



Spring Undergraduate Minority Research Program at MPRC



What is the program?

The [Maryland Psychiatric Research Center](#) is implementing a Spring (~ 10 weeks between mid-Feb to mid-April 2023) research program for underrepresented students interested in clinical and brain sciences. The program focuses on Clinical and Basic Science Research in Schizophrenia and related psychiatric disorders. Research and clinical experience are supplemented with seminars/ workshops, as well as presentation opportunities. Mentors and their interests are described below



What are some of the training opportunities?

- Neuropsychological testing
- Electrophysiological testing
 - Neuroimaging
- Observership in clinical interviews
- Exposure to molecular and genetic studies
- Eyetracking



Who should apply?

Students interested in clinical psychology/psychiatry/brain sciences and are:

- Available in the coming spring to participate in the research training program at Maryland Psychiatric Research Center in Catonsville, MD
- Students must be currently a full-time student in good academic standing attending an accredited US college or university.
 - From underrepresented populations, or have disabilities, or have financially disadvantaged backgrounds



Is this a compensated opportunity?

Each student will earn a stipend of approximately \$2000 for a period of ~ 10 weeks. Hours spent at MPRC are flexible.

How do I apply?

Applications are accepted online and due **Jan 23, 2023**. Apply at [MPRC Spring Undergraduate Minority Research Program](#). Contact [Dr. Sonia Bansal](#) for more details

Mentoring Team

The goal of our program is to (i) build and sustain a diverse neuroscience, behavioral and clinical research pipeline focused on MPRC research areas. (ii) enhanced diversity education via engagement of patients' perspectives (iii) shared discourse (between mentors/lecturers, trainees and patients) from informational sessions will lead to an enhanced understanding of research and clinical directions while taking patients' perspectives into account.

We implement a multi-disciplinary approach with one-two mentors working to guide each trainee while exposing them to various methods and research areas.. The primary mentor has regular contact and assures project support where the mentee can be heavily involved in at least one project. Each trainee may also have a secondary mentor. Formal and informal meetings with the secondary mentor provides assurance that students understand translational science and how it applies to the mentee's projects. In addition, students will be required to partake in journal clubs and faculty talks, as well as attend a lecture series in clinical and cognitive neuroscience, research methods and most importantly, attend three workshops alongside patient participants to hear their perspectives, as well as partake in discussions designed to make research topics more accessible to patients. Our mentors comprise a diverse range of training backgrounds, including clinical psychologists, neuroscientists, physicists, biochemists, with expertise in various research methods (e.g. neuroimaging, electroencephalography(EEG), computational psychiatry, use of animal models and basic neuroscience). Primary mentors and brief descriptions of their research are indicated below.

See more details on the overall research at MPRC [here](#) and [here](#).

Feel free to get in touch with Dr. Sonia Bansal (sbansal@som.umaryland.edu) if you would like more information



[Dr. Adam Culbreth, PhD](#): His work aims to understand Dr. Dea, as well as developing methods to assess motivation in daily life. Current projects focus on examining effort-cost decision making (i.e., amount of work one is willing to undergo for a specific amount of reward) as a mechanism for motivational impairment in schizophrenia and depression. He uses experimental tasks delivered on computers, cellphone assessments of motivational experience, and functional neuroimaging.



[Dr. Daniel Roche, PhD](#) Dr. Roche's lab uses human laboratory models of addiction to identify the behavioral and biological mechanisms that contribute to the etiology, maintenance, and treatment of substance- and alcohol-use disorder. His work leverages this knowledge into developing and testing novel pharmacological treatments for addiction. <https://www.mprc.umaryland.edu/addiction/>



[Dr. Deanna Kelly, PharmD, BCPP](#): Dr. Kelly's research interests include mechanistic underpinnings of treatment strategies and the role of inflammation, the immune system and microbiome in disease and treatment. She is involved with many studies relating to inflammation and the immune system and is leading efforts worldwide in the understanding of gluten sensitivity and schizophrenia. She also co-leads an effort to examine social media use and mental illness. See [OurDataHelps](#)



[Dr. Gregory Elmer, PhD](#). Dr. Elmer's work explores hypotheses related to altered neurocircuitry in the consequences of early-life trauma on adult psychopathology. His preclinical work uses an array of behavioral and neurochemical strategies to assess behavior and neurocircuits impacted by trauma and potential intervention strategies that may prevent onset of mental illness.



[Dr. James Gold, PhD.](#) The goal of Dr. Gold's lab is to better understand the cognitive, affective and perceptual abnormalities in schizophrenia. In particular, we are interested in examining the relationship between brain function and cognitive behavior, social and goal-directed behavior, as well as mechanisms underlying psychotic symptoms.

goldcanslab.com/research



[Dr. James Waltz, PhD.](#) Dr Waltz' research focuses on the origins of motivational deficits in schizophrenia. In particular, he is interested in how schizophrenia patients process and learn from positive and negative outcomes, and how reward processing deficits that patients have might contribute to motivational deficits.

<https://www.waltzlab.org/research>



[Dr. Peter Kochunov, PhD., MS, MSEE, DABMP.](#) Dr. Kochunov is a board-certified MRI physicist with over two decades of experiences in development of novel data analysis protocols with emphasis on the quantitative, multimodal analyses of genetic factors that are responsible for structural and functional variability. Dr. Kochunov has a background in neuroimaging, electrical engineering, software development and statistics.



[Dr. Robert Schwarcz, PhD.](#) Dr. Schwarcz directs a laboratory investigating neurobiology of quinolinate and kynurenate, two metabolically related brain constituents with neuroexcitatory (and excitotoxic) and neuroinhibitory (and neuroprotective) properties. Ongoing studies are designed 1) to identify possible abnormalities in kynurenine metabolism in HD, schizophrenia and depression and to develop and use novel kynurenergic drugs in order to normalize functional impairments in the central nervous system.



[Dr. Sonia Bansal, PhD.](#) Her research interests are directed towards understanding how people with psychotic disorders perceive their environment and how perception influences their behavior. She uses behavioral methods, eye tracking, event-related potential(ERP) recordings and first-person accounts of experience to investigate the interplay between sensorimotor function, cognitive deficits and psychotic symptoms of schizophrenia.



[Dr. Stephanie Hare, PhD.](#) Dr. Hare is a neuroscientist using functional magnetic resonance imaging (fMRI) analyses as a window to understand how brain excitability becomes altered in schizophrenia with a specialization in investigating networks underlying hallucinations. Dr. Hare is interested in combining Transcranial magnetic stimulation (TMS) and fMRI approaches to better understand cognitive impairments in schizophrenia. Given her training in ethics, Dr. Hare also has interests in ethical, legal and social implications of neuroscience technologies.



[Dr. Yizhou Ma, PhD.](#) Dr. Yizhou (Cherry) Ma joined the Maryland Psychiatric Research Center in fall 2020. She completed her PhD training in Clinical Science and Psychopathology Research at the University of Minnesota. She completed her predoctoral internship at the Worcester Recovery Center and Hospital - University of Massachusetts Medical School. Her research interests include brain mapping of psychopathology with large-scale neuroimaging datasets and the reciprocal relationship between stress and psychosis.