Postdoctoral Fellow

George Lab — Neurobiology of Addiction

Department of Psychiatry · UC San Diego School of Medicine · La Jolla, CA

Principal Investigator: Olivier George, PhD — Professor of Psychiatry

Location: 9255 Pharmacy Lane, La Jolla, CA 92093

Positions Available: One or more, open until filled

Start Date: Flexible — positions open year-round

Salary/Stipend: Commensurate with NIH NRSA scale; full UC San Diego benefits

Funding: NIH P50DA066459 (Polysubstance Addiction Research Center) and additional NIH grants

About the George Lab

The George Lab at UC San Diego investigates the neurobiological mechanisms that drive the transition from recreational drug use to compulsive addiction, and develops novel pharmacological and non-pharmacological treatments for substance use disorders. We operate at every scale of biology — from molecules and genes to neural circuits, animal behavior, and translational biomarkers — under the motto "From Genes to Behavior."

Dr. Olivier George is Professor of Psychiatry at UCSD, Founding Director of the Polysubstance Addiction Research Center (PARC), and Director of the Cocaine and Oxycodone Biobanks. He trained with Nobel laureate George Koob at The Scripps Research Institute and joined the UCSD faculty in 2019. The lab has trained nearly 200 postdocs, students, and staff since 2006 and has published more than 120 peer-reviewed articles.

Research Areas

Postdoctoral fellows will contribute to one or more of the following ongoing programs:

- Neurocircuitry of addiction — whole-brain iDISCO clearing, light-sheet microscopy, and single-cell ensemble imaging to map circuit-level changes driving compulsive drug use
- Genetic basis of substance use disorders — GWAS and genomic analyses using biobanks of >2,000 addiction-vulnerable or -resistant heterogeneous stock (HS) rats
- Neuronal ensembles in PFC and central amygdala — optogenetics, chemogenetics, and single-cell RNA-seq to dissect circuits controlling compulsive alcohol and nicotine intake
- Brain stress systems — CRF and dynorphin signaling in the amygdala and VTA in escalation of alcohol, nicotine, heroin, and methamphetamine self-administration
- Deep brain stimulation — translational studies targeting compulsive heroin and cocaine intake
- Vapor self-administration models — alcohol, nicotine, opioids, and psychostimulants, including e-cigarette-relevant paradigms
- Translational biomarkers — blood-based signatures of opioid use disorder and treatment response

Techniques & Approaches

Behavioral Neuroscience

- Drug self-administration (IV, oral, subcutaneous, vapor) for alcohol, nicotine, opioids, cocaine, and methamphetamine
- High-throughput behavioral phenotyping (>60 animals simultaneously)
- Negative emotional state and analgesia/hyperalgesia assays

Circuit & Cellular Neuroscience

- Ex vivo slice electrophysiology
- iDISCO whole-brain tissue clearing and light-sheet fluorescence microscopy
- Single-cell neuronal ensemble imaging

Genomics & Multi-Omics

- GWAS and single-nucleotide polymorphism analysis
- Single-cell RNA sequencing and spatial transcriptomics
- 16S rRNA microbiome sequencing (QIIME 2, PICRUSt2)
- Untargeted and targeted metabolomics

Pharmacology & Drug Development

- Pre-IND proof-of-concept pharmacology, PK/PD studies, and drug screening
- Biological therapeutics and deep brain stimulation for substance use disorders

Qualifications

Required

- PhD in Neuroscience, Pharmacology, Psychology, Biological Sciences, or a closely related field (degree conferred before start date)
- Peer-reviewed publications demonstrating research productivity
- Experience with rodent behavior and/or neural circuit techniques
- Strong quantitative and data analysis skills
- Excellent written and oral communication skills in English

Preferred

- Hands-on experience with in vivo drug self-administration or related addiction models
- Proficiency in one or more multi-omics approaches (scRNA-seq, GWAS, metabolomics)
- Experience with optogenetics, chemo genetics, or in vivo electrophysiology
- Familiarity with bioinformatics pipelines or computational data analysis (R, Python)
- Track record of independent project development and manuscript preparation
- Surgical skills and surgical knowledge in IVSA and IC surgeries in rats an mice

Responsibilities

- Design and execute experiments within an assigned research program
- Analyze and interpret data; present fully analyzed results with journal-quality figures and statistics
- Prepare manuscripts and contribute to grant writing
- Mentor undergraduate students and junior lab members
- Develop and maintain an Individual Development Plan (IDP)
- Participate in lab meetings, journal clubs, and departmental seminars
- Learn and, over time, teach new technical skills to the lab team

What We Offer

- Access to state-of-the-art core facilities at UC San Diego and the Polysubstance Addiction Research Center
- Collaborative environment with an international network of visiting scientists
- Mentorship tailored to career goals — academic, industry, or science policy
- Competitive NIH NRSA-scale salary with full UC San Diego benefits (health, dental, vision, retirement)
- Professional development funding for conferences and courses
- Vibrant research community in La Jolla, one of the world's premier biomedical research hubs

How to Apply

Applications are accepted on a rolling basis. To apply, please complete the online application form at the link below and include: (1) a cover letter describing your research experience, scientific interests, and career goals; (2) your full CV with a list of publications; and (3) contact information for three references. Finalists will be invited for a virtual or in-person interview.

Application portal: https://app.smartsheet.com/b/form/c41bbf4fa8fd438dacab860f93839c4a

UC San Diego is an equal opportunity employer committed to diversity. We particularly encourage applications from candidates who are members of groups underrepresented in biomedical research.

About UC San Diego

UC San Diego is consistently ranked among the top ten public research universities in the United States. Located in La Jolla, California, the campus sits within one of the densest concentrations of biomedical research institutions in the world, with immediate proximity to the Salk Institute, Scripps Research, Sanford Burnham Prebys, and a thriving biotechnology industry. The San Diego region offers an exceptional quality of life with year-round mild weather, outdoor recreation, and a vibrant cultural scene.

We look forward to hearing from you.

George Lab · www.oliviergeorge.com · Department of Psychiatry, UC San Diego