



A year in Neuroscience 2021-2022

Congrats to all our 2022 Graduates!!





Congratulations to our NSCI Senior Award Winners!!

Excellence in Neuroscience Award:

This award is given annually to the senior with the highest academic achievement in the Neuroscience Major.

Bailey Gengel

Bruce S. Kapp Award:

This award is given annually to graduating seniors in neuroscience who have conducted outstanding independent research in neuroscience, while maintaining high scholastic standards overall.

Reese Green and Julia Pellegrino-Wood

Rodney Parsons Award:

This award is given annually to graduating senior neuroscience majors who have demonstrated outstanding achievement in scholarship, leadership, and research in the field of neuroscience.

Violet Bupp-Chickering and Abby Siniscalco

Congratulations!



Phi Beta Kappa is the oldest and most prestigious academic honor society in the United States. Founded in 1776 at the College of William & Mary, it recognizes outstanding performance in the liberal arts and sciences and derives its name from the Greek phrase *Philosophia Biou Kybernetes*: “Love of wisdom is the guide of life.” Approximately 10 percent of US colleges and universities shelter a Phi Beta Kappa chapter, and approximately 10 percent of students at those institutions are invited to join. Membership in Phi Beta Kappa is a rare honor, and academics and employers recognize it as a mark of intellectual breadth and exceptional academic performance.

This year’s Phi Beta Kappa inductees from Neuroscience are:

Lydia Ambaye, Bailey Gengel, Riona O’Donnell, and Daisy Powers

Congratulations!!



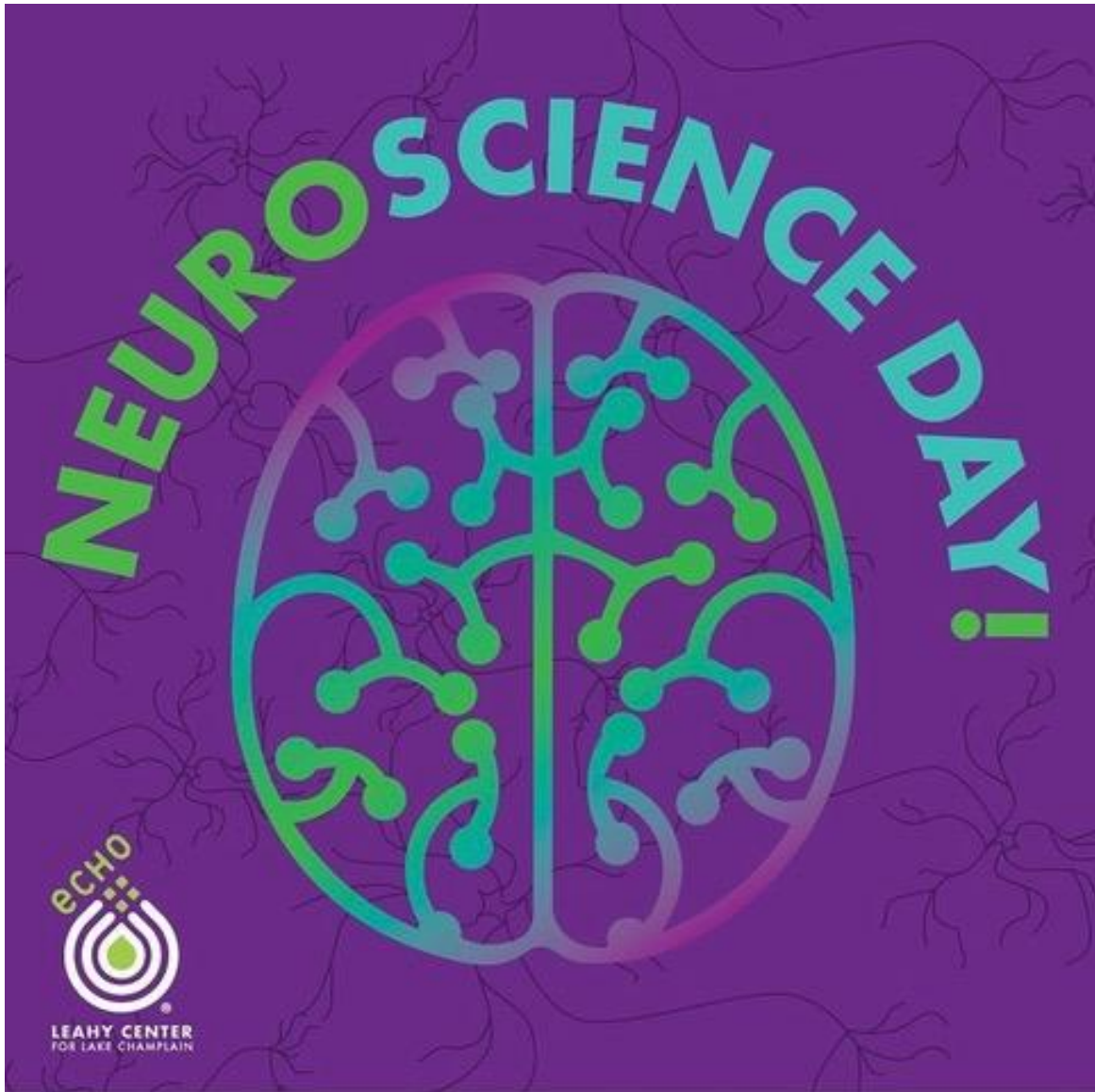
Nu Rho Psi is the only nationally recognized honor society in the area of brain research. The study of the brain is one of the noblest of academic pursuits because a deep and true understanding of the principles by which the brain works contributes directly to the quality of our lives and the well-being of future generations.

This year's inductees: (*Graduating Senior)

Alyssa Saltz, Amanda Giordano*, Anna Sellon, Carolyn D'Auria, Claire Le Duc, Dakota Allen*, Emily Dean, Grace Davis, Grace Ebner, Isabel Berman, Jackson Lyttleton*, Jordan McGuire, Henry Schaer*, Jocelyn Botelho, Emily Baumuel, Jade Cleary, Ava Williams, Abby Siniscalco*, Claudia Ricatto, Shirin Dravid*, Lucy Wing, Grace Heely*, Shelby Jones*, Carina Stafstrom*, and Joanne Blaney.

Graduating Seniors:

Lindsay Allen, Lydia Ambaye, Birgitta Carlson, Elana Kolter, Lily Marino, Tabitha Myers, Melanie Nigro, Riona O'Donnell, Julia Pellegriono-Wood, and Danny Reyome.



Nu Rho Psi hosted Neuroscience Day at ECHO on April 30th. We had multiple stations for the kids to learn about different aspects of Neuroscience. The sensory station had an ear and eye model to learn about how our brain receives sensory inputs, as well as optical illusions, sound makers, smells to identify and different touch sensations to play with. The central executive table had a brain model to help kids learn about neuroanatomy, as well as a variety of central executive tests to take. Our final station was pipe cleaner neuron making where children learn about how neurons work and made neurons to add to our ECHO nervous system. The day was a great success, and Nu Rho Psi can't wait to go back next year!



Neuroscience Alumni Research Award Winners

Each semester the Undergraduate Neuroscience Program offers a \$500 research award for a Neuroscience student or group of students to help fund their independent research projects. This award is made possible by generous donations to the Neuroscience Alumni Fund. To contribute to this fund please go to this link.

<https://go.uvm.edu/giveneuro>

Jenna Bourdeau

Jenna worked in the Ebert lab investigating the role of cell signaling adaptor proteins Crk and CrkL. These adaptor proteins bind to cell surface receptors and bring along cargo to initiate and propagate cell signaling cascades. In zebrafish, when these adaptors are lost, the retina's structure is severely disrupted. Jenna's project was to help identify what those cargo proteins are in zebrafish, and how they play a role in signaling in the zebrafish retina. She spent an entire semester making cell lysates from zebrafish embryos in preparation for biochemistry and mass spectrometry. Her work was critical to generating data for a current publication in preparation. The Neuroscience Alumni Research Award purchased the reagents she needed to perform her experiments. Jenna is currently a Medical Assistant in Neurology at CU Denver and is planning to attend medical school.



Grace Heely, Hunter Hill, and Elana Kotler

Depression and anxiety are common neuropsychiatric disorders that impact millions worldwide. It is important to understand the factors that contribute to these conditions in order to establish effective treatments. One of these factors is exposure to chronic stress which can be mediated by behaviors corresponding to active or passive coping. The use of coping strategies demonstrates how we interact with our environment and largely impacts our exposure to stress, sometimes subsequently promoting the development of depression. Our lab has previously shown that polyadenylate cyclase-activating peptide (PACAP) is released in the bed nucleus of the stria terminalis (BNST) following chronic stress and that PACAP infused into the BNST causes anxiety-like behavior in rodents. The goal of our research was to figure out whether the infusion of PACAP in the BNST impacts coping strategy. Prior work done with the forced swim test (FST) to be an accurate behavioral measure for observing coping strategies in response to a stressor (Commons et al., 2017 and Molendijk & de Kloet, 2015). Using this test, we looked at coping strategies in rodents by measuring immobility after receiving either a PACAP or vehicle infusion through cannulas targeting the BNST. To do this procedure, special guide cannulas with specific measurements were needed along with special syringes. These syringes, called Hamilton syringes, are the most accurate way of infusing precise amounts of infusate down the guide cannula. The Neuroscience Research Alumni Award gave us the funding we needed to purchase the necessary numbers of guide cannula for our cohorts and 2 Hamilton syringes. Without these materials, our entire experiment would not have been possible! Not only did this award give us access to the supplies we needed, it also allowed us to thrive in an engaging and motivating environment where we fostered many friendships with other undergrads and grad students. Our days in the lab were always enjoyable in addition to enlightening, which is something we are exceptionally grateful for. Throughout this project, we learned so many new skills and an appreciation for the hard work it takes to run even a small pilot study. The opportunity to conduct our own experiment from start to finish has sparked new interests and motivation to continue neuroscience research after graduating. We are honored to have been chosen as recipients of this award and appreciative of the opportunity it has given us to explore our interests in the lab.

Thank you!- Grace Heely, Hunter Hill, Elana Kotler (UVM Neuroscience Class of 2022)



(starting from left- Grace Heely, Hunter Hill, Elana Kotler)

Neuroscience Faculty News

Dr. Allison Anacker was Promoted to Senior Lecturer!



Please join us in congratulating Dr. Anacker for her much-deserved promotion to Senior Lecturer. She is a critical piece to the Undergraduate Neuroscience Program instruction.

Congrats!!

Dr. Molly Stanley joins UVM's Biology Department!



Please join us in welcoming Dr. Stanley to the Biology Department. Using *Drosophila* as a model system, her research focus is on neural circuits that control feeding behavior. Look for new courses coming up!

Dr. Anacker and Dr. Plouffe presented at the Neuroscience Teaching Conference

Drs. Anacker, Plouffe and colleagues presented their work on “Using choice of assessments to promote flexibility, engagement and autonomy in college courses” at the Neuroscience Teaching Conference in Winston-Salem, North Carolina. Faculty are always learning and expanding pedagogical approaches to teaching. Thank you for your dedication!