



**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 Alzheimer's Research - Neuroimaging

**Site:** Brown University

APA-accredited: \_\_\_YES \_\_X\_\_NO

**Supervisor(s):** Hwamee Oh, Ph.D. (Primary Supervisor)  
Jennifer Barredo, Ph.D.  
Nicole McLaughlin, Ph.D.  
Stephen Correia, Ph.D.  
Stephen Salloway, M.D.

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The goal of this fellowship is to provide training in neuroimaging research of Alzheimer's disease. Training goals will be met by participating in two collaborative research projects that examine the impact of Alzheimer's disease (AD) pathologies on functional and structural networks among nondemented older adults. One project, in collaboration with Drs. Nicole McLaughlin and Jennifer Barredo in the Department of Psychiatry and Human Behavior (DPHB), is focused on the impact of AD pathology on changes in individually-defined functional connectivity. The other project is performed in collaboration with Dr. Oskar Hanson's BioFinder group in Lund University in Sweden and involves amyloid and/or tau PET scans, neuropsychological testing, survey questionnaires, genetic information, blood biomarkers, and structural and functional magnetic resonance imaging (fMRI) to understand functional and structural network changes in association with AD pathologies with emphasis on the pre-clinical and mild stages of the illness. The program is based in the Butler Hospital Memory and Aging Program, one of the leading clinical research centers for Alzheimer's disease (AD) in the United States. The MAP is led by Stephen Salloway, M.D., M.S., Director; Stephen Correia Ph.D. ABPP-CN, Director of Research; and Hwamee Oh, Ph.D., Director of Imaging Research.

**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 data analyses on resting-state fMRI or PET and familiarity with a relevant programming language (e.g., Python, MATLAB, R, etc.) are required. A strong background of network neuroscience and computational modeling and experiences with other neuroimaging modalities (e.g., MRI, DTI, FLAIR) are 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 training in the design, implementation, and analysis of MRI and PET data for identification and monitoring of Alzheimer's disease with focus on its pre-clinical and mild stages.
2. To enable the fellow to develop expertise in multimodal neuroimaging analyses in combination with fluid and psychosocial measures.
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 investigating cognitive and brain aging and Alzheimer's disease in large-scale datasets.

### **Fellowship Timeline**

The duration of the fellowship is 1-2 years contingent upon satisfactory progress. Start date will be determined on an individual basis, with preferred start dates in Fall 2021.

### **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 analytic pipelines for brain network analyses using resting-state fMRI data
- Developing visualization pipelines of network neuroscience results
- Behavioral and fMRI/MRI data collection and data analysis
- Developing automated processing pipelines that integrate large-scale neuroimaging datasets involving structural and functional MR imaging and behavioral and genetic data.
- 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
- Participation in weekly lab meetings

### **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 (weekly, year 1)

MAP Clinical Consensus Conference (weekly– required in years 1 & 2)

Other relevant didactics can be arranged with the primary supervisor

### **Supervision and Evaluation**

Supervision will be provided in the form of 2-3 one-hour individual meetings by Dr. Oh, the primary supervisor, on a weekly basis and bi-weekly group supervision by Drs. Barredo, McLaughlin, Correia, Salloway, and Oh. In accordance with Consortium policy, every 6 months for the duration of the fellowship, the fellow and the supervisors 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

### **Reporting and approval**

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

Associate Director, Research Fellowship Program

Director, Postdoctoral Fellowship Training Program