The primary focus of my research in the Hashemi lab is the study of serotonin and its role in autism spectrum disorder (ASD). I am studying this link through two approaches. The first is through genetic mouse models of autism. I am currently managing three breeding colonies, two of which are established autism models and the third is control mice. I am looking at two very different genetic models that demonstrate the stereotypical autism behaviors, and using fast-scan cyclic voltammetry (FSCV) to characterize their serotonin chemistry. The second approach I am taking is using environmental risk factors. I am currently focusing on lead as a risk factor, exposing the mice to relevant levels, and characterizing changes to their serotonin chemistry with FSCV. The overall goal of this research is to determine what is altered in the serotonin system of ASD model mice and then compare the exposure mice to determine if there are any similar alterations. I would eventually like to expand to other models and risk factors after characterizing the current ones.

I was very grateful to receive a travel award from International Society for Neurochemistry (ISN) to attend the ISN biennial meeting in Paris, France in August. This meeting will feature presentations of exciting and recent innovations in cellular and molecular neuroscience. I am particularly excited about this meeting since it's the first time anyone from our lab will attend and I think it will generate great networking opportunities and potentially some great collaboration prospects. I'm also eager to learn more about neuroscience since my background is more focused in chemistry.