Investigator:	**Katie Bales** Phone: (404) 321-6111 ext. 206583 Email: klbales@emory.edu
Primary Research Interest:	Biology
Description of Research:	Photoreceptor dysfunction is one of the hallmark pathologies associated with retinal degenerative (RD) diseases that manifests in patients as a progressive loss of vision. This encompasses heterogenous diseases such as retinitis pigmentosa, which affects 1 in 3500 people worldwide and age-related macular degeneration, which is projected to affect 288 million people by 2040. We have shown modest exercise provides retinal neuroprotection in a mouse model of RD, through increased brain derived neurotrophic factor (BDNF) signaling. The cellular modifications provoking neural protection and repair from exercise are not understood. Our studies will illuminate the roles of retinal astrocytes and vasculature in this known neuroprotective therapy, ultimately optimizing exercise-based therapeutics and creating new pharmacological strategies targeting the underlying mechanisms of exercise-induced protection
Relevance to VA:	Investigating non-invasive neuroprotective methods for retinal degenerative diseases.