The 2020 Klerman & Freedman Awards

SEPTEMBER 2020



The Brain & Behavior Research Foundation is pleased to be able to honor and recognize the exceptional work of six outstanding young researchers with our annual Klerman & Freedman Prizes for exceptional clinical and basic research in mental illness. The Klerman and Freedman prizes recognize innovative thinking and remarkable talent across the field of neuropsychiatry.

The prizewinners have previously received awards through the BBRF's Young Investigator Grant program, which supports early-career scientists as they gather pilot data and "proof of concept" for their innovative clinical and basic research. They are selected by committees of the Foundation's Scientific Council. This group of 181 prominent mental health researchers is led by Dr. Herbert Pardes. Recognition for scientists early in their career helps them go on to receive further funding and is a precursor to further accomplishments.

We applaud these researchers for their brilliant work, and we thank our generous donors who understand that support of brain and behavior research to fund scientist working to produce better treatments, cures, and methods of prevention for mental illness.

Together we can dramatically improve the lives of those living with mental illness and enable more people to live full, happy, and productive lives.

Jeff Bown mi)

Sincerely,

Jeffrey Borenstein, M.D.

President & CFO

ANNUAL KLERMAN PRIZE FOR EXCEPTIONAL CLINICAL RESEARCH

Ellen Lee, M.D.

University of California San Diego; VA San Diego Healthcare System

HONORABLE MENTIONS

Soonjo Hwang, M.D..

University of Nebraska Medical Center/Nebraska Medicine

Hadar Ben-Yoav, M.Sc., Ph.D.

Department of Biomedical Engineering and Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Israel

ANNUAL FREEDMAN PRIZE FOR EXCEPTIONAL BASIC RESEARCH

Cody A. Siciliano, Ph.D.

Vanderbilt University, Department of Pharmacology, Vanderbilt Center for Addiction Research

HONORABI F MENTIONS

Kevin Beier, Ph.D.

University of California, Irvine Departments of Physiology & Biophysics, Neurobiology and Behavior, Biomedical Engineering, Pharmaceutical Sciences

Lorna A. Farrelly, Ph.D.

Nash Family Department of Neuroscience, Friedman Brain Institute, Icahn School of Medicine at Mount Sinai

About the Prizes

The Klerman & Freedman Prizes pay tribute to Drs. Gerald L. Klerman and Daniel X. Freedman, whose legacies as researchers, teachers, physicians and administrators have indelibly influenced neuropsychiatry.

Their outstanding contributions to the field of brain and behavior research continue to inspire scientists who knew them, as well as those who are just entering the field.

KLERMAN Prizewinners		KLERMAN Honorable Mentions	
1995	Dr. Rajiv Tandon	1995	Dr. Elizabeth D. Abercrombie Dr. Kim T. Mueser
1996	Dr. Hans C. Brieter		Dr. Jose V. Pardo
1997	Dr. Schahram Akbarian	1996	Dr. Steven E. Arnold Dr. Helen S. Mayberg
1998 1999	Dr. Michael Maes Dr. Andrew L. Stoll	1997	Dr. Andrew J. Francis Dr. Katharine A. Phillips
2000	Dr. Susan K. Schultz	1998	Dr. Cameron S. Carter
2001	Dr. Cameron S. Carter	1999	Dr. Mark R. Serper Dr. Shitij Kapur
	Dr. Josephy R. Hibbeln Dr. Sarah H. Lisanby		Dr. Brian F. O'Donnell
	Dr. Perry F. Renshaw	2000	Dr. Mark S. George Dr. Sohee Park
2002	Dr. E. Sherwood Brown Dr. John W. Newcomer	2002	Dr. Stephan Heckers Dr. Anissa Abi Dargham
2003	Dr. Ramin Mojtabai		Dr. Jeffrey H. Meyer Dr. Yvette I. Sheline
2004	Dr. Helen Link Egger Dr. Joan L. Luby	2003	Dr. Catherine Monk Dr. Gerard Sanacora
2005	Dr. Melissa P. DelBello	2005	Dr. Anne L. Glowinski Dr. Gerard Sanacora
2006	Dr. Hilary P. Blumberg	2006	Dr. Stephan Eliez
2007	Dr. Beng-Choon Ho	2007	Dr. Jordan W. Smoller
2008	Dr. Gabriel Alejandro de Erausquin	2007	Dr. Yuval Y. Neria Dr. Carolyn M. Salafia
2009	Dr. Alina Suris	2011	Dr. Brian M. D'Onofrio Dr. Jennifer S. Silk
2010	Dr. Daniel P. Dickstein Dr. Mani N. Pavuluri	2012	Dr. Johanne Renaud Dr. Manpreet Kaur Singh
2011	Dr. Chadi Calarge	2013	Dr. Daniel Mueller Dr. Andrea Danese
2012	Dr. Jess G. Fiedorowicz	2014	Dr. Mazen A. Kheirbek
2013	Dr. James McPartland		Dr. Bo Li
2014	Dr. Denis Jabaudon	2015	Dr. Chadi Abdallah Dr. Carrie J. McAdams
2015	Dr. Alan Anticevic	2016	Dr. Erin C. Dunn
2016	Dr Katie McLaughlin	2047	Dr. Avram Holmes
2017	Dr. Jennifer C. Felger	2017	Dr. Danai Dima Dr. Carolyn Rodriguez
2018	Dr. Albert R. Powers III	2018	Dr. Timothy Y. Mariano
2019	Dr. Nolan R. Williams	2019	Dr. Bo Cao, Ph.D. Dr. Sarah A. O. Gray

KLERMAN PRIZE

The Klerman Prize, established in 1994 by Myrna M. Weissman, Ph.D., in memory of her late husband, Gerald L. Klerman, M.D., honors exceptional clinical research by a BBRF Young Investigator Grantee. A distinguished psychiatric researcher and mentor at the National Institute of Mental Health (NIMH), Dr. Klerman pioneered studies of psychotropic medications and developed and tested interpersonal psychotherapy. Dr. Weissman serves on the BBRF Scientific Council.

KLERMAN PRIZE SELECTION COMMITTEE

Responsible for selecting the Klerman Prizewinners, the following BBRF Scientific Council Members make up the Selection Committee:

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University of Texas, Medical Branch at Galveston

2020 KLERMAN PRIZEWINNER

FOR EXCEPTIONAL CLINICAL RESEARCH



Ellen Lee, M.D. *University of California San Diego; VA San Diego Healthcare System*

2017 BBRF Young Investigator

Dr. Ellen Lee is Assistant Professor in Residence of Psychiatry at the University of California San Diego and Staff Psychiatrist at the VA San Diego Healthcare System.

As a geriatric psychiatrist, Dr. Lee has focused on ways to improve aging in persons with schizophrenia as well as in healthy aging populations. Persons with schizophrenia have life expectancies 15-20 years shorter than the norm due to earlier onset of heart disease and metabolic problems like diabetes. Dr. Lee's research analyzes the impact of sleep disturbances on cardio-metabolic health, as mediated through inflammatory mechanisms. Dr. Lee's lab also examines psychosocial aging in persons with schizophrenia and in healthy aging populations. Dr. Lee has led investigations of how loneliness as well as positive psychological traits like resilience, compassion, and wisdom affect health and functioning.

Dr. Lee's lab employs blood-based biomarkers, wearable sensors, qualitative interviews, and artificial intelligence technologies to better understand mechanisms of aging and develop novel ways to improve health outcomes for older adults.

"I am incredibly honored to receive the Klerman Prize from the BBRF, an organization that has connected me to so many opportunities and mentors in my career. The BBRF Young Investigator Award was instrumental in launching my research career. With its generous support, I was able to establish my independent program of research and expand the focus of my work to the effects of sleep on aging in schizophrenia."

2020 KLERMAN PRIZE

HONORABLE MENTION



Soonjo Hwang, M.D. *University of Nebraska Medical Center/ Nebraska Medicine*

2017 BBRF Young Investigator

Dr. Soonjo Hwang is a child and adolescent psychiatrist who specializes in neuroscience-oriented, mechanism-based clinical studies of children with emotional and behavioral dysregulation. His research and clinical interest involves taking an affective cognitive neuroscience approach to understanding of various psychopathologies in children and adolescents. He is interested in determining the neural mechanisms underlying pediatric psychopathology, especially those related to irritability, emotional dysregulation, impaired reward processing, and disruptive/aggressive behavior.

Dr. Hwang received clinical training in child and adolescent psychiatry at Massachusetts Genral Hospital/McLean Hospital/Harvard Medical Center. He was then trained in neuroscience/neuroimaging at the National Institute of Mental Health. At the University of Nebraska Medical Center, he has established and runs a research clinic where he integrates routine clinical assessment and care with data collection and research in children with emotional and behavioral dysregulation.

"Winning the Klerman Honorable Mention is such a privilege and honor. It also gives me inspiration and courage to continue my pathway to contribute scientifically and clinically for youths struggling with significant mental health issues. My BBRF grant has been providing enormous support and an opportunity for me to become an independent clinical researcher in the field of neuroscience and child & adolescent psychiatry."

2020 KLERMAN PRIZE

HONORABLE MENTION



Hadar Ben-Yoav, M.Sc., Ph.D. Department of Biomedical Engineering and Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Israel

2017 BBRF Young Investigator

Dr. Ben-Yoav earned his B.Sc. (2004), M.Sc. (2006) and Ph.D. (2010) at Tel Aviv University, Israel, and did postdoctoral research (2015) at the University of Maryland. Currently, he is the head of the Nanobioelectronics Laboratory and a Senior Lecturer (Assistant Professor) at the Department of Biomedical Engineering in Ben-Gurion University of the Negev. His research team focuses on interfacing biology with microelectronics. In particular, they study the integration of biological materials (such as DNA, proteins, and cells) with micro- and nano-electronic devices that will harness their unique functionalities for the development of the next generation of personalized health monitoring applications, such as electronic skin patches and implantable sensors that can continuously monitor our health.

The current goal of the work in Dr. Ben-Yoav's research team is to develop novel biosensors to detect unique diagnostic electrical fingerprints from blood samples of schizophrenia patients that can provide crucial information about their treatment management. He and colleagues have developed a micro-sensor that can detect real-time levels of the antipsychotic medication clozapine in finger-pricked capillary blood of a schizophrenia patient. This work is part of Dr. Ben-Yoav's long-term vision to develop novel, portable, and low-cost analytical micro-devices with the potential to revolutionize the way mental health disorders are currently being studied and treated.

"Receiving this honor is gratifying in that it recognizes that engineering technologies can revolutionize mental health diagnosis and treatment. I am grateful for my BBRF grant as well, which is enabling my team to demonstrate that engineers, biologists, neuropsychiatry experts, and clinicians can work together to solve major challenges in mental health."

FREEDMAN Prizewinners

1998	Dr. Yukiko Goto
1999	Dr. Stewart A. Anderson
2000	Dr. Edwin G. Abel
2001	Dr. Kelsey C. Martin
2002	Dr. Jon R. Backstrom
2003	Dr. Jose A. Esteban
2004	Dr. Luca Santarelli
2005	Dr. Lisa M. Monteggia
2006	Dr. Michael D. Ehlers
2007	Dr. Thomas A. Blanpied
2008	Dr. Evelyn K. Lambe
2009	Dr. Kerry J. Ressler
2010	Dr. David A. Baker
2011	Dr. Alexandre Bonnin
2012	Dr. Zhiping Pang
2013	Dr. Garret Stuber
2014	Dr. Theodore D. Satterthwaite
2015	Dr. Michael M. Halassa
2016	Dr. Kay Tye
2017	Dr. Ilana Witten
2018	Dr. Byungkook Lim
2019	Dr. Anna Victoria Molofsky

FREEDMAN Honorable Mentions

1998	Dr. Eric E. Turner Dr. Elizabeth Van Bockstaele
1999	Dr. Emmanuel N. Pothos Dr. Laurence H. Tecott
2000	Dr. Wayne Drevets Dr. Bernice E. Morrow
2001	Dr. Michael J. Caterina Dr. Aurelio A. Galli
2002	Dr. Michael W. Quick Dr. Fu-Ming Zhou
2003	Dr. William A. Carlezon Dr. Gleb P. Shumyatsky
2004	Dr. Michael D. Ehlers Dr. Sheena Ann Josselyn
2005	Dr. Steven A. Thomas Dr. Fang Liu
2006	Dr. Stewart A. Anderson Dr. Gabriella D' Arcangelo Dr. Karoly Mirnics
2007	Dr. Fang Liu Dr. Luca Santarelli
2008	Dr. M. Margarita Behrens Dr. Akira Sawa
2009	Dr. Jean-Martin Beaulieu Dr. Colleen Ann McClung
2010	Dr. Vincent P. Ferrera Dr. Benjamin Philpot
2011	Dr. Alberto Bacci Dr. Andrew A. Pieper
2012	Dr. Marie Carlen Dr. Genevieve Konopka
2013	Dr. Carmen Andreescu Dr. David Foster Dr. Hiroki Taniguchi
2014	Dr. Elena Ivleva Dr. Aristotle N. Voineskos
2015	Dr. Kristen J. Brennand Dr. Nandakumar Narayanan
2016	Dr. Conor Liston Dr. Margaret Cho
2017	Dr. Marcelo de Oliveiera Dietrich Dr. Elise B. Robinson
2018	Dr. Christina Gremel Dr. Ueli Rutishauser
2019	Dr. Erin S. Calipari Dr. Dorothy Schafer

FREEDMAN PRIZE

The Freedman Prize honors the late Daniel X. Freedman, M.D., a pioneer in biological psychiatry and psychopharmacology and a founding member of the Brain & Behavior Research Foundation Scientific Council. It is awarded to a BBRF Young Investigator Grantee for exceptional basic studies.

FREEDMAN PRIZE SELECTION COMMITTEE

Responsible for selecting the Freedman Prizewinners, the following BBRF Scientific Council Members make up the Selection Committee:

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Medical University of South Carolina

Husseini K. Manji, M.D., FRCPC Johnson & Johnson PRD Visiting Professor, Duke University

Eric J. Nestler, M.D., Ph.D. *Icahn School of Medicine at Mount Sinai*

2020 FREEDMAN PRIZEWINNER

FOR EXCEPTIONAL BASIC RESEARCH



Cody A. Siciliano, Ph.D.Vanderbilt University, Department of Pharmacology, Vanderbilt Center for Addiction Research

2017 BBRF Young Investigator

Dr. Cody Siciliano is an Assistant Professor in the Department of Pharmacology at Vanderbilt University. He received his bachelor's degree in psychology from Binghamton University in 2011 and his Ph.D. in neuroscience at Wake Forest School of Medicine in 2015 followed by postdoctoral training at the Massachusetts Institute of Technology.

The Siciliano Lab, part of the Vanderbilt Center for Addiction Research, investigates circuits and receptors in the brain that control decision making, and how their function is altered in neuropsychiatric disorders. Disrupted decision-making processes are a hallmark of many disorders, such as depression and addiction. The Siciliano Lab seeks to understand how experiences can cause these deficits to occur, and how to intervene.

A major focus of Dr. Siciliano's work has been to determine the neurobiological factors that produce vulnerability or resilience to drug and alcohol addiction. This work has led to the development of several new approaches for quantifying and studying drug taking and addiction behaviors. Dr. Siciliano has identified neural activity patterns that can predict which individuals are likely to eventually develop compulsive alcohol drinking behaviors—well before the behaviors actually emerge. Targeting the receptors and circuits driving these activity patterns may aid in the prevention and treatment of substance-use disorders.

"My BBRF-funded work has formed the basis of virtually all the ongoing projects in my lab. We are now investigating the cellular and circuit basis of vulnerability and resilience to alcohol-use disorder, cocaine-use disorder, and post-traumatic stress disorder. Approaches developed with BRRF support have opened new avenues of research outside of my group as well, as these approaches have begun to be utilized by other labs in field."

2020 FREEDMAN PRIZE

HONORABLE MENTION



Kevin Beier, Ph.D. *University of California, Irvine Departments of Physiology & Biophysics, Neurobiology and Behavior, Biomedical Engineering, Pharmaceutical Sciences*

2017 BBRF Young Investigator

Dr. Kevin Beier is an Assistant Professor and Fellow in the Center for the Neurobiology of Learning and Memory, UCI Mind. He is interested in understanding the molecular and neural circuit basis of behavioral adaptation. Individuals within a population show differential vulnerability to developing mental health disorders, such as substance abuse and depression. While both genetic and epigenetic factors are known to contribute, much remains unknown about the biological factors that drive differential susceptibility to developing neuropsychiatric conditions later in life.

In his graduate and postdoctoral work, Dr. Beier developed viral-genetic methods for mapping connected neuronal circuits and learning how they are modulated by experience. In his current work he has two main goals. One is to engineer a suite of molecular technologies for selective modulation of neuronal plasticity at the level of the cell and ultimately, the individual synapse. The other is to investigate how synaptic and circuit properties in the brain are modulated either by acute experiences or over time during aging. This includes identifying brain networks that contribute to various forms of pathological learning, including drug addiction, depression, and anxiety.

"My BBRF grant was the first non-governmental grant that I was awarded, and enabled me to launch into my independent career from my postdoctoral research, while providing funding to continue my ambitious research plan. Being awarded the grant gave me confidence in my direction of research and ability to succeed at the next level. It is humbling to receive the Klerman Honorable Mention, given the number of deserving and talented investigators in the applicant pool."

2020 FREEDMAN PRIZE

HONORABLE MENTION



Lorna A. Farrelly, Ph.D. *Nash Family Department of Neuroscience, Friedman Brain Institute, Icahn School of Medicine at Mount Sinai*

2017 BBRF Young Investigator

Dr. Lorna A. Farrelly received her Ph.D. in Psychiatry in 2014 from the Royal College of Surgeons in Ireland, investigating the proteome of schizophrenia and the effect of antipsychotic drugs. She currently works in the Nash Family Department of Neuroscience at the Icahn School of Medicine at Mount Sinai as a Robin Chemers Neustein Postdoctoral Research Fellow. Her research investigates the regulation of gene expression in the brain in normal neurodevelopment and in psychiatric disease.

Her recent studies have identified a previously unknown role for the monoamine serotonin, a powerful chemical that sends signals between nerve cells in the brain, which has long been thought to play center stage in mood regulation and other processes. Dr. Farrelly discovered that this molecule can enter the nucleus of these cells and help activate genes. This suggests that our current understanding of serotonin and other monoamines is incomplete and requires further investigation. The discovery promises to have implications for our current understanding of serotonin-related mood disorders such as major depressive disorder and could open new avenues for treating neurodegenerative and neuropsychiatric diseases.

"The BBRF Young Investigator award gave me the confidence and support that I needed to identify a novel role for serotonin in regulating gene expression. Receiving the Klerman Honorable Mention is special to me because it acknowledges and validates the importance of my research in neurodevelopment and mental health."

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THE BRAIN & BEHAVIOR RESEARCH FOUNDATION is committed to alleviating the suffering of mental illness by awarding grants that will lead to advances and breakthroughs in scientific research. The Foundation funds the most innovative ideas in neuroscience and psychiatry to better understand the causes and develop new ways to treat brain and behavior disorders.

Since 1987, the Foundation has awarded more than \$408 million to fund more than 4,800 leading scientists around the world. This has led to over \$4.0 billion in additional funding for these scientists. 100% of every dollar donated for research is invested in our research grants. Our operating expenses are covered by separate foundation grants.

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Since 1987 the Foundation has awarded more than \$408 million to fund more than 5,900 grants. 4,800+ researchers

Grants have been given to more than 4,800 leading scientists around the world.









