

IPHY Department Newsletter



Integrative Physiology

UNIVERSITY OF COLORADO **BOULDER**

Inside this issue:

- Highlighted news
- Faculty & student news
- Faculty & student awards
- Department publications
- Donor recognition

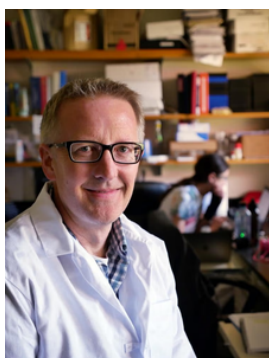
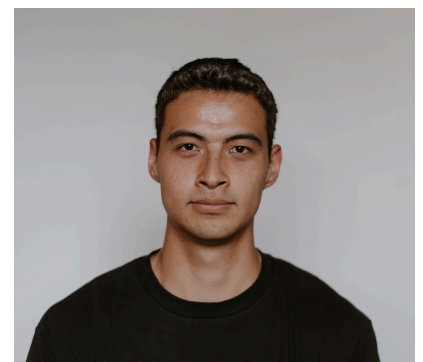
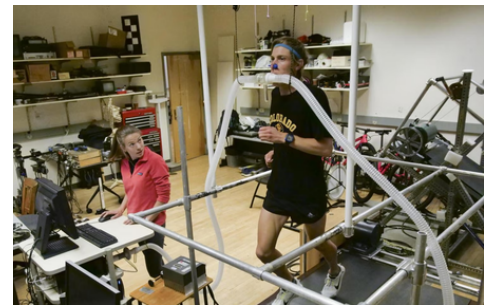
Highlighted News

Rodger Kram (Associate Professor Emeritus, CU Boulder IPHY) featured in *CU Boulder* article on his research with the Nike Zoom Vaporfly 4% to test how fast the now-famous shoe really was. Read more [here](#).

Luke Desmond (Ph.D., graduate student in the Lowry Lab) Multiple Press Releases for research regarding a vaccine for obesity resulted in publications and press releases at major news outlets around the world, including but not limited to:

Australian Broadcasting Company: The Radio National Hour with Clare O'Halloran, [New York Times](#), [The Daily Mail \(UK\)](#), [Fox News New York](#), [VOI](#), Denver 7 ABC: interview with Nicole Brady, [Science Blog](#), [New York Post](#), [Nutrition Insight](#) (The Netherlands), SaberVivir (Chile): written questions from Diego Ibáñez, KUNC Radio, [CU Boulder Today](#)

Read more about the research in the Lowry lab [here](#) through an article written by Luke Desmond.



Kioga Inc., a CU Boulder spinout launched with help from CU Ventures in January 2025, is based on work arising from the labs of **Christopher Lowry (IPHY)** and Noah Fierer (Ecology and Evolutionary Biology). Kioga is discovering and commercializing new dietary ingredients to "vaccinate" consumers against stress and metabolic disorders by targeting brain and body inflammation. Learn more about Kioga [here](#).

Highlighted News cont.

South Africa global seminar students took a three-week study abroad course titled IPHY 4041: Global Health and Disease in Durban, South Africa which explored topics such as public health, culture and community through lectures, excursions, and hands-on field experience.

Read more about the experience [here](#) by an article written by **Trinity Wynn**.



Bri Astorino (Seals Lab-MS), **Joshua Holzer** (DeSouza Lab-undergrad), and **Felix Kuzminsky** (Seals Lab-undergrad) represented IPHY at the Mars Desert Research Station as part of the Medicine in Space and Surface Environments course, hosted by the Aerospace Department (ASEN 5226). Through this course, they earned Wilderness First Aid certification and learned from expert wilderness medicine physicians from Denver Health and CU Anschutz while applying our first aid knowledge in an analog space environment.

Throughout the week, the students learned from lectures hosted by guest experts in their fields, including ultrasound techniques, search & rescue strategies, mass casualty triaging & treating, & women's health in space.



Faculty News

Jia Shi (Associate Teaching Professor, CU Boulder IPHY), **Nicole Stob** (Assistant Teaching Professor, CU Boulder IPHY), and **Maureen Floriano** (Assistant Teaching Professor, CU Boulder IPHY) presented a poster entitled “Student Success in the IPHY Internship for Credit Program” at the Student Success Conference, CU Boulder.

Two IPHY posters were presented at the recent Office of Undergraduate Education’s Student Success Conference:

Casagrand J, Heisler R (2025). IPHY 3020: A course to help students prepare for life after graduation, Student Success Symposium, CU Boulder.

Foley T, Casagrand J (2025). Designing a Three-Year Student Learning Assessment Plan for Integrative Physiology, Student Success Symposium, CU Boulder.

Articles by our faculty:

“Colorado is tackling air pollution in vulnerable neighborhoods by regulating 5 air toxics” by **Jenni Shearston** published in *The Conversation*. Read her article [here!](#)

Faculty Awards

Matt Olm selected to receive a pilot grant award from the **Colorado Nutrition Obesity Research Center (NORC)** at Anschutz. This is for his project titled “*Quantifying the Impact of First Foods on the Infant Gut Microbiota and Immune Health*”.

Amrita George (a professional research assistant in the Opp lab) won the Individual Achievement Green Labs Award this year!

Student News

Xavier Cisneros (Honors Candidate in IPHY) successfully completed his Latin honors defense April 7, 2025, titled “*Effects of M. vaccae NCTC 11659 on cell activation and rates of phagocytosis in naïve and LPS-challenged microglia*”.

John Sterrett successfully defended his PhD Dissertation April 4, 2025, titled “*Novel Multi-Omics Methods Improve Understanding of Host Microbe Crosstalk in the Mammalian Gut*”.

Student Awards

Echo Cole (Undergrad in the Lowry Lab) received the IPHY Undergraduate Research Award (\$1,000).

NeuroRecovery lab graduates first Ph.D. student: **Dr. Alysha Bogard**.

Aviva Pollet (Graduate student in the Tan Lab) was selected for a podium presentation at the International Society of Biomechanics meeting in Stockholm Sweden.

Andrew Harding (Graduate student in the Tan lab) received 3rd place for poster presentation at the Rocky Mountain ACSM meeting in Colorado Springs.

Lyanna Kessler (Ph.D. Graduate student in the Lowry Lab) awarded the “People’s Choice Award” for her presentation at Science Spotlight: Genomics & Microbiomes at the Denver Museum of Nature and Science (DMNS).

Publications

Langgartner D, Weimer K, Brunner-Weisser J, Winkler R, Mannes M, Huber-Lang M, **Sterrett J, Lowry CA**, [...] Reber SO
PAWsitive impact: How pet contact ameliorates adult inflammatory stress responses in individuals raised in an urban environment.

[Brain, Behavior, and Immunity](#)

Loupy KM, Dawud LM, Zambrano CA, Lee T, **Heinze JD, Elsayed AI, Hassell Jr JE**, [...], **Lowry CA**

Effects of oral administration of the probiotic Lactobacillus rhamnosus GG on the proteomic profiles of cerebrospinal fluid and immunoregulatory signaling in the hippocampus of adult male rats.

[Neuroimmunomodulation](#)

Parsa Ghadermazi, Matthew R Olm

Teaching right from wrong: Developing a model of early immune education

[PLoS biology](#)

Kevin O Murray, Sophia A Mahoney, Katelyn R Ludwig, Jill H Miyamoto-Ditmon, Nicholas S VanDongen, Nirad Banskota,

Allison B Herman, **Douglas R Seals**, Robert T Mankowski, **Matthew J Rossman, Zachary S Clayton**

Intermittent Supplementation With Fisetin Improves Physical Function and Decreases Cellular Senescence in Skeletal Muscle With Aging: A Comparison to Genetic Clearance of Senescent Cells and Synthetic Senolytic Approaches

[Aging Cell](#)

Mary Darrah, Sanna Darvish, Katelyn Ludwig, Krisha Avalani, Douglas Seals, Kevin Murray, Matthew Rossman

Physical Activity Is Not Associated with Enhanced Vascular Endothelial Function in Postmenopausal Women: Roles of Mitochondrial Oxidative Stress and the Circulating Milieu

[Physiology](#)

Ravinandan Venkatasubramanian, Sophia A Mahoney, David A Hutton, Nicholas S VanDongen, Vienna E Brunt, Nathan T Greenberg, Abigail G Longtine, [...] **Matthew J Rossman, Douglas R Seals, Zachary S Clayton**

Cellular Senescence Mediates Doxorubicin Chemotherapy-Induced Vascular Endothelial Dysfunction: Translational Evidence of Prevention with Senolytic Treatment

[bioRxiv](#)

Katherine R Giordano, Tabitha RF Green, Mark R Opp, Rachel K Rowe

Microglial depletion and repopulation differentially modulate sleep and inflammation in a mouse model of traumatic brain injury

[Neurobiology of Sleep and Circadian Rhythms](#)

Grant S Mannino, Christian R Baumann, Mark R Opp, Rachel K Rowe

Sleep Fragmentation as a Diagnostic Biomarker of Traumatic Brain Injury

[Neurotrauma Reports](#)

Dana Withrow, Kate Sprecher, Antonio Gonzalez, **Finn Livingston, Ellis Noteboom, Tina Burke**, Christopher M Depner, **Monika Fleshner, Christopher Lowry**, Fred Turek, Martha Vitaterna, Pieter Dorrestein, Rob Knight, **Kenneth Wright**

0412 Better Objective Sleep in Healthy Adults Is Marked by Increased Bifidobacterium Breve and Saguini

[Sleep](#)

Andrew M Lombardi, Mina Griffioen, Helen Wong, **Ryan Milstead**, Curtis Borski, **Erin Shiely, Myra E Bower, Emily Schmitt**, Lauren LaPlante, **Marissa A Ehringer, Jerry Stitzel, Charles A Hoeffler**

AKT2 Modulates Astrocytic Nicotine Responses In Vivo

[Glia](#)

View more IPHY publications from 2025 [here!](#)

Thank you to our donors!



Integrative Physiology Department Fund:

- Schwab Charitable Fund
- Teresa Foley
- Ruth Heisler
- Christopher Link
- Russell Moore
- William Byrnes
- Shalita Antebi
- Kelsey Murphy
- Elizabeth Li
- DAF Giving 360

Physical Therapy Department Fund:

- Mary Lau-Miki
- Sharla Rountree
- Karen Fitzpatrick

Integrative Physiology Research Opportunities Fund:

- Roger Enoka
- Steven Hobbs
- Kenneth Wright
- Janet Casagrand

Integrative Physiology Events and Entertainment Fund:

- Marissa Ehringer
- Christopher Lowry
- Douglas Seals
- Christopher Link

Novel Therapeutic Approaches to Treatment of Anxiety and Depression (Lowry Lab):

- Impact Assets Inc.

Applied Biomechanics Lab (Grabowski Lab):

- Kengo Sugimoto
- Āssur

Reproductive Endocrinology Lab (Tsai Lab):

- Pei-San Tsai