

Postdoctoral Fellowship in Biological and Biomarker Discovery of Cognitive Aging and Neurodegeneration

Location: UCSF Memory and Aging Center, San Francisco, CA

Supervising Labs: Dr. Kaitlin Casaletto & Dr. Rowan Saloner

We are seeking curious, interdisciplinary postdoctoral fellows to contribute to ongoing clinical research and pursue their own areas of interest under the supervision of Drs. Casaletto & Saloner at the University of California, San Francisco (UCSF) [Memory and Aging Center \(MAC\)](#). This joint position offers the opportunity to lead innovative, high-impact research at the intersection of human fluid biomarkers (e.g., proteomics from plasma, cerebrospinal fluid, brain tissue), neuropsychology, and precision medicine in cognitive aging and neurodegenerative disease.

The fellow will have the opportunity to work across multiple NIH- and foundation-funded projects that integrate molecular screening tools in human biospecimens with detailed clinical phenotyping across diverse cohorts of aging and neurodegenerative disease. The position is ideal for candidates looking to advance discovery, translational, and data science efforts related to understanding Alzheimer's disease and related dementias (ADRD). Additional training opportunities at the UCSF MAC include interdisciplinary clinical training/observation, internal and external investigator collaborations, and extensive didactic series.

Research Projects

Below are high priority programmatic areas:

1. Women's Health and Sex Biology Contributors in ADRD

Women are at two-fold increased risk for Alzheimer's disease while men are at two-fold increased risk of Parkinson's disease. What can sex teach us about vulnerability to neurodegeneration? We are exploring how sex-based biological factors, including hormone levels, plasma proteomic profiles, and reproductive history, impact dementia risk and clinical manifestation. These efforts aim to inform precision medicine approaches and address disparities in women's brain health. Projects include identification of the molecular effects of menopause, oral contraceptives, and menopause hormone treatment on Alzheimer's risk in women, and sex differences in the molecular drivers of frontotemporal dementia, AD, and typical cognitive aging. These projects are in collaboration with the [Anne S Bowers Women's Brain Health Initiative](#).

Collaborators: Emily Jacobs (UCSB), Dena Dubal (UCSF), Tara Tracy (Buck Institute)

Example Publications:

<https://www.science.org/doi/10.1126/sciadv.ads8169>

<https://academic.oup.com/brain/article-lookup/doi/10.1093/brain/awac257>
<https://alz-journals.onlinelibrary.wiley.com/doi/10.1002/alz.14630>

2. Frontotemporal Lobar Degeneration Biomarker Discovery

Frontotemporal dementia is caused by underlying frontotemporal lobar degeneration (FTLD) pathology, which exists in two major molecular classes: FTLD with tau aggregation (FTLD-tau) and FTLD with abnormal deposits of transactive response DNA-binding protein 43 (FTLD-TDP). Clinical diagnosis alone cannot reliably distinguish these subtypes, and unlike Alzheimer's disease (AD), FTLD lacks pathology-specific, antemortem biomarkers. We are using large-scale and targeted proteomic assays to identify cerebrospinal fluid and plasma biomarkers that improve diagnosis and prognosis across FTLD subtypes. Projects include both discovery science and targeted assay development, working in genetic and sporadic FTLD cohorts with detailed clinical and pathological phenotyping. These projects are in collaboration with the [ALLFTD Consortium](#) and an FTLD-focused P01 center grant at the UCSF MAC.

Collaborators: Adam Boxer (UCSF), William Seeley (UCSF), Nicholas Ashton (Banner)

Example publications:

<https://www.nature.com/articles/s43587-025-00878-2>
<https://academic.oup.com/braincomms/article/7/1/fcae432/7954434>
<https://jamanetwork.com/journals/jamaneurology/fullarticle/2798586>

3. Molecular Mechanisms of Cognitive Aging & Resilience

Almost all (>90%) older adult brains show significant neuropathology, yet neuropathology only explains a minority of the variance in antemortem cognition and most older adults do not manifest dementia. How do most brains outperform, or show cognitive resilience, against accumulating pathologies? We are leveraging biofluid proteomics, digital health tools, and multi-modal neuroimaging in longitudinally followed community-dwelling older adults to map the dynamics of how resistance and cognitive resilience phenomenon unfold at scale and in real time. These projects are in collaboration with the [UCSF Brain Aging Network for Cognitive Health \(BraNCH\)](#) and UCSF Alzheimer's Disease Research Center (ADRC).

Collaborators: Joel Kramer (UCSF), Emily Paolillo (UCSF), Adam Staffaroni (UCSF)

Example Publications:

<https://www.neurology.org/doi/10.1212/WNL.0000000000201165>
<https://www.medrxiv.org/content/10.1101/2025.03.07.25323587v1>
<https://alzres.biomedcentral.com/articles/10.1186/s13195-023-01365-9>

Key Responsibilities:

- Learn how to process and analyze high-dimensional biofluid proteomics datasets (e.g., SomaScan, Olink, NULISaseq) in conjunction with clinical, cognitive, neuroimaging, and genetic data

- Develop and apply statistical and machine learning approaches to discover and validate diagnostic, prognostic, and disease-monitoring biomarkers
 - Contribute to publications, grant proposals, and presentations at national and international meetings
 - Collaborate with a multidisciplinary team of neuropsychologists, behavioral neurologists, neuroscientists, bioinformaticians, and molecular biologists
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Qualifications:

- PhD or equivalent in bioinformatics, neuroscience, molecular biology, genomics, neuropsychology, statistics, or a related field
 - Experience analyzing high-dimensional datasets is preferred (e.g., proteomics, genomics, transcriptomics)
 - Demonstrated track record of independent research and peer-reviewed publications
 - Ability to work effectively in a highly collaborative, interdisciplinary team
 - Interest in specializing in neurodegenerative disease research or cognitive aging
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Position Details

- Start Date: Flexible (Fall/Winter 2025 preferred)
 - Duration: 2-year initial appointment, with possibility of extension
 - Location: UCSF Mission Bay Campus, San Francisco
 - Salary & Benefits: Commensurate with UCSF and NIH postdoctoral salary scales
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To Apply

Please send the following to coty.chen@ucsf.edu, kaitlin.casaletto@ucsf.edu, and rowan.saloner@ucsf.edu with the subject line:

“Postdoc Application – Casaletto & Saloner Labs”

1. Curriculum Vitae (CV)
 2. Brief cover letter describing research interests and fit
 3. Contact information for 2–3 references
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UCSF is an Equal Opportunity/Affirmative Action Employer. We encourage applications from all qualified individuals, regardless of race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or veteran status.