Physiology News

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Dear All,

We waited and thought it would never come! Fall is here to remind us of nature's rhythm, a time of change, preparing us for renewal. Thinking of our progression to the fall season, filled with holidays and celebrations, reminders of our religions, cultures, and beliefs, I can't help but think of all of us as molecules shifting, rolling, deforming, sometimes adhering for too long as we form part of the natural flow from one season to the next. My brain is wired to think of our lives as physiological processes that we sometimes fail to reflect upon and appreciate.

I was struck recently by the priest explaining during his homily how rats that are stressed and in isolation increase cocaine self-administration. I could not believe my ears! Rodent research in church! His pitch was to highlight the value of community in the church. My scientific brain was spinning, and I homed in on two things. First, we need to do better in sharing our science with the lay community. Scientific knowledge is being displaced by Instagram, blogs, X, and Facebook! The second was a sense of pride. Pride in my (our) choice of following this path of investigation, of seeking answers, of learning something new daily. You never know who will take the findings from one of our studies and build upon them to deliver a message to the lay public.

We have gone through some challenging times and still are navigating turbulent waters. I urge you to continue the journey. We have much to be proud of. Our science, our teaching, our mentoring, and the curiosity and resilience that bring us to work each day. Always looking for that next discovery.

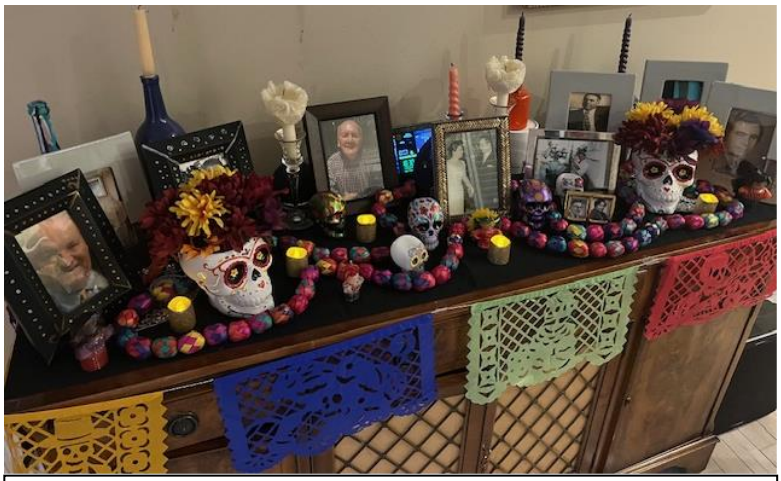
As we enter this season of harvest, we count our blessings and the rewards of dedication ranging from funded grants, discoveries, publications, and collaborations that advance knowledge and strengthen our shared mission. Each experiment completed, each student mentored, and each idea pursued adds to the collective momentum that defines our community.

Even as the days grow shorter, our shared pursuit of understanding provides a bright light. Let this season remind us that our curiosity and commitment to discovery, to education, and to one another, light our paths. Together, we continue to cultivate the science of life in all its remarkable complexity.

As we enter the extended Holiday Season, I encourage you to learn something new about the rituals and celebrations unique to our diverse department. From Halloween, to Diwali, Thanksgiving, Hanuka, and Christmas, this season is full of opportunities to rejoice!

Best wishes,

Patricia



November 1, Dia de Los Muertos. A day or remembrance of those no longer with us.

Physiology News

Inside this edition
Editor, Liz Simon

Cover story

About the author- ***Stephanie Lee*** *is an MD/PhD candidate in the Scott Edwards lab. Graduating from Emory University, Stephanie is NIH/NIAAA F32 funded, and Stephanie's research is focused on the impact of the endocannabinoid system on chronic pain and alcohol use disorder.*

Our Responsibility as Scientists to an Overloaded Public

In a world where anyone with a smartphone can broadcast an opinion to millions, information has never been more abundant. The democratization of knowledge promised enlightenment, but it has also unleashed a flood of distortion. Misinterpretation of medical data, cherry-picked statistics, and confident but unqualified claims circulate faster than any peer-reviewed article ever could. For scientists, this reality poses a sobering challenge: staying silent is no longer neutral.

The Fragility of Trust

Public trust in science has always been precarious. It can take decades to build and minutes to erode. During the pandemic, for example, the world witnessed how rapidly misinformation could fill the vacuum left by scientific uncertainty. People searched for simple answers to complex problems and, in doing so, found comfort in confident falsehoods. It was not necessarily malice, but it was human nature. The desire for certainty is primal, but science, by design, traffics in doubt. When we as scientists hedge our statements with caveats and confidence intervals, we speak the language of precision. To the public, however, it can sound like hesitation.

The dissonance between scientific caution and public craving for clarity creates ground for pseudoscience. Social media algorithms amplify what provokes outrage or emotion, not what reflects accuracy. In such an environment, misinformation can wear the mask of authority while truth struggles to compete for attention.

Our Ethical Obligation

We scientists often comfort ourselves with the belief that "the data speak for themselves." But data is mute if there are no interpreters who can translate the implications of data clearly, honestly, and accessibly. We must also be communicators or storytellers who can make complex concepts comprehensible without sacrificing integrity.

This means meeting the public where they are, not where we wish they were. It means crafting messages that balance nuance with clarity, and humility with confidence. When a new study emerges, we should be ready to explain not only what it shows, but how it fits into the broader body of evidence and what it does not yet prove. The goal is not persuasion but understanding.

Cultivating Scientific Literacy

Distinguishing reliable sources from unreliable ones requires both access and education. Reliable information is characterized not just by its conclusions but by its transparency, such as methods, peer review, reproducibility, and funding disclosures. Yet the public rarely has the tools to evaluate these markers. Science education, therefore, must extend beyond memorizing facts to learning how to think but also how to evaluate claims, recognize bias, and demand evidence.

We can empower the public by making our research processes more visible. Open-access publishing, public data repositories, and plain-language summaries of studies are not acts of charity but acts of accountability. When people understand how science works – the trial and error, the replication, the slow accumulation of data – they are less likely to be swayed by the next viral rumor dressed as revelation.

Bridging the Divide

The communication gap between scientists and society is not inevitable. It is learned, and therefore reversible. Collaboration with journalists, community educators, and policymakers can help ensure that accurate information reaches the audiences who need it most. Scientists must resist the temptation to retreat into academic isolation. Engaging with the public does not dilute our rigor, but it strengthens our relevance.

Of course, misinformation will always exist. But the antidote to noise is not silence. It is a symphony, and each of us in the scientific community has a note to contribute. A tweet that corrects a myth, a lecture that demystifies a concept, a conversation that plants a seed of skepticism toward false claims.

The Courage to Communicate

In an era when confidence often trumps competence, the greatest act of scientific courage may be the decision to speak carefully and consistently, even when nuance is unpopular. Our credibility depends not only on the validity of our data but on our willingness to defend the truth against distortion.

Science is not a set of conclusions. It is a method, a discipline, and an act of hope and belief that reality can be known if we look closely enough. In a time when the line between information and misinformation grows ever thinner, scientists must become both guardians and guides. The public is listening, even amid the noise. The question is: will we speak clearly enough to be heard?

Awards

Meagan Donovan was awarded the 2025 ***Michael G. Levitsky, PhD Excellence in Teaching Award.*** This award recognizes and celebrates excellent teaching service of a Physiology trainee.

Dr. Lisa Harrison-Bernard- Was awarded the prestigious ***Claude Bernard Distinguished Lectureship*** from the American Physiological Society. “On behalf of the Teaching Section Steering Committee, I am delighted to share the wonderful news that you have been selected as

this year's recipient of the Claude Bernard Distinguished Lectureship. This is a truly well-deserved honor that recognizes your outstanding contributions to the field of physiology education and the APS. Your dedication to expanding physiology education through research, curricular development, mentorship, and educational activities have made a significant impact." Nominations were submitted by Drs. Ryan Downey (Alice L. Walton School of Medicine), L. Gabriel Navar (Tulane University School of Medicine), and Jason D. Gardner. The award includes a $1,000 honorarium and up to $2,500 in travel expenses to attend the 2026 APS Summit in Minneapolis, MN in April.

Grants

Drs. Scott Edwards and Amanda Phang (multi-Principal Investigators) were awarded an R21 from the National Institute on Drug Abuse (NIDA) titled *"Targeting the Renin System for the Treatment of Pain and Opioid Use Disorder"*.

Dr. Rajani Maiya (Principal Investigator) was awarded an NIH/NIAAA R01 titled "Kappa opioid receptor modulation of BLA inputs to the BNST and stress-escalated drinking". (R01AA032902)

Dr. Patricia Molina (Principal Investigator, Director) was awarded the NIH/NIAAA P60 Center Grant titles "LSUHSC-NO Comprehensive Alcohol-HIV/AIDS Research Center (CARC)" 2P60AA009803-32**.**

Dr. Patricia Molina (Principal Investigator) was also awarded the NIH/NIDA National Science Network on Drug Abuse Annual Conference

Dr. Patricia Molina (Principal Investigator) was also awarded NIH/NIAAA T32 "Biomedical Alcohol Research Training Program" 2T32AA007577-26.

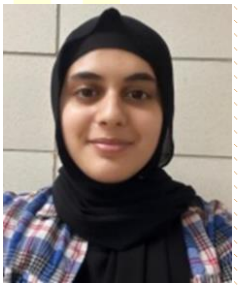
Dr. Amanda Phang (Principal Investigator) was awarded the LA CaTS Center Pilot Project titled "Role of Alpha2 Adrenergic Receptor Antagonism in Treating Misuse of Fentanyl Adulterated with Xylazine."

Dr. Robert Siggins (multi-Principal Investigator) was awarded an R01 titled "Geroprotective Precision Medicine Strategies in PWH that Use Alcohol" R01AA032764

Dr. Robert Siggins (Co-Investigator) was also awarded the LSUHSC Clinical Research Grant Proposal titled "Alcohol, Dysbiosis, Immune exhaustion & Senescence, Checkpoint Inhibitors and Colorectal Carcinoma."

New faces

Jack Granger, M.S., joins the Edwards/Pahng Alliance from Tulane University. Jack also has previous research experience with the Allen Brain Institute and will be working on developing new treatments for chronic pain and opioid use disorder.



Lei'leh Itayem joined the Edwards/Pahng Alliance in association with the LSU Health New Orleans Bioinformatics and Computational Medicine Program. Lei'leh was previously a Psychology major and 2025 Tolmas Scholar at the University of New Orleans.

Olivia Ashy joins the Edwards/Pahng Alliance as a Neuroscience major, Psychology/Spanish minor, and Distinguished Scholar from Tulane University. Olivia has enjoyed previous stops studying abroad in Buenos Aires, Argentina and working with the BrainHealth Project at UT-Dallas. She is currently applying to select PhD programs.

Recognition

Dr. Lisa Harrison-Bernard- ***Employee Service Recognition 2025***. Chancellor Nelson: "I want to express my deep appreciation for your years of dedicated service and commitment to LSUH Health New Orleans." Dean DiCarlo: "Your commitment and contributions have strengthened our community and advanced our shared purpose."

Professional services

Dr. Lisa M. Harrison-Bernard was invited by the Dr. Bryan Mackenzie, Editor of the American Physiological Society Advances in Physiology Education journal, to serve an additional three-year term as Associate Editor.

Dr. Lisa M. Harrison-Bernard served as a Mentor for the Speed Mentoring for Career Development Virtual Event supported by Faculty Affairs of the School of Medicine.

Publications

Bazan HA, Giles B, Bhattacharjee S, **Edwards S**, Bazan NG. A non-toxic analgesic elicits cell specific genomic and epigenomic modulation by targeting the periaqueductal gray brain region. **Neurobiology of Pain**. 2025 18:100192.

Gallivan, KM, Ondrak, KS, Danow, DM, Luo, M, Taylor, CM, Meyer, LE, Byerley, AM, Nguyen, AW, Chatterjee, S, Adamec, J, **Byerley, LO**. Dietary Protein's Effect on the Gut Microbiome and its Metabolites: Protocol Description and Recruitment Efforts for a Remote Randomized Controlled Trial. Published online by Cambridge University Press: 08 August 2025, pp. 1-34

Herrera, M., & **Byerley, L. O.** Dietary Nitrogen and Its Role in the Gut Microbiome and Inflammatory Bowel Disease: A Narrative Review. **Nutrients,** *17*(14), 2373. 10.3390/nu17142373.

Rodríguez-Graciani KM, Molina PE, Simon L. Alcohol-Mediated Skeletal Muscle Adaptations and Their Impact on Comorbidities. **American Journal of Pathology.** S0002-9440(25)00243-3. doi: 10.1016/j.ajpath.2025.05.025.

Simon L, Couvillion KE, Donovan ME, Gallegos EM, Souza-Smith FM, Molina PE. Physiological Mechanisms Vulnerable to Alcohol-Induced Alterations: Role in Chronic Comorbidities. **Comprehensive Physiology.** 2025 Oct;15(5): e70057. doi: 10.1002/cph4.70057.

Zaparte, A., Lammons, J.W., Taylor, C.M., Luo, M., Lin, H.Y., **Siggins, R.W.**, **Molina, P.E.** Welsh, D.A., 2025. Sex specific gut bacterial community structure: implications for frailty risk in people with HIV. GeroScience, pp.1-19.

Presentations

Dr. Lauri Byerley presented at the American Chemical Society's Annual Fall meeting in Washington, DC: Impact of Plant vs. Animal Proteins on the Gut Microbiome.

Notable Events

Stephanie Lee was granted United States citizenship for being a stellar MD/PhD trainees and good steward of NIH funding.

The Mental Hygienists Fantasy Football League is off to a fast start, led by Dr. Danielle Levitt (*First and Titin*) and Dr. Jessi Cucinello-Ragland (*Dynorphin Dude*) with matching 5-2 records. Be on the lookout for your invitation to pick your favorite countries in the Winter Physiolympics Office Pool in February.