The Berger lab at Duke University Medical Center (https://anesthesiology.duke.edu/research/berger-lab) is looking for a talented postdoc or research scientist with experience in proteomics analysis or similar 'omics analysis and/or statistical background, to work on a new NIH R01 funded project "APOE4-dependent regulation of CSF Complement Pathway Activation in the Development of Alzheimer's Disease". This project seeks to understand the effect of APOE4 allele copy number on CSF complement protein levels and pathway activation throughout adult human life, based on our preliminary data (PMID 33337362). The rationale behind this work is that excessive complement-mediated synaptic pruning in APOE4 carriers could increase the risk of Alzheimer's disease, a hypothesis supported not only by our preliminary human data but also by data from multiple mouse models from several labs. This work will involve the analysis of both targeted and unbiased mass spec-based proteomic data obtained from ~500 CSF samples from *APOE4* heterozygotes, homozygotes and non-carriers. This repository of hundreds of human CSF samples comes from several of our studies that have obtained CSF, as well as from collaborators across the USA and Europe.

Additional aims of this project will study the relationship between CSF complement pathway activation and long term cognitive decline (independent of Aβ and tau pathologies), and determine the effect of modulating APOE signaling *in vivo* on postoperative CNS complement activation in older adults (using unique samples from our MARBLE trial- see PMID 32417770).

This is an excellent opportunity for anyone whose Ph.D. work (or recent work) included 'omics analysis (especially neuro proteomics) or similar statistical approaches. The actual mass spectroscopy assays will be performed by the Duke proteomics facility for this work, though opportunities exist for the postdoc to learn about the core facility mass spec rig and to learn about how to run these samples from the core faculty staff. The postdoc or research scientific will receive full benefits (including health insurance) from Duke University Medical Center, and will benefit from rich collaboration with the Duke/UNC Alzheimer's Disease Center and the neuroscience community at Duke. Interested applicants should email Dr. Berger at miles.berger@duke.edu with a copy of their CV and a statement of their interest.