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CEJS Student Fellow 2014-'15
Final Report

The title of my project is "The Development of a Nonradioactive Steroid-Receptor Ligand-Binding Assay Using Fluorescence Polarization." Under the mentorship of Dr. Patrick Murphy, I worked to develop a novel method for measuring relative binding affinities of various pharmacological compounds to the glucocorticoid receptor (GR). This project is of high ecological, biological and pharmacological significance - the elimination of radioactivity from this process is not only more environmentally sustainable, but also more scientifically robust and logistically convenient. Further, this method is an invaluable tool that will allow the Murphy Lab to more deeply explore the coordinated multi-protein action that facilitates the anti-inflammatory response.

Thanks to the funding from the CEJS, I was able to complete most of the bench work for this project during the summer of 2014, where I worked in the lab full time. This fellowship funding allowed me to live in Seattle over the summer and devote my full attention to the research. Further, because most of the lab work was completed in the summer, I was able to devote my time during the year toward professional development and presentations under the guidance of Dr. Murphy. Besides presenting at the poster session for summer undergraduate research in August 2014, I was selected to give SU's Natural Science Seminar, a 30 minute oral presentation for students and faculty, in October of 2014. Just a few weeks after, I attended the Murdock Undergraduate Research Conference in Vancouver, WA. My partner, Jane Walden, and I were selected among all participants to give an oral presentation on our research and its implications for future research in the fields of biochemistry and pharmacology. It was incredibly gratifying and rewarding to give a presentation for a large group of peer colleagues (and professors!) as a young scientist.

Perhaps the most poignant outcome of this research in my professional development was preparing for a poster presentation at the Experimental Biology conference in Boston, during March of 2015. Experimental Biology was attended by over 20,000 scientists from around the world, and it was an incredible honor to present a poster among them. We heard presentations from two Nobel Laureates (Drs. Stanley Prusiner and Eric Candel), met with faculty and students from universities across the country, and toured research labs at the Harvard Yard, Massachusetts General Hospital, and MIT. It was both humbling and inspiring to be counted among a collective that demonstrates both academic rigor and ambition, and has been a critical experience in my trajectory as a young scientist.

I am overwhelmingly grateful to the Center for Environmental Justice for its support in my research and professional development. As a result of this fellowship, I have given poster and oral presentations to audiences in Seattle and beyond, have created invaluable professional and academic connections, and, importantly, have had the opportunity to more deeply and profoundly experience the scientific process. The opportunity to learn and understand new ideas

in a practical context, and to collaborate with others, has been instrumental in my development as student, scholar, and citizen.