BROWN
Alpert Medical School

**Clinical Psychology Training Programs at Brown: A Consortium of the
Providence VA Medical Center, Lifespan, and Care New England
Postdoctoral Fellowship Training Program
Postdoctoral Fellowship Description: RESEARCH FOCUS**

Title: Post-Doctoral Fellowship in Cognitive Neuroscience of Aging and Alzheimer's
                        disease

                        APA-accredited: ____YES __X__NO

Site: Brown University

Supervisor(s):   Hwamee Oh, Ph.D.

The goal of this fellowship is to provide training in cognitive neuroscience of aging and Alzheimer's disease using behavioral experiments and multimodal neuroimaging methods. Training goals will be met by participating in NIH-funded research projects that aim to develop novel cognitive and neuroimaging markers to detect subtle cognitive and neural changes in association with beta-amyloid (Aβ) deposition and tau-protein neurofibrillary tangles (NFT), pathological hallmarks of Alzheimer's disease (AD), among clinically intact older adults. The projects will use amyloid and tau PET, structural and functional magnetic resonance imaging (fMRI) to assess the impact of each AD pathology on a set of innovative computer-administered tasks with visual stimuli and underlying brain structure and function. The program is based in the Laboratory for Cognitive and Translational Neuroscience, directed by Dr. Hwamee Oh, in the Department of Psychiatry and Human Behavior (DPHB) and the Memory and Aging Program (MAP) at Butler Hospital, one of the leading clinical research centers for Alzheimer's disease in the United States. The laboratory is also affiliated with the Carney Institute for Brain Science and Department of Cognitive, Linguistic, and Psychological Sciences at Brown University, providing rich and collaborative training and research environment for innovative brain science with clinical applications.

Eligibility
Applicants with a Ph.D. degree in cognitive neuroscience, neuropsychology, biomedical engineering, computer science, physics or a relevant field are encouraged to apply. Prior experience with human neuroimaging (e.g., task fMRI, rsfMRI, MRI, DTI, ERP, PET), and familiarity with a relevant programming language (e.g., Python, MATLAB, R) are required. A strong background of cognitive neuroscience and experimental design is desirable. The successful candidate is expected to demonstrate communication skills, motivation and interest in the area of cognitive and brain aging, AD, and/or neuroimaging, and the ability to independently develop research questions and work in collaboration with other team members.

Fellowship Aims
1.   To provide the fellow with broad post-doctoral training in the cognitive and translational neuroscience of aging and AD for early detection and monitoring of pre-clinical and mild stages of AD.
2.   To provide the fellow with expertise in designing and implementing cognitive paradigms for behavioral and fMRI experiments and analyzing MRI and PET data.
3.   To provide the fellow with experience in communicating the results in manuscript or other formats and preparing and submitting grant proposals.
4.   To enable the fellow to gain experience working with multidisciplinary team evaluating and treating patients with early cognitive impairment or dementia due to AD and related disorders.

Fellowship Timeline
The duration of the fellowship is 1-3 years contingent upon satisfactory progress in each of the previous years. Start date will be determined on an individual basis. Anticipated start is July 2021; however, there may be flexibility in the available start date if a suitable candidate is identified before that time.

Research Activity Plan (90%)
Ninety percent of the fellow's time will be devoted to research, academic/didactic, and professional training experiences. The fellow will participate in the following activities:
- Developing cognitive paradigms for behavioral and fMRI experiments
- Behavioral and fMRI/MRI data collection
- Behavioral and neuroimaging data analysis
- Developing automated processing pipeline for large-scale neuroimaging datasets involving PET and MR imaging
- Manuscript preparation and submission and conference attendance
- Mentoring students and research assistants and participation in grant writing
- Developing an independent line of research and applying for NIH and foundation grants

Didactics Plan (10%)
Post-Doctoral Seminars: The fellow will be required to participate in the post-doctoral research seminar series through the Brown University Postdoctoral Training Program.

Didactics:
DPHB Academic Grand Rounds (monthly)
Postdoctoral Fellowship Training Program:
    Core Seminars (monthly, year 1)
MAP clinical consensus conference (weekly)
Participation in lab meetings (weekly)

Supervision and Evaluation
Supervision will be provided in the form of 2-3 one-hour individual meetings by Dr. Oh on a weekly basis. The Fellow and Dr. Oh will develop individualized training goals and training objectives at the beginning of the fellowship year. Every 6 months for the duration of the fellowship, the fellow and Dr. Oh will provide formal evaluations, and evaluations of the program relative to the goals and learning objectives of the fellowship.

Resource Requirements
Fellow will be provided with the following resources:
- Shared office space
- A personal desktop computer and project specific software
- Internet access
- Telephone
- Conference travel support

Reporting and approval
This fellowship will be part of the Research Fellowship Program (RFP). The position has been discussed and approved by the Training Committee.

Associate Director, Research Fellowship Program

Director, Postdoctoral Fellowship Training Program