



Postdoctoral Fellowship Training Program

Postdoctoral Fellowship Description

RESEARCH FOCUS

Title: Postdoctoral Fellowship in Epigenomics & the Intergenerational Transmission of Stress, Substance Use, Trauma, and Resilience

	Yes	No
APA-accredited:		X
Fellowship primarily allows for Telework:		X
Fellowship primarily allows Telesupervision:		X
Fellowship primarily uses Telehealth:		X

Site: The Miriam Hospital; Center for Behavioral and Preventive Medicine & COBRE Center for Stress, Trauma, and Resilience (STAR).

Supervisor(s): Laura Stroud, PhD. – Primary Supervisor

Description of Site

The proposed training will be carried out at the [Center for Behavioral and Preventive Medicine \(CBPM\)](#) and within the [COBRE Center for Stress, Trauma, and Resilience \(STAR\)](#) at The Miriam Hospital, an affiliate of the Warren Alpert Medical School of Brown University. CBPM is home to multiple research scientists, senior research scientists, and affiliated faculty, as well as numerous fellows and students. CBPM has a 30+ year history of conducting innovative research involving inter-disciplinary, behavioral approaches to the prevention and treatment of disease. Our research ranges from biobehavioral mechanisms to behavioral factors in health and disease, and from translating these discoveries into interventions for health promotion and disease management and implementing and disseminating evidence-based interventions. CBPM serves as a home for the [COBRE Center for Stress, Trauma, and Resilience \(STAR\)](#) and the [Qualitative Science and Methods Training Program](#). Current areas of research strength at CBPM include: stress, trauma and resilience; women's and maternal-child health; complementary and integrative health; tobacco and substance use; mHealth; physical activity promotion, sexual health, qualitative and quantitative methods; and behavioral interventions in chronic illness (e.g., cardiovascular disease, diabetes, HIV, aging). CBPM research covers "cells to society" including laboratory, clinical, community, and online research venues.

Mentorship is a key value of all CBPM faculty. CBPM serves as Brown University's official training site for behavioral and preventive medicine, and stress, trauma, and resilience. We mentor and provide research experiences for postdoctoral fellows supported through multiple NIH-funded T32 training grants as well as investigator-funded fellowships. Our faculty also mentor undergraduate and graduate students, and psychology residents from Brown's world-class clinical psychology residency program. Our culture is highly collaborative and embodies the values of respect, belonging and engagement. Our investigators collaborate actively with each other, with other centers and departments, and nationally and internationally.

The [Behavior and Mood in Babies, Adolescents, and Mothers \(BAMBAM\) Lab](#) is housed within CBPM and STAR directed by [Dr. Laura Stroud, PhD](#). The BAMBAM lab conducts research on novel biobehavioral pathways underlying the intergenerational transmission of maternal stress, substance use, trauma, and resilience. Our lab conducts a multi-omics R01 focused on the impact of perinatal substance use and stress on multi-omics pathways in the placenta impacting offspring neurodevelopment. Our focus is on miRNA, mRNA, DNA methylation profiling as well as genome-wide genotyping of the placenta in relation to richly phenotyped maternal pregnancy, and infant data (including interview, self-report, medical record review, biomarker, and behavioral observation data). The postdoctoral fellow will collaborate on this R01 under the direction of Dr. Stroud, who offers expertise in perinatal cohort studies, stress and substance use biomarkers, novel biobehavioral stress induction paradigms, and recruitment and retention of families from a variety of backgrounds. Dr. Stroud also has a history of dedicated career and professional development mentoring for fellows and faculty. The fellowship will also offer opportunities for collaboration with MPIs Carmen Marsit and Todd Everson at Emory Rollins School of Public Health who offer expertise in statistical and conceptual approaches to multi-omics data. The fellow will assist with data processing and analysis and have many opportunities for manuscript and presentation preparation. The fellow will also be offered the opportunity to take part in all training, mentoring and educational opportunities through the BAMBAM Lab as well as STAR and CBPM.

Fellowship Aims

1. To provide the fellow with broad post-doctoral training in the area of inter-generational transmission of stress and substance use, with a focus on epigenomic and multi-omics mechanisms.
2. To provide the fellow with a strong working knowledge of prenatal programming and epigenomic and multiomics mechanisms underlying intergenerational transmission of risk and resilience.
3. To provide the fellow with experience in conducting sophisticated data analysis with rich multilevel phenotypic data and multiomics analysis in relation to intergenerational transmission of risk and resilience
4. To provide the fellow with research training and experience that will prepare the fellow for a future career as an independent investigator conducting transdisciplinary, translational research integrating clinical and behavioral science and biological mechanisms.

Fellowship Timeline

The duration of the fellowship is 1-2 years, with the second year contingent upon satisfactory progress during the first year and availability of funding. The anticipated start date is negotiable between May and November 2026.

Research Activity Plan (90%)

90% of the Fellow's time will be spent on research activities including data analysis and processing and collaborating on and conceptualizing research projects; analyzing multiomics and perinatal and infant data; writing scientific manuscripts for publication and presentations. Familiarity with data analysis in R or Mplus and experience with epigenomic analysis is preferred. Hybrid work may be considered depending on the applicant. The Fellow will be exposed to various aspects of research in this area through participation in the following activities:

- **Data Analysis and Manuscript Preparation (50%).** The fellow will initially work with Drs. Stroud, Marsit, and Emory to process and synthesize phenotypic and multiomics data,

then to collaborate on data analyses for primary and secondary analyses for the project with support from Drs Stroud, Everson and Marsit and the study team. All primary study data have been collected and methylomics and transcriptomics assays have been conducted so the fellowship will focus on data analysis and manuscript preparation and submission.

- **Data Processing, Management, & Coordination (20%).** Coordinating multi-omics, perinatal, developmental, and clinical data processing and management at Brown and Emory.
- **Independent research activities (20%).** Individually tailored goals will be established, including development of collaborative manuscripts, conference presentations, and grant proposals.

Clinical Activity Plan (0%)

There is no requirement for clinical training as part of the position. However, supervised clinical experience may be available if the fellow's training goals include gaining hours toward licensure. If clinical training is requested and available, research effort will be reduced to allow for participation in clinical activities.

Path toward licensure: YES X* NO

*Addition of a clinical activity plan will allow for accrual of hours to pursue licensure after 2 years.

Didactics (10%)

Postdoctoral Seminars: The fellow will participate in the following postdoctoral seminars through the Postdoctoral Fellowship Training Program.

Mandatory Didactics:

- RFP Core Seminar (1 per week)
- Grantwriting Seminar (1 per week)
- DPHB Academic Grand Rounds (1 per month)
- PFTP Core Seminars (1.5 hours, once per month).

Optional Didactics and Opportunities:

- Clinical Ethics – if intending to sit for licensure (1 per month)
- Special topics in statistics
- Alcohol Center seminars
- DPHB Diversity Mentoring Program – including opportunities for mentorship from faculty within DPHB conducting work in areas of interest

Supervision and Evaluation

Research supervision will be provided in the form of weekly individual and ad-hoc supervision meetings and bi-weekly group supervision by Dr. Stroud. Opportunities for collaboration and supervision with other investigators including: Carmen Marsit, PhD, and Todd Everson, PhD, as well as faculty who are part of CBPM and STAR programs. 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.

Please visit the [Brown Faculty](#) page to view supervisor profiles.

Resource Requirements

Fellow will be provided with the following resources:

- Access to space to complete research responsibilities
- A computer and project specific software
- Internet access
- Telephone
- Travel to one conference per year will be supported up to \$1500

Reporting and approval

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

Director, Research Fellowship Program

Director, Postdoctoral Fellowship Training Program