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For one month in the summer of 2011, I went to London to work in a laboratory at the Royal Free Hospital associated with University College London on an exchange to prepare for my master's thesis. At present, I am a master's student in Medical Neuroscience at the Charité in Berlin and will begin my thesis project in a laboratory at the Centre de Neurosciences des Saints Pères, associated with the Paris Descartes University, next year. For my thesis project, I will be studying the molecular function of CLN3 and CLN7, two variants of the devastating neurodegenerative disorders known as the neuronal ceroid lipofuscinoses (NCL). CLN3 and CLN7 are lysosomal membrane proteins defective in Juvenile NCL and Late-Infantile NCL, respectively. Diverse cellular roles for CLN3 have been suggested, but the primary molecular defect remains elusive. CLN7, on the other hand, has been proven to be a transporter, but its substrates are unknown.

To prepare to take on my project next year, there were several techniques I had to learn. These included oocyte preparation and maintenance and two-electrode voltage clamping. Most importantly, I learned how to measure pH changes in oocytes using a fluorescence technique that the director of my host lab in London designed. Since pH drives many lysosomal transporters, this technique will be very helpful for studying CLN3 and CLN7 function. Additionally, since CLN3 has specifically been suggested to affect the transport of basic amino acids, being able to look at minute changes in pH will be an important aspect of CLN3 transport characterization. It may also be useful for the study of specific potential substrates for CLN7, depending on what we learn about the transporter and its effects next year.

At UCL, I learned how to isolate oocytes from *Xenopus*, select for the best oocytes based on several proven criteria, inject them with mRNA constructs that we prepared, and care for them overtime. I then learned how to look at protein expression and activity in different substrate solutions using voltage clamping. I also learned how to inject the oocytes with a fluorescent dye and then use the "Fluorocyte" set-up to look at pH changes in relation to electrical activity. Last but not least, I learned how to analyze the data I gained from these experiments and learned the basics of characterizing transporter protein properties.

When I had spare time in the lab, I took the opportunity to read many literature articles about CLN3 in particular. I even gave a presentation on the topic to my colleagues. Because of this, my knowledge of the topic expanded and I feel more prepared to study CLN3 next year.

I will begin full-time work on my thesis project in January of 2012 and am looking forward to working hard for NCL. My experience at UCL was absolutely invaluable in preparing me to take on the project and I am amazed at how much I was able to learn in such a short period of time. I am very grateful to our collaborators in London for allowing me to do a one-month stay and for providing me with such good training. I am also very grateful to the NENS for supporting my stay – thank you so much!