

# SCIENTIST SPOTLIGHT



**Chris Grunseich, MD**  
**Staff Clinician**  
**Neurogenetics Branch, National**  
**Institute of Neurological Disorders**  
**and Stroke, National Institutes of Health**  
**Bethesda, MD**

As a clinician scientist, Chris sees patients with inherited forms of motor neuron disease. He develops patient-derived cell model systems for characterizing the molecular mechanisms of disease, while also performing clinical studies to evaluate candidate treatments in patients.

**Q: What inspired your career path?**

A: I was inspired to become a clinician scientist by the lack of treatment options for many patients with neurological diseases. I believe that I can use my training to better understand, and help the patients that I am taking care of.

**Q: With biotech moving at an incredible speed, what are you most excited about?**

A: I am most excited about the opportunities to develop treatments that are tailored for the specific types of genetic changes identified in our patients. The development of Nusinersen for treatment of spinal muscular atrophy is one example of this approach.

**Q: In your role, what are you regularly challenged by, and how do you work to overcome that?**

A: We are challenged by access to model systems of neurological disease which adequately recapitulate the necessary features of the disease. We try to overcome this by generating patient-derived cellular models in which the appropriate cell type can be studied. We use these models to identify the pathways that are important in modifying the disease process so that they can be targeted for treatment.

**Q: How do you see technology, like the WOLF, helping scientists advance current and emerging cellular assays?**

Cell sorting technology is an important tool in our selection of patient derived cells which have genetic editing. We are introducing genetic edits into the cells to facilitate their differentiation into the appropriate cell type that we are studying. We use the isolated cells to better understand changes in motor neuron biology. We also edit the disease cells genetically to correct the mutation and use cell sorting to identify this corrected population.