DANIELLE ROBINSON

Vollum Institute Neuroscience Graduate Program, Oregon Health & Science University, Portland OR

Degrees:

Post-baccalaureate Premedical Certificate, University of Vermont, Burlington VT
BA in Fine Art, Rutgers College, Rutgers University, New Brunswick NJ

Scholar Donors:

Ellen and Mark Richardson

About the Scholar:

Danielle is developing methods to correlate two different types of microscopy: superresolution and electron microscopy. Many neurons types have specialized features called dendritic spines that receive information from other parts of the brain; essentially they are the "receiving end" of the synapse. Given that protein organization dendritic spines can have big effects on the neuron's function, it is surprising that we are only just beginning to understand how proteins are organized at the synapse. Danielle's goal is to understand the location of vital synaptic proteins within dendritic spines and the structure of the spines in which these proteins are housed.

Benefits to Society:

Danielle's work in developing new ways to visualize the synapse has implications throughout neuroscience, specifically for the study of learning and memory. This ultra-high resolution microscopy will also be useful to other fields beyond neuroscience, such as cancer biology. In addition, Danielle has a special interest in communicating about her work to general audiences.

Awards and Honors:

2012–present	National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Proposal: Determining protein organization and heterogeneity at the postsynaptic density. Three-year fellowship with full stipend support.
2011–present	Portland ARCS Foundation Scholarship
2009	Outstanding Undergraduate Poster Presentation, Neuroscience Research Forum, Vermont Chapter SfN
2008–2009	James Peek Trust Educational Scholarship

Publications and Posters:

Publications

Glass MJ, **Robinson DC**, Waters E, Pickel VM. (2013) Deletion of the NMDA-NR1 receptor subunit gene in the mouse nucleus accumbens attenuates apomorphine-induced dopamine D1 receptor trafficking and acoustic startle behavior. *Synapse* 67, 265–279.

Duffy AM, Fitzgerald ML, Chan J, **Robinson DC**, Milner TA, Mackie K and Pickel VM (2011) Acetylcholine α7 nicotinic and dopamine D2 receptors are targeted to many of the same postsynaptic dendrites and astrocytes in the rodent prefrontal cortex. *Synapse* 65:1350–1367.

Milner TA, Waters EM, **Robinson DC** and Pierce JP (2011) Methods in Molecular Biology: Neurodegeneration, Degenerating processes identified by electron microscopic methods. G. Manfredi & H. Kawamata, eds. Totowa, NJ: Humana Press.

Posters

Robinson DC, Long BR, Zhong H (2013) Towards correlating photoactivated light microscopy and electron microscopy. Poster, Cellular Imaging at the Nanoscale symposium, OHSU.

Robinson DC, Long BR, Zhong H (2012) Towards correlating photoactivated light microscopy and electron microscopy. Poster, 2012 NGP Program Retreat, Timbering Lodge OR.

Robinson DC, Glass MJ, Pickel VM (2011) Spatial-temporal NMDA-NR1 deletion in the nucleus accumbens alters apomorphine and auditory evoked accumulation of dopamine D1 receptors preferentially in μ-opioid receptor containing local dendrites. Poster, Society for Neuroscience Annual Meeting, Washington DC. 36.07/C33.

Robinson DC, Ezerman E, Forehand C (2009) Myosin II regulation of sensory afferent growth in the embryonic chicken spinal cord. Poster, Society for Neuroscience Annual Meeting, Chicago IL. 128.4/B13.