2017 YOUNG INVESTIGATOR AWARDEES

International Congress on Schizophrenia Research WWW.SCHIZOPHRENIACONGRESS.ORG

Sri Mahavir Agarwal



Sri Mahavir Agarwal completed his residency in psychiatry from the National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, India. Thereafter, he received his Ph.D. from the same institute where he investigated DTI and MRS-based correlates of cortical plasticity in drug naïve first episode schizophrenia patients, unaffected first degree relatives, and healthy controls. He has demonstrated that aberrant cortical plasticity could be an endophenotpye in schizophrenia (manuscript in preparation), and have studied the impact of the disease on various aspects of brain structure and function – in particular from the cognitive standpoint. He has recently

moved to the Centre for Addiction and Mental Health (CAMH), Toronto for his postdoc under the supervision of Dr. Margaret Hahn and Dr. Gary Remington. He is currently working on the interrelationship between brain structure and function, cognitive abilities, visceral adiposity, and metabolic abnormalities associated with schizophrenia. He believes that exploration of these relationships will lead to safer pharmacotherapy and hopefully to newer treatment targets given how tightly the dopamine and insulin systems are interlinked at the level of both the body and the brain.

Sonia Bansal



Sonia Bansal is a postdoctoral fellow working with Dr. Jim Gold at the Maryland Psychiatric Research Center (MPRC), where she is currently involved in studies on predictive coding mechanisms and visual search experiments. She completed her PhD at George Mason University in the Sensorimotor Integration Research Lab and Visual Attention and Cognition Lab, studying the efference copy system and predictive mechanism-related visuomotor behavior. Prior to that, she worked at the Washington DC VA Medical Center, where she developed sensitive eye-tracking analyses

methods to examine how disturbances in visual, affective and cognitive processing relate to social and behavioral function in veterans with schizophrenia. Her research interests lie in translating basic science to investigate how a breakdown in sensorimotor mechanisms can lead to perceptual and cognitive deficits in schizophrenia. Specifically, she has resolved to utilize eye tracking and related neurobiological measures (e.g. EEG) as assays of predictive coding mechanisms and to investigate how alterations in brain mechanisms are associated with cognitive and social function, psychotic symptoms and more generally with subjective experience of psychosis.

Bengi Baran



Bengi Baran is a cognitive neuroscientist with an expertise in learning and memory, and a long-standing commitment to clinical translational research. The primary focus of her research is understanding sleepdependent cognitive deficits in clinical population. Humans spend approximately one third of their life sleeping. However, it is only in the last 15 years that researchers have begun to unveil the cognitive functions of this essential behavior. Cognitive impairments are a strong predictor of quality of life and functional outcome in schizophrenia, therefore establishing the extent to which sleep can be considered as a target for

improving cognitive functioning in schizophrenia has important clinical and social implications. Patients with schizophrenia have reduced sleep spindles (bursts of 12-15 Hz EEG activity during non-rapid eye movement sleep), which are generated in the thalamic reticular nucleus (TRN) and are propagated in thalamocortical circuits. Sleep spindles mediate memory consolidation and are associated with impaired sleep-dependent memory consolidation and symptom severity in SZ. Spindle deficits are seen in non-psychotic first-degree relatives and antipsychotic naïve first episode patients and, constitute a putative endophenotype that (i) predates the onset of SZ, (ii) persists throughout its course, and (iii) contributes to cognitive deficits and symptoms. In her current work, she is using structural and functional neuroimaging to investigate whether the integrity of thalamocortical networks predicts sleep spindle abnormalities and sleep-dependent memory consolidation deficits in SZ. An understanding of the neural basis of cognitive deficits in SZ will clarify its pathophysiology and identify novel targets for treatment.

Cynthia Burton



Dr. Burton earned her doctorate degree in clinical psychology from the SDSU/UCSD Joint Doctoral Program in Clinical Psychology, with a focus in clinical neuropsychology. She completed her clinical internship at the VA Ann Arbor Healthcare System and joined the University of Michigan as a postdoctoral fellow in the fall of 2015. Broadly, her research and clinical interests include recovery-oriented psychosocial rehabilitation interventions for people with schizophrenia-spectrum disorders, like CBT for psychosis, supported employment, and cognitive remediation. More specifically, her research focuses on treatments to improve cognition and everyday functioning

among those with psychosis, and identifying factors that may affect cognitive treatment adherence or outcome. Her work is guided by the principle that every person affected by mental health symptoms can achieve recovery, defined by each individual based on their own values and goals.

Fernando Caravaggio



Dr. Fernando Caravaggio is a post-doctoral fellow in the Department of Psychiatry at the University of Toronto (U of T). Fernando completed his PhD in Medical Science, with a specialization in Neuroscience, from the Institute of Medical Science at the U of T. Fernando currently conducts brain imaging research at the Centre for Addiction and Mental Health (CAMH) under the supervision of Dr. Gary Remington and Dr. Ariel Graff-Guerrero. Using Positron Emission Tomography, Fernando's primary research involves understanding how basal insulin regulates endogenous dopamine (DA) levels in the human brain. Specifically, his work is focused on understanding how

insulin resistance may modify DA levels in the brains of healthy persons and persons with schizophrenia. This work will help us better understand how DA is regulated in the brain *in vivo*, and inform potential the mechanisms of antipsychotic induced diabetes in schizophrenia. In recognition of his contributions to neuroreceptor research, Fernando received the Frist-Jus Memorial Award in Neuropsychopharmacology and a CAMH Research Fellowship Award. Fernando's long term goal is to one day become a clinician scientist in psychiatry.

Guusje Collin

Guusje Collin is psychiatry resident and post-doctoral research fellow at the University Medical Center Utrecht, the Netherlands. She obtained her MD in 2010 and her PhD in 2015, both at the University of Utrecht. Her dissertation, under the mentorship of Professor René Kahn, focused on the wiring organization of the brain network, or 'connectome', in schizophrenia. Using diffusion-weighted imaging and graph analysis, her work contributed to the understanding that schizophrenia patients have a less efficiently wired brain network, with deficits in brain hubs and their mutual connections. Guusje was recently awarded a Marie Curie Global Fellowship by the

European Research Council, which will allow her to pursue a post-doc at Harvard University, starting April 1, 2017. Her project, supervised by Professor Larry Seidman, will focus on brain network architecture in adolescents and young adults with early signs of impending psychosis. Studies have shown that changes in behavior and cognition precede the first psychotic episode, but the neurobiological mechanisms driving these early signs remains to be determined. Guusje's research project seeks to fill this knowledge gap to contribute to early detection of psychosis and the development of preventative strategies for schizophrenia.

Alexis Cullen

Dr. Alexis Cullen is a Sir Henry Wellcome Postdoctoral Fellow and Honorary Lecturer at the Institute of Psychiatry, Psychology & Neuroscience where she leads the Stress, Inflammation, and Psychosis Study. For past decade, Dr Cullen has been involved in a longitudinal investigation of children at elevated risk for schizophrenia and has established that these children present several neurobiological features that characterize adults with the disorder. Her current research examines biological markers of stress and inflammation across the clinical stages of psychosis (ranging from at-risk adolescents to patients with chronic

illness) and how these markers relate to adversity.

Dibyadeep Datta

Dibyadeep (Dibs) Datta received his B.A. in Cellular Neuroscience from Colgate University and his Ph.D. in Neuroscience from the University of Pittsburgh. His primary focus is to understanding the cellular, molecular and circuit disturbances in higher-order brain regions that are particularly affected in neuropsychiatric (e.g., schizophrenia) disorders. He has expertise in various techniques such as laser microdissection of cells to capture genomic alterations, and histology using confocal microscopy, to understand morphological changes. During his doctoral work under the mentorship of Dr. David A. Lewis, he characterized the differences in gene

expression profiles within pyramidal cells in the dorsolateral prefrontal cortex (DLPFC) of postmortem tissue from patients with schizophrenia and matched healthy comparison subjects. He found marked changes in molecules that regulate actin dynamics, as well as large reductions in nuclear genes associated with mitochondrial activity in the layer III DLPFC circuits that subserve working memory. While at the University of Pittsburgh, he was an integral member of the Center for Neuroscience Outreach Committee to spread knowledge to the public and students about the importance of neuroscience research, and the relevance to mental health disorders. In January 2016, Dibs joined the laboratory of Dr. Amy F.T. Arnsten in the Department of Neuroscience at Yale University, as a Postdoctoral Associate. His work is primarily focused on understanding the molecular mechanisms that govern network connectivity in the prefrontal cortex in non-human primates, the brain region that is essential for cognitive function. Specifically, he is investigating how alterations in actin cytoskeleton and mitochondrial dynamics might be interrelated, and whether they might be associated with altered cAMP-calcium signaling in the disease. Dibs is currently using multiple label immunoelectron microscopy to interrogate molecular interactions *in situ* with nanometer resolution along with behavioral studies in rodents and non-human primates following pharmacological

manipulation. The preclinical behavioral-pharmacological studies has significant translational therapeutic potential to delineate novel drug targets in treating cognitive disorders.

Charles Davidson

Charlie A. Davidson, Ph.D., clinical psychologist, is currently at Yale working with Scott Woods, M.D. and a team of Yale and V.A.-based mentors as part of Morris Bell, Ph.D.'s T32 postdoctoral fellowship. Charlie's research focuses on developing group-based interventions as well as psychometric and neurophysiological assessment approaches for predictors, mechanisms, and outcomes of treatments aimed at prevention, resilience, and recovery in psychosis. Charlie was trained at University of Nebraska-Lincoln in William Spaulding, Ph.D.'s SMI research group, and his clinical/theoretical orientation is rooted in psychiatric rehabilitation and the tenets of evidence-based practice. His current

work is set in collaboration with colleagues and co-mentors from VA Connecticut, Yale's North American Prodrome Longitudinal Study site, and Yale Child Study Center.

Jamie Ferri

Jamie Ferri is a Postdoctoral Research Scholar in the Brain Imaging and EEG Laboratory of Drs. Judith Ford and Daniel Mathalon at the University of California, San Francisco and the San Francisco VA Health Care System. She earned her undergraduate degree in Psychology from the University of California, Santa Cruz where she developed an interest in neuroimaging and emotion. She received her PhD in Integrative Neuroscience from Stony Brook University working under the mentorship of Drs. Turhan Canli and Greg Hajcak. Her graduate work used fMRI, EEG and eye-tracking to better understand brain mechanisms associated with emotion, cognition, and their

interaction. Jamie joined the Brain Imaging and EEG Laboratory in 2014 with an interest in leveraging her neuroscience background to better understand metal illness. Since joining the lab, Jamie has used neuroimaging and EEG to investigate brain mechanisms associated with depression, schizophrenia, and PTSD. Her current research focus in the lab is on brain abnormalities in schizophrenia including when they appear, how they relate to symptoms, and if and how they progress over the course of illness.

Jennifer Forsyth

Jennifer Forsyth, Ph.D. is a postdoctoral fellow at the University of California, Los Angeles (UCLA). She became interested in understanding how genetic and molecular abnormalities lead to systems-level dysfunction in severe mental illness while using animal models to study schizophrenia as an undergraduate at Queen's University in Kingston, Canada. She subsequently completed her Ph.D. in Clinical Psychology and Neuroscience at UCLA, where she used electrophysiological, neuroimaging, and pharmacological methods to study the pathophysiology of psychosis and its development in humans.

As a postdoctoral fellow under the mentorship of Drs. Carrie Bearden and Giovanni Coppola, she is currently examining how genome-wide gene expression relates to psychosis and psychosis-related phenotypes in patients with 22q11.2 deletion syndrome. She plans to pursue an academic career and aspires to develop a program of research that can bridge evidence across genes, molecules, neural circuits, and behavior to contribute to our understanding of the pathogenesis of schizophrenia.

Felipe Gomes

Felipe Gomes received a bachelor degree in Pharmacy from the Federal University of Juiz de Fora (Brazil) in 2008 and MSc. (2009-2011) and PhD. (2011-2015) degrees in Pharmacology from University of Sao Paulo (Brazil) studying the anxiolytic and antipsychotic properties of cannabidiol (CBD), a non-psychotomimetic compound from cannabis, and the involvement of the endocannabinoid system in neuropsychiatric disorders. Currently, he is doing a postdoctoral training at Dr. Anthony Grace Lab (University of Pittsburgh). His work focuses primarily on in vivo electrophysiology, behavioral,

neurochemical, and anatomical methods, in addition to integrating chemogenetic approaches (DREADDs) to his research. Using these techniques, he hopes to get a better understanding of the pathophysiology of schizophrenia, of the impact of the exposure to risk factors (such as cannabis and stress) during critical neurodevelopmental period (mainly adolescence) on the emergence of changes resembling schizophrenia, and markers for schizophrenia vulnerability early in life which could indicate interventions to circumvent the emergence of schizophrenia.

Synthia Guimond

Synthia Guimond is a post-doctoral research fellow in the department of psychiatry at Harvard Medical School under the mentorship of Dr. Matcheri Keshavan. She earned undergraduate and master degrees in psychology from the University of Montreal, where she developed an interest in memory difficulties that accompany many psychiatric disorders. Synthia investigated these impairments in the context of schizophrenia under Dr. Martin Lepage's supervision at McGill University for her PhD. One of the principal elements of her PhD thesis was to better understand brain abnormalities related with specific memorization strategies that are impaired in schizophrenia. Her main

contribution was to develop and test a novel cognitive treatment that improves strategies for associative memory in enduring schizophrenia and targets related brain activity in the prefrontal cortex. For her post-doctoral training, Synthia was primarily interested in further developing her expertise in cognitive remediation and to evaluate its impact on social cognition. Hence, her current work focuses on a step-wise intervention targeting neurocognition (including memory), as well as social cognitive functions. Thus far, this ongoing cognitive enhancement therapy program has shown promising preliminary results in early schizophrenia. Synthia seeks to gain a deeper understanding of the underlying neural mechanisms associated with positive treatment response. She is currently analyzing the baseline data from the patients included in this randomized control trial that will set the foundation for subsequent longitudinal analyses. In parallel, she is also involved in other projects investigating biomarkers of psychosis and related cognitive decline in premorbid stage of the illness. Her goal is to become an independent researcher, and to develop a research program focusing on the development of cognitive remediation therapy for individuals with schizophrenia and other related psychotic disorders. Through her work, Synthia aims to improve the quality of cognitive remediation therapy offered to patients, in the hopes of creating a positive impact on patients' quality of life and functional outcomes.

Sarah Haigh

Sarah Haigh's main research interests focus on neurological responses to basic sensory stimuli, and specifically what drives the system to over-respond (hyperexcitable) or to under-respond (hypo-excitable). She is interested in what this can reveal 1) about certain clinical conditions, for example, schizophrenia and autism, and 2) about early sensory processing in non-clinical individuals. By measuring the correlation between behavioral and cortical responses, her aim is to help identify potential endophenotypes that can be monitored for impairments or improvements in sensory processing in clinical conditions. She has used a mixture of techniques to measure sensory sensitivities, including

functional magnetic resonance imaging (fMRI), psychophysics, the electroencephalogram (EEG), near-infrared spectroscopy (NIRS), EEG and NIRS simultaneously, and the auto-refractor (to measure ocular accommodation). She is also currently learning diffusion tensor imaging (DTI) analysis for a forthcoming paper, to measure structural correlates of abnormal functioning. Her PhD focused on visual processing, and her post-doctoral work includes audition and tactile processing.

Holly Hamilton

Dr. Holly Hamilton is a Postdoctoral Fellow in the University of California, San Francisco Brain Imaging and EEG Laboratory of Drs. Judith Ford and Daniel Mathalon, with support from the Mental Illness Research, Education, and Clinical Center (MIRECC) Advanced Fellowship in Mental Illness Research and Treatment at the San Francisco VA Health Care System. She earned undergraduate degrees in Psychology and Art History from New York University, and subsequently worked as a clinical research coordinator in the Mount Sinai School of Medicine Department of Psychiatry. Holly then worked under the mentorship of Dr. Cindy Yee-Bradbury and received her Ph.D. in

Clinical Psychology from the University of California, Los Angeles, where she used psychophysiological and neuroimaging methods to examine the intersection between cognition, stress, and emotion and how they contribute to the clinical course of schizophrenia. At UCSF, Holly's research emphasizes the identification and characterization of neurophysiological vulnerability markers in young individuals at clinical high risk for schizophrenia, with the ultimate goal of helping to inform early detection methods so that early interventions can be targeted to those individuals at greatest risk for psychosis and prevent a disabling course of illness. Holly also has clinical interests in the assessment of psychosis risk and in evidence-based psychosocial interventions, such as cognitive behavioral therapy for psychosis.

Jordan Hamm

Dr. Jordan Hamm is a postdoctoral research fellow at Columbia University. He earned his Ph.D. in neuroscience in December 2013 with mentor Brett Clementz at the University of Georgia. Here his research focused on identifying and refining key electrophysiological biomarkers (EEG/MEG) of sensory and perceptual processing abnormalities in persons with major psychotic disorders (schizophrenia, bipolar disorder). Using multivariate statistical and cluster analytic approaches, he helped show how a composite of these biomarkers could help build a new biological taxonomy of psychosis.

In his postdoc, Dr. Hamm sought to investigate the cellular and circuit level neurobiology underlying these critical human biomarkers, so he transitioned to mouse research under the mentorship of Dr. Rafael Yuste. Employing two-photon calcium imaging, multielectrode recordings, and opto/chemicogenetics, he has linked somatostatin interneuron function to the classic mismatch negativity biomarker, and, in a recent paper accepted to *Neuron*, he has provided key evidence for an altered "attractor" theory of schizophrenia-related cortical pathophysiology. Dr. Hamm has published 19 research articles (11 first authored) in peer-reviewed journals such as *Journal of Neuroscience, Biological Psychiatry, American Journal of Psychiatry, Cell Reports,* and *Neuron*. In the future Dr. Hamm aims to establish a research program conducting circuit-level investigations in rodent models which are informed by, and even conducted collaboratively in parallel to, human patient studies. He hopes to critically link observable measures of disease related dysfunction (EEG biomarkers, perceptual/cognitive deficits) studied in his PhD to specific circuit-level pathophysiology such as cortical interneuron dysfunction and neuronal ensemble instability, enabling empirically-informed diagnosis and treatment.

Dennis Hernaus

Dennis Hernaus' primary research interest is the neuropharmacology of prefrontal systems, and how these are affected by stress in health and mental illness. His work draws on experimental psychology, psychopharmacology, and functional neuroimaging.

Dennis obtained his Ph.D. degree in 2015 at the School for Mental Health and Neuroscience (MHeNS) of Maastricht University, The Netherlands. As a Ph.D. candidate, he spent time abroad at the Institute of Psychiatry (King's College London) and RWTH Aachen, Germany, where he was trained in fMRI and PET. After a 1.5-year post-doctoral fellowship at MHENS, Dennis

moved to the Maryland Psychiatric Research Center in 2016. Here, he investigates learning and decision-making deficits in schizophrenia.

Maria Jalbrzikowski

Maria Jalbrzikowski is a postdoctoral associate in the Psychiatry Department at the University of Pittsburgh. She received her Ph.D. in Clinical Psychology from UCLA, where she studied neurodevelopmental models of psychosis risk under the mentorship of Carrie Bearden. During Maria's graduate training, she examined how neuropsychological and neuroimaging measures of social cognition related to psychotic symptoms in 22q11.2 Microdeletion Syndrome (22q11DS), a genetic disorder that confers $\approx 30\%$ increased risk for developing psychosis. In her first postdoctoral experience, Maria worked under Giovanni Coppola and Carrie Bearden and evaluated genome-wide

gene expression profiles in peripheral blood of 22q11DS individuals and related them to psychotic symptoms. In her next postdoctoral position, Maria deepened her neuroimaging skills and gained knowledge of normative adolescent neurodevelopment under the mentorship of Beatriz Luna. Maria is now beginning her K01 under the guidance of Bernie Devlin. Specifically, she is examining 1) how neurodevelopmental patterns of resting state fMRI networks in youth with psychotic spectrum symptoms deviate from normative development and 2) how genetic variation in key schizophrenia risk and neurodevelopmental genes is related to age-associated patterns in resting state functional connectivity. Maria enjoys sleeping, playing hide-and-seek with her daughter, Aurora, and drinking coffee and beer (not at the same time) with her significant other.

Yash Joshi

Yash Joshi MD, PhD, is currently a second year research-track resident in psychiatry at the University of California, San Diego (UCSD). He received both his MD and PhD in Pharmacology from the Temple University School of Medicine. His graduate work focused on the novel molecular target 5-lipoxygenase (5-LO), and its importance to the Alzheimer's disease (AD) phenotype. Using both cellular and animals models, he was able to show that 5-LO is an important modulator of AD-associated neuropathology and neurocognitive deficits.

During residency training he has become interested in the neurocognitive deficits associated with chronic psychosis and novel therapeutic strategies aimed at ameliorating these deficits. He is currently being mentored by Dr. Gregory Light at UCSD where he is investigating applications of neurophysiological biomarkers for use in pro-cognitive interventions in patients with psychotic illness.

Pitna Kim

Pitna Kim is a postdoctoral researcher at the University of Alabama at Birmingham. She moved to United States from South Korea in 2013. Her doctoral work at Konkuk University in the lab of Dr. Chanyoung Shin in Seoul, South Korea, the study of pathological and neurobehavioral mechanisms underlying Autism and ADHD, resulting in multiple publications. This experience fostered her passion for investigating complex neuropsychiatric disorders, and led her to join a lab focused on schizophrenia as a postdoctoral researcher. She is currently focusing on studying the molecular mechanisms underlying schizophrenia brain at UAB in the lab of Dr. James H. Meador-Woodruff. She is specifically interested

in the unfolded protein response (UPR), an important cellular process responsible for regulating proper protein folding and dealing with protein misfolding in the endoplasmic reticulum (ER) in schizophrenia using a variety of molecular techniques in postmortem human tissue. She is highly motivated to perform this characterization of essential cellular process, which will build on her preliminary studies to fill a gap in knowledge in the field of schizophrenia research.

Julien Laloyaux

Julien Laloyaux is currently a postdoctoral researcher at the University of Bergen (Norway) and at the University of Oslo (Norwegian Center of Excellence for Mental Disorders Research, Norway) under the direction of Prof. Frank Larøi. He received his PhD degree in 2016 from the University of Liege (Belgium). Before that, he obtained his Bachelor's degree and Master's degree in Psychological Sciences from the University of Liege (Belgium), and a Complementary Master's degree and Interuniversity certificate in Psychotherapy – Clinical psychology from the Catholic University of Louvain-la-Neuve (Belgium), the University of Liege (Belgium) and the University of Geneva (Switzerland). His current research

interests include the cognitive, emotional, and neurological underpinnings of positive psychotic symptoms and the evaluation and remediation of multitasking abilities in psychiatric and neurological patients.

Alexandre Loch

Alexandre A. Loch is a M.D./B.Phil./Ph.D. at the University of Sao Paulo, Brazil. He earned his undergraduate and Ph.D. degrees at the University of Sao Paulo, where he grew an interest for the stigma related to schizophrenia. Besides his work in the field of discrimination and prejudice toward mental illnesses, Alexandre also has a focus on epidemiology and genetic/biological underpinnings of psychosis. Seeking to find the reasons why someone develops a serious and stigmatized disease such as schizophrenia, he developed a project called Subclinical Symptoms and Psychosis Prodrome Project (SSAPP), in which he has a role as project leader. It is a cohort study

designed to follow-up individuals at ultra-high risk for psychosis in the city of Sao Paulo. The study is under guidance of Prof. Wulf Rössler and Prof. Wagner Gattaz, with national and international funding. Currently he also acts as associate-editor in the Frontiers in Public Mental Health Journal. Besides his academic work, Alexandre also likes to explore the intersections between psychiatry and art. In this regard he wrote two fiction books, aiming to communicate the several issues of mental illness in the form of literature. "Bile Negra" (black bile) was released in 2014 in Brazil, and "Laplatia– Or, The City That Could Not Dream" was released in 2016 in the United States.

Amanda McCleery

Dr. McCleery is an Assistant Research Psychologist at the UCLA Semel Institute for Neuroscience and Human Behavior and VA Greater Los Angeles Healthcare System VISN 22 MIRECC. She began her clinical research training at the University of Toronto, where she completed a B.S. in Psychology and Biology and worked as a research assistant in a recent-onset schizophrenia program with Dr. Jean Addington. She went on to complete a Ph.D. in Clinical Psychology with Dr. Nancy Docherty at Kent State University in 2012, followed

by a predoctoral clinical internship and postdoctoral research fellowship with Drs. Keith Nuechterlein and Michael Green at the UCLA Semel Institute for Neuroscience and Human Behavior.

Broadly, Dr. McCleery's research surrounds cognitive predictors of functional outcome in schizophrenia and related conditions. Her recent work involves utilizing EEG methods in conjunction with performance-based measures to better understand the nature of the relationships between early stage information processing, higher-order cognition, and community functioning across phases of illness in schizophrenia. She is the recipient of research funding from the Brain & Behavior Research Foundation, the Canadian Institutes of Health Research, the National Institutes of Health, and VA VISN 22 MIRECC. Dr. McCleery's research has been published in Biological Psychiatry, Psychological Medicine, Schizophrenia Bulletin, and Schizophrenia Research.

Marina Mihaljevic

Marina Mihaljevic is an M.D./PhD candidate at the Belgrade University in Serbia. She works as a psychiatrist in the University clinic at the Department for Research and Early Interventions in Psychiatry. She has recently submitted her PhD thesis under the mentorship of Prof. dr Nadja Maric Bojovic in the field of HPA-axis dysregulation in psychotic disorders. She has been investigating the effects of the functional FKBP5 genetic variants, which modulate HPA axis stress response, and environmental risk factors on psychosis, which could contribute to vulnerability to stress. Their joint impact could be involved in incorrect processing of the information which implies the

behavioral and cognitive deficits in psychotic disorders. Furthermore, she has analyzed FKBP5 allelespecific epigenetic changes in psychotic patients that were already reported in stress-related disorders (PTSD, depression). Marina's carrier intention is to investigate phenotypes (especially endophenotypes) which could be related to specific gene regulatory networks (HPA axis genes) and epigenetic changes in psychosis. Particularly, she would like to focus on distinction between psychotic and non-psychotic phenotypes regarding neurobiological mechanisms of the HPA axis activity. It is also a promising field for better understanding of the heterogeneous etiology of psychosis and the overlap between current diagnostic boundaries in psychiatry. Additionally, uncovering link between risk factors and genetic predisposition to stress sensitivity could be a core for prevention and early intervention strategies in psychosis.

Kyle Minor

Kyle S. Minor, Ph.D., is an Assistant Professor in the Department of Psychology at Indiana University – Purdue University Indianapolis (IUPUI). He received his doctorate from Louisiana State University in 2012 and completed his clinical internship and postdoctoral fellowship with the Massachusetts Mental Health Center / Beth Israel Deaconess Medical Center at Harvard Medical School. To date, Dr. Minor has published 53 peer-reviewed articles and authored 65 conference presentations. The overarching goals of Dr. Minor's thematic program of research are to develop instruments that accurately assess psychotic symptoms and create interventions to improve the lives of people with psychosis. Dr.

Minor's work examines psychosis at different stages of illness (e.g., clinical high risk, first episode, chronic psychosis) and has three primary objectives: 1) Create novel assessments to identify mechanisms of psychosis in the laboratory and in daily life; 2) Link potential clinical risk markers to functional outcomes; and 3) Establish new effective interventions for people on the psychosis-spectrum. Each objective is critical for gaining a better understanding of—and ultimately intervening in—psychosis.

Yoshihiro Noda

Dr. Yoshihiro Noda, MD, PhD, is a Postdoctoral Fellow with a samurai spirit at the Temerty Centre for Therapeutic Brain Intervention in the Centre for Addiction and Mental Health, which institute is affiliated with the Department of Psychiatry, University of Toronto. Dr. Noda specializes in neuromodulation and neurophysiology in mental illness. He is a certified psychiatrist in Japan with a clinical experience of more than 10 years in general psychiatry and mental health. He has completed his residency training in neuropsychiatry and doctoral course in neuroscience at the Department of Neuropsychiatry, University of Tokyo. Dr. Noda will start his new position

as a physician scientist at the Department of Neuropsychiatry, Keio University School of Medicine at Tokyo at April, 2017, leading a new division of neuromodulation and neurophysiology there.

Natasza Orlov (not pictured)

King's College London

Giulio Pergola

Giulio Pergola obtained his PhD at the Ruhr-University Bochum (Germany), where he was awarded a Marie Curie fellowship at the International Graduate School of Neuroscience, with the supervision of Prof. Irene Daum and Prof. Boris Suchan. During his PhD, he acquired a background in neuroimaging and neuropsychology. He then moved to SISSA (Trieste, Italy) for his post-doc with Prof. Raffaella I. Rumiati. At SISSA, he worked on how motivational salience of visual stimuli affects perception, memory and its electrophysiological correlates.

Since 2013 he has worked at the University of Bari Aldo Moro, in the Psychiatric Neuroscience Group of Prof. Alessandro Bertolino. His current research focuses on the molecular substrates of learning and memory, the related molecular pathways and their relevance to schizophrenia. Thus, he shifted his research focus from the study of neuroimaging phenotypes to data mining of transcriptome- and genome-wide databases. He is currently directing the lab of Brain Imaging, Networks and Data mining in the group of Prof. Bertolino. The lab he coordinates is developing procedures and tools both in computational genetics and in neuroimaging to test the hypothesis that genetic risk for schizophrenia converges onto co-expression pathways. The overarching goal of his research is to understand how biological variability between individuals results in behavioral, cognitive, and psychopathological variability.

Eric Reavis

Eric Reavis is a Postdoctoral Scholar at UCLA and the VA Greater Los Angeles Healthcare System, where he works with Michael Green. He earned his undergraduate degree in psychology at Harvard and his Ph.D. in cognitive neuroscience at Dartmouth. Eric is a vision scientist by training, and he aims to bridge the divide between basic science and clinical research in his work. In his pre-doctoral research, Eric used MRI and behavioral methods to study perceptual plasticity, attention, and other aspects of visual processing in healthy populations. Since he joined the Green lab in 2014, Eric has studied visual perception in schizophrenia using advanced methods developed for basic

research. Abnormalities in visual perception are well-established in schizophrenia and have been linked to functional outcomes in the disorder, yet the neurobiological causes of those perceptual abnormalities are not well understood. Eric is studying how and why visual processing differs in schizophrenia using MRI, EEG, and performance-based measures. Ultimately, the goal of his research is to use the visual system as a model neural circuit (one relatively well-understood in healthy populations) to study disease pathophysiology in schizophrenia and other severe mental illnesses.

Felice Reddy

Felice Reddy is a Research Psychologist at the VA Greater Los Angeles Healthcare System (GLA) and an Assistant Project Scientist in the Department of Psychiatry and Biobehavioral Sciences at UCLA. She completed her postdoctoral research fellowship in the Advanced Fellowship Program in Mental Illness Research and Treatment at the GLA in the laboratory of Dr. Michael Green. She completed her predoctoral clinical internship at the West Haven VA and received her Ph.D. from the University of Nebraska, Lincoln. Her research focuses on psychosocial rehabilitation approaches to improve functioning for people with schizophrenia. She

currently has a NARSAD Young Investigator award to examine the cognitive consequences of social exclusion, and a Career Development Award to test the efficacy of a new intervention for motivational negative symptoms.

David Roalf

David R. Roalf is a Research Assistant Professor of Behavioral Neuroscience in the Department of Psychiatry at the Perelman School of Medicine at the University of Pennsylvania. He earned his undergraduate degree in biological psychology at the College of William & Mary, where his foundational interest in neuroscience was cultivated. David received his Ph.D. in Behavioral Neuroscience at Oregon Health Science University where he studied the neural basis of aging using behavioral and neuroimaging probes. Upon completion of his Ph.D., David accepted a post-doctoral fellowship at the University of Pennsylvania under the mentorship of Dr. Raquel Gur. During this fellowship,

he used his expertise in neuroimaging to illuminate biologic mechanisms that underlie observed neurocognitive deficits in patients with schizophrenia and their biological relatives. In his position as a Research Assistant Professor of Behavioral Neuroscience in Psychiatry, his primary research focus has been on elucidating neurobehavioral and neuroimaging biomarkers in neuropsychiatric illness. His current efforts are focused on dysfunction at the molecular level in psychosis. This work utilizes a novel imaging technique—glutamate chemical exchange saturation transfer (GluCEST). David's work, in collaboration with the Department of Radiology at Penn, has validated this measure against conventional Magnetic Resonance Spectroscopy (MRS) in several regions of the brain and has identified abnormalities of neurochemistry in youth on the psychosis spectrum. This work has the potential to enhance our ability to identify individuals who are truly at risk for developing psychosis using comprehensive neurocognitive and neuroimaging markers of illness. Importantly, this work has implications beyond psychosis as many mental disorders are now being conceptualized as disorders of aberrant neurodevelopment and this molecular imaging technique can be adapted to others areas of neuropsychiatry and neurodevelopment.

M. Mercedes Perez Rodriguez

Dr. Maria de las Mercedes Perez-Rodriguez, MD, PhD, is an Assistant Professor at the Icahn School of Medicine at Mount Sinai in New York, NY. Her research has focused on understanding the biological underpinnings of psychosis spectrum disorders and personality disorders, with the goal of developing and testing more effective treatments.

Dr. Perez's current work is focused on characterizing dimensions underlying psychosis spectrum disorders, their interaction, their underlying neurobiology, and clinical and functional correlates. She is currently PI of an NIH-funded KL2

Faculty Scholar Award focused on identifying dimensional markers of risk and resilience to bipolar disorder, using a discordant sibling, endophenotype approach "*Examining Endophenotypes of Genetic Risk and Resiliency in Bipolar Disorder through Multimodal Measures of Emotional Processing*" (UL1TR000067 Clinical and Translational Science Award, CTSA). The multimodal (neuroimaging, psychophysiology, neurocognitive) dimensional biomarkers identified in this study may be used to assess vulnerability/resiliency to BD in high-risk samples, aiding prevention, early diagnosis and intervention.

Dan Siskind

A/Prof Siskind trained as a psychiatrist in Australia and the United States. He graduated from medicine at the University of Queensland in 1998. After working with Doctors Without Borders in Chechnya in 2000, he became interested in psychiatry. He moved to Boston in 2002, where he did his psychiatry residency at Boston University and a Master of Public Health at Harvard University. He returned to Brisbane in June 2008 as a clinical academic psychiatrist at the Metro South Addiction and Mental Health Service. He completed his Ph.D in Feb 2014. His research interests include clozapine and treatment refractory schizophrenia, the physical health of people with severe and persistent mental illness, supported

accommodation, assertive community treatment and mental health services research. He was awarded an NHMRC Early Career Fellowship (2016-2019) looking at the cardio-metabolic health of people with severe and persistent mental illness. He has over 60 peer reviewed publications, including 2 first author in the highly ranked British Journal of Psychiatry, and has over \$2 million in research grants in the past 5 years, including as a CI on an NHMRC Project Grant.

Jerome Taylor

Jerome graduated *summa cum laude* from Rice University in Houston, Texas and attended medical school at the University of Virginia. During medical school Jerome spent a year at the Centers for Disease Control and Prevention in Atlanta, Georgia to complete an Epidemiology Fellowship. After medical school Jerome went to residency at Yale as a part of the Solnit Integrated Training Program, which combines general psychiatry residency, child and adolescent psychiatry fellowship and T32 postdoctoral research. During his T32 research years, Jerome learned to develop and implement clinical trials by conducting a study investigating ketamine's therapeutic potential for social anxiety. He also

used SAS to conduct database analyses to identify predictors of outcomes in anxiety, childhood obesity interventions, and early-onset schizophrenia spectrum disorders.

At Yale, Jerome has also developed expertise in treating psychotic disorders across the age span – the prodrome, first episode, and chronic schizophrenia. Jerome currently treats adolescents and young adults in Yale's prodromal psychosis research clinic (Prevention through Risk Identification, Management, and Education (PRIME)) with Professor Scott Woods, MD and in Yale's first episode clinic. Treating schizophrenia across the lifespan has given Jerome an appreciation for the neurodevelopmental course of psychotic disorders and a sense of urgency to develop interventions for youth at high risk for developing schizophrenia spectrum disorders. With mentorship from Scott Woods, MD, Jerome is analyzing North American Prodromal Longitudinal Study (NAPLS) data to determine whether treatment with stimulants in children at clinical high risk (CHR) for psychosis affects risk for developing psychosis. Jerome plans to have a clinical research career focusing on the neurodevelopmental trajectory of youth at high risk for schizophrenia and developing pharmacological and psychosocial interventions aimed at preventing neurodevelopmental derailments and ultimately psychosis.

Summer Thyme

Summer Thyme is a postdoctoral researcher at Harvard University. She earned a graduate degree in Biochemistry from University of Washington under the mentorship of Dr. David Baker, as an NSF research fellow. In her graduate work, she combined computational design and directed evolution approaches to engineer protein-DNA interfaces. For her postdoctoral studies as a Damon Runyon fellow, she joined the lab of Dr. Alexander Schier, a world leader in zebrafish and developmental genetics

research. Her long-term research goals are to understand neurological diseases and eventually develop treatments, capitalizing on her graduate expertise in protein engineering both to build new tools for furthering basic research and to design targeted therapeutics. To this end, she has established a new line of research in the Schier lab in collaboration with Dr. Steve McCarroll: studying genes associated with schizophrenia in zebrafish. Large-scale genome-wide association studies have begun to uncover numerous candidate genes linked to schizophrenia. Yet it remains unclear how these genes function and how they contribute to the underlying molecular, cellular, developmental and behavioral processes disrupted in the disorder. Summer's research seeks to bridge this gap by elucidating the function of a large number of these genes in the developing zebrafish nervous system. She has generated over 100 loss-of-function zebrafish mutants in schizophrenia-associated genes and has characterized their brain activity and behavior. This work has the potential to uncover common underlying pathways in schizophrenia, through the identification of shared phenotypes. Summer plans to follow up on the results of this screen by further dissecting the molecular details of most exciting mutants, such as those which have abnormalities resembling schizophrenia patient phenotypes.

Stefania Tognin

Stefania Tognin is a Clinical Psychologist with an interest in the early detection and intervention in psychosis. After completing her studies in Clinical Psychology at the University of Padua (2008), she carried out a part-time PhD in Psychosis Studies at the Institute of Psychiatry Psychology and Neuroscience, King's College London (2015). Building upon her previous neuroimaging work, she examined the brain structure of individuals at clinical high risk of developing psychosis who were recruited in

internationally renowned research centres in Europe and Australia. In 2016 she was appointed as Clinical Lecturer in the Department of Psychosis Studies (King's College London).

The focus of her research is the early stages of psychosis in young people. Specifically, both in clinical and research settings, she works with young people that are currently experiencing psychological difficulties that suggest they might be at high risk of developing psychosis. In her research, she focuses on identifying the extent to which environmental, biological and cognitive risk factors contribute to increase the risk of developing psychosis. By identifying specific risk factors and investigating their relative contribution to the illness development, she wishes to contribute to shift the focus of early intervention towards a more individualised care approach. She recently secured her first grant as Principal Investigator to examine the effects of physical and interpersonal environments on coping strategies in early psychosis, using smart-phone technologies.

Antonella Trotta

Antonella Trotta is a Postdoctoral Clinical Researcher at King's College London. She trained as a Clinical Psychologist and developed a distinctive research focus on the interplay between childhood adversity and genetic vulnerabilities, under the mentorship of Professor Sir Robin Murray and Dr Helen Fisher at the Institute of Psychiatry, Psychology & Neuroscience.

Her doctoral studies at King's College London investigated the association between specific childhood adversity and the presence, and

one-year outcomes, of first onset psychosis and the interplay with familial liability, candidate genes and polygenic risk scores. As a Postdoc, Antonella has further developed her interest on the mechanisms through which childhood adversity contributes to the onset and clinical outcomes of psychosis, by focusing on putative psychological processes, such as cognitive bias. Her work has potential to further inform the growing research on pathways from childhood to adulthood that link early stress to psychosis symptoms. Along this stream of work, Antonella is also currently investigating feasibility of a novel therapeutic intervention, Cognitive Bias Modification, in psychosis patients with distressing paranoid symptoms. She plans to pursue a career as Clinical Academic and to investigate cost-effective and scientifically-informed intervention strategies and treatments, affecting long-term mental health and physical outcomes of psychosis patients.

Huai-Hsuan Tseng

Dr. Huai-Hsuan Tseng is an attending psychiatrist at National Cheng-Kung University Hospital, Tainan, Taiwan. After having obtained his medical degree, he pursued a master degree in Clinical Psychology, and completed his specialty training in Psychiatry at the National Taiwan University, Taipei, Taiwan. He received his PhD in Psychosis Studies at the Institute of Psychiatry, London, UK in 2014. He finished his post-doctoral fellowship training at the Research imaging Centre, Centre for Addiction and Mental Health in Toronto, Canada in 2016. He is now appointed as a Clinical Assistant Professor at the Department of Psychiatry, College of Medicine,

National Cheng-Kung University. His main research interest is to investigate early biological and psychological alterations of psychiatric disorders, particularly the biological mechanisms underlying early cognitive and affective changes before the onset of illness. His recent research focus is on the stress-related dopamine response and emotional processing in individuals who are in their first episode or at clinical high risk for psychosis.

Ivy Tso

Dr. Tso is an Assistant Professor of Psychiatry and Adjunct Assistant Professor of Psychology at the University of Michigan. She received her B.Soc.Sc. (Psychology) and M.Phil. (Psychiatry) from the University of Hong Kong. She completed her Ph.D. in Clinical Psychology in 2012 and postdoctoral fellowship in 2013 at the University of Michigan. Dr. Tso's research focuses on the investigation of psychological and neural mechanisms of altered social cognitive processes in schizophrenia, bipolar disorder, and psychosis risk syndrome. She uses behavioral, ERP and fMRI methods to identify behavioral, affective, and neural

markers and to delineate dynamic brain networks underlying these disorders. The ultimate goal of her research is to develop effective and personalized treatments for people with psychosis so they can live a productive and fulfilling life. Dr. Tso serves as the Training and Clinical Director of the Program for Risk Evaluation and Prevention (PREP), a clinical and research program for youth with early signs of psychosis. She is a licensed psychologist and is actively involved in clinical care, training, and community educational outreach.

Yi Wang

Dr. Yi Wang is an assistant professor at Institute of Psychology, Chinese Academy of Sciences (IPCAS). She received her doctoral degree in Cognitive Neuroscience and Neuropsychology from IPCAS in 2013. She is currently a visiting fellow at Department of Psychiatry, University of Cambridge supported by a national scholarship. Her research interests center on social cognition in schizophrenia spectrum and the related brain mechanisms. Adopted the perspective of schizophrenia spectrum, she does not only look into the deficits in patients with full-blown psychosis, but also attach importance to the individuals with higher genetic or behavioral risk. She has

received a travel award from Schizophrenia International Research Society (SIRS) conference in 2014.

TianHong Zhang

TianHong Zhang MD. PhD. is a young psychiatrist work in Shanghai Mental Health Center (SMHC). Currently engaged in a number of large applied research projects in the field of early identification of psychosis. He is the first person who introduced the concept of Clinical High Risk(CHR) of psychosis into mainland China since he had received SIPS/SOPS (the Structured Interview for Prodromal Syndromes) training at Yale University in 2010. He and the Shanghai team had translated the SIPS/SOPS into Chinese and trained more than 200 Chinese psychiatrists in last 5 years. He also plays as key investigator of four NIMH funded projects on clinical identification of

psychosis risk syndrome in China. He closely involved in those studies, titled the "ShangHai At Risk for Psychosis (SHARP)" program, which was launched at the SMHC, the largest outpatient mental health clinic in China. He was in charge of identifying CHR individuals and evaluated clinical, neurocognitive and biological features. A cohort of 300 CHR participants was recruited by his clinical team between 2012-2015, and followed up for at least 1 year. He conducted the first study to systematically examine baseline characteristics and the transition rate of individuals in China at CHR over a two-year period. He published the results that 29.1% CHR individuals had developed a psychotic disorder within 2 years after baseline. His findings confirm that the CHR phenotype carries a similar and predictable risk for the future onset of psychotic disorders in a predominantly Eastern population as in Western populations. Given that China has one-fifth of the world's population and 10 million psychotic patients, this finding has major implications for psychosis prevention and early intervention. He found that CHR individuals with baseline characteristics such as younger, had poorer functioning, higher total SIPS positive symptom scores, longer duration of untreated prodromal symptoms (DUPrS), and were more often given psychosis-related diagnoses and subsequently prescribed antipsychotics in the clinic would predict subsequent conversion to psychosis.

He also interested in the studies of social cognition deficits in the CHR individuals. He conducted several studies and reported that psychosis is characterized by a pervasive impairment in cognition during all stages of illness. He assessed both neurocognition and social cognition, found that social cognition deficits among prodromal subjects would increase their dependence on neurocognition when interpreting others' mental states. Moreover, the combination index of social cognition and neurocognition could improve the predictive accuracy for individuals who are at real risk for developing psychosis. In future, He would keep motivating to carry out studies in CHR field because he believes that knowing what baseline CHR characteristics predict subsequent conversion to psychosis would be of practical interest for Chinese clinicians beginning to develop early intervention approaches. Meanwhile he would pay more attention to the early clinical intervention with this functionally deteriorating clinical population who are suffering from attenuated psychotic symptoms, which is really needed in prevention of psychosis in China.