MADALYNN ERB
Neuroscience Graduate Program, Oregon Health and Science University

Degrees:
B.S. in Neurobiology, University of Washington

Scholar Donors:
Mary Rosenberg and Alice Stephens

About the Scholar:
I am investigating the way that gene expression controls the development of the spinal cord, by developing a new method to study gene expression in living organisms with unprecedented spatial and temporal resolution. My goal is to understand how small changes in gene expression contribute to the formation of numerous different types of motor neurons in a developing embryo.

Benefits to Society:
Understanding how gene expression influences spinal cord development will provide foundational knowledge that is critical for treating pediatric motor neuron disorders such as Spinal Muscular Atrophy, and motor neuron degenerative diseases such as Amyotrophic Lateral Sclerosis (ALS). My goal is to identify specific genes that are important for the formation of motor neurons and genes that guide motor neuron axons to connect to the appropriate muscle cells. If we understand the role of gene expression in both of these processes during embryonic development it may be possible to apply this knowledge to regenerative therapies for patients with pediatric motor neuron disorders and motor neuron degenerative diseases.

Awards and Honors:
Howard Hues Medical Institute Biology Fellow, January 2007 – June 2007
VOA Research Scholarship, *Awarded* June 2006

Presentations and Posters:
Pediatric Neuroscience Seminar, Oregon Health and Science University, March 13, 2013. Transcriptional Regulation of Motor Neuron Subtype Specification.

Vollum Departmental Seminar, Oregon Health and Science University, June 6, 2012. Transcriptional Regulation of Motor Neuron Subtype Specification.

Pediatric Neuroscience Seminar, Oregon Health and Science University, May 15, 2012. Transcriptional Regulation of Motor Neuron Subtype Specification.

HHMI Undergraduate Research Symposium University of Washington, Oct 2009. Poster Presentation Histone Deacytelase 2 Knockdown Promotes Neuronal Differentiation in Neural Progenitor Cells.

HHMI Research Apprenticeship, Friday Harbor Laboratories, June 2008. Identification of Putative Transmitters in the Central Nervous System of Sagitta sp. (Chaetognatha).