

News Release

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TTUHSC's Graduate School of Biomedical Sciences Hosts 36th Student Research Week

Maintaining a delicate balance between neural excitation and inhibition are keys to healthy cognition and behavior. That message was delivered and demonstrated by students scientists Feb. 28-March 1 when the Texas Tech University Health Sciences Center (TTUHSC) Graduate School of Biomedical Sciences hosted its 36th Annual Student Research Week.

Student Research Week allows TTUHSC student investigators to showcase their work and hear presentations from distinguished national speakers related to the year's specific theme. The theme for 2024 was, "Brain Wars: May the Neurons Be With You." Graduate School of Biomedical Sciences students Praneetha Panthagani and Neha Sawant served as co-executive directors for the 2024 event. Other 2024 officers included Robert Barnes (vice director of poster competition), Manikantha Dunna (vice director of operations) and Megan Skains (vice director of marketing).

Unlike the past several years when the pandemic forced the introduction of virtual presentations, the 2024 event was held entirely in person. Panthagani said the committee also implemented several changes to the format used for Student Research Week in previous years.

"We had a relatively larger committee, which helped us distribute the workload and responsibilities more effectively, resulting in a smoother and less stressful organizing process," Panthagani said. "Additionally, we introduced an unjudged poster session where students were allowed to present their work without the pressure of evaluation, giving them a taste of a conference-like atmosphere."

A functional nervous system relies on two essential forces: excitation and inhibition. Keeping these in balance is very critical for our mental and physical health, and any deviation from this state of balance can potentially lead to a disease or disorder. Panthagani said TTUHSC students study a variety of disorders related to brain excitation and inhibition, such as pain, Alcohol Use Disorder and Alzheimer's disease and others.

"Brain Wars also resembles an arena where students from different subjects compete in a friendly way," Panthagani explained. "This helps them learn from each other's ideas and skills while encouraging collaboration and showing how research in biology can involve many different perspectives."

Student Research Week 2024 featured three keynote speakers, each described by Panthagani as trailblazers in their respective fields of research. The trio included George Koob, Ph.D., a director of the National Institute of Alcohol Abuse and Alcoholism whose allostatic model of addiction has established the doctrine for the field. His research has deepened the understanding of the effects alcohol and drug addiction have on the brain, including the neuroadaptations that lead to the development of dependence.

Other keynote speakers included George Perry, Ph.D., a professor of biology and chemistry at the University of Texas at San Antonio, and Allan Basbaum, Ph.D., a professor and chair in the Department of Anatomy at the University of California, San Francisco. Perry's groundbreaking work on the role of oxidative stress in Alzheimer's disease has fundamentally reshaped the understanding of this devastating condition. Basbaum's research includes the study of central and peripheral mechanisms that process pain and itch messages; researching the molecular mechanisms that contribute to chronic pain after tissue and nerve injury; and using calcium imaging to investigate the mechanism of action of general anesthetics.

A highlight of every Student Research Week is the annual poster competition, and there were more than 260 entries for the 2024 contest. Panthagani said the variety of research, the thoroughness of the statistical analysis and the creativity used in figure design rivals that of any international conference she and her Student Research Week leadership team have attended.

As a new feature for 2024, the Student Research Committee provided an opportunity for student researchers to present a "Lightning Talk" between keynote speaker sessions. Barnes said 49 students applied to be a Lightning Talk presenter and eight were ultimately selected. In addition, more than 96% of those who submitted abstracts in 2024 also presented their research in person, a vast improvement over the last several years when approximately 15% to 18% of abstracts also presented in person.

"From case reports of patients with diseases so rare that they aren't included in medical school curriculum to graduate research being conducted at the cutting edge of their fields, we are amazed every year at the quality of research presented at Student Research Week," Barnes added.

2024 Student Research Week Poster Competition Award Winners

Lorenz O. Lutherer, M.D., Ph.D., Clinical Research Award
Taha Hassan

Undergraduate Division (Sponsored by CISER):

1st Place: Jocelyn Medina

2nd Place: Jordan Sanchez

Clinical/Human Category I

1st Place: Madison Bachler

2nd Place: Vaishnavi Chiddarwar

3rd Place: Ananya Potu

Clinical/Human Category II

1st Place: Caroline Finney

2nd Place: Sai Pranathi Bingi

3rd Place: Katherine Lakey

Bench/Basic Research I

1st Place: Skyler Tran

2nd Place: Harry May

3rd Place: Manikantha Dunna

Bench/Basic Research II

1st Place: Flavia Sardela de Miranda

2nd Place: Syed Tareq

3rd Place: Yash Mehta