NIH POSTDOCTORAL POSITIONS AVAILABLE
Magnetic Resonance Neuroimaging

Several postdoctoral positions in magnetic resonance neuroimaging are available within the Magnetic Resonance Physics of Aging and Dementia (MRPAD) Unit and the Magnetic Resonance Imaging and Spectroscopy (MRIS) Section at the National Institute on Aging (NIA) of the National Institutes of Health (NIH), located in Baltimore, Maryland. Successful candidates will be involved in a large research initiative targeting:

- The development of advanced MR acquisition and analysis techniques for quantitative neuroimaging. This includes multicomponent and high-dimensional relaxometry analyses, compressive sensing, inverse Laplace transform-based analyses, and image denoising.
- The quantification of central nervous system (CNS) demyelination, axonal damage, iron accumulation, cerebral blood flow deficits, and metabolite changes in normative aging, mild cognitive impairment, and dementia.
- Identification of cognitive and functional correlates of CNS findings.

Work will center on spectroscopic and imaging studies of the CNS in human subjects drawn primarily from the Baltimore Longitudinal Study of Aging (BLSA) and the Genetic and Epigenetic Signatures of Translational Aging Laboratory Testing (GESTALT) populations, landmark studies of the NIA Intramural Research Program, and in small animal models. MR results will be correlated with histological measures as well as a wide range of biological, genetic, and functional outcomes to explore the basis and consequences of cerebral functional, structural, and metabolic changes that occur with age and dementia. Other research opportunities may be available depending upon the interests and background of the successful candidates.

These are excellent opportunities to conduct innovative imaging research as a member of teams of technical and clinical experts with access to state-of-the-art imaging equipment, including our research-dedicated 3T whole-body Philips Achieva MRI system, capable of both proton and heteronuclear spectroscopy, a double-resonance Bruker 7T/30 cm Biospec Avance III HD system for preclinical studies, and a triple-resonance vertical wide-bore 9.4T Bruker Avance III spectrometer with microimaging and solids capability. In addition, we expect to upgrade the 3T Philips system to an Elition in 2020, and plan to install an additional instrument, a 9.4T/20 cm Bruker Biospec, in the first quarter of 2021, for preclinical studies of aging.

The candidate should have a Ph.D. in physics, neuroscience, engineering, computer science, mathematics or a related field. Experience with methods development and pulse programming on preclinical or clinical MR instruments is a plus. The appointment will be as an IRTA Postdoctoral Fellow for US citizens or as a Visiting Fellow for non-citizens. The successful applicant will be guaranteed a stipend for two years (including family health insurance coverage), with the option to renew annually upon mutual agreement up to a maximum of five years. Publications and further information can be found at:


Interested individuals should e-mail their CV and the names, telephone numbers, and e-mail addresses of three references to: Dr. Mustapha Bouhrara, Chief of the MRPAD Unit, bouhraram@mail.nih.gov and Dr. Richard Spencer, Chief of the MRIS Section, spencer@helix.nih.gov

The NIH is an equal opportunity employer. Minorities and women are especially encouraged to apply.