

**Achievements - Dr. Mugdha Deshpande, Ph.D.**  
**Blazeman Foundation for ALS Research Postdoctoral Fellow**

**Publications:**

1. Deshpande M, **Rodal AA**. The crossroads of synaptic growth signaling, membrane traffic, and neurological disease: Insights from *Drosophila*. *Traffic* 2016,17(2):87-101.
2. Deshpande M\*, Feiger Z\*, Shilton AK, Luo CC, Silverman E, **Rodal AA**. Role of endosomal traffic of BMP receptors in synaptic growth defects in a *Drosophila* ALS model. (\*co-first authors) *Mol Biol Cell*. 2016, 27(19):2898-910. \*co-first authors
3. Deshpande M, **Rodal AA**. Beyond the SNARE – Munc18-1 chaperones  $\alpha$ -synuclein. *J Cell Biol*. 2016, 214(6):641-3.
4. Herzog JJ\*, Deshpande M\*, Shapiro L, **Rodal AA**, Paradis S. TDP-43 misexpression causes defects in dendritic growth. (\*co-first authors). 2017, *Sci Rep*. 7(1):15656. \*co-first authors

**Poster Presentations:**

1. Deshpande M\*, Herzog J, Rodal AA, Paradis S; “TDP-43 dysfunction leads to defects in dendritic morphology” Neurodegenerative Diseases: Biology and Therapeutics, Cold Spring Harbor Labs, December 2016
2. Herzog, JJ., Deshpande, M., Shapiro, L., Rodal, A. Paradis, S. “TDP-43 overexpression decreases dendritic branching in cortical neurons” Gordon Research Conference. Neurobiology of Brain Disorders. Girona, Spain. August 2016
3. Deshpande M\*, Feiger Z, Shilton A, and Rodal AA; “Rerouting BMP receptor traffic suppresses synaptic growth and motor defects in a *Drosophila* model of ALS/FTD” American Society for Cell Biology Meeting, San Diego 2015
4. Herzog, JJ., Deshpande, M., Rodal, A. Paradis, S. “TDP-43 mediated changes in dendritic morphology via aberrant growth factor signaling”. Volen Center for Complex Systems Retreat. Provincetown Inn, Provincetown, MA. October 2015
5. Feiger Z, Deshpande M., Rodal AA, “Rerouting BMP receptor traffic suppresses synaptic growth defects in a *Drosophila* model of ALS/FTD”. Volen Center for Complex Systems Retreat, Provincetown, MA. October 2015
6. Deshpande M\*, Feiger Z, Paradis S. and Rodal AA. “Mechanisms for misregulation of membrane traffic and growth factor signaling in animal models of amyotrophic lateral sclerosis” Neurodegenerative Diseases: Biology and Therapeutics, Cold Spring Harbor Labs, December 2014
7. Herzog, JJ., Deshpande, M., Rodal, A. Paradis, S. “Altered dendrite morphology and growth factor signaling in animal models of ALS” – Abstract for poster presentation. Biochemistry/Quantitative Biology Annual Retreat Marine Biological Laboratory, Woods Hole, MA. October 2014

**Additional project funding, leveraged by Blazeman Foundation Support:**

“Modeling ALS using patient-derived stem cells”, Brandeis Provost’s Award (\$19,000)

**Students Mentored:**

Josiah Herzog (Ph.D. anticipated Fall 2018)

Zachary Feiger (Ph.D. Fall 2016)

- Current position: Clinical Trials Analyst, ICR International

Amanda Shilton (BS/MS Spring 2018)

- Professor Chandler Fulton Prize for Undergraduate Research
- Reis and Sowul Family Prize in Neuroscience
- Selected as Life Science Commencement speaker
- Senior Thesis with Highest Honors “Investigating synaptic growth pathways affected by TDP-43 misregulation in a *Drosophila* model of Amyotrophic Lateral Sclerosis”
- Enrolled for Fall 2019 in the Graduate Program in Bioscience at the Rockefeller University.