.B., Baiamonte, B.A., Richardson, H.N. (2015) Traumatic stress promotes hyperalgesia via corticotropin-releasing factor signaling in central amygdala. *FASEB J* 29:983.7.
47. Di, S., Itoga C.A., Solomonow J., Roltsch E.A., **Gilpin N.W.**, Tasker, J.G. (2015) Stress-induced long-term depression of synaptic inhibition and anxiety are dependent on basolateral amygdala cannabinoid-1 receptors. *Society for Neuroscience program*.
48. Yang, H., Hou, H., Hellard, E.R., Itoga, C., Baynes, B., Tang, Y., **Gilpin, N.W.**, Xia, H. (2015) Inhibitor-2 (I-2), a regulator of protein phosphatase-1 (PP1), mediates alcohol withdrawal anxiety-like behavior in rats. *Society for Neuroscience program*.
49. Whitaker, A.M., Farooq, M.A., Edwards, S., **Gilpin, N.W.** (2015) Post-traumatic stress avoidance is attenuated by corticosterone and associated with brain levels of steroid receptor co-activator-1 in rats. *Neuropsychopharmacology*.
50. McGinn, M.A., Farooq, M.A., Reppel, J.E., **Gilpin, N.W.**, Edwards, S. (2015) Tolerance to alcohol-stimulated GluR1 phosphorylation in the central amygdala in the context of nicotine dependence. *Neuropsychopharmacology*.
51. **N.W. Gilpin**, E.A. Roltsch, R.I. Impastato (2016) Melanocortin-4 receptors (MC4Rs) in amygdala mediate thermal hyperalgesia in alcohol-dependent rats. *Neuropsychopharmacology*.
52. Schreiber, A.L., **Gilpin, N.W.** (2016)Role for corticotropin-releasing factor in the central amygdala in alcohol drinking after traumatic stress. *Society for Neuroscience program*.
53. Mouton, A.J., Ninh, V.K., Hajj, E.E., Hajj, M.E., **Gilpin, N.W.**, Gardner, J.D. (2016) Alcohol blocks compensatory cardiac collagen remodeling during both acute and chronic volume overload. *Alcohol Clin Exp Res* 40(s1).
54. McGinn, M.A., Whitaker, A.M., Itoga, C.A., Farooq, M.A., Paulsen, R.I., Reppel, J.E., **Gilpin, N.W.**, Edwards, S. (2016) Region-specific tolerance to alcohol-stimulated glutamate receptor phosphorylation in the context of nicotine dependence. *Alcohol Clin Exp Res* 40(s1).
55. Whitaker, A.M., **Gilpin, N.W.** (2016) ERK phosphorylation in the central amygdala mediates avoidance of a context paired with traumatic stress. *Alcohol Clin Exp Res* 40(s1).
56. Mayeux, J., **Gilpin, N.W.**, Edwards, S., Molina, P. (2016) Mild traumatic brain injury increases alcohol drinking: a potential mechanistic role for brain stress systems. *Alcohol Clin Exp Res* 40(s1).
57. Schreiber, A.L., **Gilpin, N.W.** (2016) Role for corticotropin-releasing factor in central amygdala in alcohol drinking after traumatic stress. *Alcohol Clin Exp Res* 40(s1).
58. Avegno, E.M., Whitaker, A.M., Lobell, T., Schreiber, A.L., **Gilpin, N.W.** (2017) Establishing a role for VTA-CeA projections in escalated alcohol drinking in alcohol-dependent rats. *Alcohol Clin Exp Res* 41(s1).
59. Francis, M., Sayde, P., Blackwelder, C., Stielper, Z.F., Mayeux, J.P., **Gilpin, N.W.**, Edwards, S., Molina, P.E. (2017) Post-TBI alcohol consumption reduces memory-related hippocampal transcription factor expression. *Alcohol Clin Exp Res* 41(s1).
60. Yue X., Basting T.M., Flanagan T.W., Xu J., Lobell T.D., **Gilpin N.W.**, Gardner J.D., Lazartigues E. (2018) Nicotine downregulates the compensatory angiotensin-converting enzyme 2/angiotensin type 2 receptor of the renin-angiotensin system. Ann Am Thorac Soc 15(s2):S126-S127.
61. Fucich, E.A., Stielper, Z.F., Stoulig, P.J., Edwards, S., Middleton, J.W., **Gilpin, N.W.**, Molina, P.E. (2018) Neurobiological underpinnings of escalated alcohol drinking after traumatic brain injury. *Alcohol Clin Exp Res* 42(s1).
62. Avegno, E.A., Kelley, L.K., Lobell, T.D., Middleton, J.W., **Gilpin, N.W.** (2018) Alcohol dependence impacts midbrain projections to central amygdala. *Alcohol Clin Exp Res* 42(s1).
63. Stielper, Z.F., Fucich, E.A., Stoulig, P., Edwards, S., Molina, P.E., **Gilpin, N.W.** (2018) Mild traumatic brain injury (TBI) alters brain endocannabinoid proteins in alcohol drinking rats. *Alcohol Clin Exp Res* 42(s1).
64. Weera, M.M., Pahng, A.R., Whiatker, A.M., **Gilpin, N.W.** (2018) Stress-induced brain activation in Avoider rats. *Alcohol Clin Exp Res* 42(s1).

**Research Review Committee:**

NIAAA Study Section AA-4 Neuroscience Review Subcommittee; ad hoc 2012

NIAAA Study Section ZAA1 DD (04) Special Emphasis Panel; ad hoc 2012

NIAAA Study Section ZAA1 DD (04) Special Emphasis Panel; chair 2013

NIAAA Study Section AA-4 Neuroscience Review Subcommittee; ad hoc 2014

NIAAA Study Section ZAA1 DD (04) Special Emphasis Panel; ad hoc 2014

CSR Study Section; Neurotoxicology of Alcohol (NAL); ad hoc 2015

NIAAA Study Section ZAA1 CC (01); Consortium review; ad hoc 2015

NIAAA Study Section ZAA1 DD (05) Special Emphasis Panel; chair 2015 (June)

NIAAA Study Section ZAA1 DD (05) Special Emphasis Panel; ad hoc 2015 (Nov)

NIAAA Study Section ZAA1 JJ (08) Special Emphasis Panel; member 2016

CSR Study Section; Neurotoxicology of Alcohol (NAL); standing member 2016-present

NIAAA Study Section ZAA1 CC (51); Center review; ad hoc 2018

NIAAA Study Section AA-4 Neuroscience Review Subcommittee; ad hoc 2018

NIAAA Study Section AA-4 Neuroscience Review Subcommittee; ad hoc 2019

**Organized & Chaired Scientific Meetings:**

National:

1. Nat’l. Hispanic Science Network (NHSN) Mtg.; Co-Chair 2012
2. D’Angelo Workshop on Mental Health; Founder & Organizer & Chair 2020
3. Gordon Research Conference (GRC) on Alcohol in CNS; Vice Chair 2020
4. Stay Connected Post-doc Virtual Seminar Series; Co-organizer 2020
5. Gordon Research Conference (GRC) on Alcohol in CNS; Chair 2022

International:

1. Intl. Drug Abuse Res. Soc. (IDARS) Mtg.; Morocco; Co-chair 2019

**Organized & Chaired Symposia:**

National:

1. *Neuropharmacology of excessive alcohol drinking in rodent models*. RSA meeting in San Diego, CA, 2009. Role: Organizer & Chair.
2. *Negative affective states and addiction*. NHSN meeting in Miami, FL, 2011. Role: Organizer & Chair.
3. *Vulnerability factors for excessive alcohol drinking and alcohol-related behavioral dysregulation*. RSA meeting in Atlanta, GA, 2011. Role: Organizer & Chair.
4. *The translational intersection of depression and addiction*. NHSN meeting in San Antonio, TX, 2015. Role: Co-organizer & Co-chair.
5. *Corticotropin releasing factor: Novel molecular, cellular and system roles*. SfN meeting in Chicago, IL, 2015. Role: Mini-symposium co-chair.
6. *Brain reward and brain stress system cross-talk in alcohol addiction.* Research Society on Alcoholism (RSA) meeting in San Diego, CA, 2018. Organizer & Chair.
7. *Ventral Tegmental Area (VTA) Cell Heterogeneity in Health & Disease*. Mini-symposium at Society for Neuroscience (SFN) meeting in Chicago, IL, 2019. Organizer & Chair.
8. *Intersectional Neurobiology of Pain, Addiction & Negative Affect*. American College on Neuropsychopharmacology (ACNP) meeting in Orlando, FL, 2019. Organizer & Chair.
9. *Viewing developmental plasticity and sensitivity to alcohol through a lifespan lens.* Research Society on Alcoholism (RSA) meeting, Virtual, 2021. Co-organizer & Co-chair

International:

1. *Post-traumatic stress disorder & alcohol dependence*. Alcoholism & Stress Meeting in Volterra, Italy, 2011. Role: Organizer & Chair.
2. *Alcohol-induced plasticity in brain NPY systems*. International NPY-PPY-PP Meeting, Montreal, Canada, 2012. Role: Organizer & Chair.
3. *Nicotine reinforcement & dependence: Neuroadaptations in “stop” & “go” signals.* IBNS meeting in Dublin, Ireland, 2013. Role: Organizer & Chair.
4. *Brain reward and stress systems in excessive alcohol drinking*. Alcoholism & Stress Meeting in Volterra, Italy, 2014. Role: Organizer & Chair.
5. *Chronic alcohol effects on brain reward, stress & cognition systems: Mouse to monkey to man*. ISBRA meeting in Berlin, Germany, 2016. Role: Organizer & Chair.
6. *Chronic alcohol induces plasticity in striatal and limbic circuits*. International Society on Biomedical Research on Alcohol (ISBRA), Kyoto, Japan, 2018. Organizer & Chair.

**Scientific Presentations:**

National:

1. *Neuropeptide Y reduces oral ethanol intake in alcohol-preferring (P) rats following a period of imposed ethanol abstinence*. Presented at RSA meeting in Fort Lauderdale, FL, 2003.
2. *The effects of neuropeptide Y (NPY) in the paraventricular nucleus of the hypothalamus (PVN) on ethanol drinking in high- (HAD1) and low-alcohol-drinking (LAD1) rats*. Presented at RSA meeting in Vancouver, Canada, 2004.
3. *Dose-dependent effects of neuropeptide Y (NPY) on ethanol intake in alcohol-preferring (P) rats following multiple periods of imposed ethanol abstinence*. Presented at RSA meeting in Vancouver, Canada, 2004.
4. *Suppression of ethanol intake by neuropeptide Y (NPY) in Wistar rats depends on intermittence of prior ethanol exposure*. Presented at RSA meeting in Baltimore, Maryland, 2006.
5. *Behavioral and pharmacological validation of two models of pathological alcohol drinking*. Presented at Winter Conference on Brain Research, Snowbird, Utah, 2008.
6. *Role of neuropeptide Y (NPY) in the transition to alcohol dependence*. Presented at RSA meeting in San Diego, CA, 2009.
7. *An animal model of post-traumatic stress disorder & alcohol-related behaviors*. Presented at NHSN meeting in Miami, FL, 2011.
8. *A new animal model of PTSD and alcohol drinking: Effects of predator stress and conditioned stimuli on operant alcohol self-administration*. Presented at RSA meeting in Atlanta, GA, 2011.
9. *Exposure to traumatic stress in rats differentially affects alcohol drinking and neuronal ERK phosphorylation.* Presented in nanosymposium at SfN meeting in New Orleans, LA, 2012.
10. *Nicotine-dependent rats exhibit increases in alcohol self-administration and altered sensitivity to varenicline.* Presented at CPDD meeting in Palm Springs, CA, 2012.
11. *Nicotine vapor inhalation escalates nicotine self-administration.* Presented in symposium at CPDD meeting in San Diego, CA, 2013.
12. *Traumatic brain injury increases alcohol drinking and promotes neuroinflammation in rats*. Presented at Society of Neuroimmune Pharmacology (SNIP) meeting in New Orleans, LA, 2014.
13. *High traumatic stress reactivity escalates alcohol drinking and recruits CRF in prefrontal-amygdala circuitry.* Presented at RSA meeting in Bellevue, WA, 2014.
14. *Amygdalar CRF mediates stress effects on nociception and alcohol drinking*. Presented in mini-symposium at SfN meeting in Chicago, IL, 2015.
15. *Central Amygdala Regulation of Alcohol Withdrawal Hyperalgesia*. Presented at Gordon Research Conference (GRC) on Amygdala in Easton, MA, 2017.
16. *Amygdala endocannabinoids in alcohol withdrawal and traumatic stress induced escalation of alcohol drinking*. Presented in the NIDA-NIAAA satellite symposium preceding the Society for Neuroscience meeting in Washington, D.C., 2017.
17. *Traumatic Stress Reactivity and Neural Mediators of Alcohol Drinking*. Presented at the Gordon Research Conference (GRC) on Alcohol & the Nervous System in Galveston, TX, 2018.
18. *Amygdala CRF Regulation of Traumatic Stress Effects on Behavior*. Presented at the National Hispanic Science Network (NHSN) meeting in New Orleans, LA, 2019.
19. *Neurobiological mediators of hyperalgesia after chronic alcohol & chronic morphine*. Presented at the American College on Neuropsychopharmacology (ACNP) meeting in Orlando, FL, 2019.
20. *Racial inequities in federal funding for biomedical research.* Presented at American Chemical Society (ACS) meeting, Virtual, April 2021.

International:

1. *A convergent pathway in the amygdala for brain stress peptides in alcohol dependence*. Presented at IDARS meeting in Seoul, South Korea, 2009.
2. *Extending the utility of alcohol vapor dependence procedures*. Presented at ISBRA meeting in Paris, France, 2010.
3. *Neuropeptide Y suppresses alcohol drinking by decreasing inhibitory neurotransmission in central amygdala*. Presented at IDARS meeting in Rio de Janeiro, Brazil, 2010.
4. *A new animal model of post-traumatic stress disorder & alcohol dependence*. Presented at Alcoholism & Stress Meeting in Volterra, Italy, 2011.
5. *Alcohol dependence recruits neuropeptide Y (NPY) systems in extended amygdala*. Presented at ISBRA meeting in Sapporo, Japan, 2012.
6. *Neuropeptide Y in the extended amygdala of alcohol-dependent rats*. Presented at the International NPY-PPY-PP Meeting, Montreal, Canada, 2012.
7. *Nicotine vapor escalates nicotine self-administration & alters nAchR profiles.* Presented at IBNS meeting in Dublin, Ireland, 2013.
8. *High traumatic stress reactivity promotes alcohol drinking and recruits cortico-amygdalar circuitry.* Presented at IDARS meeting in Mexico City, Mexico, 2013.
9. *Individual differences in stress-induced behavioral dysregulation mediated by corticotropin-releasing factor (CRF) in central amygdala (CeA).* Presented at Alcoholism & Stress Meeting in Volterra, Italy, 2014.
10. *Traumatic stress increases nociception & alcohol drinking: A role for corticotropin-releasing factor (CRF) signaling in the central amygdala (CeA)*. Presented at IDARS meeting in Sydney, Australia, 2015.
11. *Central amygdala mediates hyperalgesia associated with traumatic stress & alcohol dependence*. Presented at ISBRA meeting in Berlin, Germany, 2016.
12. *Traumatic stress effects on brain CRFR1 signaling, nociception & alcohol drinking.* Presented at Stress & Alcoholism meeting in Volterra, Italy, 2017.
13. *The central amygdala is a hub for alcohol dependence, stress reactivity & pain.* Presented at the Zardi-Gori scientific meeting titled “Alcohol Use Disorder: from Bench to Bedside” in Milan, Italy, 2017.
14. *The role of brain CRF-CRFR1 signaling in stress-alcohol interactions*. Presented at the Winter Conference on Brain Research in Whistler, Canada, 2018.
15. *Stress alters amygdala signaling & alcohol drinking*. Presented at the Neurobiology of Stress Meeting in Banff, Canada, 2018.
16. *Central amygdala circuits mediate hyperalgesia in alcohol-dependent rats.* Presented at ISBRA meeting in Kyoto, Japan, 2018.
17. *Traumatic stress effects on brain & behavior*. Presented at PUCRS event on Early Life Stress & Addiction, Porto Alegre, Brazil, September 2019.

**Invited Presentations and Seminars:**

Local (not including talks on the LSUHSC campus):

1. *At the intersection of stress & alcohol use disorders*. Invited talk at Tulane University, Neuroscience Department, New Orleans, LA, November 2011.
2. *Stress & stress response affects alcohol-related behavior*. Invited talk at Tulane University, Physiology Department, New Orleans, LA, April 2012.
3. *Traumatic stress reactivity facilitates excessive alcohol drinking and prefrontal cortex-amygdala synchronicity*. Invited talk at Southeastern Louisiana University, Biology Department, Hammond, LA, November 2012.

National:

1. *Neuropeptide Y: The light side of the dark side of alcoholism*. Invited talk at Indiana University-Purdue University at Indianapolis, Psychology Department, Indianapolis, IN, November 2010.
2. *At the intersection of stress & alcohol use disorders*. Invited talk at National Institute of Alcoholism & Alcohol Abuse, Bethesda, MD, February 2012.
3. *Amygdalar CRF in stress-induced escalation of alcohol drinking & hyperalgesia.* Invited talk in NIAAA-sponsored satellite symposium at Society for Neuroscience 2014 meeting in Washington, D.C., November 2014.
4. *Amygdalar CRF mediates individual differences in stress-induced avoidance and hyperalgesia*. Invited talk at University of North Carolina, Psychology Department, Chapel Hill, NC, November 2015.
5. *Amygdalar CRF mediates individual differences in stress-induced avoidance and hyperalgesia*. Invited talk at University of Texas Medical School, Institute of Molecular Medicine, Houston, TX, May 2016.
6. *Amygdala mediates hyperalgesia associated with stress and alcohol dependence*. Invited talk in 5th Purdue Symposium on Psychological Sciences titled “Emotion Dysregulation: Consequences and Mechanisms,” Purdue University, West Lafayette, IN, May 2016.
7. *Amygdalar CRF signaling mediates stress-induced hyperalgesia*. Invited talk at Washington State University, Alcohol and Drug Abuse Research Program, Pullman, WA, September 2016.
8. *CRF signaling mediates stress-induced behavioral dysregulation*. Invited talk at Medical University of South Carolina, Alcohol Research Center, Charleston, SC, October 2016.
9. *Central amygdala mediates alcohol dependence-induced hyperalgesia*. Invited talk at Vanderbilt University, Alcohol Research Center, Nashville, TN, October 2017.
10. *Traumatic stress alters brain CRF signaling & alcohol drinking.* Invited talk at Marquette University, Milwaukee, WI, October 2018.
11. *Central amygdala mediates alcohol dependence-induced hyperalgesia*. Invited talk at Texas A&M University, College Station, TX, October 2018.
12. *Central amygdala is a hub for alcohol dependence*. Invited talk at University of Maryland, Baltimore, MD, March 2019.
13. *Amygdala CRF regulation of traumatic stress effects on behavior*. Invited talk at University of Tennessee, Memphis, TN, October 2019.
14. *Central amygdala is a hub for alcohol dependence*. Invited talk at Indiana University, Indianapolis, IN, January 2020.
15. *Central amygdala is a hub for alcohol dependence*. Invited talk at University of Louisville, Louisville, KY, January 2020.
16. *Central amygdala is a hub for alcohol dependence*. Invited talk at Rutgers University, New Brunswick, NJ, February 2020.
17. *Racial inequities in federal funding for biomedical research.* Invited talk at University of North Texas (virtual), November 2020.
18. *Racial inequities in federal funding for biomedical research.* Invited talk at Washington University (virtual), December 2020.
19. *Racial inequities in federal funding for biomedical research.* Invited talk at Northeastern University, Psychology (virtual), January 2021.
20. *Racial inequities in federal funding for biomedical research.* Invited talk at Northeastern University, Chemistry (virtual), February 2021.

International:

1. *Amygdalar CRF mediates individual differences in stress-induced avoidance and hyperalgesia*. Invited talk at University of Calgary, Calgary, Alberta, Canada, June 2016.
2. *Traumatic stress effects on brain & behavior*. Invited talk at Universidade do Sao Paulo, Sao Paulo, Brazil, September 2019.
3. *Traumatic stress effects on brain & behavior*. Invited talk at Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil, October 2019.
4. *Central amygdala is a hub for alcohol dependence*. Invited talk at Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil, October 2019.

**Invited Keynote Talks:**

1. *Central amygdala is a hub for alcohol dependence*. Keynote talk for the 2020 Latin American Society for Biomedical Research on Alcoholism (LASBRA) meeting in Sao Paulo, Brazil (virtual), December 2020.

**Editorial Posts and Activities:**

**Journal Editorial Appointments:**

Neuropharmacology (Editorial Board member) 2016-

F1000 Faculty (member; Neuropharm. & Psychopharm. Section) 2018-

Alcohol (Editorial Board member) 2020-

Advances in Drug and Alcohol Research (Associate Editor) 2021-

**Special Issues Journal Editor:**

Editor of special issue for *Frontiers in Addictive Disorders* 2013

Title: Brain Reward and Stress Systems in Addiction  
Issue can be accessed at: <http://journal.frontiersin.org/ResearchTopic/1039>

Co-editor of special issue for *Neuropharmacology* 2020

Title: Neuropeptides

Co-editor of special issue for *Int’l. Review of Neurobiology* 2020

Title: Neurobiology of Addiction and Co-Morbid Disorders

**Reviewer Status** (alphabetical):

Addiction Biology, Alcohol, Alcoholism: Clinical & Experimental Research, Behavioural Brain Research, Behavioural Pharmacology, Biological Psychiatry, BMC Neuroscience, Brain Research, British Journal of Pharmacology, Cellular & Molecular Neurobiology, Drug & Alcohol Dependence, eLife, eNeuro, European Journal of Neuroscience, European Neuropsychopharmacology, Frontiers Journals (various), Genes Brain & Behavior, International Journal of Developmental Neuroscience, International Journal of Neuropsychopharmacology, Journal of Addiction Medicine, Journal of Drug & Alcohol Research, Journal of Neuroendocrinology, Journal of Neuroscience, Molecular Neurobiology, Molecular Psychiatry, Neurobiology of Stress, Neuropeptides, Neuropharmacology, Neuropsychopharmacology, Neuroscience Letters, Nicotine & Tobacco Research, Pain, Peptides, Pharmacology Biochemistry & Behavior, Physiology & Behavior, Progress in Neuropsychopharmacology & Biological Psychiatry, Psychoneuroendocrinology, Psychopharmacology, Regulatory Peptides, Toxicology & Applied Pharmacology

**SERVICE ACTIVITIES**

**University/Institutional Service:**

**Departmental committees**

Faculty Search Committee, Physiology, Member 2011-13, 2016-

Research Development Work-In-Progress, Physiology, Co-Chair 2012-2013

Post-Doctoral Development Committee, Physiology, Chair 2012-present

Faculty Professional Development Program, Physiology, Director 2016-present

**LSU School of Medicine (SOM) committees**

Judge for Graduate Student Research Day 2011, 2014

Alcohol & Drug Abuse Center of Excellence, steering member 2012-present

Judge for Medical Student Research Day 2014

Alcohol & Drug Abuse Center of Excellence, Associate Director 2015-present

Research Enhancement Fund Grant Review Committee, member 2015-present

Faculty Guidance and Mentoring Committee , member 2015-present

Extramural Grant Proposal Review Committee, member 2019-present

M.D./Ph.D. student interview committee, member 2019-present

**LSU School of Dentistry (SOD) committees**

Academic Performance Advancement Committee, member 2020-present

**LSUHSC committees**

LSU Strategic Plan, Research & Core Facilities Group, member 2013

LSUHSC-NO Information Technology (IT) Committee, member 2017-present

**V.A. Service:**

**SLVHCS committees**

Research & Development Committee (RDC), Member 2018-present

*Ad Hoc* Research VA Proposal Development Committee, Member 2018-present

SLVHCS Research Equipment Committee, Member 2018-present

SLVHCS Research Facility Activation Committee, Member 2018-2020

**Professional society committees**

Research Society on Alcoholism (RSA)

Program Committee for RSA Meeting, member 2013

Education Committee, member 2017-2020

Board of Directors, member 2017-present

National Hispanic Science Network (NHSN)

Planning Committee for NHSN Meeting, member 2013, 2015

Planning Committee for NHSN Meeting, co-chair 2012

Early Career Leadership Committee Core Group, member 2012-2014

American College of Neuropsychopharmacology (ACNP)

Education & Training Committee, ad hoc member 2014

Education & Training Committee, standing member 2015-2017

Publications Committee, standing member 2018-

International Drug Abuse Research Society (IDARS)

Organizing Committee for IDARS meeting, member 2017-2019

**Administrative Responsibilities:**

None

**Community Service Activities:**

LSUHSC Comprehensive Alcohol Research Center (CARC) 2014-2016

Information Dissemination Core; Role: Director (PI)

*The goal of this Core is to impact alcohol- and HIV-related knowledge, attitudes and behaviors by educating lay people, practicing and in-training health care providers, and scientists on the neurobiological basis and biomedical consequences of alcohol use and abuse, and the risk factors and biological underpinnings of HIV. These activities include community outreach and education initiatives. My role as Director was to seek out opportunities and coordinate these activities on campus and in the community.*

Founder & Administrator of *Racial Equity in Science* Slack Forum 2020-

**Research Interest Narrative**

I am a behavioral neuroscientist, and my research career has focused on examining the neurobiology of addiction, traumatic stress disorders, and pain in animal models, with the ultimate goal of contributing to our understanding of the neurobiology of addiction, as well as potential prevention and treatment strategies for these disorders.

My major research contribution to this point has been to the understanding of the neural changes that mediate the transition from alcohol use to alcohol dependence. In particular, pro-anxiety and anti-anxiety neuropeptide systems in the extended amygdala are recruited during the transition to alcohol dependence, and these systems become critical for mediating alcohol consumption and other alcohol-related outcomes in the alcohol-dependent organism. I have authored many empirical articles and several review articles that collectively seek to improve our understanding of the neuroadaptations that underlie the behavioral pathologies that define the diagnostic criteria for Alcohol Use Disorder (AUD).

My current research program continues to focus on understanding the neurobiology of addictive disorders. I am currently funded by NIAAA and the V.A. The current focus of my lab is to examine neurobiological mechanisms underlying the high rate of co-morbidity of addiction with traumatic stress disorders (e.g., PTSD) and pain. The goal of this work is to identify the neural interface for addiction with traumatic stress disorders and pathological pain, which are frequently co-morbid in civilian and military populations. The potential impact of this work on human health is to identify promising targets and strategies for treating human addicts with co-morbid stress and pain disorders.

I foresee three important areas of expansion for our research program in the future. First, we are incorporating circuit-based approaches into our pre-clinical models with the goal of defining the neurochemistry and neurocircuitry underlying alcohol abuse and pain in individuals living with addiction and traumatic stress disorders. Second, we are expanding our research program to include other drugs of abuse (i.e., nicotine and morphine). Third, we are looking for opportunities to translate our pre-clinical findings into clinical studies.