

FORMER SUMMER INTERN, RAJEEV TAJHYA, IS A DOCTORAL CANDIDATE AT BAYLOR MEDICAL COLLEGE

While a student at Salem International University, Rajeev Tajhya was a WV-INBRE summer intern in 2006 in the lab of Dr. Patrick Callery at WVU. His summer project was entitled "Synthesis, Stability, and Cytotoxicity of the Glutathione-Sulfonium Metabolite of the Anti-Cancer Drug, Busulfan". Rajeev received his bachelor of science in Biophysics with a minor in Chemistry from Brigham Young University. Following graduation, he entered the graduate program in biomedical sciences at Baylor College of Medicine. Currently, Rajeev is in the lab of Dr. Christine Beeton who focuses on ion channel in diseases, especially potassium channels in autoimmune diseases. Under Dr. Beeton's mentorship, he has developed a new project to study potassium channels (both voltage gated and calcium activated) during myogenesis in patients with myotonic dystrophy type 1. In patients with myotonic dystrophy, skeletal myoblasts have delayed myotube fusion, which could lead to muscle wasting. Muscle wasting is the major cause of disability in patients and no cure is available. Using the evidence that K⁺ channels play a role in proliferation and migration of mammalian cells by affecting membrane potential, cell volume, and calcium-activated pathways, Rajeev plans to see if early stage of muscle regeneration that requires proliferation and migration can be rescued by modulating these K⁺ channels. The ultimate goal of his research is to rescue myotube fusion and identify how K⁺ channels regulate proliferation, migration and fusion. Rajeev is hoping to finish his Ph.D. in early 2016.

