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.

Sincerely,

Jeffrey Borenstein, M.D.
President & CEO
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

HONORABLE 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

1995  Dr. Rajiv Tandon
1996  Dr. Hans C. Brieter
1997  Dr. Schahram Akbarian
1998  Dr. Michael Maes
1999  Dr. Andrew L. Stoll
2000  Dr. Susan K. Schultz
2001  Dr. Cameron S. Carter
       Dr. Josephy R. Hibbeln
       Dr. Sarah H. Lisanby
       Dr. Perry F. Renshaw
2002  Dr. E. Sherwood Brown
       Dr. John W. Newcomer
2003  Dr. Ramin Mojtabai
2004  Dr. Helen Link Egger
       Dr. Joan L. Luby
2005  Dr. Melissa P. DelBello
2006  Dr. Hilary P. Blumberg
2007  Dr. Beng-Choon Ho
2008  Dr. Gabriel Alejandro de Erausquin
2009  Dr. Alina Suris
2010  Dr. Daniel P. Dickstein
       Dr. Mani N. Pavuluri
2011  Dr. Chadi Calarge
2012  Dr. Jess G. Fiedorowicz
2013  Dr. James McPartland
2014  Dr. Denis Jabaudon
2015  Dr. Alan Anticevic
2016  Dr. Katie McLaughlin
2017  Dr. Jennifer C. Felger
2018  Dr. Albert R. Powers III
2019  Dr. Nolan R. Williams

Klerman Honorable Mentions

1995  Dr. Elizabeth D. Abercrombie
       Dr. Kim T. Mueser
       Dr. Jose V. Pardo
1996  Dr. Steven E. Arnold
       Dr. Helen S. Mayberg
1997  Dr. Andrew J. Francis
       Dr. Katharine A. Phillips
1998  Dr. Cameron S. Carter
       Dr. Mark R. Serper
1999  Dr. Shitij Kapur
       Dr. Brian F. O’Donnell
2000  Dr. Mark S. George
       Dr. Sohee Park
2002  Dr. Stephan Heckers
       Dr. Anissa Abi Dargham
       Dr. Jeffrey H. Meyer
       Dr. Yvette I. Sheline
2003  Dr. Catherine Monk
       Dr. Gerard Sanacora
2005  Dr. Anne L. Glowinski
       Dr. Gerard Sanacora
2006  Dr. Stephan Eliez
       Dr. Jordan W. Smoller
2007  Dr. Yuval Y. Neria
       Dr. Carolyn M. Salafia
2011  Dr. Brian M. D’Onofrio
       Dr. Jennifer S. Silk
2012  Dr. Johanne Renaud
       Dr. Manpreet Kaur Singh
2013  Dr. Daniel Mueller
       Dr. Andrea Danese
2014  Dr. Mazen A. Kheirbek
       Dr. Bo Li
2015  Dr. Chadi Abdallah
       Dr. Carrie J. McAdams
2016  Dr. Erin C. Dunn
       Dr. Avram Holmes
2017  Dr. Danai Dima
       Dr. Carolyn Rodriguez
2018  Dr. Timothy Y. Mariano
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:

CHAIR
Robert M.A. Hirschfeld, M.D.
Well Cornell Medical College,
Cornell University

MEMBERS
Martin B. Keller, M.D.
Brown University

Nina R. Schooler, Ph.D.
State University of New York,
Downstate

Karen Dineen Wagner, M.D.,
Ph.D.
University of Texas,
Medical Branch at Galveston
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.”
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 General 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.”
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.”
<table>
<thead>
<tr>
<th>Year</th>
<th>Honorable Mentions</th>
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<tbody>
<tr>
<td>1998</td>
<td>Dr. Eric E. Turner</td>
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<td>Dr. Elizabeth Van Bockstaele</td>
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<td>1999</td>
<td>Dr. Emmanuel N. Pothis</td>
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<td>Dr. Laurence H. Tecott</td>
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<td>2000</td>
<td>Dr. Wayne Drevets</td>
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<td>Dr. Bernice E. Morrow</td>
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<td>2001</td>
<td>Dr. Michael J. Caterina</td>
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<td></td>
<td>Dr. Aurelio A. Galli</td>
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<td>2002</td>
<td>Dr. Michael W. Quick</td>
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<td>Dr. Fu-Ming Zhou</td>
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<td>2003</td>
<td>Dr. William A. Carlezon</td>
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<td>Dr. Gleb P. Shumyatsky</td>
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<td>2004</td>
<td>Dr. Michael D. Ehlers</td>
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<td>Dr. Sheena Ann Josselyn</td>
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<td>2005</td>
<td>Dr. Steven A. Thomas</td>
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<td>Dr. Fang Liu</td>
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<td>2006</td>
<td>Dr. Stewart A. Anderson</td>
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<td>Dr. Gabriella D’ Arcangelo</td>
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<td>Dr. Karoly Mirnics</td>
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<td>2007</td>
<td>Dr. Fang Liu</td>
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<td>Dr. Luca Santarelli</td>
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<td>2008</td>
<td>Dr. M. Margarita Behrens</td>
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<td>Dr. Akira Sawa</td>
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<td>2009</td>
<td>Dr. Jean-Martin Beaulieu</td>
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<td>Dr. Colleen Ann McClung</td>
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<td>2010</td>
<td>Dr. Vincent P. Ferrera</td>
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<td>Dr. Benjamin Philpot</td>
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<td>2011</td>
<td>Dr. Alberto Bacci</td>
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<td>Dr. Andrew A. Pieper</td>
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<td>2012</td>
<td>Dr. Marie Carlen</td>
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<td>Dr. Genevieve Konopka</td>
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<td>2013</td>
<td>Dr. Carmen Andreeescu</td>
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<td>Dr. David Foster</td>
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<td>Dr. Hiroki Taniguchi</td>
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<td>2014</td>
<td>Dr. Elena Ivleva</td>
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<td>Dr. Aristotle N. Voineskos</td>
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<td>2015</td>
<td>Dr. Kristen J. Brennand</td>
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<td>Dr. Nandakumar Narayanan</td>
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<td>2016</td>
<td>Dr. Conor Liston</td>
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<td>Dr. Margaret Cho</td>
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<td>2017</td>
<td>Dr. Marcelo de Oliveiera Dietrich</td>
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<td>Dr. Elise B. Robinson</td>
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<td>2018</td>
<td>Dr. Christina Gremel</td>
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<td>Dr. Ueli Rutishauser</td>
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<td>2019</td>
<td>Dr. Erin S. Calipari</td>
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<td>Dr. Dorothy Schafer</td>
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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:

CHAIR
Ariel Y. Deutch, Ph.D.
Vanderbilt University

MEMBERS
Joseph T. Coyle, M.D.
McLean Hospital
Harvard Medical School

Fritz A. Henn, M.D., Ph.D.

Peter W. Kalivas, Ph.D.
Medical University of South Carolina

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

Eric J. Nestler, M.D., Ph.D.
Icahn School of Medicine at Mount Sinai
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.”
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.”
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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Floyd E. Bloom, M.D.

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41 Department & Program Chairs
16 National Institute of Health Chiefs & Directors
11 Members of the National Academy of Sciences
4 Recipients of the National Medal of Science
3 Directors of the National Institute of Mental Health
1 Nobel Prize Winner

14
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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.

RESEARCH FOR RECOVERY

30+ years
For more than 30 years the BBRF has fostered new research pathways and transformative breakthroughs.

70k+ donors
Our 70,000 donors have joined together in the great challenge of modern medical science — overcoming mental illness.

$408M awarded
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.

100% of every dollar donated for research goes to research.