Using a cohort of healthy adults from 18-88 years of age in the CamCAN project (https://www.cam-can.org/), we have shown that mid-life activities provide resilience of cognitive abilities to age-related atrophy of gray-matter in old age (from structural MRI [1]). This project will investigate the neural and vascular correlates of this “cognitive reserve” using multimodal, longitudinal neuroimaging data, including fMRI and MEG, as well as lifestyle and health data, from the CamCAN cohort and other European cohorts within the LifeBrain consortium (https://www.lifebrain.uio.no/). This project would benefit from good statistical (eg multivariate) skills and basic knowledge of neuroimaging, though both of these can also be taught.

Reference