

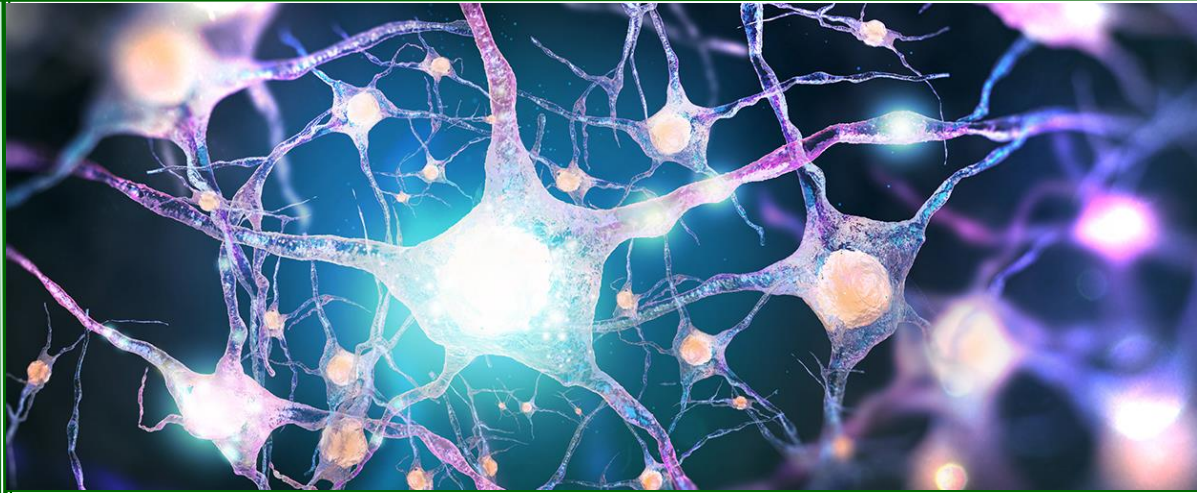
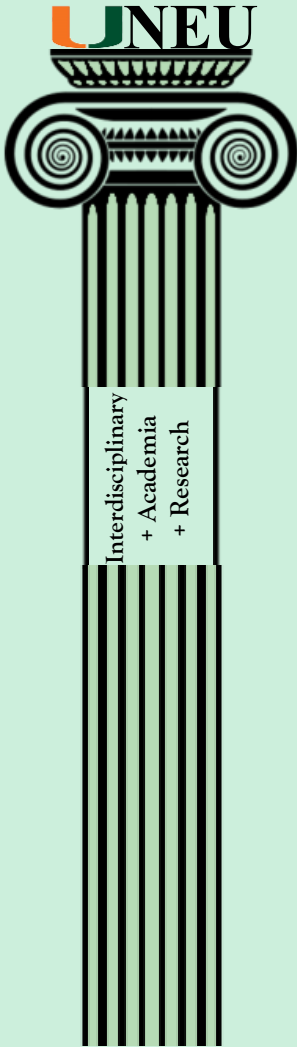
neuro scientia

A Newsletter for UM Neuroscience Undergraduate Students and Alumni

University of Miami

from the Office of Neuroscience Advising

Fall 2025



Welcome back Neuroscience Students!

We hope you had a restful and rejuvenating summer, and we're thrilled to have you return for another exciting year of exploration and discovery in the field of neuroscience.

As you step back into the rhythm of classes, labs, and collaboration, remember that you are part of a vibrant academic community dedicated to understanding one of the most complex and fascinating systems in the universe: the human nervous system. Whether you're returning to build upon previous research, beginning new projects, or diving deeper into neuroanatomy, behavior, or computational models—this year holds countless opportunities for growth and innovation.



Dr. Helen Bramlett
Director of The Undergraduate Neuroscience Program

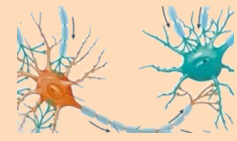
Our faculty and staff are eager to support you, challenge you, and watch you thrive as students, researchers, and future leaders in neuroscience. Take full advantage of office hours, departmental events, research opportunities, and the chance to connect with your peers—some of the best learning happens in conversations outside the classroom.

As always, stay curious, ask bold questions, and don't be afraid to step beyond your comfort zone. Science advances when we challenge what we think we know. Here's to a year of insight, discovery, and academic excellence!

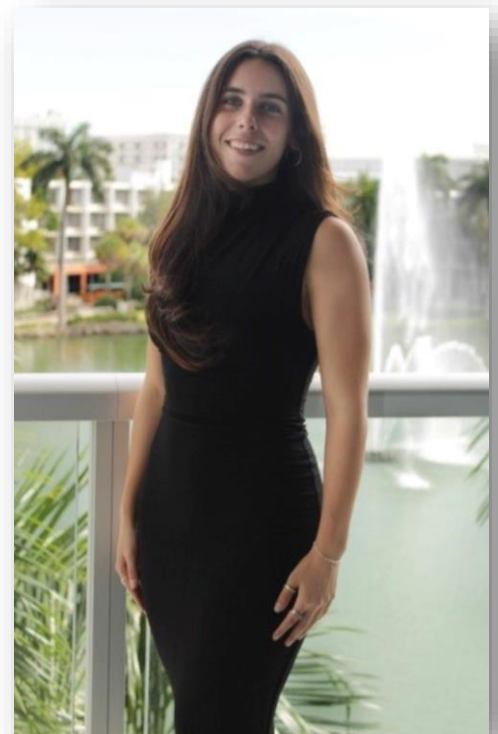


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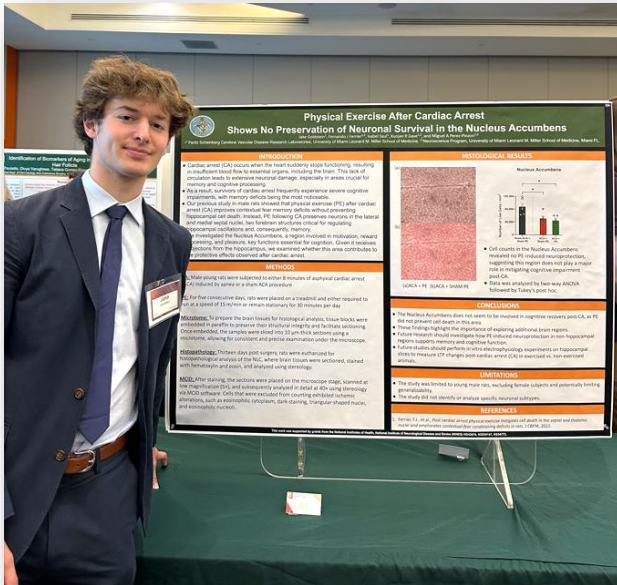
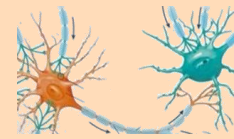
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Kayla MacElhinney, NEU Senior, is currently a research assistant at the McKnight Brain Institute working with Dr. Agudelo in his 'Aging Like a Pro' lab where she does data collection and statistical analysis, among other responsibilities. She is also a research assistant at the Sylvester Cancer Center where she supports Dr. Kobetz and Dr. Herbach with data collection, focus groups, and overall project organization. Kayla is the co-founder of EnvisionU, an undergraduate research organization. She organizes the annual research symposium providing students with a place to present and receive recognition for their hard work. She received the Leadership Award for her innovation and excellence in forming EnvisionU. Kayla also finds time to assist at the Waterview Hills Rehabilitation & Healthcare center making sure the elderly residents feel comfortable and supported. She has developed and implemented a questionnaire to improve their experience and health outcomes. She has also tutored grade-level students on several disciplines, including SAT preparation. She is the President of UConnect, research club, she is a Biology Workshop Leader, and a Dean's Ambassador and volunteers as a soccer coach. She was part of the President's 100, member of AMSA, member of Alpha Epsilon Delta, and has been on Dean's list, Provost Honor Roll and President's Honor Roll.



Sara Hooper is a dual degree student in BS Neuroscience and BA in Economics. She took part in neuromuscular research at the Neurology Department, Miller School of Medicine with Dr. Michael Benatar and Dr. Anne-Laure Grignon. Here she verified data accuracy for 3 ALS studies with over 200 participants, managed the database and investigated the disease mechanisms. Sara was also a research assistant at the Biomedical Engineering Department with Dr. Charles Huang, where she authored protocols of protein and cell analytical techniques including Western Blot and RNA Extraction for use in publication and managed the treatment of cell cultures to maintain viability for extraction and manipulation employed in intervertebral disc metabolism research. She interned at Arthrex headquarters, in Naples, Florida, where she devised a 3D printed spine model, facilitating training without the high cost of traditional cadaver. She also participated in different areas of medical product innovation and clinical education. This summer she interned at McKinsey as a Business Analyst. Last Spring she spent the semester in Rome, Italy, fulfilling her electives. She is a member of Phi Delta Epsilon (Premedical fraternity). She is the vice president of Equity and Belonging, Senior Programmer and Community Outreach Coordinator of Delta Phi Epsilon sorority and she is member of the Coconut Grove Run Club, Scuba Club, and Miami Motion Dance Team. Sara is the proud recipient of the Singer scholarship and the Benacquisto Scholarship. She is also a Foote Fellow and has been on Dean's list, Provost Honor Roll and President's Honor Roll every semester with a perfect 4.0

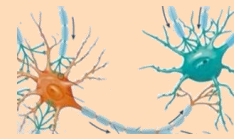


NEU Senior, **Jake Goldstein**, is currently a research assistant at the University of Miami Peritz Scheinberg Cerebral Vascular Disease Research Laboratory, also known as the Stoke Lab. He analyzes the effects of exercise on limiting neuronal death and damage after a global cerebral ischemic attack. He participates in cryostat sectioning, electrophysiological and histological analysis, as well as performing statistical analysis for the experimental design. Jake is also a Patient Care Technician at HCA Florida Kendall Hospital. He has EMT certification and has worked with the Miami-Dade Ambulance Service. This summer he was in Cleveland, Ohio as the proud recipient of the Chester Summer Scholars Program Scholarship. He was a recipient of a Time College Achievement Award from Time magazine, that prepares future medical students in medical research and academic

Medicine. Here he participated in mentored research, observed hospital rounds and surgeries, and presented research findings at program conclusion. Jake is also the founder of Strides for Strokes, a club focused on promoting the role of aerobic exercise in stroke recovery and prevention. He organizes events to raise awareness on prevention and rehabilitation and partners with the community in fostering awareness in the connection between physical activity and improved neurological outcomes. Jake also has found time to reach out to local schools in Miami and host programs to spark student interest in medical fields. Jake has been on Dean's list, Provost Honor Roll and President's Honor Roll with a 4.0 GPA.

NEU Senior, **Varun Vasireddy**, is currently a research assistant at the Miami Project to Cure Paralysis with Dr. Kerr, where he is the recipient of the Lois Pope Summer Fellowship. He is working on potential treatments for cardiopulmonary dysfunction following stroke and Alzheimer's. He is also developing a neurological score to assess behavioral and functional outcomes after a stroke, and other related research. He is also shadowing various physicians at Jackson UHealth. Last summer, Varun was the honorary recipient of the summer internship program CPRIT-CURE at Anderson Center in Houston, Texas. This is a highly competitive internship where only 10% of world-wide applicants are accepted. Here he interned at the Wang Lab investigating DNA cancer treatments and presented his findings at the Texas Medical Center poster symposium. Varun volunteers as a Neuroscience Coach for the NorthSouth Foundation where he teaches and prepares grade school students for the National Brain Bee competition. He volunteers for the Crisis Text Line, learning to manage sensitive situations, Inspire U Academy, mentoring high school students and helping with budgeting, and at Leaders of Tomorrow Initiative, where he helps with the organization and budgeting of the events. He is also the Co-PR and Outreach Chair of Nu Rho Psi. Varun has received Dean's List, Provost Honor Roll, President's Honor Roll, and is part of PRISM and HPM honor programs. He is a UM Goldwater Scholarship nominee, a Foote Fellow, a Stamps Scholar and holds a 4.0 GPA.

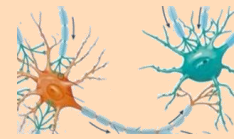




Isabella Swierzawska, NEU Senior, is a research assistant at the U.M. BRAIN Group under the mentorship of Dr. Jennifer Britton, where she administers mental measurement instruments making sure that participant error is minimized. She also codes and analyzes the data results to find statistical significances. Isabella is also a Hospital volunteer at Holy Name in Teaneck, New Jersey, where she assists at the neonatal intensive care unit, patient arrival and as medical supply technician. She volunteers at Conversations to Remember, interacting with seniors with dementia to provide comfort and observe for any concerning behaviors. Isabella is the Co-Chair of Physician Shadowing for AMSA UM, she is the Programming Chair of the UM chapter of Big Brother Big Sister and she a Federation of Club Sports Council Member. She is an avid swimmer and has taken time to instruct kids stroke techniques. Isabella is an Isaac Bashevis Singer Scholar, a Foote Fellow, a Biology Workshop Leader and is part of the HPM and PRISM honor programs. She is on Dean's list, Provost Honor Roll and President's Honor Roll with a 4.0 perfect GPA.

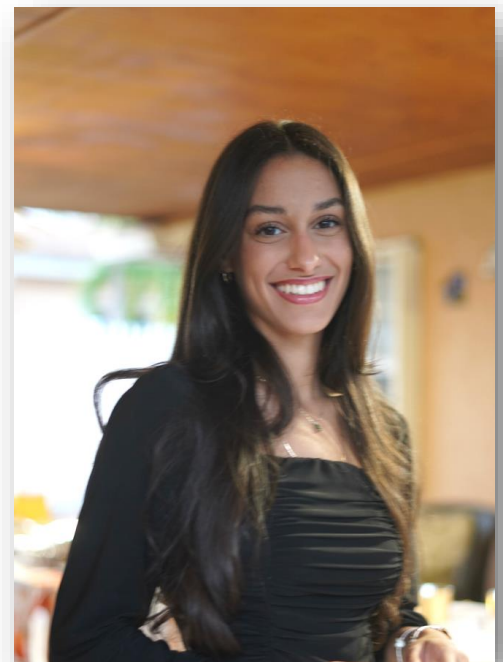


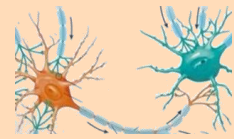
NEU Senior, **Charlotte Swinehart**, is a research assistant at Dr. Oliver Bracko's Blood Flow Lab, UM. Her research focuses on vascular dysregulation and cerebral blood flow in neurodegenerative disease. She has worked on sectioning and immunostaining brain tissue and confocal microscopy as well as participating in data analysis. Charlotte has also been a research assistant for the Miami Project to Cure Paralysis at the Miller School of Medicine. Her research focused on traumatic brain injury in mice and rat models, performing perfusions, data collection and analysis. Charlotte has worked at the Office of Undergraduate Research and Community Outreach where she has coordinated events and helped match students interested in research with faculty mentors. She has also worked at Double Down Athletics where she got to work with children aged 4-15 and their parents. She supervised a staff of 30 and organized activities, care, as well as exercise equipment, maintenance and safety. She also finds time to tutor grade school children in STEM and other subject areas. She was able to arrange her schedule and take part in a UAbroad program to Barcelona last Spring 2025. Charlotte is in the Howard Hughes Medical Institute (HHMI) honors program, and is the recipient of the Canes Achievement Scholarship, and has been awarded Dean's list and Provost Honor Roll. She is part of Kappa Gamma Delta pre-health sorority, Alpha Lambda Delta honor society, Psi Chi honor society, and is a member of the National Society of Leadership and Success.



Cole Foster is a triple major honor student senior, majoring in Neuroscience, Computer Science and Math. He worked at the Ali Lab at the Miami Project to Cure Paralysis at the Miller campus where he was a Data scientist and Computer Vision researcher. He invented a feature selection algorithm that removed experimental noise, improving measurable treatment effect by ~ 3 orders of magnitude. He constructed a configurable data processing pipeline, decreasing experimental variance by $>90\%$. He has also worked at a Machine Learning researcher at the Wutchy lab and at the DSaCB lab, both at the department of Computer Science. He has taken part in several projects such as Zero-Shot Drug/Disease Indication Model for Drug Repurposing where he implemented a graph attention network-based model in PyTorch Geometric to predict additional uses for FDA-approved medications, resulting in a model with ~ 0.95 F1 score on a challenging geometric learning task. He applied geometric learning frameworks to test a link between protein and DNA for the Protein-DNA Network Alignment project. He also developed and implemented multiple graph compression methods for efficient computing and knowledge graph distillation. Cole is the recipient of the Isaac Bashevis Singer Scholarship, is part of the PRISM honors program, has been awarded Dean's list, Provost Honor Roll, President's Honor Roll and is a Foote Fellow with a perfect 4.0 GPA.

NEU Senior **Adriana Gonzalez** is a research assistant at the Neurology department of Miller School of Medicine. She performs behavioral tests on rat models and conducts statistical analysis of behavioral data. She has presented at the Eastern-Atlantic Student Research Forum conference on the long-term effects of chronic nicotine exposure following spontaneous intracerebral hemorrhage. Adriana is the co-president of Canes Science Bowl where she acts as regional coordinator for the U.S. Department of Energy's National Science Bowl Competition. She is also a biology workshop leader and a chair on the Committee on Student Organizations. She is a leadership team and mentor for Inspire U Academy where she assists in developing mentoring programs and provides guidance and support to students preparing for college. Adriana was an orientation fellow for 2 years, welcoming new students and guiding them in their transition to university life. She volunteered at UHealth Lennar medical center helping as a patient liaison, welcoming and assisting patients and their families. She has also volunteered as a site leader for two years for the Miami Day of Service. Adriana was awarded the Doctors in Italy Fellowship where she shadowed several health specialties. She is the recipient of the Ronald Hammond Scholarship and is part of the DaVinci Scholars program. She is a member of the Omicron Delta Kappa Collegiate Leadership Honor Society and has been awarded Dean's list, Provost Honor Roll and is a Foote Fellow.





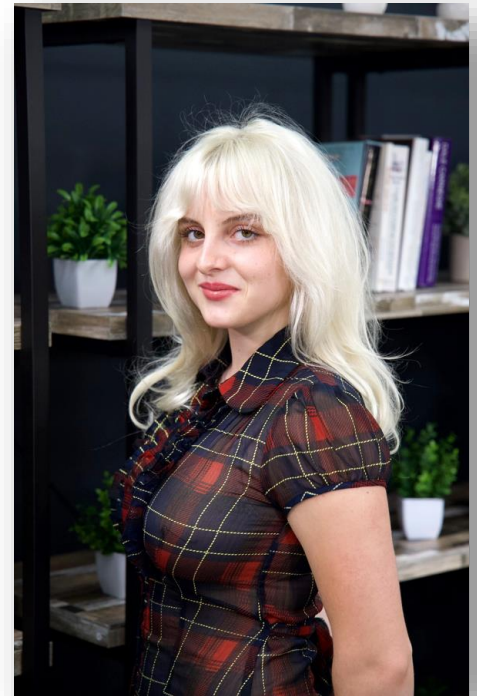
NEU Senior **Felicja Luciani**, also majoring in Philosophy, is a research assistant at Dr. Amish Jha's Lab where she conducts research on mindfulness as a means for strengthening cognitive function (attention), administers Qualtrics surveys and SART tests to participants, employs electroencephalography cap and eye tracking device, analyzes data, and writes grant proposals and IRB protocols. She was also a research assistant at Dr. Jennifer Britton's Bridging Research on Anxiety, Innovations, and Neuroscience (BRAIN) Group where she conducted research on executive function (e.g. working memory, response inhibition, flexibility) in both cognitive and emotional domains using E Prime tasks and verbal generation. She administered colorblindness tests to participants and applied and test ECG and GSR electrodes and respiratory recording devices. She also coded the data and analyzed the results. Felicja is a true



changemaker as an advocate for issues she is passionate about. She has volunteered at



Animal Lover's Rescue of South Florida, Ronald McDonald House, and is currently the co-president of UM's CommUnity Garden. At



the latter, located in the Sustainability Garden in the Gifford Arboretum, she provides leadership to 422 members guiding toward the objectives

of learning and using sustainable



lifestyle practices as well as tending and harvesting the community garden. She was the treasurer of the Planned

Parenthood Generation Action group and has been an orientation fellow for Cane Kickoff. She is currently the general manager of the

UM radio station, WVUM 90.5 FM, where she began as the music director. She also finds time to tutor with Acosta Psychology where she develops individualized lesson plans and study strategies according to learning styles and attention needs.

Felicja is the recipient of the Florida Academic Scholarship, a Florida Bright Futures Scholarship and has been awarded Dean's list, Provost Honor Roll, President's Honor Roll.



UNEU Student Awards

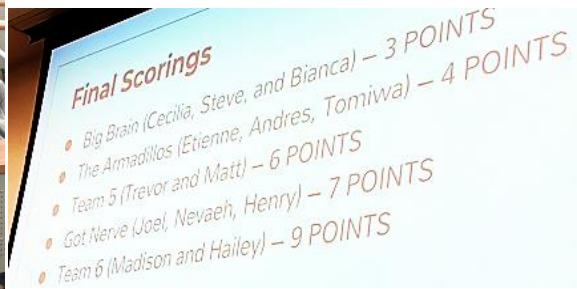
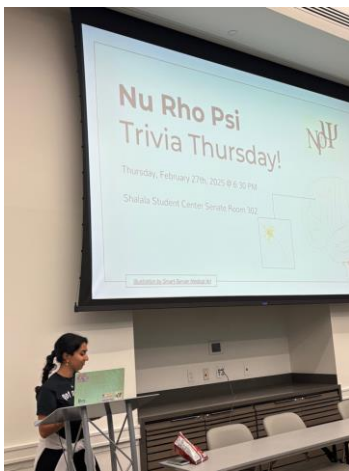


Mano Nagarajan, NEU Senior, has been honored with the 2025 Young Scientist Award during the Miami VA Research Week. This year's event holds particular significance as it marks the centennial celebration of research within the Department of Veterans Affairs. Under the mentorship of Dr. Wangpaichitr, Mano has contributed to the development of a patient-derived organoid tumor (PDOT) platform. This innovative technique shows great promise in the field of precision medicine, offering the potential to tailor personalized treatment strategies for individual patients with lung cancer.



Bhavya Sharma, NEU Spring 2025 graduate, is the very deserving recipient of the Butler Center's Vice President's Award for Service. Bhavya gives so much of her time and care to the many non-profit organizations where she volunteers, such as the Mirabelle Long-Term Care Community, President and Fundraising Chair for Big Brothers Big Sisters, and Co-President of Kesem UM where she has raised over \$90,000 for the children whose parents/caregivers have been impacted by cancer.

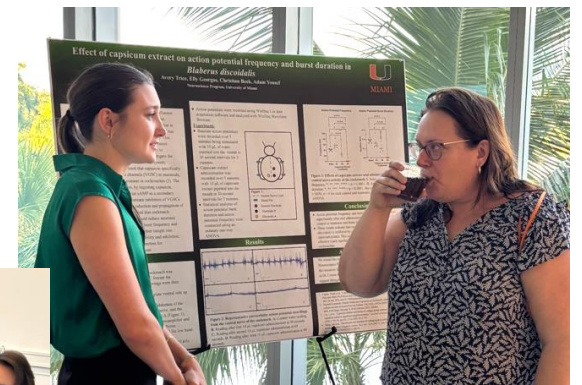
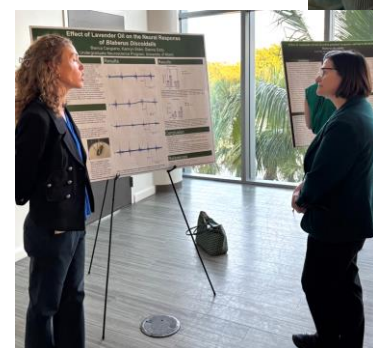
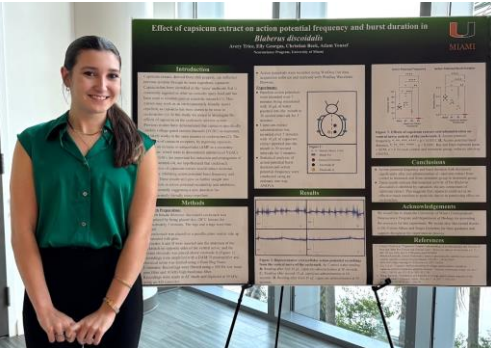
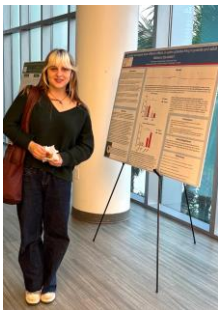
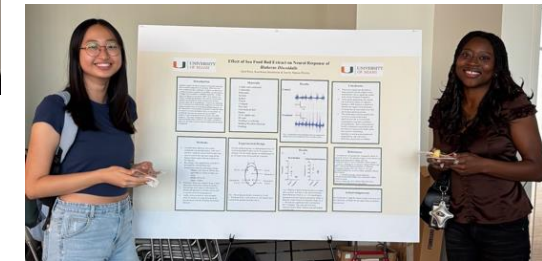
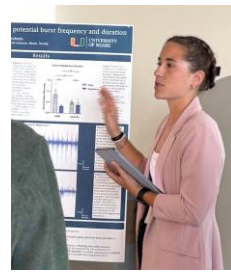
Trivia Night February 27th, 2025



Spring Induction Ceremony April 3rd, 2025



Faculty Mixer April 17th, 2025



UNEU Student Passions outside of the Classroom & Lab

Hannah Pierce - Harp

I started playing the piano when I was about 7 years old, and was introduced to the harp at 11 years old after expressing great interest to my parents in the instrument after noticing the harp studio at my music school. I began taking lessons and have

have loved it ever since! My parents soon surprised me with my own harp, and I performed at my first concert in the winter of 2015.

Since then, I have continued to take harp lessons and have performed in many different orchestras and harp ensembles, including my high school orchestra (Georgetown Visitation Symphony Orchestra), Maryland Classic Youth Orchestras

Harp Ensemble, MCYO Philharmonic and Symphony Orchestras, and the DC Youth Orchestra Program Symphony Orchestra. The harp has continued to remain an integral part of my life, as I am now pursuing a minor in general music—focusing on harp—within the Frost School of Music, alongside my neuroscience major and chemistry minor. I enjoy practicing daily, and continue to learn and strengthen incorporate new musical techniques and skills every day.



Ethan Tieu - Violin

I've been playing the violin since I was four years old. Along the way, there have been numerous times where I have been flooded with work or other responsibilities that nearly pushed me to stop playing, but I'm super glad that I didn't!

There are very few opportunities to truly pour your soul, your emotions, and being into something, and playing the violin gives me that special outlet. And more than this, music gives me an opportunity to serve others through performance and teaching! I would encourage anyone who has even a sliver of interest in music to pick up an instrument and start making noise.

Here is a photo of myself holding one of my violins (which are all designed and 3D printed by me before being distributed to educational institutions in Africa, which I give virtual violin lessons to), a photo of two of my students performing in an annual music festival in Kenya, and one of me performing violin for staff and patients in Baptist Health hospital.



UNEU Student Passions outside of the Classroom & Lab



Isabella Swierzawska – Singing

I have been performing since I was in kindergarten, singing in the church choir and later moving on to musical theater until senior year of high school. In fact, as a senior, I was the only student in my high school honored to be selected for the NY All State and All Eastern choir. Singing and performing has always been my passion and creative outlet. Despite wanting to pursue the pre-med path and majoring in Neuroscience, I have been determined to integrate my passion for

medicine with music by declaring a minor in General Music with a focus on vocal performance. During sophomore year, I had the privilege of being a part of the Frost School of Music's Bella Voce choir under the incredible conductor Khyra Stahr. To

join a choir at Frost one has to audition at the end of the fall or spring semester. Auditions involve singing a section of a work selected by the choir directors, as well as sight reading on the spot and doing a hearing exercise. After, you are assigned into a choir. Being able to sing twice a week with an incredible group of women as well as perform throughout the course of the semester on UMs beautiful stages was a highlight of my time at UM. In the future, I hope to incorporate my passion for music into my practice as a future physician.



Sara Hooper - Painting

Before my oil painting class at the American University of Rome this past spring, the last time I had set foot in an art classroom was second grade – where I earned my first and only B. I share that not to boast about an

admittedly borderline-obsessive commitment to my GPA, but rather to emphasize that while I can recognize I have some strengths, art was never one of them. But when I decided to study abroad in Rome, I realized that if I ever wanted to take a stab at art again, that one of the foremost art capitals of the world may be a good spot to do so.

In our studio, we worked exclusively with oil paints – learning not

just to apply them, but to make and mix them – studying techniques inspired by masters like Caravaggio, Van Dyck, and Titian. Our main project was a portrait of our live model, Martina, set in a background of our choosing (my finished piece is pictured here, to the right).

Overall, while art still may not be my greatest strength, the experience gave me a newfound enjoyment and appreciation of it, and the dedication it demands.



UNEU Student Passions outside of the Classroom & Lab



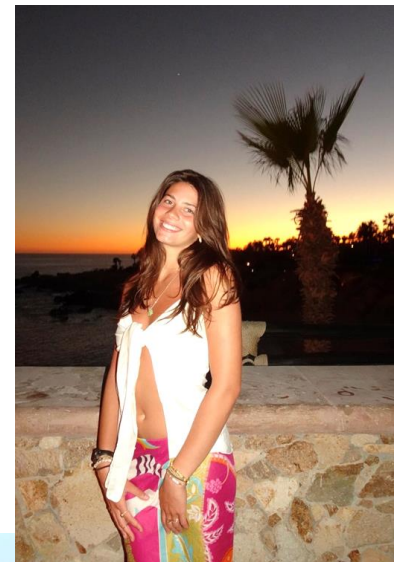
Iheukwumere Marcus – Football

Hurricane #56. Top left picture is me on the field during the Poptart Bowl Game against Iowa State, next one is from post-game after a win last season over Virginia Tech, and the to the left is from a youth summer football camp where I'm showing a kid how to do a ladder agility drill.



Lucy Schwab – Surfing

Here's some photos of me and my kids at work. The job I have now is a combination of my two favorite things, surfing and teaching. Teaching kids how to surf brings me so much joy and I love going to work everyday and seeing all of their smiles. Bottom left is photo of me and my cousin when we were kids at the same surf camp that I coach at now. I love surfing with my coworkers in the morning before our camp day starts and I love being around kids all day long. Me and my cousins used to do this surf camp every year and I'm so honored to work for the same company now. I love this job and I know that I will be moving on from it soon but I have forever made a community at the Summer Sessions surf shop!

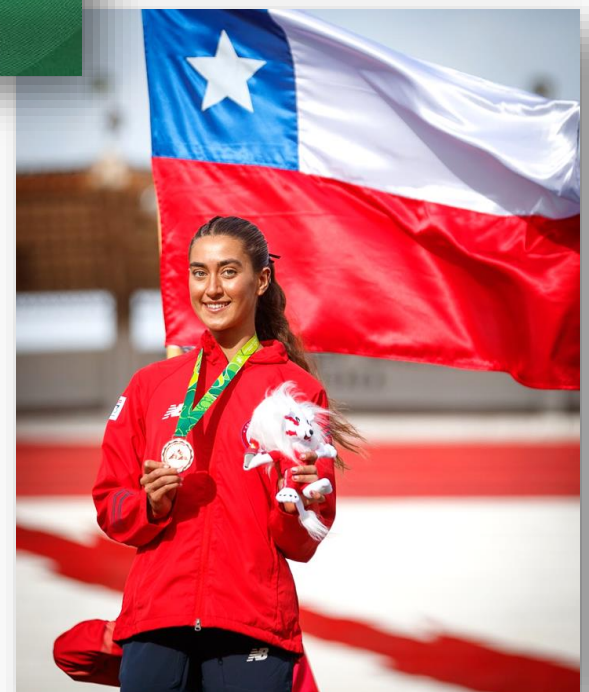


UNEU Student Passions outside of the Classroom & Lab

Matilde Tejos Florenzano – Track & Field Specializing in triple jump and long jump

I used to play every single sport when I was a kid and I realized I was really good at track and it was the sport I enjoyed the most, so I kept doing it. I started when I was 9 years, and at 14 was my first time competing for the National team. Nobody in my family has done track at this level, but my parents always supported me. My goal is qualifying for the Olympics and World Championships.

The bottom left is from the South American second championship, the one bottom right is from the PanAmerican championship (both representing the Chilean National Team) and the other pictures representing UM.



UNEU Students Celebrate the Centennial



U Neuroscience Program

Neuroscience

is the study of the nervous system (i.e., brain, spinal cord and peripheral nerves), the mechanisms of behavior, and the nature of mind and consciousness. Neuroscience is an interdisciplinary field that draws from a number of scientific disciplines including medicine, biological sciences, psychology, physics, chemistry, mathematics and engineering, and beyond with the nervous system serving as the common focus.

Our Program

Neuroscience is one of the most rapidly advancing fields of research and training. At the University of Miami, over 50 faculty members from 13 departments on three campuses participate in undergraduate, graduate and postdoctoral training. They engage in neuroscience research that accounts for more than 20% of the University's federally sponsored research dollars.

While the home of the major is in the College of Arts & Sciences, the teaching faculty and Steering Committee come from several schools, including the Miller School of Medicine. The College of Arts & Sciences Department of biology and psychology are home to many of our faculty as well.



Program Director

Dr. Helen Bramlett

Professor of Neurological Surgery at UM Miller School of Medicine. Research Health Scientist at the Bruce W. Carter Dept. of Veterans Affairs Medical Center with more than 25 years of experience in

CNS (Central Nervous System) injury. She is internationally known and has received multiple awards, including WIAM (Women in Academic Medicine) Career Achievement Award. She has published over 114 peer-reviewed manuscripts and is the Editor-in-Chief on Neurotrauma Reports and in the Editorial board of several journals. She is a founding member of InflamaCORE, LLC., - a company dedicated to treating and diagnosing inflammatory injury and disease. She received her MS and PhD degrees in Behavioral Neuroscience at UM.



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