Investigator:	**Christina Fournier** Phone: (404) 457-8182 Email: christina.nicole.fournier@emory.edu
Primary Research Interest:	Neurology
Description of Research:	The goal of this proposal is to develop novel research tools that allow for more efficient and conclusive Amyotrophic Lateral Sclerosis (ALS) clinical trials. In Aim 1, a new ALS disability scale with improved sensitivity and reliability will be developed and validated using a modern test-theory approach, Rasch analysis, for use as an outcome measure in clinical trials. This approach provides quantifiable mathematical advantages compared to the classical methodology used to construct the currently used ALS Functional Rating Scale. In Aim 2, the best existing ALS prediction algorithms, which rely on non-parametric, non-linear modeling techniques, will be refined and validated for use in clinical trial design and for guiding patient-care decisions. For Aim 3, an exploratory analysis of T-cell populations as biomarkers of disease activity and as biologic variables in ALS prediction models will be perform
Relevance to VA:	ALS is an invariably fatal disorder that causes significant morbidity and mortality among veterans. In 2009, the Department of Veterans Affairs established a presumption of service connection for any veteran that develops ALS based on multiple studies showing that veterans have a higher risk of ALS compared to the civilian population. This proposal will develop improved outcome measures and prediction tools for ALS, improving research efficiency and the development of new treatments.