HAYDEN SCOTT

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Graduate Student

I received my BS in Neuroscience with a minor in biochemistry from the University of Kentucky. My research interests include understanding the neural substrate of attention, working memory, and decision making. My early work involved studying drug use disorders in humans. Afterwards, I switched to rodent models, using in-vivo Micro Electrode Array (MEA) technology for measuring glutamate dynamics and neuroeconomic models of addiction. From there, I moved to Sweden to further my mastery of biosensor technology. After returning to the US and finishing my BS I was accepted into the Brain and Cognitive science PhD program at the University of Rochester. My current work combines latent variable models with neural population recordings to study sensory encoding and feature-based attention in rhesus macaque monkeys.

PROFESSIONAL HISTORY

SNYDER COMPUTATIONAL NEUROSCIENCE LAB | 2018 - PRESENT

Graduate Student

Rochester, NY

- I am currently working on a PhD in computational neuroscience under Dr. Adam Snyder in the Brain and Cognitive Sciences department at the University of Rochester. I use latent variable models, artificial neural networks, and multiscale electrophysiology to investigate feature-based attention and sensory coding in rhesus macaque monkeys.

ROMAN PHARMACOLOGY OF ADDICTION LAB | 2016 - 2017

Student Researcher

Uppsala, Sweden

- While living in Sweden, I worked in the lab of Dr. Erika Roman with Dr. Åsa Konradsson-Geuken. I was enrolled in a masters course in the pharmaceutical biosciences department and worked with the multivariate concentric square field (MCSF) behavioral arena. I also set up and validated enzyme-coated biosensor recordings in anesthetized rodents for their lab. While there I authored a paper regarding sex-dependent differences of social housing on alcohol consumption.

BECKMANN NEUROECONOMICS LAB | 2014 - 2016

Laboratory Technician

Lexington, KY

- As the PI of a start-up lab, Dr. Joshua Beckmann was looking to expand by enlisting the help of qualified interns. While taking a full class load, I worked with the Beckmann lab, doing everything from building micro-electrodes, to running experiments, and even assisting on various surgeries. I worked closely with graduate students on their studies of the neural mechanisms of economic decision making. After earning all allowable credit hours, Dr. Beckmann decided to hire me as a Laboratory Technician.

SUMMER TRAINING IN ADDICTION RESEARCH (STAR) | SUMMER 2014

Student Intern

Lexington, KY

- I spent the summer working with alcohol, cocaine, and opium addicts on a personal level. In this lab, I assisted with research on perception, attention, impulsivity and other cognitive processes involved in addiction. At the end of this program, students presented the research they conducted. I did mine on impulse control disorders, attentional bias, probabilistic decision making, and pathological gambling.

SELECTED ACHIEVEMENTS

UNIVERSITY OF KENTUCKY ARTS AND SCIENCES AMBASSADOR | 2015-2016

- I was selected to represent the University of Kentucky's college of arts and sciences as an A&S Ambassador. I was the face of UK to other colleges and high schools and was highly involved in the new student recruitment process. I learned much about collaborating within a diverse group to enact change on campus.

NRT-DESE | 2018-2019

- The NSF research traineeship in data-enabled science and engineering (NRT-DESE NSF Grant 1449828) is a prestigious program in which I was of a select few graduate students awarded a spot. The program focused on training in data-enabled research into human behavior and its cognitive and neural mechanisms. This experience provided me with the tools needed to succeed at the intersection of neuroscience, computer science, and data science.

GRADUATE STUDENT REPRESENTATIVE | 2018-PRESENT

- I serve as a vital line of communication between students and faculty as both a voice of the students and a sounding board for ideas from the faculty. I attend faculty meetings, organize graduate students, help plan events and build the departmental community.

EDUCATION

Bachelor of Science: Neuroscience; University of Kentucky (160 credit hours)
Masters courses in Pharmaceutical Sciences; Uppsala Universitet (55 ECTS credits)
PhD, Brain and Cognitive Science; University of Rochester (41 credit hours)

Presentations and Publications

SFN conference posters, 2019
- Humans can attend to complex latent image dimensions
- Common rules guide memory-guided comparisons of motion direction and location in PFC
- Complex feature sets constrained by deep generative image models drive visual evoked potentials in macaque monkeys

Papers

Scott, H., et al. (2020). "Effects of pair-housing on voluntary alcohol intake in male and female Wistar rats." Alcohol. Elsevier. doi: 10.1016/j.alcohol.2019.12.005