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# FROM THE DESK OF THE UNDERGRADUATE ADVISOR OF RECORD (UGAR) - DR. WILLIAM RAMOS



Bachelor's of Science  
**Neuroscience**

I am excited to announce a small change to the BS in Biology degree plan. The CMB (Cell and Molecular Biology) concentration will change its focus to a DRS (Developmental and Regenerative Sciences) concentration beginning Fall 2024.

For those interested in learning more, please email me at [william.ramos@utsa.edu](mailto:william.ramos@utsa.edu)



## Concentration In Developmental and Regenerative Sciences

The coursework within the Concentration in Developmental and Regenerative Sciences must be completed with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in NDRB 4923 Laboratory Research as part of their program of study.

All candidates for the Concentration in Developmental and Regenerative Sciences must complete the following:

Required:	8
NDRB 4132	Developmental Biology Laboratory
NDRB 4143	Developmental Biology
NDRB 3913	Molecular Biology

Go Runners!  
William Ramos, Ph.D.

# GRADUATE SCHOOL EVENTS



Graduate Student Appreciation Week is April 3-7. Students are encouraged to showcase their scholarly work or research in the 3MT (3 Minute Thesis) competition. Winners will receive a cash prize!

Information on all events and registration links can be found [here](#):



## Ryn Whitehorn



### Major: Neuroscience

#### About Ryn

Ryn Whitehorn is currently a sophomore majoring in neuroscience and minoring in psychology. Ryn is currently working in a neurology office running EEG assessments and biofeedback treatments. In the future, Ryn plans on pursuing research based neuroscience to make a difference in the treatment of traumatic brain injuries.

#### Q: Why did you choose Neuroscience as your major?

I chose neuroscience as my major because it is what I see myself doing in the future. I plan on doing research concerning traumatic brain injury. Neurology has always fascinated me as I enjoy how complicated and dynamic the mechanics of the brain are.

#### Q: What is your dream job?

Professionally, my goal is to become a neuroscience researcher in fields pertaining to chronic traumatic encephalopathy (CTE), traumatic brain injury (TBI), and other neurodegenerative diseases. By focusing on these areas of research, I hope to make meaningful strides in finding results that can help treat, or even cure, the many individuals who suffer every day because of their disease.

#### Q: Why did you choose UTSA?

UTSA was a university where I could major in neuroscience while also minoring in psychology, which are both my fields of interest. In addition, it is close to home which enables me to be a commuting student.

#### Q: Any favorite exchanges/interactions with faculty?

My favorite professor so far has had to be Professor Minnigh. He was my professor for cognitive psychology and he just made the class super enjoyable.

#### Q: What has been your favorite class at UTSA and why?

My favorite class at UTSA so far has had to be my cognitive psychology class (PSY 2563) because it was something I already had background knowledge of, and was interested in learning about, and my professor also just made his lectures fun and entertaining. If I could retake that class, I 100% would.

#### Q: What advice would you give to the incoming new students?

Do not slack off when it comes to assignments/homework, they may seem easy or like they're just busy work, but they add up in the future and if you fall behind it'll be very difficult to catch back up to where you need to be.

## Kaitlin Gahagan

#### Q: Any favorite exchanges/interactions with faculty?

Fall of 2022 was my first semester at UTSA, and my genetics professor, Mr. Wierzchka, was absolutely amazing! In addition, this current spring semester, I have Ms. Roberts for calculus for biosciences and she is so amazing as well. Both professors are very kind and genuinely care about their students' success in their classes.

#### Q: Tell us a fun fact about yourself.

I love reading, painting, and playing soccer, and I have three Guinea pigs! Their names are Leo, Nala, and Marley! I love my fur babies.

#### About Kaitlin

Kaitlin Gahagan is currently a junior majoring in Pre Medical Neuroscience with a minor in Spanish, with the goal of attending medical school.



### Concentration: Pre-Medical Neuroscience

#### Q: Why did you choose UTSA?

I chose UTSA for the Neuroscience program, along with the beautiful campus. I actually transferred to UTSA this past fall, however, I remember about a year ago when I came to San Antonio and visited UTSA, I immediately felt as if this is where I was supposed to be.

#### Q: Why did you choose Neuroscience?

I chose neuroscience for the purpose of wanting to learn and understand the human brain, in addition to hopefully one day comprehending the unknown complexities and questions that still persist. For as long as I could remember, I knew I wanted to pursue a career in the medical field, therefore, once I came across the Neuroscience major, I immediately knew that this was the major I wanted to move forward with.



## Corrin Salesky



**Major: Neuroscience**

### About Corrin

Corrin is from New Jersey and is currently a part of the campus organization YDSA [Young Democratic Socialists of America]. She likes to run and read and adores art and language. Corrin is currently learning Russian and Spanish.

### Q: What was your favorite class at UTSA and why?

Intro to Neuroscience has been my favorite class here at UTSA so far. Every lecture I've been reminded just how much I love this field. Above everything, it's taught me that we really don't know much of anything at all, and this notion has kindled the drive to remain curious and to persist in my studies.

### Q: What campus resources do you find helpful and why?

Honestly, I think clubs and groups are the best resource, anything that can connect you to your peers and staff. I also would say the PEACE Center and Wellness Center helped me a lot in navigating UTSA as a non-traditional student.

### Q: Why did you choose Neuroscience?

The brain holds your entire self—both conscious and unconscious. Like an ocean, it's extremely vast and esoteric, and our conceptualization of the brain is very limited. Neuroscience is at the core of every discipline, from technology to medicine to the arts. I believe taking initiative to explore the mind is the key to understanding oneself and all we entail, and I'm honored to be a part of this research.

### Q: What advice would you give to the incoming new students?

Pave your own path & invest time into yourself. There is wisdom and inspiration in everything if you pay attention. Appreciate and learn from everyone, even those that oppose you. Pace yourself and remember you are human too and that rest is necessary.

# COS STUDENT SUCCESS CENTER



The College of Sciences Student Success Center (COS SSC) is a comprehensive resource center which supports transfer, first-year, sophomore, junior and senior students. The COS SSC provides mentoring for all COS undergraduate students to help future scientists develop their scientific identity.

Student mentors discuss things like academic success, campus connection, and overall well-being with mentees. The center has a variety of study spaces with whiteboards and academic materials for use by students.

Visit the SSC at FLN 2.03.02. The SSC is open Monday through Friday, 8 am-5 pm. Email COS SSC at: [cos.success@utsa.edu](mailto:cos.success@utsa.edu) or call 210-458-3702. Follow the SSC on Instagram @cos.success and check out their website at: <https://www.utsa.edu/sciences/student-success/>.

# GRFP GRANT RECIPIENT

The purpose of the NSF Graduate Research Fellowship Program (GRFP) is to ensure the quality, vitality, and diversity of the scientific and engineering workforce of the United States. GRFP seeks to broaden participation in science and engineering of underrepresented groups, including women, minorities, persons with disabilities, and veterans.

## Q: What does receiving the GRFP grant mean to you?

Being awarded this fellowship represents an acknowledgement of the hard work and research I have participated in throughout my undergraduate career. It also serves as recognition of my potential as not only a graduate student, but also a future scientist in the field of structural biology. The NSF Graduate Research Fellowship would serve as a steppingstone for my graduate career and enable me to fulfill my goal of being mentor for other underrepresented students.

## Q: What does your senior research project entail?

I am currently a member of Dr. Lindsey Macpherson's Lab, and I am currently working on my undergraduate thesis project investigating the molecular interactions between bitter taste receptors and G Proteins for the development of potent bitter inhibitors.

## Q: What made you choose Scripps Research to pursue your PHD this coming fall?

In Summer 2022, I participated in the Summer Undergraduate Research Fellowship (SURF) Program at Scripps Research in California. After my successful summer research experience, I am motivated to return to the Skaggs Graduate School at Scripps Research to pursue my PhD in Biophysics (Structural Biology). Along with access to cutting edge research and technology, Scripps had a highly collaborative environment where I knew I could thrive not only as a graduate student but as a scientist.

## Q: Who has influenced you the most at UTSA to get to where you are now?

The person who has influenced me most at UTSA is my PI, Dr. Lindsey Macpherson! She has offered unwavering support and guidance through my journey as an undergraduate researcher. I joined her lab in Fall 2019, and she has helped me through the "ups and downs" of every project, application, everything! I am truly grateful to have a mentor like her. Through the years, she has continuously encouraged me to apply to different opportunities such as research programs, scholarships, and awards like the Barry Goldwater Scholarship (awarded in 2022) and the NSF GRFP.

## Q: What advice would you give to rising researchers?

Be willing to explore something new! Don't be afraid to try new things! You may be surprised where you might end up! While my introduction to research began with the cell and neurobiology of taste, I have landed in the realm of structural biology after exploring different fields. This was only possible by trying out different labs at different institutions. My diverse research experiences have provided me with a large array of skills in my scientific toolbox, as well as the confidence to pursue a PhD.



**Samantha Oviedo**



# Internationally recognized UTSA researcher studies complex contributors of Alzheimer's disease



**“I think all the disease-related proteins we study in neurodegenerative diseases are how you maintain successful aging.”**

**Dr. George Perry**

Amyloid plaques are believed to be the critical driver of Alzheimer's disease. To date, Alzheimer's research has primarily focused on amyloid development in and around the brain. The build-up of the protein is consistent with the onset and progression of Alzheimer's, and many researchers believe the plaque prevent brain cells from properly functioning. But UTSA researcher George Perry doesn't buy it. “Being correlated and being causative are not the same thing,” said Perry, UTSA's Semmes Foundation Distinguished University Chair in Neurobiology. “Instead, many who study Alzheimer's have confused causality with association.”

[Read the full article here](#)



[Find out more about his research](#)



# BRAIN HEALTH CONSORTIUM

## BRAIN HEALTH CONSORTIUM EXPANDS TRANSDISCIPLINARY RESEARCH WITH MERGER OF RESEARCH INSTITUTES AT UTSA

UTSA's Brain Health Consortium (BHC) is expanding and strengthening its transdisciplinary research programs via a merger with the UTSA Neuroscience Institute and the university's Bank of America Child and Adolescent Policy and Research Institute (BOA-CAPRI). The BHC now has representation from five affiliated academic colleges—Sciences (COS), Engineering and Integrated Design, Education and Human Development, Liberal and Fine Arts, and Health, Community and Policy (HCAP)—enabling the consortium to broaden its collaborative community of scientists applying their discoveries to prevent and treat neurological disorders, and seek new avenues for funding opportunities.



**“We want to encourage further collaboration across all fields, to address complex brain health challenges with new methodologies and approaches from a multi-faceted transdisciplinary approach.”**

[Read the article here](#)





# BSB FIRST FLOOR LOUNGE



**Painted by Anastasia Magaña**

inspiration taken from Correa Art, an artist on youtube.

During the Christmas break, our very own work study student assistant, Anastasia Magaña, was inspired to promote beauty to our building by using her artistic abilities to create a painting in the Biosciences Building here at UTSA. Anastasia is a senior Biology major and plays Women's Club Rugby at UTSA. In her free time when she's not at practice or studying she's creating art. Inspired by her love of nature, she went on an assignment to create a space to provide a quiet environment for the use of our faculty and students.

"During the process of the painting, there were a few struggles and different techniques I had to learn," Said Magaña. "But in the end, I came out with something I am proud to call mine and show others. This is the largest project I have ever done and I had fun doing it." Her piece is dedicated to her friend Esteban.

# DIA EN LA SOMBRILLA

Friday, April 21

11:00 am - 3:00 pm

Main Campus - Sombrilla Plaza and  
Central Plaza



Día en la Sombrilla, formerly Fiesta UTSA, is a festival hosted each spring as a part of Fiesta® San Antonio events. Sponsored by Roadrunner Productions, the event features music, food, confetti, games, event t-shirts, and more. The primary focus of Día en la Sombrilla remains to create a space for student organizations to raise funds by selling food and drinks, host games, and providing services.

## NMA AT DIA EN LA SOMBRILLA



Look out for NMA at Dia en la Sombrilla! They will be selling popcorn at their booth. Please come out and support!





# VIVA FIESTA!

Thursday, Apr 20, 2023 - Sunday, Apr 30, 2023

Here's a quick look at 20 years of UTSA's Fiesta medals!  
 Courtesy of Mrs. Wanda Guntz!



2002



2003



2004



2005



2006

**Bonus Medal:**  
 Biology  
 Department  
 Fundraiser



2007



2008



2009



2010



2011



2018



2012



2013



2014



2015



2016



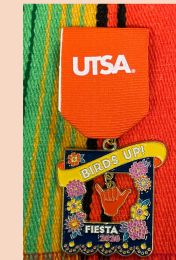
2017



2018



2019



2020



\*2022

\*2021 medal not designed due to COVID-19 pandemic\*



# NDRB & BHC at Viva Science SA - 2023



**A big thank you to all those who came out to volunteer and participate in our Viva Science SA event!**

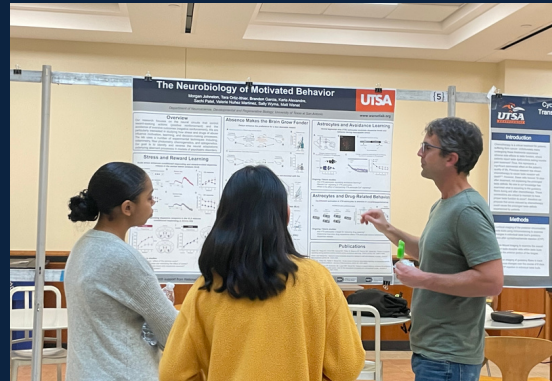
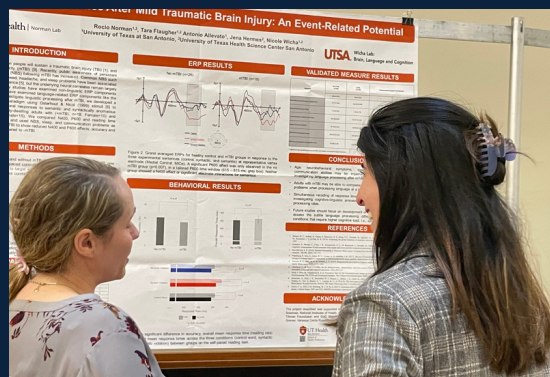
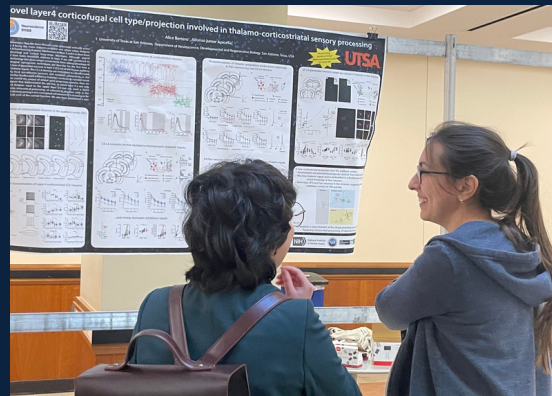
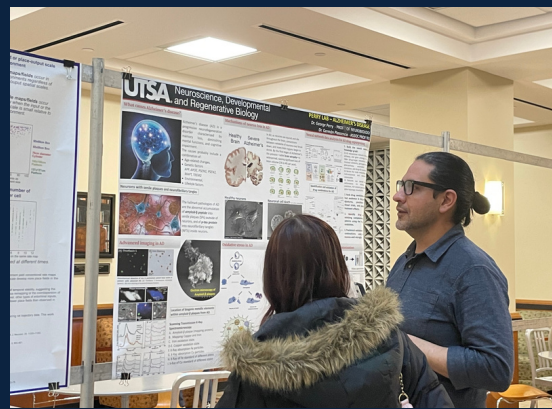
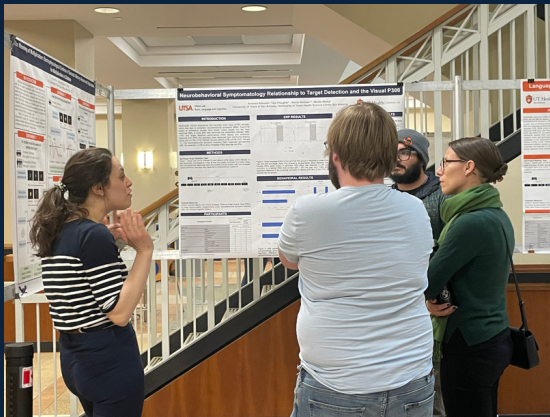
**NDRB Table: Tara Flaughter Ph.D. student, Antonio Allevato Ph.D. student**

**Brain Health Consortium table: Courtney McMahon Post-Doc, Uchit Bhaskar Ph.D., Brandon Alarcon Research Assistant.**



# NDRB POSTER SHOWCASE

A few pictures from our NDRB Poster Showcase presented as a part of our PhD student recruitment cycle!



# NDRB UTSA DAY

Thank you to all the parents and future Roadrunners who visited our table during UTSA Day, February 18th. Thank you to our student workers who assisted the department for UTSA Day. Can't wait to see you all again at the next UTSA Day, April 15th!





# SUMMER 2023 COURSE FLYERS

Summer 2023 registration is now open!  
**Check out some of the courses  
we are offering!**

**Summer 2023**

## **Neurobiology Laboratory**

Instructor: Dr. Michael Hanna  
[Michael.Hanna@utsa.edu](mailto:Michael.Hanna@utsa.edu)

**Register via ASAP: NDRB 3442**

### **Class Meeting Times:**

Tues and Thurs  
9:00AM-12:00 PM or  
1:00PM-4:00PM

The Neurobiology Laboratory course is concentrated on basic neuroanatomy, investigative means of neuronal signaling via the passive membrane and the action potential, as well as sensory systems and learning and memory systems. It is intended to reinforce concepts taught in the lecture class as well as means of data collection, simple analysis and verbal and written reporting of results. Using computer simulations we investigate conditions that influence action potentials including changing intra and extracellular ion concentrations, adding leaky channels, Na<sup>+</sup>/K<sup>+</sup> pumps and myelin. Using an electrophysiological set up spontaneous action potentials are recorded in crustacean neurons via extracellular recordings. Secondly, we apply current pulses to alter action potential activity. These activities are further applied by students examining the waveform characteristics of these action potentials using standard intracellular recording techniques. Students also design independent experiments to investigate how certain drugs and chemicals effect action potentials. The learning and memory components involve understanding the tri-synaptic circuit of fibers, the differences between explicit and implicit memory, features of memory including encoding and consolidation, the importance of rehearsal & priming, and the influence of interference.

Instructor: Dr. Michael Hanna  
[Michael.Hanna@utsa.edu](mailto:Michael.Hanna@utsa.edu)



Prerequisites: NDRB 2113 and completion of or concurrent enrollment in NDRB 3433.

**UTSA** Neuroscience, Developmental  
and Regenerative Biology

# FALL 2023 COURSE FLYERS

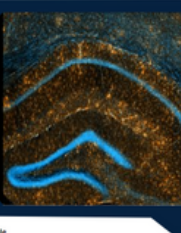
Fall 2023 registration opens on April 3, 2023. Click [here](#) to see when your registration date is.

**Check out some of the courses we are offering!**

**Fall 2023**  
**Biology of Alzheimer's Disease**

Register via ASAP: NDRB 7041

**Class Meeting Times:**  
**Wednesday**  
**1:00-1:50PM**



The Biology of Alzheimer's Disease is an advanced graduate-level course focusing on current research related to the biology of Alzheimer's disease.

Throughout the course, students will gain a deep understanding of the neuropathology of Alzheimer's disease, including the formation and accumulation of amyloid plaques and neurofibrillary tangles in the brain. They will also learn about the role of inflammation, oxidative stress, and mitochondrial dysfunction in the development and progression of the disease, as well as the genetic and environmental risk factors that contribute to its development. In addition, students will be introduced to cutting-edge research in the field, including studies that focus on the potential of new therapies to treat this debilitating condition.

The **main focus** of this course is to provide students with the skills and knowledge necessary to critically evaluate and discuss scientific research related to Alzheimer's disease. To achieve this goal, students will be expected to read and analyze primary research articles, participate in group discussions, and present their findings to the class. By the end of the course, students will have gained a thorough understanding of the biology of Alzheimer's disease and will be well-prepared to critically evaluate and contribute to the latest scientific literature in the field.

Instructor: Dr. Hyoung-gon Lee  
 hyoung-gon.lee@utsa.edu

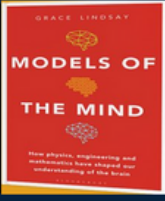
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**Fall 2023**  
**Computational Neuroscience**

Instructor: Dr. Todd Troyer  
 todd.troyer@utsa.edu

Register via ASAP: NDRB 5483/NDRB 4783

**Class Meeting Times:**  
 MW  
 2:30-3:45pm



**Models of the Mind: How Physics, Engineering, and Mathematics have shaped our understanding of the brain**

An introduction to foundational ideas and classical models of how the brain works. Some of these also serve as the inspiration for algorithms in artificial intelligence and machine learning. Students will get hands on experience with running these models to understand how they relate to the biology of actual brains and what they say about brain function.

**Grad/Undergrad credit** - students complete an independent project for graduate credit (NDRB 5483) - the project is optional for undergraduates (NDRB 4783).

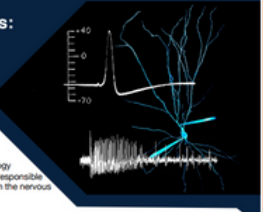
**Prerequisites:** Some math (e.g., MAT 1190 - calculus for biosciences), basic programming (e.g., CS 1173 - math lab-based data analysis), and Neuroscience (e.g., NDRB 2113 - Introduction to Neuroscience) are recommended but not required. The field of Neuroscience is inherently interdisciplinary and the course is flexibly designed. Motivated students with weaknesses in their backgrounds can succeed as long as they are willing to work with the instructor to gain supplemental knowledge.

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**Fall 2023**  
**Neurophysiology**

Register via ASAP: NDRB 5453

**Class Meeting Times:**  
 MW  
 8:30-9:45 AM



How do neurons work? How are neural signals transmitted and processed?

In this course we will examine the physiology of neurons and synapses, the basic units responsible for communication and computation within the nervous system.

Our course takes a quantitative approach to the fundamentals of neurophysiology. Topics include: principles of current flow, the ionic and biophysical principles underlying the resting potential of neurons, receptor and synaptic potential generation, biophysical basis and conduction of action potentials, synaptic integration, and mechanisms of electrical and chemical synaptic transmission. Students will also have the opportunity to learn about, short- and long-term forms of synaptic plasticity, forms of synaptic integration, simple neural circuits, and state-of-the-art electrophysiology approaches.

Instructor: Dr. David Jaffe  
 david.jaffe@utsa.edu

Prerequisites: NDRB 3433 or equivalent

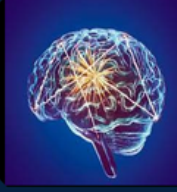
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**Fall 2023**  
**Brain Diseases**

Dr. Truman Gamblin

Register via ASAP: NDRB 3463

**Class Meeting Times:**  
 MWF 9:00-9:50AM



There is a great deal of mis-understanding of brain diseases in society today, and it is the goal of the course to provide students with a deeper understanding of these diseases. The course covers developmental diseases including Down syndrome, attention deficit and hyperactivity disorder, autism spectrum disorders; psychiatric disorders such as schizophrenia, anxiety, and depression; and neurodegenerative disorders such as Alzheimer's disease and Parkinson's disease. Students will learn how certain brain diseases are defined, what is known about their underlying molecular mechanisms, any potential treatments for the diseases, and ongoing and future directions of research. No textbook is required for the course, all course materials will be provided for students online.

Prerequisite: NDRB 3433


**UTSA** Neuroscience, Developmental and Regenerative Biology

**Fall 2023**  
**Systems Neuroscience**

Instructor: Dr. Fidel Santamaria  
 Fidel.santamaria@utsa.edu

Register via ASAP: NDRB 5433

**Class Meeting Times:**  
 Tuesday and Thursday  
 10:00-11:15 AM



This course is targeted for people interested in:

- Neuroscience
- Cognitive sciences
- Medical professional degrees
- AI/ML researchers that want a formal introduction of how the brain works

The course covers the fundamental mechanisms of brain function, from synapses, networks, systems, biochemical, and developmental. We also study learning and memory, neuronal disorders, and higher cognitive processes.

**UNDERGRADUATE STUDENTS:**  
 Dr. Santamaria will consider highly motivated students, particularly, but not limited, from Neuroscience and Biology Majors.

- Check One Stop for application form and requirements

Prerequisites: CnCKC catalog or consent of instructor.

**UTSA** Neuroscience, Developmental and Regenerative Biology



# WE'RE HIRING

# NDRB

## OPEN POSITIONS :

- FOR UNDERGRADS
  - READER/GRADERS
  - TEACHING AIDES
- FOR GRAD STUDENTS
  - TEACHING ASSISTANTS

APPLY NOW



**UTSA** Neuroscience, Developmental and Regenerative Biology  
College of Sciences



Contact us:

✉ [NDRB@utsa.edu](mailto:NDRB@utsa.edu)

☎ +1 210-458-8411

📍 BSE Suite 2.304

# CHEW ON THIS

DR. JENNY HSEIH



Thank you to all who stopped by and engaged with our department chair's event where she discussed why drugs tested in mice fail in human clinical trials and alternatives to the mouse models.

Stay tuned for more Chew on This from our department chair and other faculty.





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# SAVE THE DATE

Departmental  
Retreat

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LOCATED AT THE UTSA  
SOUTHWEST CAMPUS DT

**JUNE 2ND, 2023**

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# Our Department Website



## Contact Us!

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