Deepa Ramamurthy is a sixth-year graduate student at the University of California, Davis, in the laboratory of Dr. Leah Krubitzer. She is interested in the role of experience in shaping the development of the brain. For her dissertation work, Deepa has been focusing on understanding how adaptation to early sensory loss in one modality can be achieved through increased use of the spared senses. Prior to beginning her graduate work, Deepa received a Bachelors of Science in Biology from Notre Dame de Namur University in Belmont, California. She expects to receive her PhD in 2018, following which she will begin her postdoctoral training. Deepa hopes to pursue a career in academia, conducting research on the mechanisms that underlie experience-dependent modifications in neural circuits.

**Impact of Philanthropy**

The Ling-Lie Chau Graduate Student Award for Brain Research enabled Deepa to attend the Neural Systems and Behavior Course at the Marine Biological Laboratory in Woods Hole, Mass.. There, she received extensive hands-on laboratory training in a wide variety of state-of-the-art techniques and experimental approaches, while conducting original research on the neural basis of behavior.
Thank you for your generous contribution that allowed me to participate in the Neural Systems and Behavior (NS&B) Course at the Marine Biological Laboratory in Woods Hole, MA. Without question, this was one of the most memorable and perspective-shifting experiences in my research career so far. The NS&B course is an advanced, intensive course for graduate students and postdocs, lasting for eight weeks over the summer. During this time, I received extensive hands-on laboratory training in a wide variety of state-of-the-art techniques and experimental approaches, while conducting original research projects aimed at understanding the neural basis of behavior.

I worked on four main research projects over the summer, in collaboration with small groups of the other students and faculty at the course. First, I worked with Dr. David Weisblat from UC Berkeley, incorporating a new technique based on RNA interference to examine the role of a hyperpolarization-activated ion channels in the function of mechanosensitive neurons in the medicinal leech. Next, I worked with Dr. Michael Markham from the University of Oklahoma, looking at the effect of steroid hormones on the plasticity of a sexually dimorphic electric signal used for social communication by weakly electric fish. In particular, this project produced some very promising preliminary data that could result in a publication. For my third project, I worked with Dr. Matt van der Meer from Dartmouth College and Dr. Emma Wood from the University of Edinburgh, studying the formation of hippocampal place fields in a transgenic mouse model of Huntington’s disease. Finally, in the last weeks of the course, I worked with Dr. Hillel Adesnik from UC Berkeley, using two-photon holography and optogenetics to map the connections of cortical neurons with single cell resolution.

One of the defining features of this course was the wide variety of model systems that were available to study, including both invertebrate and vertebrate experimental organisms. This gave me the opportunity to learn firsthand the advantages and limitations of working with each of these different model systems. Further, this allowed for extensive and detailed discussions with experts in each of these systems, providing insight into different ways of thinking about and addressing the same scientific problems. As a result of one such conversation with Dr. Chris Moore from Brown University, I will be presenting my work at a conference (the 30th Annual Barrels Meeting at Johns Hopkins University) later this year. Since I am in a transitional phase of my research career, moving from my dissertation work into post-doctoral work, these interactions have been incredibly valuable in helping me identify the directions to take in my own research. Further, the diversity of methods that I was exposed to during the course has strengthened my confidence in being able to recognize and implement the best combination of techniques necessary to address the research questions that interest me as an independent investigator.

The professional connections I was able to make with other researchers and the scientific development I was able to achieve during the course would not have been possible if not for your kind donation. Thank you so much for your support.

Sincerely,
Deepa Ramamurthy