Postdoctoral Fellow – AI/Neuropathology

Location: Davis/Sacramento, CA

The laboratories of **Dr. Chen-Nee Chuah** in the Department of Electrical & Computer Engineering and **Dr. Brittany Dugger** in the Department of Pathology and Laboratory Medicine at the University of California, Davis are seeking an enthusiastic, motivated, and highly organized postdoctoral fellow to contribute to the development and deployment of a web-based platform and AI/ML tools that advance research in neurodegenerative diseases, including Lewy body disease and Alzheimer's disease, through cutting-edge digital pathology infrastructure.

Our active projects span multi-institutional, cross-disciplinary collaborations focused on creating innovative workflows in neuropathology. Current efforts include strengthening and adapting deep learning pipelines for efficient, scalable quantification of diverse types of neuropathologies (see Tang Z et al., *Nat Commun* 2019, PMID: 31092819; Rosado A et al., *Alzheimers Dement* 2025, PMID: 41200792; Scalco R et al., *Acta Neuropathol Commun* 2024, PMID: 39154006). Our research program centered on adapting large-scale vision–language models (VLMs) and modern machine learning techniques to the unique challenges of digital pathology, with a particular emphasis on data efficiency, domain adaptation, and robustness (more information at https://www.ece.ucdavis.edu/~chuah/rubinet/projects/aipath.html)

The fellow will receive advanced training in grant writing and project oversight, cross-disciplinary collaboration and infrastructure development, leadership, mentorship, human neuropathology, digital pathology, and the analysis of human data, with the overarching goal of supporting the fellow's progression toward becoming an independent researcher. The fellow is expected to advance knowledge at the intersection of computational methodology and neuropathology, contributing to machine-learning innovation in translational digital pathology and the development of generalizable AI systems.

UC Davis ranks among the top public research universities in the United States. Successful applicants will benefit from the university's outstanding training environment, collaborative culture, and rich research ecosystem, all of which are designed to propel fellows toward impactful and fulfilling scientific careers. The fellow is expected to be in person (this is NOT a remote working position)- splitting time between the UCD campuses in Davis and Sacramento CA

Essential job duties and responsibilities

- Conduct independent research under the supervision and guidance of the principal investigators, Dr. Chuah/Dugger, which may include but not be limited to:
    - Conduct novel research in developing and fine-tuning AI/ML methods that leverage agentic or multiagent frameworks to create computationally efficient and generalizable systems for digital pathology learning tasks.
    - Contribute to integration of novel computational approaches to our Brain Digital Slide Archive platform for broader dissemination of laboratory research
    - Contribute to development of histopathology benchmark suite and datasets
- Prepare, draft, and submit scientific manuscripts, abstracts, and grant applications.
- Present research findings at local, national, and international scientific meetings.
- Teach and mentor research staff, students, and residents, and contribute to the organization of workshops, training sessions, and collaborative activities within the laboratories.

Qualifications

- Ph.D. in biomedical engineering, electrical engineering, computer science, computational pathology, computational biology, neuroscience, or a related field.
- Demonstrated experience with AI/ML methods, including model development, fine-tuning, or deployment for image analysis or related tasks.
- Proficiency in Python and common machine learning frameworks (e.g., PyTorch, TensorFlow).
- Strong organizational skills and the ability to work both independently and collaboratively within cross-disciplinary teams.
- Exceptional written and verbal communication skills as demonstrated by multiple strong first author publications as well as presentations at scientific meetings
- Commitment to mentorship, teamwork, and contributing to a positive and inclusive research environment.

Preferred Qualifications

- Demonstrated ability to manage complex datasets, curate annotations, or maintain research software tools.
- Familiarity with web-based platform development, data pipelines, or cloud-based research infrastructure.
- A track record of scientific productivity, including peer-reviewed publications or conference presentations.
- Experience with digital pathology, whole-slide imaging, or computational histopathology.
- Prior experience contributing to grant writing or multi-institutional research collaborations.
- Background in human neuropathology or neurodegenerative disease research. Background in dementia research is beneficial, but not mandatory.
- Passion for innovation and alleviating the burden of dementias.

To Apply

Please submit your application via this Google form. On the form, you will be asked to provide the following:

- Cover Letter
- Curriculum Vitae - Your most recently updated CV with research expertise (including any laboratory training), a list of scientific publications and presentations
- Statement of Research
- Name and contact information for three references (we will solicit recommendation letters from them separately)

Applications will be accepted until the position is filled. Priority will be given to applications received by **February 15, 2026**. Salary depends on experience.

The University of California Davis is an equal opportunity and affirmative action employer. Women, minorities, veterans, and persons with disabilities are encouraged to apply. UC Davis is a smoke & tobacco-free campus (http://breathefree.ucdavis.edu/).