

## **Teaching Interests**

My educational, research and neuroimaging backgrounds make me well-suited to teach a wide variety of courses. I have particular interests in teaching cognitive neuroscience, behavioral neuroscience, neurobiology of disease, neurobiology of aging, cognition and behavior, and neuroimaging methodology for cognitive neuroscience. I am also able to teach introductory psychology, basic statistics, research methodology, and animal behavior. I am enthusiastic about the opportunity to teach at the undergraduate and graduate level. I am committed to fostering academic excellence and encouraging students to develop the same passion for cognitive neuroscience and psychology that some of my extraordinary professors have cultivated in me.

## **Teaching/Mentoring Experiences**

My teaching experience can be considered unconventional. My graduate program in behavioral neuroscience had no formal teaching requirement, as there is no undergraduate student body. However, from early on, my intentions were to pursue a career both as an educator and a research scientist. Therefore, with each step in my training, I specifically sought out teaching opportunities to build these skills. These opportunities came in many forms, including peer-to-peer teaching, mentoring, and lecturing to groups of students and members of the academic community. These experiences established a foundation in the core elements of teaching and strengthened my desire to teach.

As part of the Behavioral Neuroscience graduate program, I participated in a seminar course on rotating topics, which was taught by the graduate students. Every quarter I lectured to fellow graduate students on a different topic. I organized lecture materials and lead class discussions. Topics I covered included learning and memory, the neurobiology of aging, social behavior, NMDA receptors, schizophrenia, functional magnetic resonance imaging and numerous other topics in behavioral neuroscience. In addition, I organized two journal clubs while in graduate school. One journal club was on the Neuroscience of Aging, covering topics including successful aging, neuronal markers of dementia, and advancements in therapeutics for Parkinson's disease. I created the syllabus and organized topic discussions that were sophisticated yet accessible enough for a diverse audience that included M.D. and Ph.D. researchers, graduate students and research staff. The other journal club was a Primer in the Basics of Functional Neuroimaging. This popular journal club covered the basics of fMRI data acquisition, preprocessing, analysis and interpretation. It was organized to meet the demand for those interested in implementing cognitive neuroscientific methods, but who had little previous experience with fMRI. The demand for this informal biweekly meeting was so popular that it spawned a formal course within the department in subsequent academic years. Finally, I was a student mentor for two high school students through the Apprenticeships in Science and Engineering (ASE) Program, which matches high school students with scientists for 8-week summer internships in a scientific environment. I introduced these students to concepts in psychology and neuroscience and guided them through a small research project.

As a post-doctoral fellow at the University of Pennsylvania, I have continued to embrace teaching even though it is not an expectation. I provide intermediate-level supervision to numerous graduate-level students in clinical neuropsychology and cognitive neuroscience. This includes training in research skills, basics of cognitive neuroscience, functional neuroimaging methods and basic statistics. In addition, I have presented invited guest lectures on cognitive aging and decision-making, neurocognitive deficits in schizophrenia and neuroimaging methods for psychiatry residents, neuropsychology fellows, graduate and undergraduate students. I have also advised bachelors and masters level research coordinators on their day-to-day research activities. Currently, I am working with two students on preparing research manuscripts for publication and I have helped numerous research coordinators compile graduate school applications in a variety of domains (e.g. medical school, graduate

school, Physician Assistant). Finally, I have continued one-on-one mentoring; this time with a senior in high school, from my alma mater. She is a highly ambitious student who wished to conduct her senior thesis in neuroscience.

I attribute my enthusiasm and philosophy for teaching and mentorship to the professors, research collaborators and the graduate and high school students that I have had the opportunity to teach and mentor. Through instruction of diverse groups of students I have grown as an instructor and mentor. There is nothing more rewarding than the appreciation and acclaim that my colleagues, students and mentees offer after a lecture or meeting.

### **Teaching Philosophy**

Overall, I believe it is important to emphasize critical thinking and active student involvement in the learning process. My fundamental goal as a teacher is to communicate new information in a manner that conveys my enthusiasm and encourages my students to learn how to think. As a cognitive neuroscientist, I recognize that learning styles are diverse and that simply communicating new information does not necessarily result in learning. I have found that the use of multimodal approaches helps maximize learning across diverse backgrounds. During my lectures and one-on-one sessions with students I not only explain the concepts at hand, but also use visual (power point presentations, video) and kinesthetic (brain labs, experiments) techniques to further elucidate my points. I believe that this approach is useful for enhancing learning and promoting discussion especially during problem-based learning. In addition, this approach engages students by integrating recent advances in technology with educational instruction. For example, I have found that online discussion forums not only reinforce the intended learning outcomes and course objectives but also engage some students more than traditional lectures. In general, I find that actively engaging students by enthusiastically presenting information in various interesting and meaningful ways leads to the best results.

I acknowledge the individual differences and variability in students' backgrounds, while recognizing the need to encourage hard work while maintaining interest. I know that not every student will begin my courses with the same level of passion for cognitive neuroscience as I have. Yet, I have found that students' interest is roused when they are able to apply the proffered knowledge to their own experiences. This is why I have encouraged my mentees to ask research questions with personal relevance. For example, when mentoring a high school student during the ASE Program we discussed the cognitive complaints of her grandmother, which lead to her project of measuring behavioral changes in every day activities (e.g. dusting, cooking, etc.) and relating those changes to brain structure in a group of healthy older adults. I believe this type of experience reinforces conceptual understanding by establishing relevance to students' personal interests. This approach also encourages a reciprocal exchange with my students, in which I also learn new things. I feel that the enthusiasm I have when teaching translates to my student's enthusiasm to learn. Coupled with appropriate instruction and an environment that engenders critical thinking, I believe this allows students to reach their educational goals, and also enjoy the process.

Finally, I have found that small group learning and fostering one-on-one interactions leads to effective learning and encourages critical thinking. I believe that students benefit from structured interactions with others as this interaction promotes diverse discussion. In these situations, students are more likely to express their perspective and raise questions in a comfortable environment. I believe that this type of learning fosters interpersonal development, an invaluable tool in the real world, as students learn to relate to their peers and instructors.