

PHYSIOLOGY NEWS

OCT 1-DECEMBER 31 2025

Dear All,

As we begin 2026, I invite you to pause and reflect on the strength and commitment of all members of the Department of Physiology. Over the past year, we have continued to advance our mission, often in the face of adversity and a constantly shifting landscape. What I ask you to recognize is not any single personal achievement, but how together we have moved forward, sometimes excelling, and often, thriving.

Physiology remains the foundation of biomedical science and clinical understanding, and the work done within this department shapes learners, research, and patient care well beyond our walls. The recent initiative by APS to increase visibility and appreciation of Physiology gave us a phrase that we should all build on. *Physiology, the science that life depends on.* Through innovative teaching, sustained research efforts, and dedicated mentorship, we have continued to provide stability, rigor, and curiosity at the core of our academic mission.

The past year also reminded us that progress in academia is rarely linear. Yet, through adaptability, collaboration, and mutual support, we have strived to maintain excellence while navigating change, growing our resilience, and devising ways to adjust. I was privileged to visit the Galapagos Islands over the break. I felt like a child on a voyage of scientific discovery. I even contemplated for a short moment, doing a sabbatical in the Charles Darwin Center. Nature made me reflect on how, just like those animals and plants, we have been able to adapt, survive and thrive during these challenging times.

I am deeply grateful for the professionalism, generosity, and behind-the-scenes efforts that make this department not only productive, but also collegial and supportive. As we look ahead, 2026 offers opportunities to strengthen collaboration, refine our priorities, and invest in the people who make this department thrive. Whether through new scientific questions, evolving curricula, or interdisciplinary partnerships, the year will require the same shared sense of purpose that has long defined us.

Thank you for your continued dedication to our students, our science, and one another. I am proud to serve alongside you and look forward to what we will accomplish together in the coming year.

Best wishes for 2026!

Patricia



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Editor, Liz Simon

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FACULTY HIGHLIGHT- DR. JÁNOS PALOCZI, PHD

Dr. Janos Paloczi is an Assistant Professor in the Department of Physiology, where he leads a research program investigating the complex interplay between cardiovascular cannabinoid signaling and pathophysiology associated with alcohol misuse.

Dr. Paloczi earned his PhD in Biochemistry, Biophysics, Molecular and Cell Biology from the University of Szeged, Hungary (*summa cum laude*), following undergraduate training in molecular biology and medical biology at the University of Debrecen, Hungary. He completed his postdoctoral training at the National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, where he investigated the regulatory role of peripheral cannabinoid receptors in inflammation, oxidative stress, tissue injury, and alcohol use disorder-related complications. Dr. Paloczi was awarded the prestigious NIH/NIAAA Pathway to Independence Award (K99/R00). He has also received a one-year scholarship from the National Excellence Program, and the Apáczai Fellowship awarded by the European Union and the Government of Hungary.



The Paloczi lab specializes in comprehensive cardiovascular assessments of preclinical models using echocardiography and pressure-volume catheterization, microcirculation measurements via laser speckle contrast imaging, and advanced surgical interventions. The basic science lab uses a plethora of cutting-edge cell culture and molecular biology techniques.

Dr. Paloczi has authored 48 peer-reviewed research articles with a cumulative impact factor exceeding 350 and over 2,400 total citations (h-index: 38). His recent publications make significant contributions to understanding (endo)cannabinoid signaling in various cardiovascular diseases and other pathologies. These findings have appeared in high-impact journals, including *Nature Communications*, the *Journal of Clinical Investigation*, the *Journal of Hepatology*, *Nature Metabolism*, and *Hepatology*.

Recent advances from his laboratory have significantly advanced our understanding of the gut-heart axis in alcohol-induced cardiovascular disease. His recent research also describes the harmful impact of combined alcohol and synthetic cannabinoid exposure, which exacerbates cardiac dysfunction through endocannabinoid type 1 receptor (CB1R)-mediated signaling pathways.

Dr. Paloczi actively mentors graduate students, postdoctoral fellows, and undergraduate researchers, with multiple students and mentees presenting award-winning research at international scientific conferences. Dr. Paloczi teaches human cardiovascular physiology. Dr. Paloczi serves as a review editor for *Frontiers in Physiology* and on the editorial board of *Biomolecules* and regularly reviews for peer-reviewed journals.

Dr. Paloczi always has a heartfelt smile, is awesomely friendly, and has a great engineering brain. He enjoys spending time with his family (featured) and is an avid sports fan. Please visit his webpage for additional information.

<https://www.medschool.lsuhsc.edu/physiology/paloczi.aspx>



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Awards

Meagan Donovan secured the 2025 Association for Women in Science-Southern Louisiana (AWIS-SL) Outstanding Young Scientist Travel Award (\$1000).



Dr. Keishla Rodriguez Graciani won first place for Oral talks at the Annual Meeting of the National Science Network (NHSN), Miami, FL, October 2025.



2026 Graduate Research Day Awards

Kaitlin Couvillion- Junior Division First Place, Oral talk (\$1500 Travel Award).

Kyle Gallegos - First Place, Poster (\$1000 Travel Award)

Nicolas Harris - Senior Division Second Place, Oral talk (\$1500 Travel Award).

Grants

Dr. Nicholas Gilpin. R21DA062847 (NIH/NIDA). Validation of a rat model of co-morbid cocaine and alcohol use

Dr. Nicholas Gilpin. R13AA028237 (NIH/NIAAA). Travel Support for the International Drug and Alcohol Research Society (IDARS) Meeting

Professional services

Dr. Nicholas Gilpin Represented the LSUHSC Alcohol & Drug Research Group at the LSU Cross-campus research retreat in Baton Rouge, August 2025.

Dr. Nicholas Gilpin was Chair of the CSR Study Section; ZRG1 ICN-L (94) S (Special Emphasis Panel). He was an Ad hoc member of CSR Study Section, Mol. & Cell. Neuropharmacology (MCNP).

Dr. Nicholas Gilpin chaired Physiology Department Promotion & Tenure Committee. He joined LSUHSC SGS Biomedical Science PhD Qualifying Exam and Preliminary Exam Work Groups.

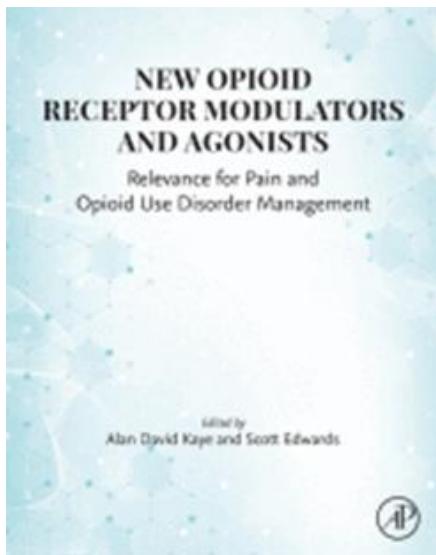
Dr. Liz Simon was an Ad hoc member of CSR Study Section NIH Fellowship and AIDS-related Special Emphasis Panel. She was also member of the NIH/NIDA Special Emphasis Panel for the Notice of Funding Opportunity (NOFO)- Targeting Inflammasomes in HIV and Substance Use.

Dr. Liz Simon is Chair of the American Physiological Society- Endocrinology and Metabolism Section Awards. She was a reviewer for the 2025 Research Society of Alcohol Small Grant Award Program.

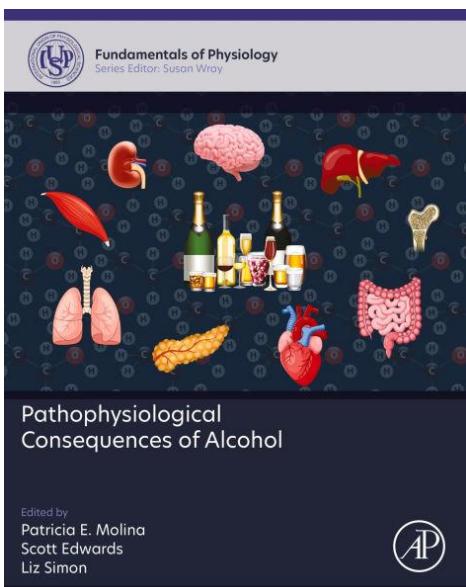
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Books

Dr. Scott Edwards was co-editor of the book. **Kaye A, Edwards S** (2025). New Opioid Receptor Modulators and Agonists: Relevance for Pain and Opioid Use Disorder Management 2025 Academic Press. **ISBN:** 978-0-443-26504-4. **DOI:** 10.1016/C2023-0-50777-3



Drs. Patricia Molina, Scott Edwards, and Liz Simon co-edited the book- Pathophysiological Consequences of Alcohol. **ISBN:** 9780443342585.



Several of the Physiology faculty and trainees were co-authors of chapters of the book- **Couvillion K, Donovan M, Edwards SE, Fitzpatrick-Schmidt T, Gallegos EM, Gardner J, Harris N, Lee SS, Molina PE, Paloczi J, Rodriguez-Graciani K, Primeaux S, Siggins RW, Simon L, Souza-Smith F.**

Publications

Essoh A, Gangal H, Huang Z, Xueyi RC, Xuehua X, Wang X, Vierkant V, Garza M, Ugartemendia L, Secci ME, Gilpin NW, Justice NJ, Messing RO, Wang J (2025). Alcohol Attenuates CRF-Induced Excitatory Effects from the Extended Amygdala to Dorsostriatal Cholinergic Interneurons. *Elife*. <https://doi.org/10.7554/elife.107145.1>

Gallegos EM, Couvillion K, Darden D, Rodriguez-Graciani K, Molina PE, Simon L. (2025). Alcohol and Metabolic Stress Synergize to Dysregulate Mitochondrial Health and Lipid Metabolism; Evidence from a Hepatocyte Spheroid Model. *Function*. **PMID: 41183512**. **DOI:** [10.1093/function/zqaf049](https://doi.org/10.1093/function/zqaf049).

Gilpin NW, Molina PE. (2025) Alcohol use disorder is a chronic disease. *Alcoholism: Clinical and Experimental Research*. **50(1): e70230**. **DOI:** [10.1111/acer.70230](https://doi.org/10.1111/acer.70230).

Joffe ME, Ferguson SM, Gilpin NW, Herman MA, Knackstedt LA, Randall PA, Schindler AG, Torregrossa MM, Rinker JA. (2025). The need to incorporate polysubstance use in neuropsychopharmacology research: biological lessons and new opportunities. *Addiction Neuroscience*. **DOI: 10.1016/j.addcn.2025.100246**.

Kelley KL, Gilpin NW, Middleton J. (2025). Chronic inflammatory pain and chronic THC vapor inhalation alter midbrain neuronal activity. *J of Neurophysiology* **May 14;134(1):80–93**. doi: [10.1152/jn.00456.2024](https://doi.org/10.1152/jn.00456.2024)

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Lee SS, Monteagudo Romero L, Lammons JW, Klein JM, Edwards KN, Guidry JJ, Edwards SE (2025). Proteomic analysis of central amygdala systems regulated by mifepristone in the context of alcohol dependence. *Neuropharmacology*. DOI: [10.1016/j.neuropharm.2025.110728](https://doi.org/10.1016/j.neuropharm.2025.110728)

Molina PE, Simon L. (2026). Alcohol and the endocrine system: A critical review of disruptions, potential mechanisms, and health implications. *Alcohol Clinical Experimental Research*. 50(1): e70221. DOI: [10.1111/acer.70221](https://doi.org/10.1111/acer.70221).

Wilson LL, Albrechet-Souza L, Linh Ha, **Gilpin NW**, Wills TA (2025). Prior adolescent oxycodone exposure enhances pain sensitivity following chronic intermittent ethanol in adult female mice. *Physiol Behav*. 1:301:115067. DOI: [10.1016/j.physbeh.2025.115067](https://doi.org/10.1016/j.physbeh.2025.115067)

Zaparte A, Lammons JW, Taylor CM, Luo M, Lin HY, **Siggins RW, Molina PE**, Welsh DW (2025). Sex specific gut bacterial community structure: implications for frailty risk in people with HIV. *Geroscience*. DOI: [10.1007/s11357-025-01923-z](https://doi.org/10.1007/s11357-025-01923-z).

Presentations

Dr. Scott Edwards presented a talk titled “*Alcohol and Colorectal Cancer Risk*” at the Louisiana Colorectal Cancer Roundtable in December 2025.

Dr. Nicholas Gilpin was Discussion Leader for session titled “*Pain Mechanisms in the Amygdala*.” Gordon Research Conference (GRC) for Amygdala Function in Emotion, Cognition and Disease, Barcelona, Spain.

Dr. Nicholas Gilpin was Organizer and Chair for session titled “*Pharmacology and Neural Mechanisms of Comorbid Pain and Drug Use*.” European Behavioral Pharmacology Society (EBPS), Almeria, Spain.

Dr. Nicholas Gilpin gave a talk titled “*Vaporized cannabinoid inhalation effects on chronic inflammatory pain outcomes*.” European Behavioral Pharmacology Society (EBPS), Almeria, Spain.

Dr. Nicholas Gilpin was a participant in roundtable titled “*Considering polysubstance use in the development of therapeutics for use disorders*.” Research Society on Alcohol (RSA) meeting in New Orleans, LA, 2025.

Dr. Lisa Harrison-Bernard presented a virtual invited Seminar “*Filtering Knowledge: Two Decades of Advancing Renal Physiology Education*” at the Department of Medical Education, School of Medicine, University of Texas Health Rio Grande Valley.

Lei'leh Itayem (Edwards Lab, LSU Health New Orleans Bioinformatics Program) presented her talk titled “*Proteomic Analysis of Cingulate Cortex Systems Regulated by Mifepristone in the Context of Alcohol Dependence*” at the 2025 Alcohol and Drug Abuse Center of Excellence (ADACE) annual retreat in December.

Stephanie Lee presented a talk titled “*Alcohol-Cannabinoid System Interactions in the Context of Pain and Alcohol Use Disorder*” in the 2025 Department of Physiology Fall Seminar Series in November. Stephanie also presented her work at the American Physiological Society (APS) New Trends in Sex Differences and Women’s Health Research conference held at Tulane University in October.

Dr. Rajani Maiya presented an invited seminar “*Molecular and Circuit Mechanisms Underlying Social Stress Escalated Alcohol Consumption*” at the Waggoner Center for Alcohol and Addiction Research at the University of Texas at Austin - her alma mater, November 2025.

Dr. Patrick McTernan presented a talk titled “*Inflammation, and Alcohol: Aging the Immune Response*.” in the 2025 Department of Physiology

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Fall Seminar Series. Dr. McTernan, also presented “*Understanding Immunoassays*.” As part of the Perspective in Alcohol Research seminar series in October 2025.

Dr. Keishla Rodriguez-Graciani presented a talk titled “*Alcohol use impairs mitochondrial function and increases frailty risk in older adults: findings from the epiMAP study*” at the Annual Meeting of the National Science Network (NSN), Miami Florida, October 2025

Dr. Liz Simon gave a talk titled “*Breaking the Balance: Alcohol, Diet, and Mitochondrial Metabolism in HIV/SIV*” at the 20th Conference of the European Society for Biomedical Research on Alcohol, Brussels. She also gave a talk “*Mini-Livers, Major Insights: developing a 3D hepatic spheroid model for studying alcohol and metabolic stress*” at the 20th Retreat Program of the Alcohol and Drug Abuse Center, LSUHSC-NO.

Notable Events

Congratulations to Meryl Leiva for her daughter (Lauren)’s wedding. Pictured is Meryl’s family of her three daughters, their husbands, and two grandchildren at Rosemary Beach (Florida).



The eighth season of The Mental Hygienists Fantasy Football league has concluded with Dr. Anna Whitehead (Team Vaporizers, \$300) earning the hard-fought championship win over Dr. Danielle Levitt (First and Titin, \$200). Third place was secured by new franchise owner Stephanie Lee (The Lee Dynasty, \$100). Next up is the Winter Physiolympics Tournament in February 2026!

The Simon lab welcomed Graduate students for Halloween Trick or Treat on October 31.

