Brain & Behavior Research Foundation

INTERNATIONAL AWARDS DINNER 2019

FRIDAY, NOVEMBER 1st
The Pierre

Celebrating our
Pardes Humanitarian Prizewinners and Outstanding Achievement Prizewinners
Welcome to our 2019 International Awards Dinner.

This year’s Pardes Humanitarian Prize in Mental Health honors Dr. William T. Carpenter, Jr., a member of the Brain & Behavior Research Foundation Scientific Council, and a BBRF prizewinner and grant recipient. Dr. Carpenter has been a transformative force in psychiatry for more than 40 years, dramatically changing how we treat schizophrenia, reduce stigma, and enhance the ethics of treatment and research. Dr. Carpenter has taken a person-centered, rather than an illness-centered view of schizophrenia which has led to more compassionate care for people with this illness. He has played a critical role in shifting the focus of treatment to the earliest stages of the illness, when interventions may have their most profound impact and maximize the likelihood of recovery.

The 2019 Honorary Pardes Humanitarian Prize in Mental Health is being awarded to Cynthia Germanotta and Born This Way Foundation for their extraordinary accomplishments and their commitment to supporting the wellness of young people and empowering them to create a kinder and braver world.

Bestowed annually since 2014, the Pardes Prize recognizes a person(s) or organization whose humanitarian work is transformative and of great magnitude, changing the lives and bringing the joy of living to those facing challenges to mental health. The Prize focuses public attention on the burden of mental illness on individuals and on society, and the urgent need to expand and enhance mental health services both in the developed world and in developing countries. The Prize was named in honor of Dr. Herbert Pardes, the first recipient of the award.

One of Dr. Pardes’ many contributions to our field has been his founding and continued leadership of BBRF’s Scientific Council, a volunteer group of 184 mental health experts across disciplines in brain and behavior research who review all Foundation grant applications and recommend the most promising ideas to fund.

Tonight nine innovative and exceptional scientists—many of them Foundation grantees—will also be honored for their contributions to the advancement of our understanding and treatment of depression, ADHD, bipolar disorder, and schizophrenia. Their work is distinguished by their use of cutting-edge technology and devotion to finding innovative new therapies that will improve our care for those living with mental illness, as well as their efforts to seek preventive and diagnostic tools for the future. Our Outstanding Achievement Prizewinners are selected by special committees of the BBRF’s Scientific Council.

We are delighted you are here to celebrate the progress being made in brain and behavior research. Our shared commitment to scientific advancement will change what it means to live with mental illness and will help pave the way for more people to live full, happy and productive lives.

Thank you for your ongoing support. Enjoy the evening!

Sincerely,

Jeffrey Borenstein, M.D.
President & CEO
PARDES HUMANITARIAN PRIZE IN MENTAL HEALTH
Honoree: William T. Carpenter, Jr., M.D.
Honorary Tribute: Cynthia Germanotta and Born This Way Foundation

LIEBER PRIZE
FOR OUTSTANDING ACHIEVEMENT IN SCHIZOPHRENIA RESEARCH
Alan S. Brown, M.D., M.P.H.
*Columbia University Irving Medical Center / New York State Psychiatric Institute*

John J. McGrath, M.D., Ph.D.
The University of Queensland / Queensland Centre for Mental Health Research

MALTZ PRIZE
FOR INNOVATIVE & PROMISING SCHIZOPHRENIA RESEARCH
Christoph Kellendonk, Ph.D.
*Columbia University Irving Medical Center / New York State Psychiatric Institute*

James P. Kesby, Ph.D.
The University of Queensland

COLVIN PRIZE
FOR OUTSTANDING ACHIEVEMENT IN MOOD DISORDERS RESEARCH
Dennis S. Charney, M.D.
*Icahn School of Medicine at Mount Sinai*

Sophia Frangou, M.D., Ph.D., F.R.C.Psych
*Icahn School of Medicine at Mount Sinai*

John H. Krystal, M.D.
*Yale University*

RUANE PRIZE
FOR OUTSTANDING ACHIEVEMENT IN CHILD & ADOLESCENT PSYCHIATRIC RESEARCH
Stephen P. Hinshaw, Ph.D.
*University of California, Berkeley / University of California, San Francisco*

GOLDMAN-RACKIC PRIZE
FOR OUTSTANDING ACHIEVEMENT IN COGNITIVE NEUROSCIENCE
René Hen, Ph.D.
*Columbia University / New York State Psychiatric Institute*

Previous Outstanding Achievement Prizewinners

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PARDES HUMANITARIAN PRIZE IN MENTAL HEALTH

This International Prize recognizes a physician, scientist, public citizen or organization whose extraordinary contribution has made a profound impact on advancing the understanding of mental health and providing hope and healing for people who are living with mental illness. Established in 2014 and awarded annually, the Pardes Humanitarian Prize is named in honor of Dr. Herbert Pardes, the first recipient of the award.

The recipient of the Prize is chosen by a distinguished international Selection Committee from nominations solicited worldwide and receives an honorarium. The Pardes Humanitarian Prize focuses public attention on the burden of mental illness on individuals and society and the urgent need to expand and enhance mental health services in the United States and globally.

No one has better described the goals of this international Prize than Dr. Pardes himself: “Mental illness is the largest single health challenge in the world. For many decades society has recognized major contributions in basic science, clinical research and clinical care in the non-psychiatric health fields. The Pardes Humanitarian Prize has been established to honor individuals who comprehensively care, teach, investigate, work, and passionately advocate for improving the mental health of society, and who have had a powerful impact on reducing the pain inflicted by psychiatric illness.”

The Pardes Humanitarian Prize in Mental Health is sponsored in part by Janssen Research & Development, LLC, one of the Janssen Pharmaceutical Companies of Johnson & Johnson.
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Rendering of The Pardes Humanitarian Prize medal featuring Hygeia, Goddess of Health.
Dr. William Carpenter has been a transformative force in psychiatry for over 40 years, dramatically changing how we treat schizophrenia and working to reduce stigma. He is a luminary in the field whose vision, scientific productivity, and tireless advocacy for resources for psychiatric research have improved the lives of countless individuals and families.

Dr. Carpenter is a champion who has done much outside the mainstream of academic psychiatry, enhancing the ethics of treatment and research in psychosis, ensuring competent informed consent for participants in research studies, and documenting the safety of efficacious treatments that have been hampered by myths and misconceptions. His work has significantly contributed to changing how we treat individuals with refractory forms of psychosis, leading to improved protocols for such individuals.

Since 1968, Dr. Carpenter’s career has focused on the care and study of persons with schizophrenia. He has served as Principal Investigator on five National Institute of Mental Health-funded center grants.

He provided expert testimony in the case of the United States Government vs. John Hinckley and was a member of the State Department delegation to inspect the political use of psychiatry in the Soviet Union. He chaired the work group responsible for psychotic disorders in the preparation of the DSM-5.

Throughout his career, Dr. Carpenter has taken a person-centered, rather than an illness-centered, view of schizophrenia which has led to more compassionate care for people with this illness. He has played a critical role in shifting the focus of treatment to the earliest stages of the illness, when interventions may have their most profound impact and maximize the likelihood of recovery.

Dr. Carpenter is Editor-in-Chief of Schizophrenia Bulletin, has served on many editorial boards and advisory committees and has authored over 400 publications.

He was instrumental in the founding of the Brain & Behavior Research Foundation and currently chairs the scientific program committee on the Foundation’s Scientific Council. He is also the recipient of 2008, 2001, and 1996 BBRF Distinguished Investigator Grants and the winner of the BBRF 2000 Lieber Prize for Outstanding Achievement in Schizophrenia Research.

For his extraordinary accomplishments, the depth of his compassion and the stunning power of his commitment to people facing the challenge of mental illness, we honor William T. Carpenter, Jr., M.D.
HONORARY PARDES HUMANITARIAN PRIZE IN MENTAL HEALTH

CYNTHIA BISSETT GERMANOTTA IS THE president and co-founder of Born This Way Foundation, which she launched with her daughter Lady Gaga in 2012. Born This Way Foundation was founded to support the wellness of young people and empower them to create a kinder and braver world. To achieve these goals, Born This Way Foundation leverages evidence-based research and authentic partnerships in order to provide young people with kinder communities, improved mental health resources, and more positive environments.

Under Cynthia’s leadership, Born This Way Foundation has reached tens of thousands of young people across the country and around the world, and has launched innovative youth-focused programming such as teen Mental Health First Aid to teach high school students about common mental health challenges and what they can do to support their own mental health and help a friend who is struggling. In May 2019, the United Nations’ World Health Organization (WHO) appointed Cynthia as a WHO Ambassador for mental health. In this role, she works to educate and promote healthier lives, improved workforces, and overall mental health on a global scale. Cynthia also served on the Board of the Empowerment Initiative at the University of Nebraska-Lincoln and is an alumni member of the Board of Governors for the Parsons New School of Design.

Cynthia Germanotta and Born This Way Foundation seek to support the mental and emotional wellness of young people by putting their needs, ideas, and voices first. As believers in research as a powerful tool to help solve the problems facing today’s youth, they work to encourage and build communities that understand and prioritize mental and emotional wellness and that celebrate the individuality of those they serve. They inspire us all to look forward, toward a future that supports the wellness of young people with an approach that is fiercely kind, compassionate, accepting, and inclusive.

For their extraordinary accomplishments and their commitment to supporting the wellness of young people and empowering them to create a kinder and braver world, we honor Cynthia Germanotta and Born This Way Foundation.
Judge Steven Leifman is a national leader in solving the complex and costly problem of people with untreated mental illnesses involved in the criminal justice system. He has been a passionate leader and unwavering agent of change in the shift away from the devastating and unproductive incarceration of people with mental illness. He has shown us how to use our resources to reverse the costly prison recidivism that strips people of their dignity and threatens public safety. Judge Leifman is an extraordinary humanitarian, innovator, and transformative figure whose steadfast advocacy is changing the lives of people with mental illness and their families, and impacting our larger society.

Suzanne and Bob Wright have been world leaders in autism advocacy. Their brave and tenacious leadership has created a rallying cry for concrete and larger-scale research, care, education, treatment and national and global awareness. Thanks to the extraordinary vision of Bob and Suzanne Wright, scientists have been able to develop a better understanding of the structures of autism, which are leading to helpful interventions. There are evolving trends in research that point to the interconnectivity between autism and other medical conditions.

Doctors Without Borders/Médecins Sans Frontières provides emergency medical aid in response to armed conflicts, natural disasters, famines, and epidemics. MSF doctors and nurses are often seen treating physical ailments: bandaging the war-wounded, rehydrating a cholera patient, or performing an emergency cesarean section. But for more than 20 years, MSF has also been providing vital psychiatric and psychological care to people ravaged by man-made or natural disaster. The organization currently has mental health-related programs in 41 countries across five continents treating adults and children.

Constance E. Lieber transformed her family's experience with mental illness into a lifetime of extraordinary advocacy and support for psychiatric research of schizophrenia, depression, and other mental illnesses. She was unwavering in her dedication to alleviating the suffering caused by mental illness and banishing the stigma that for too long has been associated with psychiatric disorders.

Vikram Patel, Ph.D., F.Med.Sci. Recognized by *Time* magazine in 2015 as one of the 100 Most Influential People in the world, Dr. Patel addresses the stunning void of mental health care in developing countries and the grave shortage of psychologists and psychiatrists. He was awarded for his transformative work in advancing mental health care in resource-poor countries.

Dr. Reynolds and his colleagues have made groundbreaking contributions to the prevention and treatment of depression in older adults. He was awarded for his pioneering work in geriatric psychiatry and the prevention and treatment of late-life depression.

He was honored, posthumously, for his powerful and unwavering commitment to advocating on behalf of people with mental illness. The award was accepted by his son Patrick J. Kennedy, Former Congressman (D-RI).

Dr. Betty Hamburg and Dr. David Hamburg blended their scientific knowledge, their understanding of human behavior, and their profound compassion into a unique vision—imagining and catalyzing a better future for people of all ages and backgrounds, most often those who are undergoing severe stress and who suffer from mental disorders. Betty and David Hamburg were awarded for over six decades of pioneering work in mental health.

Former First Lady, Rosalynn Carter was honored for her tireless work in mental health advocacy.

Dr. Herbert Pardes, a noted psychiatrist, and outspoken advocate for the mentally ill, was the first recipient of the Humanitarian Prize, which bears his name and honors individuals who have made significant contributions to the field of mental health through education, prevention, treatment, research, health policy, administration, clinical care, mentoring and advocacy. Dr. Pardes is a champion of empathic, humanistic and patient-centered health care, who believes in the power of technology and innovation to dramatically improve 21st-century medicine.
Tonight we celebrate the transformative power of neuroscience and psychiatric research to improve the lives of those living with mental illness. Nine exceptional scientists, selected by the Brain & Behavior Research Foundation's Scientific Council, will be honored for their outstanding lifetime achievements in brain and behavior science.

The Outstanding Achievement Prizes are awarded annually and include the:

**Lieber Prize for Schizophrenia Research**
Established in 1987 by Constance and Stephen Lieber to bring public recognition to the outstanding discoveries being made in schizophrenia research. This prize carries an award of $50,000.

**Maltz Prize for Innovative & Promising Schizophrenia Research**
Established in 2004, the prize was formerly known as the Baer Prize and was renamed in 2016 in honor of Board Members Milton and Tamar Maltz. The Maltz Prize provides $40,000 to an investigator who has undertaken innovative and promising research in schizophrenia. Winners of this prize are selected by the Lieber Prize recipient(s) of the same year.

**Colvin Prize for Mood Disorders Research**
Established in 1993, this prize was formerly known under the successive titles of the Selo Prize, Falcone Prize, and Bipolar Mood Disorders Prize. The prize was renamed in 2012 in honor of the late Oliver D. Colvin, Jr., a great benefactor of the Foundation who left the largest single contribution in the Foundation’s history. This prize carries an award of $50,000.

**Ruane Prize for Childhood & Adolescent Psychiatric Research**
This prize was initiated in 2000 by philanthropists Joy and William Ruane to recognize important advances in understanding and treatment of early-onset brain and behavior disorders. This prize carries an award of $50,000.

**Goldman-Rakic Prize for Cognitive Neuroscience**
This prize was created by Constance and Stephen Lieber in memory of Patricia Goldman-Rakic, Ph.D., a distinguished neuroscientist renowned for discoveries about the brain’s frontal lobe, after her tragic death in an automobile accident in 2003. The prize carries an award of $40,000.

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- Matthew State, M.D.
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- Jeremy Veenstra-VanderWeele, M.D.

**GOLDMAN-RAKIC PRIZE**
- Jack D. Barchas, M.D. (Chair)
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- Bruce S. McEwen, Ph.D.
- Michael I. Posner, Ph.D.
- Solomon H. Snyder, M.D., Ph.D., DSc
- Leslie G. Ungerleider, Ph.D.
Dr. Alan Brown’s principal area of research is the epidemiology of prenatal risk factors for schizophrenia and other psychiatric disorders. He has over 25 years of experience in large-scale collaborative birth cohort studies of prenatal and other early-life exposures in relation to schizophrenia, autism spectrum disorders, and other psychiatric illnesses among offspring. Risk factors that he has studied include maternal infectious, inflammatory, toxic, hormonal, nutritional, and antidepressant exposures.

Dr. Brown is the founder and principal investigator of the Finnish Prenatal Studies (FiPS), a series of investigations based on a national birth cohort of over 2 million individuals. He has made several new scientific discoveries by analyzing stored maternal serum samples drawn during pregnancy for specific biological markers among offspring with schizophrenia and other psychiatric disorders. Among these findings, he demonstrated that a mother’s exposure to infections, inflammation, smoking, and low thyroid hormone levels are related to an increased risk of schizophrenia in the offspring. Moreover, he has demonstrated that maternal exposure to the insecticide DDT is associated with risk of autism. This work offers the promise for prevention of schizophrenia and other psychiatric disorders, as well as the identification of causal mechanisms and new treatments.

Dr. Brown has received numerous NIH grants and BBRF research awards and several scientific honors, including the A.E. Bennett Research Award. He has served on numerous grant review committees, and is on the editorial boards of major psychiatric journals.

“The Lieber Prize signifies the recognition by my esteemed scientific colleagues of my life’s work, a key focus of which is to identify novel maternal exposures during fetal life that appear to increase the risk of schizophrenia and other psychiatric disorders. This award is especially meaningful to me as it is named in recognition of the remarkable generosity and tireless efforts of Stephen and the late Constance Lieber. The grants that I received from the BBRF were indispensable to my research during key periods of my career. Had it not been for this critical support, I truly believe that these studies would not have come to fruition.”

Alan Brown’s career-long work has moved the field systematically beyond observations of rare events to document quantitative investigations of prenatal factors that increase risk for schizophrenia in the general population. An important breakthrough from his research was the first evidence that the inflammation caused by the mother’s response to infection was the causative effect, and that the maternal inflammation directed against the placenta was a mechanism by which a wide range of viral and bacterial infections impacted fetal brain development.”

—William E. Bunney, Jr., M.D., Chair of the Lieber Prize Selection Committee
Dr. John McGrath is a psychiatrist interested in discovering the causes of serious mental disorders. His research aims to generate and evaluate non-genetic risk factors for schizophrenia.

Dr. McGrath has forged productive cross-disciplinary collaborations linking risk-factor epidemiology with developmental neurobiology. For example, he and his colleagues have made discoveries linking prenatal vitamin D and later risk of mental illness in the offspring. In addition, he has supervised major systematic reviews of the epidemiology of schizophrenia.

Using the example of research linking low prenatal vitamin D and risk of schizophrenia, Dr. McGrath maintains that it is now time to sharpen our hypotheses and design the next generation of studies to refine our understanding of the modifiable risk factors for schizophrenia. “It is time we ‘think the unthinkable’—that the primary prevention of schizophrenia is a tractable research question of considerable public health importance,” he says.

Dr. McGrath was awarded a John Cade Fellowship by the Australian National Health and Medical Research Council. In 2016 he was also awarded a Niels Bohr Professorship by the Danish National Research Foundation.

“John McGrath has contributed to a modern reappraisal of the field of schizophrenia research, and has challenged dogma. His important epidemiological findings include incidence of schizophrenia in men and women, variations of the disorder between sites, and the increase of mortality of schizophrenics in recent decades. He has made pioneering contributions to our understanding of non-genetic risk factors in schizophrenia.”

—William E. Bunney, Jr., M.D., Chair of the Lieber Prize Selection Committee
Dr. Christoph Kellendonk received his Ph.D. from the University of Heidelberg, Germany. For his post-doctoral studies he joined the laboratory of Dr. Eric Kandel, where he became interested in studying how brain circuitry regulates behaviors relevant for psychiatric disorders.

Dr. Kellendonk’s laboratory uses mouse genetic tools to better understand the biology that underlies cognitive and negative symptoms of schizophrenia. While the positive symptoms—which include disordered thought processes, hallucinations and delusions—are the most characteristic feature of the disorder, they are difficult to model in the mouse. In contrast, cognitive and negative symptoms of the disorder—including deficits in working memory and motivation—have behavioral readouts in mice that are relatable to humans. Cognitive and negative symptoms are poorly understood and difficult to treat, and their severity is a strong predictor of the long-term prognosis of patients with schizophrenia.

Dr. Kellendonk’s laboratory takes observations made in patients with schizophrenia (e.g., from brain imaging or epidemiological studies) and then seeks to model these observations as closely as possible in the mouse. One important finding from the laboratory is that chronic antipsychotic medication in the adult mouse leads to specific changes in the anatomy and functional balance of basal ganglia circuitry that is affected in schizophrenia.

“Dr. Kellendonk has conducted groundbreaking and highly promising studies that utilize mouse genetic tools and environmental risk factors in an effort to understand the biology that underlies the cognitive and negative symptoms of schizophrenia. He is truly a translational scientist, in that he uses observations made in patients with schizophrenia and then seeks to model these observations as closely as possible in the mouse.”

—Alan S. Brown, M.D., M.P.H., 2019 Recipient of the Lieber Prize
Dr. James Kesby obtained his Ph.D. at the University of Queensland, studying the developmental risk factors for schizophrenia in animal models. His postdoctoral training was at the University of California, San Diego.

Dr. Kesby’s research examines how dysfunction in a region of the brain called the associative striatum produces hallucinations and delusions (psychosis) and contributes to poor decision-making in people with schizophrenia. He uses a range of experimental approaches to manipulate brain circuits and neurochemistry in animal models during decision-making tests. These studies are demonstrating that the underlying brain dysfunction associated with psychosis can also impair cognitive function. Cognitive and psychotic symptoms have long been viewed as separate entities. Dr. Kesby’s research highlights that these two symptom groups are not separate and feature overlapping neurobiology that might be the targets of future treatments.

His current research is testing decision-making in people with psychosis and schizophrenia. Dr. Kesby’s translational approach aims to leverage the strength of basic research synergistically with outcomes obtained from direct patient-based clinical studies.

“James Kesby has developed a unique set of skills that will equip him to build collaborative links between ‘wet bench’ neuroscience and clinical research. We need more people like him who can shuttle between the lab and the clinic. In my experience over the last 30 years, James is the stand-out star when it comes to this type of translational neuroscience.”

—John McGrath, M.D., Ph.D., 2019 Recipient of the Lieber Prize
Dr. Dennis Charney is a world expert in the neurobiology and treatment of mood and anxiety disorders, having made fundamental contributions to the understanding of the causes of human anxiety, fear, and depression, and the discovery of new treatments for mood and anxiety disorders. His research on depression has led to discovery of novel therapies for treatment-resistant depression including ketamine and the first digital treatment for depression (the Emotional Faces Memory Task, or EFMT).

Dr. Charney has been honored with many of the major awards in his field for his scientific research, including World’s Most Influential Scientific Minds 2014 and 2015, and ranked 48 out of 1,360 of Most Highly Cited Life Science Researchers in the World.

His discovery with his co-inventors of the use of intranasal ketamine for the treatment of treatment-resistant depression was named by Cleveland Clinic on its Top 10 list of 2017 Health Care Innovations. He holds three U.S. Patents, and 19 U.S. and Foreign Patent Applications, 10 of which are licensed to two companies.


“Dr. Dennis S. Charney shares the Colvin Prize with Dr. John Krystal for his key role in fostering the discovery of the rapid antidepressant effects of ketamine, the first fundamentally new depression pharmacotherapy mechanism in 60 years. The game-changing results of the rapid onset of effects in treatment-resistant depressed patients will change the lives of many individuals and continue enhance the impact of this contribution.”

—Robert M. Post, M.D., Chair of the Colvin Prize Selection Committee
Dr. Sophia Frangou's work has greatly advanced the understanding of the pathophysiology of bipolar disorder, particularly in relation to genetic and familial risk. She has made groundbreaking contributions to the characterization of brain mechanisms of resilience in those at high familial risk for bipolar disorder.

Dr. Frangou has authored more than 200 highly cited papers and has written or contributed to 10 books on mental illness. In 2016, she published Women in Academic Psychiatry: A Mind to Succeed, to promote women psychiatrists aiming for academic leadership positions.

Dr. Frangou is a fellow of the European Psychiatric Association (EPA), the Royal College of Psychiatrists and the American Psychiatric Association. She is the founding chair of the Neuroimaging Section of the EPA and the Neuroimaging Network of the European College of Neuropsychopharmacology and current chair of the Panamerican Division of the Royal College of Psychiatrists. She co-chairs the Lifespan Working Group of the Enhancing NeuroImaging Genetics Through Meta-Analysis (ENIGMA) consortium and the consortium for the investigation of Psychopathology and Allostatic Load Across the Lifespan (PALS). She is editor for European Psychiatry and Human Brain Mapping and member of the editorial board of major scientific journals.

“Dr. Frangou was one of the first to apply machine-learning techniques to develop diagnostic tools using structural and functional magnetic resonance imaging (MRI) data. She introduced the concept of resilient adaptation to bipolar disorder, defined as adaptive brain changes associated with resilience to psychopathology despite a strong genetic predisposition. She showed that the relatives of patients with bipolar disorder who remained healthy had increased cerebral and cerebellar brain volumes compared to healthy individuals.”

—Robert M. Post, M.D., Chair of the Colvin Prize Selection Committee
John H. Krystal, M.D.
Robert L. McNeil, Jr. Professor of Translational Research, Professor of Psychiatry, Neuroscience, and Psychology and Co-Director of the Yale Center for Clinical Investigation; Chair, Department of Psychiatry, Yale University School of Medicine
Chief, Psychiatry and Behavioral Health
Yale-New Haven Hospital
Director, Clinical Neuroscience Division
VA National Center for PTSD
Director, NIAAA Center for the Translational Neuroscience of Alcoholism

• BBRF Scientific Council Member
• 2006, 2000 BBRF Distinguished Investigator
• 1997 BBRF Independent Investigator

“The BBRF Colvin Prize is a wonderful honor and a meaningful statement about the impact of our work.”

Dr. John H. Krystal is a leading expert in the areas of alcoholism, post-traumatic stress disorder, schizophrenia, and depression. His work links psychopharmacology, neuroimaging, molecular genetics, and computational neuroscience to study the neurobiology and treatment of these disorders. He is best known for leading the discovery of the rapid antidepressant effects of ketamine in depressed patients.

In the 1990s, Dr. Krystal’s mentor and colleague, Dr. Dennis Charney, found reason to question the centrality of monoamines to depression. This led them to hypothesize that the signaling mechanisms employed by higher brain centers, particularly glutamate and GABA signaling, might be critical to depression and its treatment.

How could glutamate signaling be studied in people? This was the focus of Dr. Krystal’s laboratory. He developed the use of ketamine as a probe of the biology of depression, discovering its remarkably rapid and robust antidepressant effects in depressed patients. When Janssen Pharmaceuticals received FDA approval for the s-isomer of ketamine (esketamine), it was clear that they had created new hope for people with depression and had jumpstarted depression research.

Dr. Krystal is a member of the U.S. National Academy of Medicine. He also serves in a variety of advisory and review capacities for NIAAA, NIMH, Wellcome Trust, Brain and Behavior Research Foundation, the Broad Institute, and the Karolinska Institutet. Currently, he is co-chair of the Neuroscience Forum (NeuroForum) of the National Academies of Sciences, Engineering, and Medicine, a member of the NIMH National Mental Health Advisory Council, and he edits the journal, Biological Psychiatry.

“Dr. John Krystal shares the Colvin Prize with Dennis S. Charney for his key role in fostering the discovery of the rapid antidepressant effects of ketamine, the first fundamentally new depression pharmacotherapy mechanism in 60 years. They introduced a new hypothesis—that depression reflected pathology of cortical and limbic glutamate signaling—and reported the rapid and robust antidepressant effects of single intravenous doses of ketamine in depressed patients. For the first time, patients with severe depression had the possibility of experiencing relief within 24 hours of their first medication dose.”

—Robert M. Post, M.D., Chair of the Colvin Prize Selection Committee
RUANE PRIZE
FOR OUTSTANDING ACHIEVEMENT IN CHILD & ADOLESCENT PSYCHIATRIC RESEARCH

Stephen P. Hinshaw, Ph.D.
Professor of Psychiatry and Vice-Chair for Child and Adolescent Psychology
The University of California, San Francisco
Professor of Psychology
The University of California, Berkeley

“It is immensely gratifying to receive the Ruane Prize, which affirms the value that BBRF places on a developmental approach to understanding and treating serious mental illness, particularly disruptive behavior disorders and self-harm; and the need to reduce the major stigma that still clings to psychiatric disorders. I am completely thrilled to be honored for the multifaceted research program that I have created. I aim for the prize to propel needed research even further.”

Dr. Stephen Hinshaw received his A.B. from Harvard (summa cum laude) in 1974 and his Ph.D. in clinical psychology from UCLA in 1983. He completed his postdoctoral fellowship at the Langley Porter Institute of the University of California, San Francisco, in 1985. His scholarship focuses on developmental psychopathology, multimodal treatment strategies for youth with externalizing disorders (focusing on the family and peer-related processes that produce optimal change), and mental illness stigma. He has authored over 360 articles and chapters plus 12 books, including (with Richard Scheffler) The ADHD Explosion: Myths, Medication, Money, and Today’s Push for Performance (Oxford University Press, 2014), and (as sole author) Another Kind of Madness: A Journey through the Stigma and Hope of Mental Illness (St. Martin’s Press, 2017).

Dr. Hinshaw’s research focuses on evidence-based assessment and treatment of youth with attention deficit hyperactivity disorder (ADHD) and related disruptive behaviors, the interplay of neurobiological vulnerability and environmental contexts (especially parenting practices and peer relationships) in explaining the onset and maintenance of such conditions, and the contribution of deficits in executive function to later maladjustment. Through a multilayered program of work he has altered the field’s fundamental perspective from a narrow focus on symptoms and heritability to a broader view of context, development, and competencies. He is the world’s leader in investigating girls and women with ADHD. His Berkeley Girls with ADHD Longitudinal Study (BGALS) is the largest such investigation. Among the key findings: the major risk for self-injury in girls with ADHD as they mature into adulthood, explained in part by factors like poor response inhibition, peer rejection, and early trauma.

“Dr. Steve Hinshaw is one of the world’s leading authorities on ADHD. He has played an essential role over the past 30 years in defining virtually all of the fundamental features of the condition that are known today. This includes details on clinical features of ADHD as it changes with development, aspects of underlying neurobiology, and understandings of treatment. The field of child and adolescent psychiatry and families affected by mental disorders owe Dr. Hinshaw a great debt of gratitude.”

—Daniel S. Pine, M.D., Chair of the Ruane Prize Selection Committee
Dr. René Hen was born in Strasbourg, France, and received his Ph.D. from University Louis Pasteur under the mentorship of Pierre Chambon. After a postdoctoral stay in Richard Axel's laboratory at Columbia University, Dr. Hen became an assistant professor in Strasbourg. He then returned to Columbia University, where he is presently a professor of pharmacology, psychiatry, and neuroscience and the director of the division of systems neuroscience at the New York State Psychiatric Institute.

Dr. Hen's laboratory is using animal models to explain the neural substrates that underlie mood and anxiety disorders. He has been studying the mechanism of action of antidepressant medications as well as hippocampal neurogenesis for the past 25 years and he has a strong background in molecular biology, pharmacology, gene targeting technologies, and in behavioral studies.

"Dr. René Hen is a pioneer in the field of neurobiology of psychiatric disorders. For over 25 years, he has been studying the mechanism of action of antidepressant medications, and has made a number of pivotal discoveries. His lab has demonstrated that antidepressants stimulate the production of new neurons in the adult hippocampus and that hippocampal neurogenesis is required for some of the behavioral effects of antidepressants and for certain forms of learning such as pattern separation. He also has developed novel therapies aimed at targeting hippocampal stem cells for the treatment of mood disorders and age-related memory impairments."

—Jack D. Barchas, M.D., Chair of the Goldman-Rakic Prize Selection Committee
PREVIOUS OUTSTANDING ACHIEVEMENT PRIZEWINNERS

Listing reflects prizewinners’ affiliation when they received the prize

LIEBER PRIZE

1987  Benjamin S. Bunney, M.D.
       Yale University
   Influential studies of neuronal systems that use dopamine
   as their chemical messenger, implicated in the pathogenesis
   of schizophrenia and other disorders, and targeted by key
   medicines.

1988  Philip Holzman, Ph.D.
       Harvard University
   Pioneering discoveries about cognitive dysfunction in schizo-
   phrenia, as well as dysfunction in eye-tracking.

1989  Timothy Crow, M.D.
       Oxford University, UK
   Historic CT studies showed structural changes in the brains
   of schizophrenia patients; made influential distinctions
   between “positive” and “negative” symptoms.

1990  Philip Seeman, M.D., Ph.D.
       University of Toronto, Canada
   Discovered the dopamine receptor targeted by antipsychotic
   medicines, now called the dopamine D2 receptor.

1991  Patricia Goldman-Rakic, Ph.D.
       Yale University
   Discovered and described the circuitry of the prefrontal
   cortex and its relationship to working memory; transformed
   research on the neurobiological basis of higher cognitive
   function.

1992  John M. Kane, M.D.
       Albert Einstein College of Medicine
   Pioneer in the study of first-episode schizophrenia; conducted
   groundbreaking work with clozapine for treatment-resistant
   schizophrenia.

1993  Daniel R. Weinberger, M.D.
       National Institute of Mental Health
   Instrumental in focusing research on the role of abnormal
   brain development as a risk factor, and in some cases, a
   causal factor in schizophrenia.

1994  Arvid Emil Carlsson, M.D.*
       University of Gothenburg, Sweden
   Nobel laureate. Developed a method for measuring the
   amount of dopamine in brain tissues, relevant to dopamine
   hypothesis in schizophrenia and leading separately to medi-
   cines for Parkinson’s disease.

1995  Kenneth S. Kendler, M.D.
       Virginia Commonwealth University
   Pioneer in psychiatric genetics, in disorders including schizo-
   phrenia, major depression, alcoholism, personality disorders,
   and nicotine dependence.

1996  Paul Greengard, Ph.D.*
       The Rockefeller University
   Nobel laureate. Made historic discoveries about the workings
   of neurotransmitter systems in the brain.

1997  Göran C. Sedvall, M.D., Ph.D.
       Karolinska Institutet, Sweden
   Authority on pharmacological manipulation of D1-dopamine
   receptor function in schizophrenia.

1998  Lars Farde, M.D., Ph.D.
       Karolinska Institutet, Sweden
   Authority on D1-dopamine receptor availability in first-epi-
   sode psychosis.

1999  George K. Aghajanian, M.D.
       Yale University
   Discoveries on mechanisms of chemical neurotransmission
   in the central nervous system.

   Sarnoff A. Mednick, Ph.D., Dr. Med.
   University of Southern California
   A pioneer of the prospective high-risk longitudinal study
   to investigate the causes of disorders, most notably,
   schizophrenia.

   Richard Jed Wyatt, M.D.
   National Institute of Mental Health
   Chief of NIMH neuropsychiatry branch who made early
   advances in the study and treatment of schizophrenia.

*Recipient of the 2000 Nobel Prize in Physiology or Medicine.
2000 Nancy C. Andreasen, M.D., Ph.D.
University of Iowa
Recognized that negative symptoms and associated cognitive impairments in schizophrenia had more debilitating effects in terms of functional recovery than psychotic symptoms; pioneer in neuroimaging.

William T. Carpenter, Jr., M.D.
University of Maryland
Influential approach to the care and study of schizophrenia patients encompassed a medical model integrating biological, psychological, and social data pertinent to diagnosis, treatment, and etiology.

2001 Solomon H. Snyder, M.D.
The Johns Hopkins University
Fundamental discoveries in receptor biology permitted characterization of receptors in biochemical detail, leading to major advances in drug discovery.

2002 Francine M. Benes, M.D., Ph.D.
Harvard University
Demonstrated that connections of the basolateral amygdala with the anterior cingulate cortex and hippocampus likely play pivotal role in schizophrenia and bipolar disorder.

2003 Robin Murray, M.D., DSc.
King’s College London, Institute of Psychiatry, UK
An innovator in psychosis research; first to link heavy cannabis use with psychosis onset.

2004 Joseph T. Coyle, M.D.
Harvard University
Pathbreaking studies of glutamate and its role in the origins, development, and pharmacological treatment of schizophrenia.

2005 David A. Lewis, M.D.
University of Pittsburgh
Pathbreaking efforts to define neural processes that give rise to cognitive deficits of schizophrenia.

2006 Jeffrey A. Lieberman, M.D.
Columbia University
Studies of the natural history and pathophysiology of schizophrenia and the pharmacology and clinical effectiveness of antipsychotic medicines.

2007 Eve C. Johnstone, M.D.
University of Edinburgh, Scotland
Historic imaging studies showed differences in brains of people with schizophrenia; leader of the influential Edinburgh High Risk Study, involving young people with family history of the illness.

2008 Irving I. Gottesman, Ph.D.
University of Minnesota
Historic studies of identical twins documented the contributions of genetics and family, social, cultural, and economic factors to the onset, progress, and transmission of schizophrenia.

2009 Raquel E. Gur, M.D., Ph.D.
University of Pennsylvania
Examined neurocognitive functions as markers in multiplex families with schizophrenia; probed brain circuitry underlying core negative symptoms of schizophrenia; studies of individuals with comorbid mental illness/AIDS.

Ruben C. Gur, Ph.D.
University of Pennsylvania
Computer-based tools for "deep phenotyping" of brain and behavioral features integrating clinical and neurocognitive measures with neuroimaging and genomic data; documented abnormal regional brain functions associated with multiple illnesses.

2010 Ming T. Tsuang, M.D., Ph.D., DSc.
University of California, San Diego
Pioneer in the development of diagnostic and predictive biomarkers for psychiatric illnesses including schizophrenia.

2011 Carol A. Tamminga, M.D.
University of Texas Southwestern Medical Center at Dallas
Evaluated the function of the living brain in individuals with and without schizophrenia using brain imaging; used human postmortem brain tissue to discover functional alterations.

2012 Michael O’Donovan, M.D., Ph.D.
Cardiff University, Wales
Applied molecular genetic technology to identify specific risk genes for schizophrenia and optimize treatment decisions for individual patients.

Michael J. Owen, M.D., Ph.D.
Cardiff University, Wales
Applied molecular genetic technology to identify specific risk genes for schizophrenia and optimize treatment decisions for individual patients.

2013 Marc G. Caron, Ph.D.
Duke University Medical Center
Generated the first dopamine transporter “knockout” mouse; groundbreaking study identified a novel mode of signaling for the brain’s dopamine D2 receptors.

2014 David L. Braff, M.D.
University of California, San Diego School of Medicine
Research to identify the genetic basis of neurophysiologic and cognitive abnormalities of schizophrenia.

Patrick F. Sullivan, M.D., FRANZCP
Karolinska Institutet,
University of North Carolina at Chapel Hill
Co-leader of Psychiatric Genomics Consortium (PGC), conducting mega-analyses of genetic variation across psychiatric disorders; obtained first reproducible GWAS results for schizophrenia.
LIEBER PRIZE

2015 Robert Freedman, M.D.
University of Colorado, Denver
Developed a simple and safe preventive strategy—maternal choline supplementation during pregnancy—to bolster inhibition in the fetal brain, and thereby lessen schizophrenia risk.

Patrick McGorry, M.D., Ph.D FRCP, FRANCZP
Orygen and University of Melbourne
Strong advocate for shifting the therapeutic paradigm for schizophrenia to early detection and intervention in young people; led development of evidence-based therapies with controlled trials.

2016 Michael F. Green, Ph.D.
University of California, Los Angeles
A leading researcher in the evaluation of social cognitive retraining and novel pharmacological interventions to improve cognitive impairments.

Stephen R. Marder, M.D.
University of California, Los Angeles
With Michael Green, led the NIMH-MATRICS initiative, which addressed key issues in the development of medications for improving cognition in schizophrenia.

2017 John M. Davis, M.D
University of Illinois at Chicago
Conducted the first studies of how antipsychotic drugs are metabolized and how this process may impact their efficacy and side effects.

2018 Anissa Abi-Dargham, M.D.
Stony Brook University
Pioneering molecular imaging studies showed increased striatal dopamine release in schizophrenia, a candidate biomarker for risk to develop schizophrenia in prodromal patients.

Schahram Akbarian, M.D., Ph.D.
Icahn School of Medicine at Mount Sinai
Studies of genome organization and function in brain cells have led to major insights about epigenetic mechanisms implicated in schizophrenia and other psychiatric illnesses.

MALTZ PRIZE

FORMERLY KNOWN AS BAER PRIZE

2004 Jonathan Picker, M.D., Ph.D.
Harvard University
Research on maternal folate and homocysteine levels and their possible role in neurodevelopmental processes which may relate to schizophrenia genesis.

2005 Takanori Hashimoto, M.D., Ph.D.
University of Pittsburgh
Studies of cortical deficits in schizophrenia, focusing on neural oscillations, which reflect coordinated activities of local neuron assemblies.

2006 Lorna W. Role, Ph.D.
Columbia University
Focused on dissecting the role of cholinergic signaling in neural circuits and behaviors related to emotional salience in learning and memory; studies of neuregulin-1 risk gene and circuit dysfunction.

2007 Jeremy Hall, M.D., Ph.D.
Edinburgh University, Scotland
Studies of the interaction of genetic and environmental risk factors in the development of psychiatric disorders including schizophrenia, mood and personality disorders.

2008 Angus W. MacDonald, III, Ph.D.
University of Minnesota
Studies of what happens when cognitive and affective processes break down in psychiatric illness, with an emphasis on psychosis and schizophrenia.

2009 Daniel H. Wolf, M.D., Ph.D.
University of Pennsylvania
Utilizing pharmacological challenges during fMRI neuroimaging in schizophrenia plus detailed clinical and behavioral assessments to relate specific negative symptoms to specific circuit dysfunctions.

2010 Stephen J. Glatt, Ph.D.
SUNY Upstate Medical University
Seeks to identify risk genes for psychiatric disorders by studying affected individuals and families, then studying how such genes may alter brain biology, leading to a vulnerability.

2011 Elena I. Ivleva, M.D.
University of Texas Southwestern Medical Center
Research that seeks to identify biological markers that underlie mechanisms of psychosis.

Amanda J. Law, Ph.D.
National Institute of Mental Health
Research that defined molecular and cellular mechanisms behind the genetic association of the NRG1, NRG3 and ErbB4 genes with psychosis and cognitive impairment in schizophrenia.
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
<th>Contribution</th>
</tr>
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<tbody>
<tr>
<td>2012</td>
<td>James T. R. Walters, M.D., Ph.D.</td>
<td>Cardiff University, Wales</td>
<td>Identified a schizophrenia risk gene as being associated with episodic memory and with smaller volume in the hippocampus, a brain area involved in episodic memory deficits.</td>
</tr>
<tr>
<td>2013</td>
<td>Kafui Dzirasa, M.D., Ph.D.</td>
<td>Duke University</td>
<td>Studies how genetic mutations that confer risk for neuropsychiatric illnesses alter circuits that underlie cognitive and affective symptoms in mouse models.</td>
</tr>
<tr>
<td>2014</td>
<td>Gregory Light, Ph.D.</td>
<td>University of California, San Diego/San Diego Veterans Affairs Department</td>
<td>Performed EEG studies of the brain in schizophrenia that have given rise to new ways of treating cognitive deficits.</td>
</tr>
<tr>
<td>2015</td>
<td>M. Camille Hoffman, M.D., MSCS</td>
<td>University of Colorado, Denver</td>
<td>Research to understand how positive and negative factors in human pregnancy influence maternal health, and critical periods of fetal and early childhood brain development; helped demonstrate that maternal choline supplementation can reduce child’s mental illness risk.</td>
</tr>
<tr>
<td>2016</td>
<td>William P. Horan, Ph.D.</td>
<td>University of California, Los Angeles</td>
<td>Research on treatments that enable people with psychosis to live independently, pursue vocational and educational goals, and develop more satisfying social networks in the community.</td>
</tr>
<tr>
<td>2017</td>
<td>Deanna L. Kelly, PharmD., BCPP</td>
<td>University of Maryland School of Medicine</td>
<td>Research focusing on cognitive predictors of functional outcome in schizophrenia; using EEG techniques and performance-based measures to understand the trajectory of cognition over the course of illness.</td>
</tr>
<tr>
<td>2018</td>
<td>Kristen Brennand, Ph.D.</td>
<td>Icahn School of Medicine at Mount Sinai</td>
<td>Treatment-oriented research looking at the biologic differences and side effects of women with schizophrenia; also studying inflammation, diet, and psychiatric symptoms.</td>
</tr>
<tr>
<td></td>
<td>Barnaby Nelson, Ph.D.</td>
<td>Orygen and University of Melbourne</td>
<td>Looks at prodromal phase of psychotic disorders, with interest in integrative models involving self and world experience in schizophrenia, cognitive biases, and the role of stress and trauma in disease onset.</td>
</tr>
</tbody>
</table>
FORMERLY KNOWN AS SELO PRIZE

1993 Robert M. Post, M.D.
Pennsylvania State Hospital
Pioneered use of the anticonvulsant carbamazepine as treatment for lithium-resistant patients with bipolar disorder; early explorer of non-invasive brain stimulation for unipolar and bipolar depression.

1994 Jules Angst, M.D.
Psychiatric University Hospital, Zurich, Switzerland
Leader in research on bipolar disorder; helped more clearly define various subtypes; studied life-long recurrence risk of bipolar I, bipolar II and major depressive disorders; identified risk factors.

Myrna M. Weissman, Ph.D.
New York State Psychiatric Institute / Columbia University
Research focused on understanding the rates and risks of mood and anxiety disorders; pathbreaking multi-generational study of women identified their elevated depression risk and the impact of maternal depression—and treatment—on offspring.

1995 Claude de Montigny, M.D., Ph.D.
McGill University, Canada
A translational pioneer who developed lithium augmentation therapy for treatment-resistant depression; researched impact of benzodiazepines on hippocampal neurons.

1996 Wade Berrettini, M.D., Ph.D.
University of Pennsylvania
Research on the genetics and pharmacogenetics of several complex traits, including addictions, mood disorders, eating disorders, and epilepsy.

Elliot S. Gershon, M.D.
University of Chicago
Pioneer in genetic epidemiology, creating new methods for family studies of disease. Authority on genetic and chromosomal disorders and re-arrangements that predispose to psychiatric disorders.

J. Raymond DePaulo, Jr., M.D.
The Johns Hopkins University
Research defining a number of familial subtypes of bipolar disorder; founded Mood Disorders program at Johns Hopkins University.

1997 Arthur Prange, Jr., M.D.
University of North Carolina at Chapel Hill
Expert in endocrine function in psychiatric patients, which can be affected by psychiatric disorder as well as medications, for example antipsychotics.

Charles B. Nemeroff, M.D., Ph.D.
Emory University
Influential research aiming to uncover the neurobiology underlying increased risk for developing mood and anxiety disorders in child abuse victims, including early-life trauma.

1998 Martin B. Keller, M.D.
Brown University
Fundamental contributions to standardized, verifiable methods for assessing time to recovery, relapse, recurrence, and chronicity of episodes of mood and anxiety disorders. Developed the Longitudinal Interval Follow-Up Evaluation (LIFE).

Julien Mendlewicz, M.D., Ph.D.
University of Brussels/Erasme Hospital, Belgium
Major contributions to the understanding of the physiopathology of affective disorders, particularly in the genetics of bipolar disorder.

FORMERLY KNOWN AS FALCONE PRIZE

1999 Frederick K. Goodwin, M.D
George Washington University
Leading authority on bipolar disorder, as well as suicide and depression. Led research showing that lithium was significantly more effective than other widely used mood stabilizers in protecting against suicide.

Hussein K. Manji, M.D.
National Institute of Mental Health
Helped to conceptualize severe neuropsychiatric illnesses as genetically influenced disorders of synaptic and neural plasticity; investigated novel therapeutics including ketamine.

2000 Kay Redfield Jamison, Ph.D.
The Johns Hopkins University
Founded Affective Disorders Clinic at UCLA; influential author whose works include landmark text, "Manic-Depressive Illness" (with Dr. Fred Goodwin); and "An Unquiet Mind: A Memoir of Moods and Madness."

A. John Rush, Jr., M.D.
University of Texas Southwestern Medical Center at Dallas
Research focusing on treatments for depression and bipolar disorder, including medications, medication combinations, somatic treatments, psychotherapy, and disease management protocols.

Robert H. Belmaker, M.D.
Ben-Gurion University, Israel
A pioneer of biological psychiatry in Israel; research on affective disorders, especially mania, ECT, and second-messenger mechanisms.

2001 Hagop S. Akiskal, M.D.
University of California, San Diego
Renowned for his integrative theory of depression and research on subthreshold mood disorders, which enlarged conceptual boundaries of bipolar disorder; advanced the view that chronic depression is a treatable mood disorder.

William E. Bunney, Jr., M.D.
University of California, Irvine
Influential psychobiological studies of bipolar disorder, major depression, schizophrenia. Investigations of mechanisms of action of psychiatric medications.
2002 Ronald Duman, Ph.D.
Yale University
Research characterizing the molecular and cellular actions of antidepressants and stress, providing the basis for a neurotrophic hypothesis of depression.

Paul Grof, M.D., Ph.D.
University of Ottawa, Canada
Helped develop Affective Disorder Clinics at Sunnybrook Medical Center, University of Toronto; performed research in psychobiology and helped establish a psychopharmacology research and training center.

2003 Robert M. A. Hirschfeld, M.D.
University of Texas Medical Branch, at Galveston
Research contributing to understanding the classifications of depression and bipolar disorders—their clinical course, relationship to personality and personality disorders and treatment.

Ross J. Baldessarini, M.D.
Harvard University
Psychopharmacology pioneer; studied pharmacology of neurotransmitters in bipolar disorder, discovering biochemical causes of high relapse risk following cessation of psychotropic medication.

Leonardo Tondo, M.D., M.S.
Cagliari University, Italy
Research on suicide prevention and on the course and treatment of bipolar disorders. Studies included clarification of onset, course, and treatment responses in major mood disorders.

2004 Harold A. Sackeim, Ph.D.
Columbia University
Authority on conduct and analysis of brain imaging studies; pioneering studies of cerebral blood flow and metabolism in depression, cerebrovascular disease and Alzheimer’s disease.

Joseph R. Calabrese, M.D.
Case Western Reserve University School of Medicine
Authority on bipolar disorder; other mood disorders; influential research on clinical outcomes in people of under-served populations diagnosed with bipolar disorder.

2005 Jan A. Fawcett, M.D.
University of New Mexico

Alan F. Schatzberg, M.D.
Stanford University
Studied norepinephrine in depression as a means of subtyping cases; insights into the biological mechanisms underlying delusions in major depression; innovator in pharmacogenetics.

2006 Lori L. Alshuler, M.D.
University of California, Los Angeles
Advanced the understanding of fundamental mechanisms of mood dysregulation; first to identify amygdala activation levels relative to manic and depressive states in bipolar patients. Other findings helped differentiate bipolar disorder from schizophrenia and other psychotic disorders.

2007 Helen S. Mayberg, M.D.
Emory University
Influential imaging studies revealed functional abnormalities characterizing depression, as well as neural mechanisms mediating antidepressant response. Pioneered deep-brain stimulation for refractory depression.

2008 Charles L. Bowden, M.D.
University of Texas Health Science Center at San Antonio
Innovative research characterizing bipolar disorders and on the effectiveness and pharmacodynamics of mood-stabilizing drugs.

Mark S. George, M.D.
Medical University of South Carolina
Pioneered TMS, a non-invasive brain stimulation method, as a probe of mood-regulating neuronal circuits, conducting early clinical trials to treat refractory depression and leading to FDA approval in 2008.

2009 Lewis L. Judd, M.D., DSc (Hon.)
University of California, San Diego
Research centered on the course, recovery and outcome of mood and anxiety disorders and their management by psychopharmacologic medications.

Eric J. Nestler, M.D., Ph.D.
Mount Sinai School of Medicine
Influential research establishing that drug- and stress-induced changes in genetic transcription factors and chromatin remodeling mechanisms in reward pathways mediate long-lived behavioral changes relevant to addiction and depression.

FORMERLY KNOWN AS BIPOLAR MOOD DISORDERS PRIZE

2010 Lars Vedel Kessing, M.D., D.M.Sc.
Copenhagen University Hospital, Rigshospitalet, Denmark
Research on the onset, treatment and lifetime course of mood disorders; efficacy of medications in patients with mood disorders, particularly bipolar disorder.

2011 David J. Miklowitz, Ph.D.
University of California, Los Angeles
Research focusing on family environmental factors and family psychoeducational treatments for adult-onset and childhood-onset bipolar disorder.

Carlos A. Zarate, M.D.
National Institute of Mental Health
Pioneering studies that have led to novel fast-acting treatments for mood disorders such as depression and bipolar disorder; involved in pathbreaking ketamine research.
2012 **Eduard Vieta, M.D., Ph.D.**  
*University of Barcelona, Spain*  
Demonstrated efficacy of the most widely used atypical antipsychotic—quetiapine—in monotherapy and combination therapy in the long-term prevention of manic and depressive episodes. Research indicating the acute and lasting effectiveness of psycho-education.

**Karen Dineen Wagner, M.D., Ph.D.**  
*University of Texas Medical Branch at Galveston*  
Influential research that has helped in the development and implementation of the most optimal approaches to childhood bipolar disorder.

2013 **Boris Birmaher, M.D.**  
*University of Pittsburgh School of Medicine*  
A leader in the study and treatment of pediatric mood and anxiety disorders; a pioneer in describing the course and treatment of childhood-onset bipolar disorder.

**Andrew A. Nierenberg, M.D.**  
*Harvard Medical School*  
Has directed the NIMH Bipolar Trials Network; helped establish concept of treatment-resistant depression; performed studies of children at risk for bipolar disorder and of the co-occurrence of bipolar disorder with ADHD.

2014 **Wayne C. Drevets, M.D.**  
*Johnson & Johnson, Inc.*  
Has led efforts to explore novel therapies and diagnostic approaches in depression and other mood disorders; recognized for his work in neuroimaging in psychiatry and functional neuroanatomical correlates of the normal and diseased brain.

**Fritz A. Henn, M.D., Ph.D.**  
*Cold Spring Harbor Laboratory, Ichan School of Medicine at Mount Sinai*  
Imaging, animal studies, and genetics to understand the bases of depression and schizophrenia. Has used animals modeling depression to identify genes altered by aversive experience.

2015 **Michael Berk, Ph.D., MBBCh, MMed, FF(Psych)SA, FRANZCP**  
*Deakin University, Australia*  
Known for his discovery and implementation of novel therapies as well as studies of risk factors and biomarkers for a variety of psychiatric disorders.

**L. Trevor Young, M.D., Ph.D., FRCP**  
*University of Toronto*  
Focused on understanding processes that lead to long-term changes in brain structure and function in patients with bipolar disorder and how these changes can be targeted by mood-stabilizing drugs.

2016 **Francis J. Mahon, M.D.**  
*National Institute of Mental Health*  
Characterizing genes involved in mood and anxiety disorders; also studies pharmacogenomics, including genetic studies of antidepressant outcomes, lithium response, and treatment-resistant depression.

**Thomas G. Schulze, M.D.**  
*Medical Center of the University of Munich, Germany*  
Researches genotype-phenotype relationships in psychiatric disorders; longitudinal psychosis research including study on the genetic basis of response to lithium treatment in bipolar disorder.

**Pamela Sklar, M.D., Ph.D.**  
*Icahn School of Medicine at Mount Sinai*  
Influential discovery that schizophrenia is caused by genetic risk factors that overlap with those for bipolar disorder; identified the complex polygenic molecular nature of schizophrenia and bipolar disorder.

2017 **Hilary P. Blumberg, M.D.**  
*Yale University School of Medicine*  
Leader in research on bipolar disorder in children, adolescents, and adults. Important imaging demonstration of brain differences in individuals experiencing manic symptoms; scans comparing those with active depression and those in remission.

**Tadafumi Kato, M.D., Ph.D.**  
*RIKEN Brain Science Institute, Japan*  
Established role of mitochondrial dysfunction in bipolar disorder; developed animal model of spontaneous recurrent depression-like episodes that informs search for novel mood stabilizers.

**Mary L. Phillips, M.D., M.D. (CANTAB)**  
*University of Pittsburgh*  
Using neuroimaging techniques to discover functional and structural abnormalities in brain circuits for emotion processing and regulation and reward processing—useful in searching for biomarkers predicting psychiatric risk.

2018 **Benjamin I. Goldstein, M.D., Ph.D., FRCP**  
*University of Toronto & Sunnybrook Health Sciences Center*  
Studies of bipolar disorder in youth; research that has led to a theory of bipolar disorder as a systemic vascular disease.

**Lakshmi N. Yatham, M.B.B.S., FRCPC, M.R.C. Psych(UK), MBA(Exec)**  
*University of British Columbia*  
A leader in neurocognition research in bipolar disorder; spearheaded development of a neurocognitive battery for assessing cognitive function; innovative clinical trial methodology to test the efficacy of treatments for improving cognition.
2000  **Professor Sir Michael L. Rutter**
*King's College London, Institute of Psychiatry, UK*
Contributed to the establishment of child psychiatry as a medical and biopsychosocial specialty with a strong scientific base.

2001  **Donald J. Cohen, M.D.**
*Yale University*
Helped move child psychiatry into the biological era, while continuing to put emphasis on the psychological and social aspects affecting child development.

2002  **Judith L. Rapoport, M.D.**
*National Institute of Mental Health*
Influential research on childhood-onset schizophrenia, ADHD, and OCD, with a particular focus on diagnosis. Influential genetic studies of psychiatric illness.

2003  **Leon Eisenberg, M.D.**
*Harvard Medical School*
Conducted some of the first rigorous studies of autism, ADHD, and learning delays and became a prominent advocate for children with disabilities.

2004  **Magda Campbell, M.D.**
*New York University*
Influential expert on pharmacology and adolescent disorders, including autism.

2005  **C. Keith Conners, Ph.D.**
*Duke University*
Devised a 39-item questionnaire called the Conners Rating Scale that was part of clinical work with hyperactive children establishing the first standards for diagnosing and treating what is now known as ADHD.

2006  **Rachel G. Klein, Ph.D.**
*New York University*
Influential childhood disorder research; showed that poor social adjustment in early childhood was an important negative predictor of the lifelong course of adults with schizophrenia; an expert on treatments for childhood disorders.

2007  **David Shaffer, M.D.**
*Columbia University*
Pioneer in the study of suicide; developed the widely adopted Children's Global Assessment Scale (CGAS) and the Diagnostic Interview Schedule for Children (DISC) and the Columbia Teen Screen.

2008  **James F. Leckman, M.D.**
*Yale University*
Patient-oriented neuroscientist and clinician with special skills in the evaluation and treatment of Tourette's syndrome and pediatric-onset OCD; has studied ADHD, autism, and mood disorders.

2009  **Eric Andrew Taylor, M.D.**
*King's College London, Institute of Psychiatry, UK*
Has studied community screening for psychotic-like experiences and other potential antecedents of schizophrenia in children.

2010  **Adrian C. Angold, M.D.**
*Duke University Medical Center*
Applies developmental and epidemiological principles to the study of psychopathology. Research on depression, anxiety, and disruptive behavior disorders and their effects on service use in children and adolescents.

2011  **Avshalom Caspi, Ph.D.**
*Duke University*
Studies the interplay between nature and nurture in the origins of problem behaviors, with a particular interest in antisocial and criminal behaviors.

2012  **Daniel S. Pine, M.D.**
*National Institute of Mental Health*
Studies biological and pharmacological aspects of mood, anxiety, and behavioral disorders in children; biological commonalities and differences among psychiatric disorders of children, adolescents, and adults; and interfaces between psychiatric and medical disorders.
RUANE PRIZE

2012  **Daniel Geschwind, M.D., Ph.D.**  
*University of California, Los Angeles*  
Takes a systems-biology approach, integrating genetic, genomic, and bioinformatic approaches with neurobiological investigation in model systems and human brain, aiming to inform development of new therapies.

**Matthew State, M.D., Ph.D.**  
*Yale University*  
Child psychiatrist and human geneticist studying pediatric neuropsychiatric syndromes; focuses on gene discovery as a launching point for efforts to illuminate the biology of disorders, including, notably, autism.

2013  **Jay N. Giedd, M.D.**  
*National Institute of Mental Health*  
Longitudinal studies combining brain imaging, genetics, and neuropsychology that have had a major impact on psychology, psychiatry, clinical care, the judicial system, parenting, adolescent medicine, substance abuse, and education reform.

2014  **Anita Thapar, M.D., Ph.D.**  
*Cardiff University School of Medicine, Wales*  
Has provided evidence suggesting existence of a spectrum of attention, hyperactivity/impulsiveness, and language function in society associated with clusters of genes linked with the risk for developing ADHD.

2015  **BJ Casey, Ph.D.**  
*Weill Cornell Medical College*  
Novel uses of brain imaging to understand childhood disorders; research focuses on the development of brain circuitry involved in learning and behavior regulation and how disruptions can lead to disorders.

**Francisco Xavier Castellanos, M.D.**  
*Child Study Center at NYU Langone Medical Center*  
Influential studies of ADHD using structural and functional imaging; collaborating on molecular genetic studies and coordinating the interdisciplinary ADHD Neuroscience Network, aiming at translation.

2016  **John L. R. Rubenstein, M.D., Ph.D.**  
*University of California, San Francisco*  
Demonstrated the role of specific genes in regulating neuronal specification, differentiation, migration, and axon growth during embryonic development and on through adult life—work that may help explain mechanisms underlying neurodevelopmental disorders such as autism.

2017  **Nathan A. Fox, Ph.D.**  
*University of Maryland, College Park*  
Research on the biological bases of social and emotional behavior; identified factors that reduce or enhance likelihood of anxiety; focuses mainly on cognitive processes.

**Charles A. Nelson III, Ph.D.**  
*Harvard Medical School*  
Researches problems in developmental cognitive neuroscience, including development of social perception: developmental trajectories to autism; effects of early adversity on brain and behavioral development; studied abandoned Romanian children.

2018  **Ami Klin, Ph.D.**  
*Marcus Autism Center, Emory University School of Medicine & Children's Healthcare of Atlanta*  
Co-developer of eye-tracking technology; champion of notion that early detection and early intervention optimizes autism outcomes in children, beginning in the first year of life.

**Joseph Piven, M.D.**  
*University of North Carolina at Chapel Hill*  
Has emphasized interdisciplinary collaborations in imaging (MRI/DTI), behavioral-family, and molecular genetics studies aimed at elucidating the pathogenesis of autism syndromes. Principal investigator of two large-scale research centers on autism.
GOLDMAN-RAKIC PRIZE

2003 Solomon H. Snyder, M.D.  
*The Johns Hopkins University*  
Findings that permitted characterization of receptors in biochemical detail and have led to efficient means for identifying candidate drugs and for molecular structure-activity analysis to improve potency.

2004 Michael Posner, Ph.D.  
*University of Oregon*  
Pioneering PET imaging of the brain, revealing localization of cognitive functions by looking at the patterns of brain activation in progressively more complex cognitive tasks.

Marcus Raichle, M.D.  
*Washington University*  
Contributions to study of human brain function through development of PET and fMRI scanning. Landmark description of an integrated strategy for the design, execution, and interpretation of functional brain images.

2005 Bruce S. McEwen, Ph.D.  
*The Rockefeller University*  
Pathbreaking research elucidating the impact of stress and sex hormones on the brain’s chemistry and structure, and revealing the brain’s capacity for plasticity, even in adulthood.

2006 Joaquin M. Fuster, M.D., Ph.D.  
*University of California, Los Angeles*  
Major contributions to cognitive neuroscience, including demonstration that working-memory deficits are reversible.

2007 Huda Akil, Ph.D.  
*University of Michigan*  
Seminal contributions to the neurobiology of emotions, including pain, anxiety, depression, and substance abuse; elucidated role of endorphins in the brain, showing they are activated by stress and inhibit pain. Demonstrated that social defeat in rodents activates pathways like those altered in human depression.

2008 Eric J. Nestler, M.D., Ph.D.  
*Mount Sinai School of Medicine*  
Pioneering studies of the molecular basis of addiction and depression in animal models, focusing on pathways that regulate responses to natural rewards such as food, sex, and social interaction.

2009 Brenda Milner, CC, Ph.D.  
*McGill University, Canada*  
Pioneer in understanding role of the frontal lobes in memory processing and organizing information, and which play a key role in emotional responses, hearing, memory, and speech. Identified the cortical area involved in the temporal organization of memory.

2010 Robert C. Malenka, M.D., Ph.D.  
*Stanford University*  
Seminal research on neurotransmitters that laid the groundwork for advanced understanding of mechanisms by which neurons communicate and adaptations in synaptic communication which underlie all behavior.

2011 Michael E. Goldberg, M.D.  
*Columbia University/New York State Psychiatric Institute*  
Discovered how the brain organizes visual attention and eye movements that are the overt manifestation of attention; how the brain creates a unitary concept of the visual world for perception and action despite a constantly moving eye.

2012 Larry R. Squire, Ph.D.  
*University of California, San Diego*  
Focuses on how the brain accomplishes learning and memory. Researches the function and organization of the brain systems that support memory, via cellular and molecular study of synaptic plasticity as well as the study of normal cognition.

2013 Karl Deisseroth, Ph.D.  
*Stanford University*  
Instrumental in developing optogenetics, the breakthrough technology that uses light to control millisecond-precision activity patterns in genetically-defined cell types within the brains of freely moving animals—a boon to researchers worldwide.

2014 Richard L. Huganir, Ph.D.  
*Johns Hopkins University School of Medicine*  
Research focusing on molecular mechanisms that modulate synaptic communication between neurons, with stress on mechanisms that underlie the regulation of glutamate receptors.

2015 Amy F. T. Arnsten, Ph.D.  
*Yale University*  
Research focusing on the prefrontal cortex; elucidation of molecular mechanisms that determine the strength of network connections and cognitive abilities; understanding how genetic insults lead to symptoms of mental illness.

2016 Earl K. Miller, Ph.D.  
*Massachusetts Institute of Technology*  
Studies neural basis of high-level cognitive functions, providing insights into how categories, concepts, and rules are learned, how attention is focused, and how the brain coordinates thought and action.

2017 Trevor W. Robbins, Ph.D.  
*University of Cambridge, UK*  
Studies the way dopamine, norepinephrine, serotonin, and acetylcholine mediate states such as mood and alertness; research on potential drug treatments for cognitive enhancement.

2018 Jean Pierre Changeux, Ph.D.  
*College de France & Institut Pasteur, France*  
Historic discovery of the mode of action of nicotine in the brain, its pharmacological receptors, and the molecular mechanism of its dual action: its therapeutic action as cognitive enhancer and its addictive properties as a drug of misuse.

Xiao-Jing Wang, Ph.D.  
*New York University*  
Has applied modeling to provide insights into the brain mechanisms of cognitive deficits associated with schizophrenia and other disorders, providing a foundation for the new field of computational psychiatry.
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Kenneth K. Kidd, Ph.D.
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29 Chairs of Psychiatry & Neuroscience Departments
12 Members of the National Academy of Sciences
4 Recipients of the National Medal of Science
3 Former Directors of the National Institute of Mental Health and the current Director
1 Nobel Prize Winner

184
53
31
I congratulate the Outstanding Achievement Prizewinners for their research accomplishments and I join in admiration and gratitude for the humanitarian achievements of William T. Carpenter, Jr., M.D. and Cynthia Germanotta & Born This Way Foundation

Steve Lieber
The Essel Foundation

Congratulates the Distinguished
2019 Brain & Behavior Research Foundation
Outstanding Achievement Prizewinners, the
Pardes Humanitarian Award Prizewinner,
William T. Carpenter, Jr., M.D.,
and the Honorary Pardes Humanitarian Award
recipient, Cynthia Germanotta &
Born This Way Foundation
In Honor of
William T. Carpenter, Jr., M.D.
2019 Pardes Humanitarian Prize in Mental Health Recipient

A luminary in the field whose vision, scientific productivity, leadership, and advocacy have shaped our understanding of schizophrenia and other forms of serious mental illness and had a broad, positive impact on our society.

You have inspired us all to use our knowledge towards the greater good for all humanity.

With Deep Respect,
The Pardes Humanitarian Prize Committee
An Honorary Tribute to
Cynthia Germanotta & Born This Way Foundation

For their extraordinary accomplishments and their commitment to supporting the wellness of young people and empowering them to create a kinder and braver world, we honor Cynthia Germanotta and Born This Way Foundation.

With Deep Respect and Gratitude,
The Pardes Humanitarian Prize Committee
Alpine Woods Capital Investors, LLC
Congratulates the 2019 Pardes
Humanitarian Prizewinner,
William T. Carpenter, Jr., M.D.,

the Honorary Pardes Humanitarian
recipients Cynthia Germanotta &
Born This Way Foundation,

and the distinguished scientists who are
the recipients of the Brain & Behavior
Research Foundation Outstanding
Achievement Prizes.
Congratulations to
2019 Pardes Humanitarian Prizewinner
Dr. William T. Carpenter, Jr.
and to all the
2019 Outstanding Research Achievement Prizewinners.

We join in a well-deserved tribute to
Cynthia Germanotta and Born This Way Foundation
whose dedication has changed the lives of many.

Milton and Tamar Maltz
Borrego Foundation

Congratulates

Dr. William T. Carpenter, Jr.

Cynthia Germanotta and Born This Way Foundation,

and the

2019 Outstanding Achievement Prizewinners.
Congratulations to the
2019 Pardes Humanitarian Prizewinner
Dr. William T. Carpenter, Jr.
and all the recipients of the
Outstanding Achievement Prizes

Arleen Baez

Everyone reports
to someone.
We report to 7.5 billion someones.

To the patients, caregivers and healthcare professionals around the globe, we hold ourselves accountable to deliver bold breakthroughs and meaningful medical innovations. Because that’s how we will create a future where disease is a thing of the past.

7.5 billion statistic from www.census.gov/popclock/
Congratulations to the 2019 Prizewinners and BBRF for its extraordinary accomplishments

Keysite is a boutique investment firm focusing on debt solutions for real estate owners in NYC.

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NewYork-Presbyterian congratulates The Brain & Behavior Research Foundation’s 2019 International Awards Dinner Pardes Humanitarian Prizewinner and all the Outstanding Achievement Prizewinners

NewYork-Presbyterian
GBF is a Catalyst for Transforming Youth Mental Health

GBF is proud to support the Brain & Behavior Research Foundation as they continue to invest in the pursuit of meaningful advances and breakthroughs in scientific research through their grants and prizes.

Congratulations to the 2019 Award Recipients!

Let’s keep fighting until the battle is won.

Anne and Ronald Abramson

King & Spalding proudly supports the Brain & Behavior Research Foundation’s 2019 Annual International Awards Dinner.

We extend our deep appreciation to the Brain & Behavior Research Foundation for over a quarter century of grants that lead to advances and breakthroughs in scientific research.

Congratulations to all the prizewinners for their outstanding achievements.

Jeffrey A. Lieberman, M.D.
Chairman, Department of Psychiatry, Columbia University
Director, New York State Psychiatric Institute

definitions and explanations, such as:

- GBF is a Catalyst for Transforming Youth Mental Health
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- King & Spalding proudly supports the Brain & Behavior Research Foundation’s 2019 Annual International Awards Dinner.
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- Congratulations to all the prizewinners for their outstanding achievements.
- Jeffrey A. Lieberman, M.D.
  Chairman, Department of Psychiatry, Columbia University
  Director, New York State Psychiatric Institute
Congratulations Cynthia on being honored! We are grateful and humbled to work alongside you in furthering our mission, and in creating a kinder and braver world.

With Love,
Your Born This Way Board and Staff Family

J Squared Press
Printers of Brochures, Catalogs and Fine Lithography

Would Like to Congratulate The Brain & Behavior Research Foundation and the 2019 Awardees

In honor of Suzanne and John Golden
Jill and Sandy Sirulnick

Weill Cornell Medicine Psychiatry

Congratulations the recipients of the Outstanding Achievement Prizes, the Pardes Humanitarian Prize in Mental Health, and the Brain and Behavior Research Foundation for their extraordinary commitment in helping the mentally ill and their loved ones by supporting scientific research.

Francis S. Lee, MD, PhD
Chair and Psychiatrist-in-Chief

Faith Gunning, PhD
Vice Chair, Research
More than 30 Years of Research for Recovery

Mission

The Brain & Behavior Research Foundation is committed to alleviating the suffering caused by mental illness by awarding grants that will lead to advances and breakthroughs in scientific research.

We fund leading-edge research for mental health that:

- **Patients** require to recover
- **Parents** desire for their children
- **Psychiatrists** need to provide better care
- **Pioneering Scientists** depend upon to make new discoveries
- **Philanthropists** can point to with pride

Our goal: new treatments, cures, and methods of prevention.

Vision

To dramatically improve the lives of those living with mental illness, ultimately enabling them to live full, happy, and productive lives.

100% of all donor contributions for research are invested in BBRF grants that lead to discoveries in understanding the causes and improving treatments for brain and behavior disorders in children and adults including addiction, ADHD, anxiety, autism, bipolar disorder, borderline personality disorder, depression, eating disorders, OCD, PTSD, schizophrenia, and suicide prevention.

- **30+ years**
  - For more than 30 years the Brain & Behavior Research Foundation 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.
The Brain & Behavior Research Foundation is committed to alleviating the suffering caused by mental illness by awarding grants that will lead to advances and breakthroughs in scientific research.

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