**Postdoctoral Fellow: Biomedical Image Analysis: Development of Novel Methods of Image Analysis for Monitoring and Predicting Progression of Neurodegenerative Disease #1805773**

AbbVie is a global, research-based biopharmaceutical company formed in 2013 following separation from Abbott Laboratories. The company's mission is to use its expertise, dedicated people and unique approach to innovation to develop and market advanced therapies that address some of the world's most complex and serious diseases. Together with its wholly-owned subsidiary, Pharmacyclics, AbbVie employs more than 29,000 people worldwide and markets medicines in more than 170 countries. At AbbVie, our vision is to be recognized as a biopharmaceutical company delivering a consistent stream of innovative medicines that solve serious health issues and have a remarkable impact on people’s lives.

The Postdoctoral Program is designed for true investigational and experimental research. Participants will be mentored by renowned industry scientists and collaborators at AbbVie and focused on delivering cutting-edge advancements in Discovery, Development Sciences and BioPharma. The enriching training program offers a balance of structured learning and work experience which fosters a learning environment to advance individual development with accessibility to high-level knowledge building across the drug development continuum..

Through our Postdoc program, we are hiring postdocs from key academic institutions for preferred areas of science in the U.S., while providing a unique opportunity for participants to build a solid career foundation in the pharmaceutical industry while building the AbbVie brand as an employer of choice for scientific talent. Participants in the Postdoc program play an integral part in our continued success and will help us to further grow as a leader in our industry. This assignment is expected to be for two years minimally and no more than three years.

Project outline:

This project will focus on biomedical image analysis and modeling the progression of neurodegenerative diseases. The project will last for two years with the possibility of one year extension. The successful applicant will be based in AbbVie’s Translational Imaging group, part of the department of Integrated Science and Technologies (iSAT). The Translational Imaging group, based in Lake County outside of Chicago, works across different disease areas (e.g. neurosciences, oncology, and immunology) applying biomedical imaging methods to accelerate drug development. The group is highly multidisciplinary including biologists, pharmacologists, chemists, physicists and mathematicians, and collaborates widely with other scientists and clinicians within AbbVie, leading academics and other industry groups.

The accumulation of misfolded proteins, such as β-amyloid, tau and α-synuclein, is a feature of numerous neurodegenerative diseases including Alzheimer’s Disease and Parkinson’s Disease. Publically available databases from initiatives such as the Alzheimer’s Disease Neuroimaging Initiative (ADNI) and Parkinson's Progression Markers Initiative (PPMI) have allowed the start of big data-like analyses in the neuroimaging field. The goal of this postdoctoral position is to utilize these (and other) databases to develop novel image analysis methods for monitoring and predicting the progression of neurodegenerative diseases. It is hoped that this project will result in novel and more sensitive outcome measures to evaluate spatiotemporal changes in protein aggregates, for application in clinical trials, and the development of methods to support patient stratification and clinical trial design. Abbvie is committed to publishing the results of this research.

Key Responsibilities:

• Image processing and feature extraction from 4D imaging data reflecting the accumulation of misfolded proteins in neurodegenerative diseases.

• Develop and apply machine learning approaches to predict disease progression using multi-modal imaging and non-imaging biomarkers.

Basic Qualifications:

* Successful completion of a PhD in Biomedical Engineering, Computer Science or a relevant discipline.
* Minimum graduate school GPA 3.0; 3.5 preferred. Graduate of accredited and nationally ranked university.
* Background in computer vision, image analysis, machine learning or neuroscience.
* Proficient in at least one of the following programming languages: Python, R, MATLAB, or C++.
* Record of publication in a prestigious journal(s).
* Able to demonstrate the following skills/attributes: analytical thinking, critical thinking, collaboration, communication, partnership, and flexibility.
* Excellent problem-solving skills including critical and analytical thinking.
* Demonstrated ability to independently, interpret data, and identify appropriate follow-up strategies.
* Proven track record of teamwork, adaptability, innovation, initiative, and integrity. Global mindset to thrive in a diverse culture and environment.
* Work authorization in the United States.

Preferred Qualifications:

* Experience with big data analytics and machine learning tools e.g. tensorflow, scikit learn.
* Experience with medical image analysis.

Key Leadership Competencies:

* Builds strong relationships with peers and cross functionally with partners outside of the immediate team to enable higher performance
* Learns fast, grasps the "essence" and can change course quickly where indicated
* Raises the bar and is never satisfied with the status quo
* Creates a learning environment, open to suggestions and experimentation to drive the science in the field of interest
* Embraces the ideas of others, nurtures innovation and manages innovation to reality

Apply: <https://abbvie.referrals.selectminds.com/jobs/postdoc-postdoctoral-fellow-biomedical-imaging-analysis-4553> or [LINK](https://abbvie.taleo.net/careersection/2/jobdetail.ftl?job=1805773)

For additional Postdoc opportunities in Illinois, Massachusetts, and California search under Postdoc on [www.abbviecareers.com](http://www.abbviecareers.com)

For further information on the company and its people, portfolio and commitments, please visit [www.abbvie.com](http://www.abbvie.com/). Follow @abbvie on Twitter or view careers on our Facebook or LinkedIn page.

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