University of Maryland School of Medicine
Department of Psychiatry
Research Faculty - Areas of Interest (2020)

This list is to be used by trainees in the Department of Psychiatry to identify faculty with overlapping research interests in order to get involved in research activities. After identifying a faculty member whose work is of interest to you, please email him/her to set up a time to meet. Each faculty member will have different projects going on and may or may not be able to work with a trainee when you contact him/her. As such, you should identify and seek out consultation with at least 2-3 potential faculty mentors. Note – not all research faculty are listed here. Additional members, and contact info, can be found on the Dept. Psychiatry website.

Division of Addiction Research and Treatment

David Gorelick, M.D. [dgorelick@som.umaryland.edu] Professor
Dr. Gorelick's research interests are the clinical pharmacology of substance abuse, substance withdrawal, and development of new biological treatments for substance use disorders, including medication, drug-metabolizing enzymes, and transcranial magnetic stimulation (TMS). His recent work focuses on cannabis (marijuana) and the cannabinoid chemicals found in the plant (including their potential therapeutic uses), new medications to treat alcohol and cocaine abuse, and treatment of individuals with both substance use disorders and a comorbid major psychiatric disorder, such as schizophrenia. Dr. Gorelick is Scientific Director of the Department's Clinical Neurobehavioral Center, where he is conducting outpatient studies of new medication to treat alcohol use disorder.

Chamindi Seneviratne, M.D. [csenevi@som.umaryland.edu] Assistant Professor
Dr. Seneviratne has done extensive research in molecular genetics in substance abuse with a primary focus on alcoholism. She is also an affiliate faculty at the Institute for Genomic Sciences (IGS) and has been working in the alcoholism research field for over ten years and has been a Co-I/PI in several pharmacogenetic clinical trials. Her current research is focused on developing biomarkers of, (1) heavy alcohol use, (2) response to treatment of alcohol and other substance use disorders (SUDs) with various pharmacologic agents and (3) placebo, for more efficacious personalized treatments and objective pathophysiology-based diagnosis. Her lab uses samples collected from individuals who underwent various testing conditions in past and current SUD research studies, and genomic techniques (DNA and RNA sequencing) to screen and validate novel biomarkers.

Daniel Roche, Ph.D. [droche@som.umaryland.edu] Assistant Professor
Dr. Roche is a neurobiologist with specialized training in the neuroscience of drug addiction, human behavioral pharmacology, and neuroendocrinology. As a postdoc and research scientist at UCLA, his research focus transitioned from general human behavioral pharmacology to medication development for substance use disorder, predominantly alcohol- and tobacco-use disorder. His research program seeks to identify the biological and behavioral mechanisms underlying the development of addiction in order to develop new and more efficacious pharmacological treatments. His present focus is to study the role of neuroinflammation in the development and maintenance of alcoholism and examine whether the neuroimmune system is a viable pharmacological treatment target for the disorder.

Division of Adult Psychiatry

Todd Gould, M.D. [gouldlab@me.com] Professor
Dr. Gould’s laboratory investigates the pathophysiology of mood disorders and the mechanisms of action of mood stabilizers and antidepressants using genetic, pharmacological, and behavioral methods. The research has a particular focus on the development of improved animal models for applications to psychiatry, the functional consequences of mood disorder susceptibility genes, and collaborative translational studies with clinically focused research groups. We aim to further understand the underlying causes of mood disorders as well as assess the feasibility of novel treatment strategies.

Teo Postolache, M.D. [tpostola@som.umaryland.edu] Professor
Dr. Postolache investigates and addresses misalignments between environmental day and night, light and darkness, activity and rest, wakefulness and sleep, and markers of biological day and night. He also takes

an active interest in interactions between allergens or microbes, immune function, and brain structures contributing to emotional and behavioral regulation and dysregulation. His research is highly collaborative and multilevel, with ongoing projects in Germany, Denmark, Austria, Sweden, Lancaster PA (in Old Order Amish), and the VA.

Panos Zanos, Ph.D. [pzanos@som.umaryland.edu] Assistant Professor
The Zanos lab investigates the neurobiological mechanisms underlying comorbid substance use and neuropsychiatric disorders using behavioral pharmacology, electrophysiology and cellular/molecular techniques. Our research focuses on understanding the mechanisms underlying the emergence of affective behaviors (including depression, anxiety and social avoidance) following long-term abstinence from opioid and psychostimulant use. In parallel, we are investigating the effectiveness of rapid-acting antidepressants to prevent relapse following protracted abstinence from chronic opioid misuse.

Sarah Clark, Ph.D. [sclark@som.umaryland.edu] Instructor
Dr. Clark investigates the contribution of neuroimmune interactions to the development of psychiatric disorders. Her research focuses on three main aspects: 1) T-cell mediated responses to stress; 2) the role of the immune system in neurodevelopment; and 3) therapeutic strategies to reduce neuroinflammation to improve psychiatric outcomes.

Polymnia Georgiou, Ph.D. [pgeorgiou@som.umaryland.edu] Instructor
Dr. Georgiou's research interests include the mechanisms underlying mood disorders and the identification of novel and effective pharmacotherapies. Specifically, her work focuses on three main areas: (1) the effect of gonadal hormones in depression, (2) the effectiveness of rapid-acting antidepressants on anhedonia subtypes, and (3) the effects of the sex of human experimenter on mouse stress-related behaviors and response to pharmacological treatments. She uses a variety of techniques to address these topics, including rodent behavioral paradigms, optogenetics, fiber photometry, slice electrophysiology and electroencephalography.

Division of Child and Adolescent Psychiatry

Jill Haak Bohnenkamp, Ph.D. [jbohnenk@som.umaryland.edu] Assistant Professor
Dr. Bohnenkamp's research interests include behavioral and academic outcomes of school mental health service provision, school mental health workforce development, mental health training for educators and pediatric primary care providers and increased access to evidence-based mental health services for youth and families.

Sarah Edwards, Ph.D. [sedwards@som.umaryland.edu] Assistant Professor

Nancy Lever, Ph.D. [Nlever@som.umaryland.edu] Associate Professor
Dr. Lever has a particular focus on training, outreach, dissemination, and resource advancement, especially as it relates to promoting high quality, evidence-based research, training, policy, and practice in school mental health.

David Pruitt, M.D. [dpruitt@som.umaryland.edu] Professor
Dr. Pruitt's research interests are in rational/irrational pharmacology and medical care and effective treatments for children/adolescents and their families.

Gloria Reeves, M.D. [Greeves@som.umaryland.edu] Associate Professor, Vice Chair of Research Services
Dr. Reeves's research interests include childhood aggression, polypharmacy issues in child psychiatry, youth violence prevention, and neuroimaging.

Sharon Hoover, Ph.D. [Shoover@som.umaryland.edu] Professor
Dr. Hoover conducts research and evaluation in the area of school mental health promotion, intervention and treatment. As Co-Director of the National Center for School Mental Health (www.schoolmentalhealth.org), she currently leads national efforts to support states, districts and schools in the adoption of national performance standards of comprehensive school mental health systems

(www.theSHAPEsystem.com). Dr. Hoover has expertise in trauma-informed care for students and mental health training of primary care and other health providers (including school nurses). Dr. Hoover currently has projects on developing national performance standards for school mental health; studying multi-component interventions to reduce harsh discipline practices in schools; researching the impact of cultural responsiveness, mental health literacy training and family engagement on school mental health implementation; and evaluating the impact of school-based behavioral health, including substance use, interventions on student performance and functioning.

Division of Consultation-Liaison Psychiatry

Anique Forrester, M.D. [aforrest@som.umaryland.edu] Assistant Professor
Dr. Forrester is generally interested in social justice writing and research and she is available to provide mentorship on these subjects.

Samantha Latorre, M.D. [slatorre@som.umaryland.edu] Assistant Professor
Dr. Latorre's research interests include trainee educational programs, collaborative care models, and women's mental health. Recently, Dr. Latorre has published an article in Psychosomatics entitled "Anti-NMDAR Encephalitis: A Multidisciplinary Approach to Identification of the Disorder and Management of Psychiatric Symptoms" and a piece in Ob.Gyn News on "Depression after miscarriage." She has been involved in resident quality improvement projects involving capacity education to other medical and surgical disciplines as well as creating an annual seminar for multidisciplinary trainees on various women's mental health topics. Dr. Latorre also helped create educational content for the National Curriculum for Reproductive Psychiatry, a free resource for training directors and residents.

Division of Geriatric Psychiatry

Christopher Marano, M.D. [cmarano@som.umaryland.edu] Assistant Professor

Division of Psychiatric Services Research (DPSR)

Melanie Bennett, Ph.D. [mbennett@som.umaryland.edu]
Dr. Bennet's research focuses on the development, testing, and implementation of psychosocial interventions to help persons living with serious mental illness (SMI) reduce substance use, improve health, enhance recovery, and improve social/community engagement. Her work, focused on improving social functioning and community engagement in SMI, includes studying strategies to help individuals with SMI accomplish self-determined goals with respect to enhancing community integration and social functioning. She is currently the PI on a VA RR&D-funded project, leading the evaluation of a behavioral intervention package that teaches Veterans with schizophrenia ways to overcome deficits in anticipatory pleasure, increase motivation for pleasant activities, reduce expectations of failure in community activities, and perform skillfully in new social situations. She is interested in understanding and treating substance use disorders and promoting health behavior change in SMI, including (1) the impact of behavioral interventions for drinking, drug use, and tobacco, (2) training peer mentors with SMI to enhance smoking cessation outcomes, and (3) strategies to make substance use services available in mental health settings. Dr. Bennet is also involved in studies examining theory-driven, personalized medicine interventions and understanding factors that contribute to medication response among patients with alcohol use disorders. She is the co-PI on a NIAAA-funded study examining the efficacy of pregabalin in the treatment of alcohol use disorder and comorbid posttraumatic stress disorder; a secondary aim of this work is to examine the use of genetic markers to identify responders to pregabalin in order to, in the future, be able to match likely responders to pharmacological treatment.

Amy Drapalski, Ph.D. [Amy.Drapalski@va.gov]
Dr. Drapalski's research focuses on the development and implementation of interventions to reduce internalized stigma in people with mental illness, as well as topics related to mental health recovery, family interventions in SMI and topics related to the health and mental health needs of women veterans.

Richard Goldberg, Ph.D. [Richard.Goldberg@va.gov, rgoldberg@som.umaryland.edu] Professor
Dr. Goldberg is a clinical and health services researcher whose work focused on the development, evaluation and implementation of recovery oriented treatments and services for adults living with serious mental illness. His current projects include the evaluation of health and wellness and mental health consumer delivered interventions.

Howard Goldman, M.D., Ph.D. [hh.goldman@verizon.net; hgold,man@som.umaryland.edu] Professor
Dr. Goldman's is a behavioral health policy researcher involved in evaluating national policies with respect to health insurance and disability benefits. He is involved as a consultant to national evaluations of policy and service demonstration programs, often working with economists and other policy analysts. He has a particular interest in labor force participation by individuals with severe impairments.

Laurel J. Kiser, Ph.D., M.B.A. [lkiser@som.umaryland.edu] Associate Professor
Dr. Kiser's work focuses on the delivery and evaluation of mental health services for children and adolescents and their families, specifically ethnic minority families living in urban poverty. Dr. Kiser is Principal Investigator of the Family Informed Trauma Treatment (FITT) Center, a SAMHSA National Child Traumatic Stress Network Category II Center. Her research is focused on family/dyadic adaptations to stress and trauma and evaluation of Strengthening Family Coping Resources, an intervention for family trauma.

Julie Kreyenbuhl, Pharm.D., Ph.D. [Julie.Kreyenbuhl@va.gov, jkreyenb@som.umaryland.edu] Associate Professor
Dr. Kreyenbuhl's research focus is on the pharmacoepidemiology of serious mental illness and she has expertise in using large administrative databases from national healthcare systems including the VA, Medicaid and Medicare for this work. She has also contributed extensively to the development of evidence-based treatment guidelines for schizophrenia. Dr. Kreyenbuhl also has expertise in evaluating medication adherence among individuals with serious mental illness and has developed, and tested, a Smartphone application for enhancing adherence to antipsychotic medications. She is also interested in methods to improve screening for and patient self-management of side effects of antipsychotic and other psychotropic medications.

Alicia Lucksted, **Ph.D.** [Aluckste@som.umaryland.edu] Associate Professor
Dr. Lucksted is a clinical-community psychologist. Her research focuses on outcomes and change processes for psycho- social interventions, including consumer and family led self-help programs, using both quantitative and qualitative methods. Current content areas include societal and internalized (self) stigma regarding mental illness, stigma and engagement in services and recovery, preventing the development of self-stigma, consumer navigation of early episodes of psychosis and services, and the impacts of Mental Health First Aid as a public education program.

Deborah Medoff, Ph.D. [Dmedoff@som.umaryland.edu] Associate Professor
Dr. Medoff is a quantitative psychologist and a MIRECC research investigator and an associate professor with the Division of Psychiatric Services Research (DPSR), Department of Psychiatry, University of Maryland School of Medicine. She is the director of data management for the MIRECC and the head of the data analysis unit for the DPSR. She is an expert in research methods, statistics and measurement with extensive experience designing and analyzing research on serious mental illness.

Maryland Psychiatric Research Center (MPRC)

Robert W. Buchanan, M.D. [RBuchanan@som.umaryland.edu] Professor; Director MPRC
Dr. Buchanan's major research interests include the neurobehavioral and neuroanatomical investigation of the pathophysiology of schizophrenia and, the investigation of novel pharmacological approaches for the treatment of people with schizophrenia. He has conducted a series of studies examining the clinical correlates of the primary, enduring negative or deficit symptoms of schizophrenia, including the neuropsychological and electrophysiological correlates of these symptoms. He has also conducted multiple structural, functional and spectroscopic imaging studies designed to elucidate the neuroanatomy and neurochemistry of these symptoms. He has conducted a series of proof of concept and clinical trials examining antipsychotic-reduction strategies in the acute and maintenance treatment of schizophrenia; the

use of adjunctive pharmacological agents for the treatment of negative symptoms, cognitive impairments, and treatment-resistant positive symptoms; the utility of adjunctive oxytocin to cognitive behavioral therapy and social skill training for enhancement of social role function; and the comparative efficacy of clozapine and olanzapine for positive and negative symptoms and cognitive impairment in partially responsive outpatients with schizophrenia.

William Carpenter, M.D. [wcarpent@som.umaryland.edu] Professor
Dr. Carpenter's interests include early detection/intervention in psychotic illness, schizophrenia therapeutics, psychopathology concepts, and translational science. He served as the Director of the Maryland Psychiatric Research Center for over 30 years. Dr. Carpenter also serves as a senior advisor to the NIMH and has been involved in the development of the Research Domains Criteria (RDoC), whose implantation was designed to increase knowledge of brain mechanisms involved in psychopathology.

Seth Ament, Ph.D. [sament@som.umaryland.edu] Assistant Professor
Dr. Ament's research focuses on genetic and genomic studies of the brain and brain disorders through four strategies: (1) genome sequencing studies to identify rare mutations that increase risk for brain disorders, and functional studies of these mutations in human stem cells and animal models; (2) single-cell transcriptomics and epigenomics studies to characterize the diversity of cell types in the brain and how these populations of cells are altered in brain disorders; (3) molecular and computational systems biology studies integrating GWAS and functional genomics data from the mammalian brain to characterize disease-perturbed gene networks and multi-scale disease mechanisms; and (4) translational studies designed to leverage genomic data for the development of clinically useful biomarkers and novel therapeutic targets. Ongoing studies in the lab apply these approaches to mood disorders, schizophrenia, substance use disorders, Huntington's disease, neuroinflammation, and hearing loss. This work is highly collaborative, both locally and as part of large consortia, such as the BRAIN Initiative Cell Census Network and the Whole Genome Sequencing of Psychiatric Disorders consortium.

Joshua Chiappelli, M.D. [jchiappe@som.umaryland.edu] Assistant Professor
Dr. Chiappelli is part of the Neuroimaging Research Program at MPRC. His research includes investigating the roles of stress and inflammation in pathophysiology in schizophrenia, and the comparison of pathophysiology between psychotic and mood disorders. His current focus is on possible mechanisms for remediating white matter deficits in schizophrenia. Other research interests include phenomenology and cross-cultural aspects of psychopathology.

Greg Elmer, Ph.D. [gelmer@som.umaryland.edu] Professor
The primary objective of Dr. Elmer's laboratory is to better understand the neurobiology and neurogenetics of drug abuse, trauma and severe mental illness and the neurobiological factors integral to their co-morbidity. The strategies we use to investigate brain-behavior relationships include behavior genetics, behavior pharmacology, circuitry analysis and large-scale gene expression analysis and data mining. Altered function in reward learning and the neurobiology of reward is a specific area of interest since the consequences of trauma, drug abuse and mental illness present with aberrant reward behaviors. In particular, habenula-associated circuitry work led us to our most recent area of research focus- the consequences of adolescent trauma on neurocircuitry and its dramatic effect on adult mental illness. The series of Adverse Childhood Experience (ACE) studies dramatically documents the nearly linear increased risk for psychiatric illness associated with each traumatic experience during childhood. The goal of our work is to accelerate the development of a novel childhood trauma model and explore hypotheses related to altered neurocircuitry in the consequences of early-life trauma on adult psychopathology.

James Gold, Ph.D. [jgold@som.umaryland.edu] Professor
Work in Dr. Gold's lab is in 4 main areas: 1) experimental studies of attention and working memory deficits using behavioral, EEG, and fMRI methods; this work is done in collaboration with Steve Luck at UC Davis; 2) Behavioral, EEG, and fMRI studies examining predictive coding models of hallucinations and delusions; this work is done in collaboration with Phil Corlett at Yale University; 3) studies of experimental cognitive neuroscience based behavioral and computational modeling methods with the goal of developing versions of tasks that could be used in clinical trials; this work is done in collaboration with Cam Carter , Dan Ragland, and Steve Luck (UC Davis), Deanna Barch (Wash. U.), Angus MacDonald (U. Minn), Molly Ericksion (U Chicago), and Steve Silverstein (U. Rochester); 4) studies using behavioral methods to try

and predict conversion to psychosis in young people thought to be at high clinical risk; this study done in collaboration with Vijay MIttal(Northwestern), Greg Strauss (U. Georgia, Lauren Ellman (Temple) Elain Walker (Emory), Phil Corlett, Scot Woods, Al Powers (Yale).

Britta Hahn, Ph.D. [bhahn@som.umaryland.edu] Associate Professor
Dr. Hahn's research focuses on cognition in schizophrenia, and on the cognitive-enhancing and dependence-related effects of nicotine and related compounds. She is studying these effects in rodent models, in human smokers and non-smokers, and in people with schizophrenia using behavioral and neuroimaging techniques.

Elliot Hong, M.D. [ehong@som.umaryland.edu] Professor
Dr. Hong's brain imaging research focuses on understanding the functional brain circuits that influence schizophrenia and severe nicotine addiction. He is actively pursuing research and clinical trial strategies using neurophysiological and imaging biomarkers to optimize mechanism-based interventions through nicotinic receptor and other novel mechanisms. His recent research emphasis is on neuroinflammation and nicotinic, GABA and NMDA receptor mechanisms. The overall research focuses on using neuroimaging, genetics, clinical trials, and neurophysiological methods to study etiology of and treatment for schizophrenia spectrum disorders.

Deanna L. Kelly, PharmD., BCPP [dlkelly@som.umaryland.edu] Professor
Dr. Kelly's major research interests include schizophrenia treatment trials, women's mental health, and clozapine underuse and strategies to improve care. She has completed several studies with clozapine and most recently the safety of clozapine in benign ethnic neutropenia and is performing a new clinical trial to improve clozapine use with a telementoring project in the State of Maryland. Also, she has projects related to the point of care monitoring with clozapine (blood levels and ANC monitoring) She is working also in the area of gluten sensitivity, gut permeability, microbiome and prebiotic treatment in schizophrenia and has ongoing clinical trials in these areas. Dr. Kelly has a current project collecting social media data and self-reported mental health assessments to develop screening and symptom monitoring tools using language and social media for mental health issues. She has many collaborations in basic and clinical science and she has research and manuscript writing opportunities for students and trainees.

Peter Kochunov, Ph.D. [pkochunov@som.umaynd.edu] Professor
Dr. Kochunov's interests are in developing quantitative, neuroimaging-based endophenotypes for psychiatric and neurological disorders. Dr. Kochunov supervises the department of psychiatry, research MRI center located on the grounds of Spring Grove hospital, Catonsville. Dr. Kochunov's research involves developing novel connectomics protocol to quantify cerebral connectivity and integrity of cerebral white matter that is impacted by disorders like schizophrenia. He is also actively involved in the big-data research and co-directs ENIGMA-DTI and ENIGMA-RSFMRI work group

Francesca Notarangelo, Ph.D. [Fnotarangelo@som.umaryland.edu] Assistant Professor
Dr. Notarangelo's research interests focus on investigating the role of the kynurenine pathway of tryptophan degradation in the cognitive dysfunction observed in schizophrenia using biochemical, behavioral and pharmacological approaches. She is also exploring the role of this pathway in the gut-brain axis and developing animal models to study the effect of altered gut microbiota on the kynurenine pathway and cognition.

Robert Schwarcz, Ph.D. [RSchwarc@som.umaryland.edu] Professor
Current studies in the Schwarcz laboratory are designed primarily to explore the role of the kynurenine pathway of tryptophan degradation in the pathophysiology of schizophrenia (SZ), and to develop fundamentally new therapeutic interventions based on the pharmacological manipulation of brain kynurenines. In this context, we have become especially interested in kynurenic acid (KYNA), which we found to be causally linked to the cognitive deficits seen in individuals with SZ. This concept is especially relevant since 1) KYNA is an antagonist of both α7 nicotinic and N-methyl-D-aspartate (NMDA) receptors, both of which play critical roles in cognition and brain development; 2) brain and cerebrospinal fluid KYNA levels are significantly increased in SZ; 3) in rodents, experimental KYNA elevations cause cognitive dysfunctions reminiscent of SZ; 4) brain KYNA metabolism is activated by stress and immune stimulation

during early development; and 5) prenatal increases in brain KYNA cause an array of SZ-like abnormalities and vulnerabilities in adulthood. His results indicate that inhibitors of KYNA biosynthesis ("KAT II inhibitors") show therapeutic efficacy in animal preparations that are believed to be informative for SZ pathophysiology. In close collaboration with clinical researchers at the MPRC, and with the pharmaceutical industry, ongoing studies in the laboratory now test whether inhibition of KYNA formation is a viable strategy to overcome cognitive impairments in SZ.

Paul Shepard, Ph.D. [pshepard@som.umaryland.edu] Professor
Dr. Shepard's laboratory investigates the functional role of midbrain dopamine neurons in brain circuits involved in reward signaling. We use a multidisciplinary approach to record and manipulate neuronal activity in several animal models including in vivo single unit and in vitro whole cell patch recording, conventional and optogenetic stimulation, and immunohistochemical techniques. Our laboratory also collaborates with investigators using a variety of behavioral assays, conductance-based computational modeling, MRI and ERP techniques. Our goal is to understand the maladaptive changes in reward mechanisms that manifest across a spectrum of neurological and psychiatric disorders and to provide novel strategies for treating them.

James A. Waltz, Ph.D. [jwaltz@som.umaryland.edu] Associate Professor
Dr. Waltz's research interests are in the neural processing underlying the symptoms of psychopathology, mainly related to psychotic illness, but also pertaining to mood disorders. He is also interested in better characterizing "risk states" in adolescents identified as having particular vulnerability for developing psychotic or mood disorders. He is interested in describing the neural basis of both positive symptoms, such as hallucinations, delusions, and paranoia, and negative symptoms, such as avolition and anhedonia. He uses methods of cognitive neuroscience - especially functional neuroimaging and computational modeling. One of his primary areas of focus is understanding how component processes related to reinforcement learning and decision making are involved in motivational deficits exhibited by people with psychotic and mood disorders.

Leon Brown Ph.D. [plbrown@som.umaryland.edu] Instructor
Dr. Brown studies the neurocircuitry involved in processing aversive stimuli and their relation to mental health function. The specific brain area of his interest, the lateral habenula, exerts inhibitory control over dopaminergic and serotonergic midbrain neurons and as such is well positioned to modulate reward processing and the expression of affective disorders. Using electrophysiological and histological techniques, Dr. Brown uses rodent models for the study of addiction and depression to further understand this circuit.