BRAIN & HILL BEHAVIOR BEHAVIOR RESEARCH FOUNDATION

2018 Annual Report

Awarding research grants to develop improved treatments, cures, and methods of prevention for mental illness.



Awarding NARSAD Grants

More than 30 Years of Research for Recovery

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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.

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2018 BBRF HIGHLIGHTS













100% of every dollar donated for research is invested in our research grants. Our operating expenses are covered by separate foundation grants.



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Message from the President & CEO



Jeffrey Borenstein, M.D. President & CEO

The year 2018 was one of great advances in the field of brain and behavior research thanks to you, and the many others who generously support the Brain & Behavior Research Foundation.

This annual report highlights the remarkable research that has taken place because of BBRF grants in 2018. This past year, BBRF grantees have generated advances that are enabling more and more people to live full, happy, and productive lives.

Since 1987, BBRF has awarded more than \$394 million to more than 4,700 researchers around the world who are working hard to alleviate the suffering caused by mental illness.

As the world's leading private funder of mental health research grants, BBRF provides initial funding for high-risk, high-reward ideas that major research funders, including the NIMH, would not yet support. Our seed money allows a scientist to conduct innovative research which leads to a multiplier effect resulting in additional funding from other sources to continue their work.

I am proud to report that in 2018 alone, BBRF has funded more than \$17 million in research grants looking at addiction, ADHD, anxiety, autism, bipolar disorder, borderline personality disorder, depression, eating disorders, OCD, PTSD, and schizophrenia.

Funding the most promising and cutting-edge research is at the core of our mission. Supporting young scientists' careers and keeping them in the field of neuroscience is vital to finding cures for mental illness. In fact, our support for young scientists launches careers in brain science.

The path to the future of scientific research and discovery is a challenging and lengthy process, and BBRF remains committed to funding "innovative and out of the box" ideas because it is this cutting-edge research that will eventually result in new treatments and cures for brain and behavior disorders.

Many new discoveries in brain science would not, and could not, have occurred without early support from a BBRF grant.

Recently, the U.S. Food and Drug Administration approved two drugs that rapidly relieve the symptoms of severe depression. These are the first antidepressant medicines with novel mechanisms of action that have been approved in decades. BBRF grantees were among the pioneering researchers who laid the scientific foundations for both of these medications as well as the clinical trials that demonstrated their effectiveness. Esketamine, delivered via a nasal spray, is targeted for patients who have not been helped by two or more conventional antidepressant treatments. Brexanolone is the first medication specifically approved for postpartum depression.

Advances and discoveries that BBRF grantees, prizewinners, and Scientific Council members are actively researching and which we will likely hear a lot more about in the next 5–10 vears include:

- Fast-acting antidepressants
- Cognitive remediation
- Stem cell technologies
- Diagnostic biomarkers/computer-guided diagnosis of mental illness
- Personalized treatments for brain and behavior disorders
- Very large samples to reveal undetected genetic factors
- Improved TMS and other non-invasive brain stimulation treatments
- Establishing the role of inflammation in mental illness
- Dietary supplements for prevention of mental illness
- · Actionable information about how genes and environment interact

This research, as well as other scientific discoveries, will change how we help people who live with mental illness. Our model encourages new and innovative research from the bottom up, generated by scientists.

Examples include early support for optogenetics, deep brain stimulation for treatment-resistant depression, transcranial magnetic stimulation, and rapid-acting antidepressants. Each of these important breakthroughs received initial key support from grants provided by the BBRF.

The past, present, and future accomplishments of BBRF are inextricably bound with the passionate commitment and intense effort of our Scientific Council. Scientists on the BBRF Scientific Council offer their time, judgement and the wisdom of their experience in evaluating the research goals of the more than 800 scientists who submitted grant applications in 2018. A survey of our Scientific Council members revealed that approximately one-third of them received their initial early research support from BBRF as Young Investigators.

The vision of our 180-member Scientific Council could not be fulfilled without its leader, Dr. Herbert Pardes; the guidance of our Board of Directors, led by our Chairman, Steve Lieber; and funding from you, our donors. With momentum building in the field for new and exciting brain and behavior advancements, your support is even more urgent — and will be impactful today and in the future by helping to accelerate research and bring recovery for more people. 100% of your contribution for research directly supports research as our operating expenses are covered by separate foundation grants.

Our work is far from done, but looking back on last year, we did indeed move the needle forward on our path to research for recovery. I thank you for your contributions to the BBRF and welcome those of you who will join us on the dynamic path to the future.

Sincerely,

leffrey Borenstein, M.D

Message from the President of the Scientific Council



Herbert Pardes, M.D. President, BBRF Scientific Council

According to the World Health Organization, four of the 10 most disabling diseases of societies worldwide are psychiatric.

"By 2020, the most significant illness in the world will be mental illness. The clues are all there, but they haven't been pulled together adequately." –Stephen Lieber, Chairman of the BBRF Board

I couldn't agree more with Steve Lieber. BBRF's record of more than 30 years of support for psychiatric research is remarkable, and we are working hard to use the clues to solve the most intricate and complicated of illnesses — mental illness.

This at its very core is what BBRF strives to do — find the dynamic path forward.

BBRF continues its legacy of extremely productive grant-making that is changing brain research and psychiatry. Scientists who have received a BBRF grant have generated seminal ideas, launched discoveries that have changed the direction of research, and helped foster the development and testing of novel therapies offering new and better therapeutic options to patients.

With fiscal constraints making federal funding harder than ever to obtain for scientists — and particularly those early in their career; and with high-risk, early-stage project support having become almost non-existent within the world's largest pharmaceutical firms, BBRF grants have come to occupy an ever more important niche. Historically, our annual grant-making emphasis has been on identifying the most promising early-career scientists.

Repeatedly giving the rising generation of brain scientists a chance to take risks and demonstrate out-of-the-box ideas, we frequently have had the satisfaction of seeing ideas and projects advance in step-wise fashion, from intriguing concepts to pilot projects to major projects that secure major government funding. Remarkably, BBRF grant recipients have gone on to receive \$3.9 billion in additional research funding in next-stage NIMH and NIH grants. But the multiplier is also qualitative. Many times we have observed work on a concept advance on several fronts and in several distinct phases simultaneously, in the laboratories of researchers who have received BBRF grants in different years.

The net result is that investigations sparked by BBRF grants have substantially changed the way doctors and scientists look at the brain, at the changes in genes and cells that underlie mental illnesses, and in the way they treat those who are afflicted.

BBRF has a winning track record. Examples of it include:

Fast-acting antidepressants

Ketamine, esketamine and other agents with new mechanisms of action are gaining approval. Research by our grantees puts us in view of a new era in depression treatment in which the most severely affected patients will not have to wait months to experience a reduction in symptoms. Severe depression symptoms will be alleviated within hours — a lifesaver for the most seriously ill.

Stem cell technologies

Pioneered by our grantees, and now widely used, stemcell methods are making it possible to reprogram patients' skin cells to re-develop as neurons and other brain-cell types. Grown in culture, these cells "wire-up" to become functioning brain organoids, living test-beds that enable researchers to observe how pathologies of specific patients emerge in the developing brain.

Causation of Schizophrenia

A grantee and Scientific Council member has conducted research corroborating his longstanding theory about schizophrenia, connecting causation with pregnancy complications that activate otherwise inactive "risk" genes. This research serves as an example of how environment can directly impact gene expression to cause pathology in mental illness.

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Treasurer Donald M. Boardman The Scientific Council continues to grow, with experts broadening its scientific and clinical breadth. We can proudly say that we have 38 specialists in addiction, 23 specialists in ADHD, 47 specialists in anxiety, 34 specialists in autism, 48 specialists in bipolar disorder, 4 specialists in borderline personality disorder, 68 specialists in depression, 20 specialists in OCD, 23 specialists in PTSD, and 80 specialists in schizophrenia. This strengthens our capacity to review grant applications and identify the most creative proposals, which is essential in this tech-boom era marked by the increasing precision and sophistication of science.

BBRF has long served as a go-to resource for the support of psychiatric research. More than 30 years from its founding, scientists see BBRF, perhaps more than ever, as a dependable and in some cases indispensable source of funding for their work. BBRF and the Scientific Council are dedicated to the continuity that successful research requires. Let me thank all of you in the BBRF family for being so supportive. The continued outlook for discoveries is very encouraging and reflects the broad and remarkable dynamism of brain research.

I have never been more confident in the capabilities of the Scientific Council and our future prospects.

Sincerely,

Herbert Pardes, M.D. President of the Scientific Council

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2018 Leading Research Achievements by Foundation Grantees

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Next-Generation Treatments, New Technologies: Depression A Rapid Form of Brain Stimulation for Treatment-Resistant Depression



A new form of transcranial magnetic stimulation, or TMS, has been successfully tested in patients whose depression did not respond to one or more standard treatments. The new TMS technology is called iTBS (intermittent theta burst stimulation). It can safely and painlessly deliver stimulation to brain areas affected by depression in only 3 minutes — delivering benefits to patients that researchers report are just as effective as standard, 37-minute TMS treatments. Like standard TMS, iTBS enabled half of patients to achieve at least a 50 percent reduction in symptoms, and one-third to achieve full remission.

Daniel M. Blumberger, M.D. Centre for Addiction and Mental Health / University of Toronto 2010 BBRF Young Investigator Grant The research team included: **Zafris Daskalakis**, **M.D.**, **Ph.D.**, BBRF Scientific Council, 2008 Independent Investigator, 2006 and 2004 Young Investigator; **Peter Giacobbe**, **B.Sc.**, **M.D.**, 2010 BBRF Young Investigator.

Journal: The Lancet, April 28, 2018

Basic Research: Obsessive-Compulsive Disorder Largest-Ever Cortical Imaging Study of OCD Patients Offers Clues to Causes



A study has provided new clues about which parts of the brain are disrupted in people with obsessive-compulsive disorder. By comparing brain scans of 1,905 people with OCD with those of 1,760 unaffected people, researchers noted a thinning in the parietal lobe, a part of the cortex involved in attention, planning, and response inhibition. This might contribute to patients' recurring thoughts and repetitive behaviors. The thinning was noted in both adolescent and adult patients.

The research team included: Luciano Minuzzi, M.D., Ph.D., 2014 BBRF Young Investigator.

Odile A. van den Heuvel, M.D., Ph.D. *VU University Medical Center in Amsterdam, Netherlands*

2009 BBRF Young Investigator Grant

Listed in order of publication.

Journal: American Journal of Psychiatry, May 1, 2018





Basic Research: Schizophrenia, Autism, Childhood Disorders3Pregnancy Complications Provide Opportunityfor Schizophrenia Risk Genes to Harm the Fetus



Daniel Weinberger, M.D. *Lieber Institute for Brain Development*

BBRF Scientific Council Member

2000, 1990 Distinguished Investigator Grant

1993 Lieber Prizewinner for Outstanding Achievement in Schizophrenia Research Researchers have discovered that some of the most significant gene variants associated with schizophrenia affect pathways sensitive to pre-birth events influencing the response of the placenta to stress. The findings suggest the placenta is the link between schizophrenia risk genes and potentially harmful external stresses, including complications during pregnancy or birth. In an analysis that included nearly 3,000 individuals, including 2,038 with schizophrenia, researchers found that early-life complications amplify a person's inherited risk for schizophrenia more than 10-fold, and tend to affect a male fetus more than a female fetus.

The research team included: **Karen Faith Berman, M.D.**, BBRF Scientific Council, 2014 Distinguished Investigator, 2000 Independent Investigator; **Giuseppe Blasi, M.D.**, 2007 BBRF Young Investigator; **Dan Rujescu, M.D.**, **Ph.D.**, 2006 BBRF Independent Investigator; **Alessandro Bertolino, M.D.**, **Ph.D.**, 2013 BBRF Independent Investigator, 1999 Young Investigator.

Journal: Nature Medicine, May 28, 2018

Diagnostic Tools/Early Intervention: Schizophrenia, Psychosis Machine-learning Helped Identify Newly Diagnosed Schizophrenia and Predicted Treatment Response



Bo Cao, Ph.D. *University of Alberta, Canada* 2016 BBRF Young Investigator Grant By teaching computers to analyze specific yet very subtle features in brain scans — a method called machine learning — researchers were able to identify schizophrenia in 78 percent of a group of newly diagnosed patients. They could further predict, with 82 percent accuracy, which patients would respond to treatment with the antipsychotic medicine risperidone. It is an important step toward finding reliable biomarkers to assist in diagnosing schizophrenia and even to predict it before symptoms appear.

The research team included: **Xiang Yang Zhang, M.D., Ph.D.**, 2013 BBRF Independent Investigator; **Raymond Y. Cho, M.D., M.Sc.**, 2015 BBRF Independent Investigator, 2005 and 2003 Young Investigator; **Jair Soares, M.D., Ph.D.**, 2002 BBRF Independent Investigator, 1999 and 1997 Young Investigator.

Journal: *Molecular Psychiatry*, June 19, 2018

Basic Research: Schizophrenia, Bipolar Disorder

A Revealing Genetic Comparison of Schizophrenia and Bipolar Disorder



Douglas M. Ruderfer, Ph.D. *Vanderbilt University* 2015 BBRF Young Investigator Grant

Schizophrenia and bipolar disorder are distinct diagnoses yet they have symptoms that overlap. They also share some of their underlying genetics, and now a study in which over 100,000 genomes were analyzed has enabled scientists to show 114 locations in the genome implicating pathways shared between the two illnesses, and four genome regions that contribute to differences in their biology. One implication of the research is that it may become possible to say, based on an individual's genetic risk score for each illness, whether or not they are likely to have certain symptoms. Another implication is that we may be able to determine the genetic signature not just for risk of an illness, like schizophrenia, "but also for key symptom dimensions like psychosis or mania," which cut across diagnostic boundaries.

The research team included: Luciano Minuzzi, M.D., Ph.D., 2014 BBRF Young Investigator.

Journal: Cell, June 14, 2018



Next-Generation Treatments: Depression, Childhood Disorders Interactive Parent-Child Therapy Reduced Depression Symptoms in Very Young Children



Joan L. Luby, M.D. Washington University School of Medicine in St. Louis BBRF Scientific Council Member 2008, 2004 Independent Investigator Grant 2004 Klerman Prize for Exceptional Clinical Research

1999 Young Investigator Grant

Young children diagnosed with depression can benefit from an interactive form of therapy involving a parent, according to a clinical trial which evaluated the effects on depressed children between the ages of 3 and 7. Those in the treatment group participated in 20 therapy sessions over 18 weeks, in which therapists guided parents to better help their children recognize and regulate their emotions. Children who received the therapy had significantly lower rates of depression and less severe symptoms than those in the group that did not receive the therapy, while their parents also experienced a reduction in their own depression symptoms and in stress. This suggests that earlier identification and intervention offers a key pathway for more effective treatment.

The research team included: **Deanna Barch, Ph.D**., BBRF Scientific Council, 2013 Distinguished Investigator, 2006 Independent Investigator, 2000 and 1995 Young Investigator

Journal: American Journal of Psychiatry, June 20, 2018

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Next-Generation Treatments: Suicide, Depression Esketamine Reduced Suicidal Thoughts Within Hours of Treatment



Carla M. Canuso, M.D. Johnson & Johnson/Janssen R&D 1998 BBRF Young Investigator Grant

The experimental drug esketamine rapidly reduced thoughts of suicide and symptoms of depression in a small clinical trial involving 68 patients. The benefits of esketamine, like the closely related drug ketamine, were greatest within hours of treatment. By the end of the 4-week trial and 8-week follow-up (during which all patients continued taking their prior medications) those who had received a placebo rather than esketamine achieved similar reductions in depression and suicidal thoughts as did the esketamine group. This suggests esketamine could be valuable for managing severe depression and reducing suicide risk until traditional antidepressants can take effect.

The research team included: Husseini K. Manji, M.D., BBRF Scientific Council, 1999 Falcone Prize, 1998 Independent Investigator; Wayne C. Drevets, M.D., BBRF Scientific Council, 2014 Colvin Prize, 1999 Independent Investigator, 1996 Young Investigator; Gerard Sanacora, M.D., Ph.D., BBRF Scientific Council, 2014 Distinguished Investigator, 2007 Independent Investigator, 2001 and 1999 Young Investigator.

Journal: American Journal of Psychiatry, July 1, 2018

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Next-Generation Therapies: PTSD Rapid, Intensive Outpatient Treatment Reduced Vets' PTSD Symptoms Within Weeks



Alyson Kay Zalta, Ph.D. University of California, Irvine 2016 BBRF Young Investigator Grant Three weeks of intensive outpatient treatment significantly reduced the symptoms of post-traumatic stress disorder (PTSD) in veterans. The short course of treatment enabled 91 percent of trial participants to stay with the program to its end, an important factor in its success. Residential treatment programs typically last 6 to 12 weeks, a period that can be disruptive to work and family life. The new 3-week outpatient program involved daily trauma-focused psychotherapy called Cognitive Processing Therapy, and mindfulness-based resiliency training, which teaches patients to focus on the present moment to reduce stress and improve tolerance to trauma-related stimuli. Depression symptoms declined steadily throughout the program, and PTSD symptoms began to decline after the first week, and reduced more quickly as the therapy continued.

The research team included: Mark H. Pollack, M.D., 2003 BBRF Independent Investigator.

Journal: BMC Psychiatry, July 27, 2018

Basic Research: Anxiety, Depression Adult-Born Neurons Can Protect Against Chronic Stress



Diagnostic Tools/Early Intervention: Bipolar Disorder Researchers Train Computers to Identify a Biological Signature of Bipolar Disorder



Tomas Hajek, M.D., Ph.D.

2007 Young Investigator Grant

2015 BBRF Independent Investigator Grant

Dalhousie University

A large international team has used machine-learning methods to identify diagnostic markers of bipolar disorder. After assembling over 3,000 brain scans of bipolar disorder patients and controls from multiple sites, researchers tested whether computers could train themselves to reliably distinguish patients from controls. The encouraging results provide a proof-of-concept for a brain-imaging signature of bipolar disorder to identify the illness in individuals. The team's aim is differential diagnosis — being able to distinguish between different psychiatric disorders with similar manifestations.

The research team included: Geraldo F. Busatto, M.D., Ph.D., 2010 BBRF Independent Investigator; Dara Cannon, Ph.D., BBRF 2006 and 2004 Young Investigator; Janice Fullerton, Ph.D., 2007 BBRF Young Investigator; David Glahn, Ph.D., 2014 BBRF Independent Investigator, 2005 and 2003 Young Investigator; Roshel Lenroot, M.D., 2003 BBRF Young Investigator; Colm McDonald, Ph.D., 2009 BBRF Independent Investigator, 2002 Young Investigator; Theodore Satterthwaite, M.D., 2014 Klerman Prize, 2010 BBRF Young Investigator; Jair Soares, M.D., Ph.D., 1999 and 1997 BBRF Young Investigator; Eduard Vieta, M.D., 2012 Colvin Prize.



René Hen, Ph.D. Columbia University BBRF Scientific Council Member

2009, 2003 Distinguished Investigator Grant

1998 Independent Investigator Grant

The birth of new neurons in the adult brain appears to be important for resilience to chronic stress. The discovery, made in mice, suggests that adultborn cells in the hippocampus — a part of the brain that regulates mood rein in the activity of stress-responsive cells. This, in turn, reduces stress-induced anxiety. The findings suggest these newly born cells may be important for protecting against prevalent stress-related disorders such as depression and anxiety. They raise the prospect that manipulating neuronal activity in a section of the hippocampus might be a way to protect against stress-related psychiatric disorders.

Journal: Nature, July 5, 2018



Journal: *Molecular Psychiatry*, August 31, 2018



Diagnostic Tools/Early Intervention: Psychosis, Schizophrenia, Autism, Developmental Disorders Folic Acid-Fortified Foods During Pregnancy May Lower Child's Psychosis Risk After Birth



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Joshua L. Roffman, M.D., M.MSc. Harvard Medical School / Massachusetts General Hospital 2014 BBRF Independent Investigator Grant 2007 Young Investigator Grant

Researchers used MRI scans to compare the brains of more than 1,200 children and adolescents born before, at the time of, and following a 1996 government order directing food producers to supplement grain products with folic acid. Deficiencies of this basic nutrient can cause birth defects including neural tube defects. The research showed that children who were not exposed to folic acid during the fetal period displayed earlier cortical thinning, which is associated with higher psychosis risk. Those born after fortification was mandated had the longest delays in thinning and thus the lowest relative risk.

The research team included: Ezra S. Susser, M.D., Ph.D., 2008 BBRF Distinguished Investigator, 1995 Independent Investigator, 1987 Young Investigator; Theodore D. Satterthwaite, M.D., 2014 Klerman Prize, 2010 BBRF Young Investigator; Ruben Gur M.D., Ph.D., 2007 BBRF Distinguished Investigator.

Journal: JAMA Psychiatry, September 1, 2018

Next-Generation Treatments: Schizophrenia Computer-Delivered Cognitive Training Significantly Helped Schizophrenia Patients in **Rehab Setting**



Gregory A. Light, Ph.D. University of California, San Diego 2014 Sidney R. Baer, Jr. Prize for Outstanding Achievement in Schizophrenia Research (Maltz Prize) 2013 BBRF Independent Investigator Grant 2006, 2003 Young Investigator Grant

Researchers have shown that a form of therapy called targeted cognitive training (TCT) can help individuals with schizophrenia who have suffered from severe symptoms and required stabilization on high medication dosages for many years. Patients received 3–5 hours of TCT training per week, delivered via laptop computers, with tasks focusing on a variety of auditory processes. Deficits in auditory perception and verbal learning have been traced to the brain's auditory processing system. "TCT produced significant improvements in auditory perception and verbal learning," the team reported. Patients also experienced a "significant reduction in auditory hallucinations."

The research team included: Andrew Bismark, Ph.D., 2016 BBRF Young Investigator; Yash Joshi, M.D., Ph.D., 2018 BBRF Young Investigator; David L. Braff, M.D., 2014 Lieber Prize, 2007 BBRF Distinguished Investigator; Sophia Vinogradov, M.D., 2000 BBRF Independent Investigator; Neal Swerdlow, M.D., Ph.D., 2016 BBRF Distinguished Investigator, 1995 Independent Investigator, 1990 Young Investigator.

Journal: Schizophrenia Research, December 1, 2018

Our Scientific Council

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- **52** Members of the National Academy of Medicine
- **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

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- Perry F. Renshaw, M.D., Ph.D., M.B.A.
- Kerry J. Ressler, M.D., Ph.D.

- Victoria B. Risbrough, Ph.D. Carolyn B. Robinowitz, M.D. Bryan L. Roth, M.D., Ph.D. Laura M. Rowland, Ph.D. John L.R. Rubenstein, M.D., Ph.D. Bernardo Sabatini, M.D., Ph.D. Gerard Sanacora, M.D., Ph.D. Akira Sawa, M.D., Ph.D. Alan F. Schatzberg, M.D. Nina R. Schooler, Ph.D. Robert Schwarcz, Ph.D. Yvette I. Sheline, M.D. Solomon H. Snyder, M.D., D.Sc., D.Phil. (Hon. Causa) Vikaas S. Sohal, M.D., Ph.D. Matthew W. State, M.D., Ph.D. Murray B. Stein, M.D., M.P.H., F.R.Ć.F.C. Stephen M. Strakowski, M.D. John S. Strauss, M.D. J. David Sweatt, Ph.D. John A. Talbott, M.D. Carol A. Tamminga, M.D. Laurence H. Tecott, M.D., Ph.D. Kay M. Tye, Ph.D. Leslie G. Ungerleider, Ph.D. Flora M. Vaccarino, M.D. Rita J. Valentino, Ph.D. lim van Os, M.D., Ph.D., MRCPsych leremy M. Veenstra-VanderWeele, M.D. Susan M. Voglmaier, M.D., Ph.D. Aristotle N. Voineskos, M.D., Ph.D. Nora D. Volkow, M.D. Karen Dineen Wagner, M.D., Ph D Daniel R. Weinberger, M.D. Myrna M. Weissman, Ph.D. Marina E. Wolf, Ph.D. Jared W. Young, Ph.D.
- L. Trevor Young, M.D., Ph.D., F.R.C.P.C., F.Č.A.H.S.
- Jon-Kar Zubieta, M.D., Ph.D.

Members Emeritus

George K. Aghajanian, M.D. BJ Casey, Ph.D. Dennis S. Charney, M.D. lan A. Fawcett, M.D. Frederick K. Goodwin, M.D. Kenneth K. Kidd, Ph.D. Philip Seeman, M.D., Ph.D. Ming T. Tsuang, M.D., Ph.D., D.Sc. Mark von Zastrow, M.D., Ph.D.



We Welcome Our 10 Newest Members

Led by Dr. Herbert Pardes, the founding President of our Scientific Council, an all-volunteer group of pre-eminent mental health researchers reviews hundreds of grant applications each year and selects the most promising research ideas with the greatest potential to lead to breakthroughs.

The Scientific Council guides the Foundation to fund creative and impactful research relevant to the whole spectrum of mental health.

We welcome our 10 newest members.

"Since 1987, BBRF has awarded more than \$394 million to fund more than 4,700 leading scientists around the world, which has led to over \$3.9 billion in additional funding. We are pleased that these 10 leading experts in their fields have joined the Council and will help in selecting the best and brightest ideas in brain research to receive our grants."

- Dr. Herbert Pardes



SUSANNE AHMARI, M.D., PH.D. Assistant Professor, Psychiatry University of Pittsburgh



VICTORIA ARANGO, PH.D. Professor of Neurobiology, Psychiatry New York State Psychiatric Institute / Columbia University



PAOLA ARLOTTA, PH.D. Chair, Harvard Department of Stem Cell and Regenerative Biology Stanley Center for Psychiatric Research, Broad Institute, Harvard University / McLean Hospital





Professor of Psychiatry & Neuroscience Yale University School of Medicine

RALPH J. DILEONE, PH.D.

GUOPING FENG, M.D., PH.D.

Poitras Professor of Neuroscience, McGovern Institute for Brain Research, Department of Brain Cognitive Sciences at Massachusetts Institute of Technology. Director of Model Systems and Neurobiology, Stanley Center for Psychiatric Research at Broad Institute of MIT and Harvard.Research at Broad Institute of MIT and Harvard.



JAMES M. GOLD, PH.D.

Professor of Psychiatry University of Maryland School of Medicine / Maryland Psychiatric Research Center



JOAN L. LUBY, M.D.

Samuel and Mae S. Ludwig Professor of Psychiatry (Child); Director and Founder, Early **Emotional Development Program** Department of Psychiatry Washington University School of Medicine in St. Louis

MARIA A. OQUENDO, M.D., PH.D. Professor and Chairman of



Psychiatry University of Pennsylvania



STEPHEN M. STRAKOWSKI, M.D.

Associate Vice President, Regional Mental Health; Professor and Chair, Department of Psychiatry Dell Medical School / University of Texas at Austin



ARISTOTLE N. VOINESKOS, M.D., PH.D.

Director, Slaight Family Centre for Youth in Transition; Associate Professor, Department of Psychiatry Centre for Addiction and Mental Health / University of Toronto, Canada

Recovery Research Programs

Since 1987, BBRF has funded grants to more than 4,700 scientists around the world who are researching better treatments and cures for mental illness. Because BBRF's operating costs are covered by two generous family foundations, **every dollar donated for research goes directly to support research**.

Addiction Research Program

117 GRANTS AWARDED**37** SCIENTIFIC COUNCIL SPECIALISTS

ADHD Research Program

49 GRANTS AWARDED**23** SCIENTIFIC COUNCIL SPECIALISTS

Anxiety Research Program

153 GRANTS AWARDED**47** SCIENTIFIC COUNCIL SPECIALISTS

Autism Research Program

177 GRANTS AWARDED**34** SCIENTIFIC COUNCIL SPECIALISTS

Bipolar Disorder Research Program

430 GRANTS AWARDED **48** SCIENTIFIC COUNCIL SPECIALISTS

Borderline Personality Disorder Research Program

14 GRANTS AWARDED**4** SCIENTIFIC COUNCIL SPECIALISTS

Depression Research Program

1,136 GRANTS AWARDED**68** SCIENTIFIC COUNCIL SPECIALISTS

Eating Disorders Research Program

39 GRANTS AWARDED**2** SCIENTIFIC COUNCIL SPECIALISTS

Obsessive-Compulsive Disorder Research Program

74 GRANTS AWARDED20 SCIENTIFIC COUNCIL SPECIALISTS

Post-Traumatic Stress Disorder Research Program

136 GRANTS AWARDED**23** SCIENTIFIC COUNCIL SPECIALISTS

Schizophrenia Research Program

2,236 GRANTS AWARDED 80 SCIENTIFIC COUNCIL SPECIALISTS

BBRF Grants support the most promising ideas in brain research.

Funding is focused on four priority areas to better understand and treat mental illness, aiming toward prevention and cures:

BASIC RESEARCH

to understand what happens in the brain to cause mental illness

DIAGNOSTIC TOOLS AND EARLY INTERVENTION

research to recognize early signs of mental illness and begin treatment as early as possible

NEW TECHNOLOGIES

to advance or create new ways of studying and understanding the brain

NEXT-GENERATION THERAPIES

to reduce symptoms of mental illness and ultimately prevent and cure brain and behavior disorders

2018 Research Grants

No other organization outside of the federal government has funded the number of mental health research grants that the Brain & Behavior Research Foundation has — or been responsible for more breakthroughs in the field.

An independent measure of the success of our grants is a recent RAND Europe analysis of the global mental health research funding landscape over the previous five years. This report found that we are the top nongovernment mental health research funder cited in published articles.

"The Brain & Behavior Research Foundation, through its grants program, has made an extraordinary contribution, not only in providing funds for psychiatric research, but in helping structure the field. BBRF is unrivaled in its innovative and expert approach to funding the most promising ideas in brain and behavior research. Its funding decisions are steered by the best scientists in the field and the research sponsored has continually led to important advances."

> Eric R. Kandel, M.D., **Nobel Prize Winner BBRF** Scientific Council 1995, 2000 & 2005 Distinguished Investigator Grant

Young Investigator Grants

BBRF Young Investigator Grants cover a broad spectrum of mental illnesses and serve as catalysts for additional funding, providing researchers with an opportunity to develop a "proof of concept" for their work.

Many Young Investigator grantees are pursuing basic research projects. Others are specifically focusing on new ideas for therapies, diagnostic tools, and new technologies. The 200 projects are innovative research that will provide future insights and advances that will help lead the fields of psychiatry and neuroscience forward. The projects reflect the remarkable dynamism of brain research.

An extraordinary aspect of many of the projects is their coverage of multiple disorders. In part, this reflects the growing realization that many symptoms of psychiatric illnesses are experienced by patients with different diagnoses — for instance, symptoms shared by depression and anxiety, or schizophrenia and bipolar disorder. In many instances, when our Young Investigators conduct research that crosses diagnostic boundaries, they are exploring biological processes that underlie these illnesses. It's an exciting and very promising trend in research that we hope will lead to improved treatments in the years to come.

Young Investigator Grants provide each scientist with \$35,000 per year for two years, totaling \$70,000.

BBRF awarded a total of \$14 million to its 2018 Young Investigators, thus strengthening its investment in the most promising ideas to lead advancements in understanding and treating brain and behavior disorders.

"Young Investigator Grants enable outstanding scientists" to pursue bold new ideas that expand our understanding of psychiatric illness and help identify potentially gamechanging targets for treatment. In many cases, Foundation Grants offer the first critical support for a young scientist's work that may not otherwise receive funding."

Herbert Pardes, M.D.

President of the BBRF Scientific Council Executive Vice Chairman of the Board of Trustees, NewYork-Presbyterian Hospital

Co-Chairs of the Young Investigator Grant Selection Committee



Judy M. Ford, Ph.D. Professor, Department of Psychiatry University of California, San Francisco

BBRF Scientific Council Member 2003 Independent Investigator



Suzanne N. Haber, Ph.D. Professor, Department of Pharmacology and Physiology University of Rochester School of Medicine and Dentistry

BBRF Scientific Council Member 2011 Distinguished Investigator



818 Applications 200 Grants Awarded \$14 Million Awarded

2018 Grants by Illness

Institutions listed represent where grant was first awarded

ADDICTION

Hamed Ekhtiari, M.D., Ph.D. Laureate Institute for Brain Research Next-Generation Therapies

Mark Alexander Grainger Eldridge, Ph.D. National Institute of Mental Health Basic Research

Diana I. Escalona-Vargas, Ph.D. University of Arkansas for Medical Sciences Basic Research

Chiara Giuliano, Ph.D. University of Cambridge, UK Basic Research

Nicholas M. Graziane, Ph.D. Pennsylvania State University Basic Research

Rebecca Sue Hofford, Ph.D. *Icahn School of Medicine at Mount Sinai* Basic Research

Xuan (Anna) Li, Ph.D. University of Maryland Basic Research

Leah M. Mayo, Ph.D. Linköping University, Sweden Basic Research

Vijay Mohan K. Namboodiri, Ph.D. University of North Carolina at Chapel Hill Basic Research

Alexander C. W. Smith, Ph.D. Icahn School of Medicine at Mount Sinai Basic Research

Oliver Vranjkovic, Ph.D. Vanderbilt University Basic Research

Yi-Zhi Wang, Ph.D. Northwestern University Basic Research

Brandon Warren, Ph.D. National Institute on Drug Abuse/NIH

BASIC RESEARCH

Sylia Wilson, Ph.D. University of Minnesota Basic Research

Sarah Winsland Yip, Ph.D., M.Sc. Yale University Diagnostic Tools/Early Intervention

ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD)

Atul Maheshwari, M.D. Baylor College of Medicine Basic Research

Aki Nikolaidis, Ph.D. Child Mind Institute Basic Research

Nikhil Urs. Ph.D. University of Florida Basic Research

ANXIETY

Nicholas I. Balderston, Ph.D. National Institute of Mental Health (NIMH/NIH) Next-Generation Therapies

Tali Manber Ball, Ph.D. Stanford University Basic Research

Jeremy Stanford Biane, Ph.D. The J. David Gladstone Institutes at the University of California, San Francisco Basic Research

Brendan E. Depue, Ph.D. University of Louisville Basic Research

Elliot Kale Edmiston, Ph.D. University of Pittsburgh Next-Generation Therapies

Alexxai V. Kravitz, Ph.D. National Institute of Diabetes & Digestive & Kidnev Diseases, NIH Basic Research

Jayne Morriss, Ph.D. University of Reading, UK Basic Research

Fernando M. C. V. Reis, Ph.D. University of São Paulo, Brazil Basic Research

Michael Grady Wheaton, Ph.D. Barnard College, Columbia University Basic Research

AUTISM / AUTISM SPECTRUM DISORDER (ASD)

Daniel Arthur Abrams, Ph.D. Stanford University Basic Research

Claudio Acuna-Goycolea, Ph.D. University of Heidelberg, Germany New Technologies

Benjamin D. Auerbach, Ph.D. Research Foundation for the State University of New York (SUNY) on behalf of the University at Buffalo Basic Research

Robert Paul Bonin, Ph.D. University of Toronto, Canada Basic Research

Simon Chen, Ph.D. University of Ottawa, Canada Basic Research

Crystal T. Engineer, Ph.D. University of Texas at Dallas Next-Generation Therapies

Aaron Gordon, Ph.D. University of California, Los Angeles Basic Research

Junjie Guo, Ph.D. Yale University Basic Research

Xin Jin, Ph.D. Harvard University Basic Research

Ruchi Malik, Ph.D. University of California, San Francisco/ *Gladstone Institutes* Basic Research

David A. Matuskey, M.D. Yale University Diagnostic Tools/Early Intervention

Galen Missig, Ph.D. McLean Hospital/Harvard University Basic Research

Tomasz J. Nowakowski, Ph.D. University of California, San Francisco/ *Gladstone Institutes* Basic Research

Neville Espi Sanjana, Ph.D. New York Genome Center Basic Research

Simon Thomas Schafer, Ph.D. Salk Institute for Biological Studies Diagnostic Tools/Early Intervention

Tingting Wang, Ph.D. Georgetown University Basic Research

Kai Yu, Ph.D. Cold Spring Harbor Laboratory Basic Research

BIPOLAR DISORDER

Jaroslav Bendl, Ph.D. Icahn School of Medicine at Mount Sinai Basic Research

Arianna Di Florio, M.D., Ph.D. Cardiff University, UK Diagnostic Tools/Early Intervention

BORDERLINE PERSONALITY DISORDER

Chui-De Chiu, Ph.D. Chinese University of Hong Kong **Basic Research**

DEPRESSION

Petr Bednarik, M.D., Ph.D. Medical University of Vienna, Austria New Technologies

Katie L. Burkhouse, Ph.D. University of Illinois at Chicago Next-Generation Therapies

Michelle Lynn Byrne, Ph.D. University of Oregon **Basic Research**

Erin S. Calipari, Ph.D. Vanderbilt University Basic Research

Frederic Christophe Casse, Ph.D. University of Lausanne, Switzerland Next-Generation Therapies

Meaghan Claire Creed, Ph.D. University of Maryland **Basic Research**

Nicole Ashley Crowley, Ph.D. Pennsylvania State University **Basic Research**

Alec Lindsay Ward Dick, Ph.D. Max-Planck Institute of Psychiatry, Germany **Basic Research**

Riddhi Prakash Doshi, M.B.B.S., MPH, Ph.D. University of Connecticut Health Center Next-Generation Therapies

Ada Diane Eban-Rothschild, Ph.D. University of Michigan **Basic Research**

University of Georgia Basic Research

Peter Grace, Ph.D. University of Texas, MD Anderson Cancer Center **Basic Research**

Katherine Babcock Ehrlich, Ph.D.

Brendan Deegan Hare, Ph.D. Yale University School of Medicine Next-Generation Therapies

Alexander Z. Harris, M.D., Ph.D. Research Foundation for Mental Hygiene/ NYSPI, Columbia University Diagnostic Tools/Early Intervention

Lisa Holper-Nellen, M.D. University of Zurich Brain Research Institute, Switzerland Diagnostic Tools/Early Intervention

David Mark Howard, Ph.D. University of Edinburgh, Scotland Diagnostic Tools/Early Intervention

Jessica Jenness, Ph.D. University of Washington, Seattle Diagnostic Tools/Early Intervention

Makoto Kawai, M.D. Stanford University Diagnostic Tools/Early Intervention

Kate Ryan Kuhlman, Ph.D. University of California, Irvine Basic Research

Autumn Joy Kujawa, Ph.D. Vanderbilt University Diagnostic Tools/Early Intervention

Salvatore Lecca, Ph.D. University of Lausanne, Switzerland **Basic Research**

Yi Lu. Ph.D. Karolinska Institute, Sweden Basic Research

Alexander McGirr, M.D. University of Calgary, Canada Next-Generation Therapies

Lisa M. McTeague, Ph.D. Medical University of South Carolina Next-Generation Therapies

Mark Ronald Mizee, Ph.D. Netherlands Institute for Neuroscience, The Netherlands Basic Research

Marco Pignatelli, M.D. National Institute on Drug Abuse Next-Generation Therapies

Arjun Ramakrishnan, Ph.D. University of Pennsylvania Diagnostic Tools/Early Intervention

Robb Brooks Rutledge, Ph.D. University College London, UK Diagnostic Tools/Early Intervention

Durga Roy, M.D. Johns Hopkins University School of Medicine Basic Research

Katherine Scangos, M.D., Ph.D. University of California, San Francisco/ Gladstone Institutes New Technologies

Marianne Louise Seney, Ph.D. University of Pittsburgh Basic Research

Kanzo Suzuki, Ph.D. University of Texas Southwestern Medical Center at Dallas Next-Generation Therapies

Benjamin Seavey Cutler Wade, Ph.D. University of California, Los Angeles Diagnostic Tools/Early Intervention

Christian Anthony Webb, Ph.D. McLean Hospital/Harvard University Diagnostic Tools/Early Intervention

Nolan Ryan Williams, M.D. Stanford University Next-Generation Therapies

EATING DISORDERS

Estefania Pereira Cardoso Azevedo, Ph.D. The Rockefeller University Basic Research

Fabricio H. Do Monte, Ph.D. University of Texas Health Science Center at Houston Basic Research

Cindy Cherise Hagan, Ph.D. California Institute of Technology Basic Research

Carol Kan, Ph.D. Institute of Psychiatry, King's College London, UK Basic Research

"When I received the award from the BBRF it was a really challenging time in my research career. I had been in a lab for about two years. My whole scientific career depended on a \$60,000 piece of equipment and then all of sudden I was cut off. It turns out that it was only because I received the Young Investigator award at this same time that I was able to buy my own piece of equipment to do the project I needed to do. That got me my next YI award and then a K Award from the NIMH. I really doubt I'd be standing here as the director of the NIMH if I hadn't been able to jumpstart my career with the help of the BBRF."

Joshua Gordon, M.D., Ph.D. Director of the National Institute of Mental Health (NIMH) **BBRF Scientific Council Member** 2003, 2001 Young Investigator Grant

Brain Patterns in Sleep

Maria Jose Galazo, Ph.D. Tulane University Basic Research

Substance Use and Epigenetics

Suhas Ganesh, M.D. Yale University **Basic Research**

Attention

Adam John Granger, Ph.D. Harvard Medical School Basic Research

Apathy and Motivation

Tobias U. Hauser, Ph.D. University College London, University of London, UK Basic Research

Diagnostic Tools

Yungil Kim, Ph.D. Icahn School of Medicine at Mount Sinai Diagnostic Tools/Early Intervention

Decision-Making Shinichiro Kira, M.D., Ph.D. Harvard Medical School Basic Research

Decision-Making Aaron Christopher Koralek, Ph.D. Columbia University Basic Research

Dopamine System Polina Kosillo, Ph.D. University of California, Berkeley Basic Research

Memory

Kishore V. Kuchibhotla, Ph.D. Johns Hopkins University Basic Research

Genetic Damage

John R. Lukens, Ph.D. University of Virginia Basic Research

Dopamine and Reward

James W. Maas, M.D. University of California, San Francisco/ Gladstone Institutes Basic Research

Brain Development

Simone Mayer, Ph.D. University of California, San Francisco/ *Gladstone Institutes* Basic Research

Visualizing Neurons

Arnab Mukherjee, Ph.D. University of California, Santa Barbara New Technologies

Connectivity

Michael Murphy, M.D., Ph.D. McLean Hospital/ Harvard University Basic Research

Early-life Abuse

Maya Mikhailovna Opendak, Ph.D. Nathan S. Kline Institute for Psychiatric Research Basic Research

Gender Differences and Stress

Abigail Marie Polter, Ph.D. George Washington University Basic Research

Expectation Bias/Inflexibility

Erin Leigh Rich, M.D., Ph.D. Icahn School of Medicine at Mount Sinai Basic Research

Cognitive Reappraisal/Flexibility

Maureen Elizabeth Ritchey, Ph.D. Boston College Basic Research

Imaging

Kerstin Ritter, Ph.D. Charité-University Medicine Berlin Freie Universitat Berlin, Germany Diagnostic Tools/Early Intervention

Motivation

Mark A. Rossi, Ph.D. Basic Research

Robert Sears, Ph.D. Research **Basic Research**

Modifying Neural Circuits Jerzy Olgierd Szablowski, Ph.D. California Institute of Technology New Technologies

Genetic Regulation

Hyejung Won, Ph.D. University of North Carolina at Chapel Hill Basic Research

Social Isolation

Ofer Yizhar, Ph.D. Weizmann Institute of Science, Israel **Basic Research**

MULTIPLE DISORDERS

Schizophrenia, Addiction Davide Amato, Ph.D. Medical University of South Carolina **Basic Research**

Addiction, OCD, Depression

Matthew Ryan Banghart, Ph.D. University of California, San Diego Basic Research

PTSD, Anxiety

Christian R. Burgess, Ph.D. University of Michigan **Basic Research**

Depression, Anxiety Samuel William Centanni, Ph.D. Vanderbilt University New Technologies

Schizophrenia, Bipolar Disorder Michael Ben Clark, Ph.D. University of Oxford, UK New Technologies

Anxiety, PTSD Cyril Dejean, Ph.D. INSERM, France Next-Generation Therapies

University of California, Irvine Basic Research **Biomarkers**

BIOLOGY OF THE BRAIN Brain Stimulation Evangelos Antzoulatos, Ph.D. University of California Davis Medical

New Technologies

Early-life Stress

Stress and Sleep

Basic Research

New York University

Dopamine System

Aliza T. Ehrlich, Ph.D.

McGill University, Canada

Next-Generation Therapies

Basic Research

Shinjae Chung, Ph.D.

University of Pennsylvania

Learning and Memory

Giannina Descalzi, Ph.D.

Jessica Lynn Bolton, Ph.D.

Alexander William Charney, M.D.

Diagnostic Tools/Early Intervention

Icahn School of Medicine at Mount Sinai

Center

Sung Il Park, Ph.D.

Texas A&M University

Sarah A. Stern, Ph.D.

The Rockefeller University

Basic Research

Basic Research

University of North Carolina at Chapel Hill

Coping Behavior-Orexin System

Nathan S. Kline Institute for Psychiatric

OCD. Addiction. ADHD

Becket Ebitz, Ph.D. University of Minnesota Basic Research

ADHD, Autism, Schizophrenia

Evan Harriman Feinberg, Ph.D. University of California, San Francisco, *Gladstone Institutes* Basic Research

Tourette, OCD, Autism

Daniel John Foster, Ph.D. Vanderbilt University Next-Generation Therapies

Bipolar Disorder, Suicide

Dorian Ashley Lamis, Ph.D. Emory University School of Medicine Basic Research

Anxiety, Panic Disorder

David MacLean, Ph.D. University of Rochester Basic Research

Depression, Anxiety

Stefanie Malan-Muller, Ph.D. The University of Stellenbosch, South Africa Basic Research

Anxiety, PTSD, Panic Disorder

Rachel Denise Moloney, Ph.D. University of Cincinnati Basic Research

Autism, Schizophrenia

Anna Rachel Moore, Ph.D.

Temple University Basic Research

Depression, Alzheimer's Disease

Ines Moreno-Gonzalez, Ph.D. University of Texas Health Science Center at Houston **Basic Research**

Anxiety, ADHD

Sahana Murthy, Ph.D. Princeton University **Basic Research**

Depression, Anxiety, OCD

Benjamin Okaty, Ph.D.

Harvard University Basic Research

Autism, OCD, Tourette Scott Owen, Ph.D. The J. David Gladstone Institutes Basic Research

Autism, Schizophrenia

Mercedes F. Paredes, M.D., Ph.D. University of California, San Francisco/ *Gladstone Institutes* Basic Research

Depression, Suicide

Stephane Richard-Devantoy, M.D., Ph.D. McGill University, Canada Basic Research

Schizophrenia, Psychosis

Srivatsun Sadagopan, Ph.D. University of Pittsburgh Basic Research

Addiction, ADHD, Borderline **Personality Disorder**

Sandra Sanchez-Roige, Ph.D. University of California, San Diego Basic Research

Depression, Anxiety, PTSD

Aparna Shah, Ph.D. Johns Hopkins University Basic Research

Epilepsy, Schizophrenia, Autism

Lakshmi Subramanian, Ph.D. University of California, San Francisco/ Gladstone Institutes Basic Research

ADHD, Addiction, Depression Emily Lauren Sylwestrak, Ph.D.

Stanford University Basic Research

Depression, Anxiety

Christine Lucas Tardif, Ph.D. McGill University, Canada Basic Research

Fragile-X, Autism, Epilepsy

Nien-Pei Tsai, Ph.D. University of Illinois at Urbana-Champaign Basic Research

Autism, Depression

Silvana Valtcheva, Ph.D. New York University School of Medicine, New York University Basic Research

Schizophrenia, Psychosis, Autism Smita Yadav, Ph.D. University of Washington, Seattle Basic Research

Depression, Addiction

Hang Zhou, Ph.D. Yale University Basic Research

OBSESSIVE-COMPULSIVE DISORDER (OCD)

Zirong Gu, Ph.D. Columbia University Basic Research

José Oliveira, M.D., Ph.D. Fundação Champalimaud, Portugal Basic Research

Reza Tadayon-Nejad, M.D., Ph.D. University of California, Los Angeles Basic Research

Peter Johannes van Roessel, M.D., Ph.D. Stanford University Next-Generation Therapies

OTHER DISORDERS

Parkinson's Disease Canan Dagdeviren, Ph.D. Massachusetts Institute of Technology

New Technologies **Fetal Alcohol Syndrome**

Yohaan Mikhail Fernandes, Ph.D. University of Texas at Austin Basic Research

Hoarding Katie Fracalanza, Ph.D.

Stanford University Next-Generation Therapies

Neonatal Abstinence Syndrome William Christopher Risher, Ph.D. Marshall University Basic Research

PANIC DISORDER

Amanda Waters Baker, Ph.D. Massachusetts General Hospital, Harvard University Diagnostic Tools/Early Intervention Weisheng Wang, Ph.D. University of California, Los Angeles **Basic Research**

PSYCHOSIS Anastasia Bobilev, Ph.D. University of Texas Southwestern Medical Center at Dallas New Technologies

Hengyi Cao, Ph.D. Yale University **Basic Research**

Hanna Summer Gauvin, Ph.D. Queensland University of Technology, Australia Next-Generation Therapies

Gregory P. Strauss, Ph.D. University of Georgia Diagnostic Tools/Early Intervention

Eva Velthorst, Ph.D. Icahn School of Medicine at Mount Sinai Basic Research

Danhong Wang, M.D., Ph.D. Massachusetts General Hospital, Harvard University **Diagnostic Tools/Early Intervention**

POST-TRAUMATIC STRESS DISORDER (PTSD)

Michael Sean Breen, Ph.D Icahn School of Medicine at Mount Sinai Basic Research

Denise Cai, Ph.D. Icahn School of Medicine at Mount Sinai Basic Research

Nikolaos P. Daskalakis, M.D., Ph.D. McLean Hospital and Harvard University New Technologies

Joseph Dunsmoor, Ph.D. University of Texas at Austin Next-Generation Therapies

Sam Adler Golden, Ph.D. National Institute on Drug Abuse Basic Research

Alfred P. Kaye, M.D., Ph.D. Yale University **Basic Research**

Gideon Rothschild, Ph.D. University of Michigan Basic Research

Hein Johan Floris van Marle, M.D., Ph.D.

VU Medisch Centrum Vrije Universiteit Amsterdam, The Netherlands Next-Generation Therapies

Sanne J.H. van Rooij, Ph.D. Emory University Next-Generation Therapies

Franz Weber, Ph.D. University of Pennsylvania Next-Generation Therapies

Xi Zhu, M.D., Ph.D. Research Foundation for Mental Hygiene, Inc./NYSPI Columbia University Diagnostic Tools/Early Intervention

SCHIZOPHRENIA

Megan A. Boudewyn, Ph.D. University of California Davis Medical Center Next-Generation Therapies

Alberto Cruz-Martín, Ph.D. Boston University Basic Research

Erin W. Dickie, Ph.D. Centre for Addiction and Mental Health at the University of Toronto, Canada Next-Generation Therapies

David Dodell-Feder, Ph.D. University of Rochester Basic Research

Tae-Yeon Eom, Ph.D. St. Jude Children's Research Hospital Basic Research

Jennifer Ann Erwin, Ph.D. Lieber Institute for Brain Development, Johns Hopkins University Basic Research

Jennifer Katherine Forsyth, Ph.D. University of California, Los Angeles Basic Research

Mary Elizabeth Gaine, Ph.D. University of Iowa Diagnostic Tools/Early Intervention

Vanessa F. Gonçalves, Ph.D.

University of Toronto, Canada Basic Research David Gosselin, Ph.D.

Canada **Basic Research**

Synthia Guimond, Ph.D. Beth Israel Medical Center, Albert Einstein College of Medicine Next-Generation Therapies

Yash B. Joshi, M.D., Ph.D., M.B.E. University of California, San Diego Next-Generation Therapies

Catherine Anne Marcinkiewcz, Ph.D. University of Iowa **Basic Research**

Anirban Paul, Ph.D. Cold Spring Harbor Laboratory **Basic Research**

Basic Research

Basic Research

Nelson Rebola, Ph.D. Brain and Spine Institute Basic Research

Centre for Addiction and Mental Health,

Centre de Recherche du CHU de Quebec,

Anna Migdalska-Richards, Ph.D. University of Exeter, UK

Athanasia Papoutsi, Ph.D. Institute of Molecular Biology and Biotechnology (IMBB), Greece

Ryan Matthew Smith, Ph.D. University of Iowa

Andre Steinecke, Ph.D. Max-Planck Florida Institute Basic Research

Basic Research

Ivy Fei Tso, Ph.D. University of Michigan New Technologies

Jodi Jay Weinstein, M.D. State University of New York, Stony Brook Basic Research

lun Yamamoto, Ph.D. University of Texas Southwestern Medical Center at Dallas Basic Research

Liuging Yang, Ph.D. Johns Hopkins University Basic Research

SUICIDE PREVENTION

Tory Anne Eisenlohr-Moul, Ph.D. University of Illinois at Chicago Basic Research

Charles P. Lewis, M.D.

Mavo Clinic **Basic Research**

"When you receive a BBRF Young Investigator grant it makes you feel like a real scientist and that somebody believes in you and your work." Anissa Abi-Dargham, M.D.

BBRF Scientific Council Member 2018 Lieber Prizewinner for Outstanding Achievement in Schizophrenia Research 2002 Klerman Award Honorable Mention 2008 Distinguished Investigator Grant 2000 Independent Investigator Grant 1997, 1993 Young Investigator Grant

The Pardes Humanitarian Prize in Mental Health

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 recipient of the Pardes Humanitarian Prize in Mental Health is chosen by a distinguished international Selection Committee from nominations solicited worldwide. 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.

Established in 2014, the Pardes Humanitarian Prize is named in honor of Dr. Herbert Pardes, the first recipient of the award.



Dr. Herbert Pardes, Bob Wright (Honorary Pardes Humanitarian Prize in Mental Health Prizewinner), Judge Steven Leifman, (Pardes Humanitarian Prize in Mental Health Prizewinner) and Dr. Jeffrey Borenstein.



WINNERS

2018

Judge Steven Leifman Honorary Tribute:

Suzanne and Bob Wright

2017

Doctors Without Borders/ Médecins Sans Frontières

Honorary Tribute: Constance E. Lieber

2016

Vikram Patel, Ph.D., F.Med.Sci. & Charles F. Reynolds, III, M.D.

Honorary Tribute: Senator Edward M. Kennedy

2015

Beatrix (Betty) A. Hamburg, M.D. and David A. Hamburg, M.D.

Honorary Tribute: Rosalynn Carter

2014

Herbert Pardes, M.D.

International Symposium and Awards Dinner October 26, 2018





2018 BBRF Outstanding Achievement Prizewinners. From L to R: Dr. Xiao-Jing Wang, Dr. Jean-Pierre Changeux, Dr. Benjamin Goldstein, Dr. Joseph Piven, Dr. Kristen Brennand, Dr. Anissa Abi-Dargham, Dr. Herbert Pardes, Dr. Guillermo Horga, Dr. Jeffrey Borenstein, Dr. Schahram Akbarian, and Dr. Ami Klin.

Opening remarks were given by Dr. Jeffrey Borenstein



In 2018 the Pardes Humanitarian Prize in Mental Health was sponsored in part by Janssen Research & Development, LLC, one of the Janssen Pharmaceutical Companies of Johnson & Johnson.



Dr. Helen Mayberg, BBRF Scientific Council Member and Stephen Lieber, BBRF Chairman of the Board. *Photos this page by Chad David Kraus*

Breaking the Silence about Mental Illness Luncheon May 5, 2018



Ellen Levine, Dr. Jeffrey Borenstein, and Anne Ford.



Carole Atkinson, Suzanne Golden, Ornella Morrow, Carole Mallement, Judy Daniels, Virginia Silver, Sheila Scharfman, Bonnie Hammerschlag, Ellie Hurwitz, and Beth Elliott.

Team Up for Research 2018 Highlights



Receiving donations from Gravity Blankets and the "Elvis Duran and the Morning Show" at iHeartRadio.

Scientific Council Dinner & Klerman & Freedman Awards July 27, 2018



The Klerman & Freedman Prizewinners and honorable mentions — Dr. Christina M. Gremel, Dr. Byungkook Lim, Dr. Herbert Pardes, Dr. Ueli Rutishauser, Dr. Timothy Y. Mariano, and Dr. Albert R. Powers III.



Dr. Joshua Gordon, Director of the NIMH and Dr. Herbert Pardes (Scientific Council). Photos this page by Chad David Kraus



Behaviour Interactive Inc. has provided over \$500,000 to BBRF through their charitable initiative. Pictured L to R: Dave Richards, Sophie Laplante, Olivier Latanicki, and Dr. Jeffrey Borenstein at the BBRF 2018 Symposium.



Hike for Mental Health donated more than \$54,000 to BBRF through their charitable efforts. Pictured: Leo Walker and Dr. Jeffrey Borenstein.

Screen shot of "The Game Theorists" YouTube charity livestream, benefitting BBRF and raising over \$200,000.

Donors – Thank You

The generous support of our donors is what allows us to celebrate more than 30 years of remarkable research achievements. We're honored by the trust you, our donors, have placed in the Brain & Behavior Research Foundation to fund the development of new treatments, cures, and methods of prevention to help alleviate the suffering caused by mental illness.

"We chose the BBRF because it aligned with a few of our core giving goals this year. First, the organization specifically targets the underlying issues behind the world's most prevalent and debilitating mental disorders, so rather than treating the symptoms, they're working toward cures. As people who have family members, loved ones, and many in our community who suffer from a range of mental illnesses, our sights are set on long-term solutions for them, not surfacelevel treatments. In addition, we really appreciated that the BBRF provides support to research internationally, which meant that our global fan base could all contribute to research efforts that felt close-to-home, rather than a charity that only helps American scientists.

MatPat & Stephanie Patrick (The Game Theorists)

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	Robin Mohilner
jh	Graham Molinaro
	Sarah L. Molloy
	Elizabeth Montgomery
	Alina Moore
	Allison Moore
	Matthew Moore
2Y	Ireland B. Moore
	Erin Morelli
а	Ronnie Morgan
	Monica Morgendorffer
roadbelt	Elizabeth S. Morningstar
	Ashleigh Morris
	Grant and Sarah Morrison
	Timothy Morrison
	Brittany Morrow-Pike
nglish	Hannah Morse
	Melissa Mortensen
5	Craig Moskowitz
	Leslie Mueller
	Jacquie Rose Mullen
	Marjorie Muller
a	Josephine K. Mullins
	Chelsea Mundy
lanach	Patrick T. Murphy
lensch	Steven Murray
	Heather Mushock's brother, Paul
ons's son, Tomas	Georgian T. Mustata Chris Nachman
	Taylor Nafziger
ons	Grace Nagaur
	Katherine Naiburg
	Deepak Nair
	Crys Ann Najar
l	The Nance-Kolarik Newlyweds
	Hira Naqvi
	Amiti Nastasia
Parker	Nataline
h	Ilana Neenan
11	Marley Negus
(Y	Jessica Neill
, j	John Nelson
Milhaven	Liz C. Nelson
i initia vert	Jeffrey S. Nelson's friend, Marie
	Steven Nemcek and Nelya Lugovskaya
	Christopher Nemes
	Jeremy Neuman
	Neuroscientists
	Eric Newman
	Lucy Newton
	Cindy Newton-Chapman
	Jennifer Ngo
Sanchez	Monica Nguyen
n, Ph.D.	Will Nguyen
,=.	Nat Nichols
	Sydney Nichols
	Patricia A. Nicholson's son, Brady
tadt-Ghostkeeper	Sydney Nicholson
	, .,

Sunny Nicholson-Pinson Nick and Farinda Christy Nicole Heather Nicole Iamie Nicole Melis Nicole Taylor Nicole Ciyanna Nielsen Georges and Patricia Nihon Mary Niles Rachael Noel Rayna Noel Kristen Noelle Colleen Noonan John C. Norcross Ashley Norman Hillary Norman Cain M. Norris Jenna Nosal Chi Nouk Emily Novikov Jess Nu Nan Obaldo-Jacinto Ash Obi Billy O'Brien Kenneth O'Brien Rob O'Brien Arron N. O'Callaghan and Sean D.O. Smith Ayla O'Day Debra A. Ohlson Cristina A. Ohr's granddaughter Melyssa Okazaki Joshua D. Okun Mimi Olavarrieta Isabelle Hana Oleszko Lindsav Oliver Aaron Olivo Karen Olsen-Frev Callie Olson The Olson / Beyer Families Arlie Opal Nieves A. Ortiz Deborah Osborne's daughter-in-law lohn Osinski Phoebe Osman Gina Osmun-Would Amber Osterhout Ashley Otero Kristen Ott-St. Laurent Our Lady of Good Counsel High School Brittany Packard Emily Page Nerissa Paige Rosie Palarchio Saee Paliwal and Tyler Neill Timothy Pallanti Taylor Palmer Lisa A. Pan, M.D.

Liz Pandya Allie Pangborn Sue Paolella Jane Papageorge Arthur Paquier Beth Paradisin Dr. Herbert Pardes Fabio Parente Mario Parisi Celine Park Sharon Paschall Robyn Pashos Tara Pasqualino Craig Patches Kat Skve Paterson Gavin Patrick Anna Pattison Kaity Paul Adam Pawelczyk Dr. Elisa Payne Teresa Payton Bertha Paz-Esquivel Lester Paznik Hunter Pearce-Cook Tami Pearson Cathy Pefley Qatari Pekarsky Adeline Pellacani Holly Pellegrin Ana C. Pellegrini Remy Pelzer Sarah Pena Alyssa Pentaleri Carley Peregory Aida Perez Manda Perez Tiana Perez Tara Perfetti-Street Amy Perrino Daniel Peterson Deborah A. Peterson **Emily Peterson** Robert and Lee Peterson Robert Pflock Andi Philippe Marybeth Pickens Jessi Lynn Picklecopter Ben Pierce and Lilly Lavner Meagan Pilawski Flynn Pippo-Bohwim Phil Piscitelli Jeffrey R. Pitcairn Lauren Pitre Carolyn A. Plumer Christina Pollett lan Pomerantz Meera A. Popkin-Tarack Jeremy Portelá-Peschard Patricia Porter

Diane Potesta-Peduto **Dimitrios Potsos** Amanda Povirk Caroline Powell leff Powers Paul Pozniak Scott Predmore Dr. Eugenia Priddy Linet Prieto Ethel Pringle Rachel Marie Puanani-Galindo Tristan A. Pulley Susan Punches Jonathan Purowitz Makayla Putman O2 2018 Dr. Jacqueline Quezada Benjamin Quinn Steve Raccagni Alexander Rackohn Hassan Rahim Alisha Rai Rvan Raichelson Catherine Raine Alexus Raine M. Bagel Ramakrishnan III Norah Ramsden Perry Randall Len Randol Melissa Rankin Vani Rao Carrie Rasmussen Anthony Rauhut Chris Ravetto Hillary Ray Landry Ray lennifer Reed Amy Reeves Melvin Reeves Isiah Regacho Vas Normandy len Reichle Harry Reid David A. Reilly Rosemarie Reilly Tara Reinertson Matt Reller Madison Remer Martin Ren Taylor Renee Lauren Repoli Genevieve Marie Restivo-Maida Lindsay Rexrode Ramuel Reyes Scott Reynolds Karen Rhodes Dorothy Ricciardella Aubrey Rice Kelsey Richards Kate Richev

Jamie Ricks Luna Riley Milan Rios Michelle Risse Heather Ritsko-Loughman RN Min J. Ro Maggie Robbins Tania Roberts Aubrey Robertson Helena Marie Robertson Andy and Emily Robinson Janel Robinson Pamela K. Rocca Kim Rock Cristina Rod Alex Rodriguez, Jr. Connie Rodriguez David Rodriguez Greg Roe Christina Root Bob Rose Dana Rose Melissa Rose Michael Rose Vicky Rosen John Ross Linda Rossi The Rossi Ramily Brynda S. Roth Faith Rothblatt Kayla Rothe Sage Rubeo Gregg Rubin Judson Lee Rudgers Miguel Antonio Ruiz Ann Rully Tarah Elizabeth Rupp Kelly Russell lan Russo Karli Rutledge J.J. Rutten Ben Rutz Andy Ryan Destiny Ryan Katie Ryan Enri Salermo Mary C. Salpukas Anthony Sanchez Krissi Sandvik Jennifer Sanford-McCurdy Devon Sanner Juliana Sanrame Belen Santana-Pineda Matthew and Janene Sarabura Berrak Sarikaya Mark A. Satterthwaite, M.D. Magdalena Sawicka Danielle Scavone

Malia Schaefer Matthew Schaffe Tyler Schanuth Sheila Scharfma Brittany Scherer Carol Schilling Jacqueline Schin Ginny Schlegel Jonathan Schoel Edward I. Schoe and friends Stacy L. Schoma Mary L. Schooln Sarah Marie Sch Chris Schreiner Samantha Schro Ilianna Schultz Jane Schulze Roger Schwarz Karris Scott Rvan Scott Samantha Scott Anita Scripter J. Scubby Rashina Seabur Kevin Sealy Stefania Secreto Laurie Seeds Donika Seferi Vincent Segawa Zachary Segawa Neha Sehgal Oh Se-Hun Theresa Selvage Christina Selvag Jessica Sendef Sera Fallon Serafin Tanya Seredin Renae Sesack The Sevick Fami Saba Shabdiz lerika Shadomy-Nancy J. Shaffer Malav Shah Kim Shay Taylor Shea Tara Shea-Sledg Aaron Sheafor Jocelyn Jocey Sh David Sheldon Xiuli Shen The members of Clubhouse Va Services Boar Margot Shenton Sarah Shinn Kat Shinoda Melissa Shiprek

	Ships Have Sailed (Will & Art)
er	Kimberly Shirk
	Alex Shiue
in	William C. Shiver
r	Leah Shore's 2012 "Old Man"
	documentary film
igs	Blake Shugarman
0	Annemarie Sias
n	Lilian Sicular
necker's family	Hafsa Siddika-Imam
freeker 5 farmiy	Ashley Sieg
acker-Franka	Renee Siegel-Rothwell
nan	Sydnie Alexis Siegler
nornagel	Ashton Silva
lornager	Jinny Silver
- cl	
ock	Dr. and Mrs. Mark Silver Alexis Silvestro
	Marcia Simon-Kaplan
	Michael Simos
	Julia Sinitsyn
	Johnny Sirulnick
	Derek Sitter
	Nick Skardarasy
	Victoria Slavinsky
У	Hana Sminkey
	Amanda Smith
)	Brad Smith
	Glen M. Smith
	Jason Smith
	Karen Smith
)	Livy Smith
	Michael Smith
	Natalie Rose Smith
gio	Nathan Smith
gio-Reeser	Richard and Sue Smith
	Shane Smith
	Shannon Smith
	Debra Smith-Ricchio
	Taylor Smithson
	Mary Kate Smyser
ly	Shianne Sneider
	Kathryn A. Snow, LCSW
Spencer	Shannon R. Snyder
	Tim Snyder
	Ash Sofaer-Morse
	Toni Sofia
	Caitlyn Solem
e	Stephanie Sommers
	Kelly James Sonnier
eff-Silver	Alecia Soyk-Manning
	Mike Soyka
	Alan Spandorf
f the Shenandoah	Carla Spellman
alley Community	Michael Spinell
rd	Mary St. Laurent
1	Michael St. Thomas
	Zakary Stahlsmith
	Steve Stander

Julie Stankiewicz

Hazel and David Stanley Lisa Stanley David and Donna Steadman Ruby Stearns Jennifer Steese Alan L. Steinberg, M.D. Heather Stenberg Andrew Stephens Jacob Stephens Ranjana Sterling Jacqueline Stern-Bellowe Mason Steuart Maulsby Dr. Catherine Stevenson Autumn Stewart Brent Stewart's daughter, Laura Katie Stewart Rebecca Stewart Drue Stinnett Dr. Desanka Stipic Trevor-Stolarz-Bauer Augusta Stone Allison Stone-Slutsky Robin Storie Christine Stover Emma Straus less Strazzere-Hubis Lucille A. Streim Klaira Strickland Ben Stubbington Joy Stukel Lori Sturdevant Jan Stypka Savannah Suarez Amna Sultan Michael Summers Erik Sutter Andrew Šveikauskas Carley Sweeney Evie Sweeney-Naranjo Sara Sweetbaum-Treiber Rachel Switlick Mohammad Tabib Dalton Tadeu-Mourao Nick Talisman Peter J. Tarr, Ph.D. Caryn Tate Kesha Tatro Michael Tavarone Megan Taylor Victoria Taytro TC Brendan Teevan's Grammy Julohn Teixeira Marian Templeton Gracelynn Tenaglia Ronald Tep Jackie Terry Matthew Terry Ali Tesh

Scott L. Thaler In honor of the sweet, sweet boys and girls in chat room (turbosnack) Samwise The Brave Kendrick Thehighlander Alex Thiel Gwen Thien lames C. Thies Melissa Thill Amy Thomas Rebecca Thomas Sarah Thomas Alicia K. Thomasson Danny Thompson Elizabeth Thompson Gracie Thompson Megan Thompson Ronald Thornton Those who never give up! Those who suffer from brain illnesses. Those whom have earned it! Anisa R. Threlkeld Angela-Marie Tiberi Tina Warren Tioxon Lauren Tobin Bosworth M. Todd, Jr. Barbara Toll Alexandra Tomko Kirsten Tomlin Kathee Tomlinson Isabella Ton's Mom Emma Townsend Kaylin Townsend Howard Trachtman Gracie Tracy Erin Trahan Eileen Trainor Marcin Treder Benjamin Treuhaft Alida Trevino Madeline Triolo Kacie Tripp Nhi Truong Ya-Ju Tsai Matt Tucker Paula Tudorof's brother Ravmond Turco Lynn Turner V. Turner Paige Tusieseina Stephanie Twardak Jenna Ucbo Adi Uchendu Hydee Umali-Abarintos Universal Love Susan E. Unvarsky Martin Ureel Iulia Vădeanu

Logan Vagan Kahan Vaidya Isabelle Valdez Anne Vallet-Addison Dr. Peggy van Raalte and Mr. Barry Abbott Jessika Vance-Martin Joanna Vandyke Brenda Van Horn Moira Vasquez Julia Vassallo Christiana Vastardis Robert-Harold Vaughan Ronald E. Veiders Courtney Ventry Brandon Verde Emily Vergo Deandra Vetter Natalie Vetter-Vessels Davide Vicari Ben Vickers Izabella Victores Jennifer Victores Meg Vidler Maddie Vidman Manny Villarreal Andres Villasmil Lauren Vinae Steven Vinton Jorge Viramontes James M. Visalli Amanda Voelker William Vogtritter Michael Vollmar, M.D. Alysa Volpe The von Boeselagers: Erich, Kurt and Marti Johnny W. Kevin W. Richard L. Wagar Katherine Wagner Katie Wagner Wren Wagner Katerina Wahl Richard E. Wahlfeldt Brett Walker Courtney Walker Tara Walker Sharyn Walkin Malia Rose Wallace Barbara Wallisch Christina Walters Izzy Walters Paige Waltman Wilson Walz Carmen Wang Joice Wang Willow Warbler, LV Maci Ward

Sherry Warren Bob and Regina Waterhouse Maegan Watson Marissa Watson Nick Watson Rhiannon Alexa Watters Kevin Weber Blake Webster Alex and Emily Weckiewicz James WIlliam Francis Wedgewood Rachel Weeks Stephen Weet-Larcovic Sharon Weinberg Tom Weis Robert and Frances Weisman Myrna M. Weissman, Ph.D. and lames C. Frauenthal, Ph.D. The Wells Family Mel Welsh Brandalyn Marie Wenzel July Werner Elizabeth Werth Allie West Nathan Westcott **Rochelle Westerhaus** Sharon Whaley Matt Wheeler lesse Ray Whipple The White Families (2) Sydney White The Whitney Newlyweds leff Wichman Brian Wicks Ionathon Widener Karen Widmer Shelby Wiedrich Acie and lean Wiggins John Wiggins Kevin Wiggins Jerrod Wikle Christine Wiley Jaclyn Wilfong Jessi Wilkerson Laurie Wilks Christian Willenbacher Alex Williams Angel Williams Calvin Williams Dr. Nancy Williams Sam Williams Shawn B. Williams LaurieWilliams-Wheeler Martin S. Willick, M.D. Amanda Willis Kassie Willis Fave Wilson Janelle Malta Wilson Kevin Wilson Morgan Wilson

Sara Catherine Wi leff Winchell Max Winne Kara Winter Sage Winter-McGir Caity Wintergrass Janine Winters Sigrid Wise Connie L. Wisemai Megan Wiseman Christina Wittmei Denessa Woisin Bonnie Wolf Marsha Wong Jessica Wood The Woodward Fa Tim Wright The Wright Family Szuhsuan Wu Tiffany Wu www.reddit.com/u Xenmate XxX R4n33mxX Mike Yamanaka Kelli Yapp Julie Yeko ludi Yonai Lana Yoon Wes York Karen You Ms. Youn Coleman Young Josh Young Marcus Young Michael Young Claire Youngquist Yuri Asghar Zaida Iulie Zaiontz Ethan H. Zambrar Jamie Zarza-Thom Tyler Zboran Dana Zea Alex Zeigler Don Zeigler Aaron J. Zemel Antonia Mila Zen Renee S. Zenker's Sherry Zeshonski Jinyan Zhan Tina O. Zhu Maggie Zimmerlin Nicholas F. Zolma Mike Zoric David Zuckerman

/ilson	Memorial Tributes
	10 Lives Lost at Santa Fe High School
	Honoring the memory of the
	17 victims in Florida
inley	A loved one
5	Richard "Hil" Hilstad Lee Abbott
	John "Jed" B. Abrams
	Marc D. Abrams
an	Michael Adams
	Phillip "Phil" M. Adams
ier	Randall E.J. Adams
	Elizabeth "Biz" Adams-Addorio
	Cecilia Adamski
	Jean M. Ahern
	AJD
amily	Logan Albers
	Nicholas R. Albers
/	All the young lives lost due to bullying
	and peer pressure.
	Connor Allard
'user/wittyandpithy	Sharon Allen
	Janice M. Allison
XX	Judith Allison
	Vincent S. Amoroso, Jr.
	Andy Anderson
	Louis M. Anderson, Jr.
	Mark H. Anderson
	Philip "Phil" D. Anderson
	Silas E. Anderson, Jr.
	Susan "Sue" K. Anderson
	Carl C. Angell
	Christina E. Angelo
	Annie
	Charles "Chuck" Theodore Apt, Jr.
	Marisa Arango
	Annie B. Armstrong
	Anthony "Tony" P. Arsneault
	Estelle Arvey
	Susan Assisi
no	Melvin Asterken
nas	Bahman Atefi, Ph.D.
	Jeri A. Austin
	Lindsay Aversano
	Christopher J. Awn
	John J. Awn, Jr. Julius Axelrod, Ph.D.
	David L. Ayers
s Son and his recovery	Arthur Aylem
i	James "Jim" M. Bachner
	Grant Backerman
	William "Liam" P. Badalamenti
n	Jacqueline Badgett
า เท	Jimmy Bailey
	Gregory T. Bak
	Nicholas Baker
	Anna Balek
	Scott Balgemann
	Gretta Ballew-Davidow's mother
	Robert P. Banghart

Samuel C. Banks Cynthia L. Barazowski-Kassel Robert "Rob" J. Barlow Brent Barnes Gabe Barrick Allie Barrow Dana Barthle Scott R. Bartlett Judith A. Baskin Brian A. Bass Ronald C. Bates Don Bauermeister Pauline A. Baumgartner John B. Bayliss, Ph.D. Hv Bear Ann Beckett-Herring Iordan P. Bedard Dr. William Beedles John Bejarano Bryton Bell Beloved Moss Brian J. Bengston Rev. Richard Benken W. Brent Bennett Chester C. Bennington (Linkin Park) Bennv Tim Bergling (AVICII) Karen M. Bergstrom Janet L. Bernard Rafael Berrios, M.D. Katherine Berry's friend, Sarah Geraldine M. Bertani Jerry Bets Lyndell Betzner Brian A. Bezonsky Kevin M. Bezonsky Deepak Bhasin Jack Bigelow Stephen J. Binder Edward "Ned" S. Bisshopp Dr. Morton Black Andrew Blackton Michael "Mike" R Blanton Heather A. Bleick Blip Alan W. Block Miriam "Mimi" Brooka Blumenfeld Albert Bock Ellen Bockhaus Charles F. Bodden, Sr. Kirk Boise Wesley J. Bollinger Kelvin Boney David W. Borks Timothy Botbyl Anthony Bourdain Justin E. Boykin Emily Boyle Eric Bradv

Joseph Bralecchitta Kay L. Brandenburg Kari Beth Brandon Walter A. Brantlev Angela Brayer-Wilson Christopher D. Brehl Sean Brenchley David Breuer Mary J. Brewin Scott Brill Armando Brock Catherine Brody John W. Brooke Kelsey R. Brouillette Frieda R. Brown Kent H. Brown II Adam D. Bruckner Grant "Toby" H. Brundage III Irving "Irv" Buitrago Walter W. Bundschuh Peter R. Bunning Michael J. Burk Colleen M. Burke Marshall Burleson Bernadette R. Burns Charles "Chase" A. Burns Kimberly A. Busfield-Mahoney Kvle L. Butler Daniel C. Buzzeio, Jr. Gerald A. Byers Michael J. Byrnes V Mona E. Byrnes Thomas J. Byrnes, Sr. Michael J. Caeton Caleb Robert Cameron Harriet Caplan Diane Cardilla I. William "Bill" Caretti, M.D. Mary Jane T. Carey Dennis J. Carlton Jeffrey T. Carlton Nathan Carreira Dolores Carrillo Richard M. Casev The Casey Family Dwight D. Cassidy Suzanne L. Castellani Christina M. Castellaro Garvin Chandler Noreen Charters lames Chasse Scott M. Chauvin Pvt. Danny Chen Donald Cheney Dale R. Cherney Matthew Cherney Wong Chung Ming Chiu Allison A. Chlan-Fellner

Chris Therese A. Christian Tahkota T. Christiansen Martha M. Christison Marie Cilli Cindy Charles "Chuck" Cinnamon CL Kathleen Clark Mary "Bridie" B. McKenna Clarke Theodore "Ted / Teddy" J. Clayton III Eva L. Cobau Mark A. Cochran Gina C. Collins-Eichelberger Katie Collinsworth Alec Colón John L. Concannon Janet Connolly-Berens Marion T. Conran-Donovan Sarah Conroy lav Cook Ryan J. Cook **Bill Cookson** Daniel C. Cooper, Ph.D. Tommy L. Cooper David Cooper-Claire Diane Corv Wilson Cory James Cosgrove Ben J. Costa Robert R. Coto Norman R. Coutu Cory Cowick Adam Crandall Kalena Crews Madison Crocker Anita C. Cronin Ryan R. Crookston Kathy Crow-Collins Patricia A. Cudworth Teresa L. Cumber John "Jake" Cusano III Maureen C. "Reenie" Daggett Richard G. Dalcourt Colter Dallman Richard D. Daly Margaret M. Dann Scott Darby Dan Davenport's brother, Matthew Little David Garrison H. Davidson, Jr. Gretta Davidson Raymond Davis Terry A. Davis Mary Jean Dawson-Hume Jan B. de Bakker, M.D. Erwin Dirk de Vlas A. Louise DeAngelis Dorothy "Dottie" Deeb

Douglas H. DeFreest, Jr. Joseph Del Monaco Kasie Del Otero Susan DelCastillo Christopher J.E. Delgado Francene "Franny" De Meis Katherine Deschner Emmett Desroches Henry "Hank" J. Deutschendorf II (Hank's Hope for a Cure) lames DeWolfe Smith Nathaniel J. Dickinson Dustin M. Dilley Restituta "Ida" DiMeglio-Adriani Hans Dirndorfer Theresa Dirndorfer Heidi A. Diskin Brandon Dixon John L. Dixon, Ph.D. Jonathan E. Dixon Charles C. Dolby lim Donahue Timothy G. Donley Una G. Donnelly Francis "Frank" J. Donovan, Jr. Karen Doughty Rachel L. Drabenstott Lowell Dray Sandra G. Dreyfuss Maxine Driscoll Mary lo Drozdowski-Duncan Laury Dryden Michael Ducate Christopher R. Dugan Kimberly "Kimmy" Duke Sidney Dully John duMenil Terry S. Duncan Aaron C. Dunn James "Jim" J. Durkin II Christopher C. Dwyer Tim Dwyer Randy Eckman Ronald "Ronnie" Oni Edwards Thea Eichler David Einerson Daniel M. Eisenbud Sean T. Elkind Kevin I. Ellison Karl J. Emerick, Jr. Craig Emery Josiah Epps Paul J. Esposito Tom Etu Marian "Molly" Peabody Everdell leanne Everette Brian "Whitey" S. Evers Christopher "Chris" H. Ezzell Lance H. Fabrizio

Maureen Fadal Benjamin C. Faetar Fuad Faiz Guadalupe G. Falc Leslie E. Falzone Hilliard Farber Peggy Farnsworth Garrett R. Farr Matthew J. Fee Sevmour Feinland Charles Feldman Shirlev Feldman Alec Fentum Charles Ferrara Jango Fett (Star Wa Catherine Finn Roberta Fisher Ruth Fishman Douglas N. Flesch Raymond J. Flood, Trocar Flook losh R. Fonner lessica A. Forbes Joanne Foulk Austin B. Frazier Dr. Frederick "Fred Harvey Friedenber Jason C. Frisco Steven Fulton Christopher Furay Pamela Furrer Gretchen Fyfe-luk Stephanie N. Gaffo Stanton E. Gagel David Gallander Iohn Gallander Judy Galloway Andrew S. Garner Michael Garstecki Victoria Mae Gaug Martin Geisser Dolores A. Gerold Ali Ghomizadeh Kenneth "Ken" A. (Steven H. Gibson Jason E. Gilbert Lynda L. Gilchrest Reverend T. Edwar Ted R. Giles Michael P. Gilliland Wendy A. Giurleo Mother of Rachel David M. Glanzer Ionathan Gleason Kyle W. Glenn Daniel J. Glorioso John Gnuechtel Brian D. Go Jacob S. Godfrey

anini	Geraline Golden Sydney Goldstein
	Molly Goltman-Sashkin
con	Nathan M. Gonzales
	Paul Goodman
	Ethel G. Gordon
1	Paula Jean Gorman
	Ted A. Gorman Prof. Gilbert Gottlieb
d	Frederick C. Grab
~	Bill Graham
	Adam J. Grainawi
	William Francis Grant 1st and 2nd
	Adam Graser
/ars character)	Erika L. Grasmick
	Albert "Albie" Grassi
	Susan J. Gray
	David E. Green
	Rance P. Green
, Jr.	Elaine Greenblatt Mary Greener
	Mark J. Greenlee
	Matthew J. Gregory
	Megan R. Grigor
	Tristen L. Grittner
d" J. Frese III	Gary Grunwald
erg	Carmen Y. Guerra
0	Thomas S. Gumport
	Peter A. Gunness
У	Amanda G. Gurley
	Thomas Haas
knevicius	Christopher B. Hafner
ford	Elaine Hagebush
	Carol Hagopian
	Jeffrey A. Hair
	Ciara Anne Hall's brother Nikki Hall's brother
-	Douglas Hamm
i	Wilma Hammerle
ghran	Benjamin G. Hammerschlag
611011	Henry "Hank" Hanau
ł	Mary Lou Hardaker
	Christopher Harden
Gibson	Matthew "Matt" J. Hardin
	Edmond "Ed" Hardy
	Jason R. Hargarten
t	Margaret Harrington
rd Giles	Alden Harris
	Jordan E. Harris
d	Gary E. Hart
Claitle friend	Harriet Hart
Glait's friend	Victoria Hart Mark H. Hatch
1	Cole D. Hawkins
1	Lindsay Hawley
	Michael Heafield
	Kevin Heald
	Nicholas "Nick" Healey
	Darel T. Heath

Jimmy Hehir Craig A. Heichel Bradley R. Heilman Richard T. Heller Thomas G. Helmle Philip "Phil" I. Hewes Wayland Hicks Dennis B. Higgins Daniel G. Hinden Lauren Hoffman's friend Tristram C. Hogben Terry J. Holley Christopher C. Holmes Corinne H. Holt Dr. Philip S. Holzman Marc Hopkinson Colleen M. Horn George C.B. Hosley Doug Houpt Mark Hsiao Lucv Hu Rennie E. Hughes William "Billy" W. Humphrey Alan N. Hundert Helen Hungate-Spencer Darrell K. Hutchins David R. Hutchison loseph lacono Karen J. Imbler Roganne Imes Cameron S. Ingram George Ishikawa I.D. Prem Jajoo Sabrina I. James Lynn Jamgochian Patricia A. lefferson's Auntie and all others lill Sarah Jimenez del Gil de Lamadrid Ryan Jobe Hannah Johnson Jeremy T. Johnson Justin Johnson Michael D. Johnson Paul D. Johnson Ryan P. Johnson Susan I. Johnson Ashley "A.I." O. Jones Brian lones David A. Jones Dillon Jones Tara L. Jones-Smith Kim Jong-hyun Shubhangi Joshi Jill Joyer Charles Judge Rita J. Kabban Andreas "Dre" P. Kahan

Amy Kalieta Robert J. Kannenberg Steven Karp Amv Katz's cousin Walter S. Katz Claude R. Kaufman Judith Kaufman Lisa Kaufman Nicholas "Nick" R. Kay Cheryl Keay Elliott Keith William G. Kelly III Michael "Misha" B. Kendis Michael F. Kenigsberg Erin E. Kerdus Dickman Isaac Kessler Sarah Ketchum-Bradlev Edward M. Kevish Rashidul H. Khan-Shiply David T. Kidwell, M.D. Iohn S. Kim, M.D. Robert Kinn Jill A. Kirby Mariann Klepper George "Fred" Klose, Jr. Leonard "Lenny" M. Knorr Michael Knutson Donna Koch Michael Kocmond Allison Kohl Peter C. Kohn Arty Kononchik Bill Korpela Diane A. Koskinas Bernard Krall John B. Kramer, Jr. Mitch Kramer Alan Kravitz Leo Kravitz Dr. Edwin G. Krebs Virginia "Deedy" F. Krebs John Kruger Michael J. Kruger Robert Kruger Kendal "Ken" A. Kucera Ratna K. Kudaravalli Marcia Kuder Joseph "Jack" J. Kujawa II Francis P. Kulp Dr. Michael Kush Rabbi Moshe Kushner Elizabeth Lackey F. Danby Lackey Victor M. LaFata Allan H. Lambert Deborah L. Lancaster Melissa A. Lanier Danny "Dieudonne" O. LaPierre Carole Jean Laping

Jenna R. Laubach Brendan L. Lauderdale Robert E. Lauer Diana Lauren Jay Lauters Justin LaVenter Thomas K. Lawrence Michael P. Leonard Nicholas "Nick" M. Lesniak William Lester Michael S. Levine Michael Lewin Amy Libby's friend Mary Libby Jacob Lichtenstein Hesh Lieb ben Yeshayahu Constance E. Lieber Sally Lindberg Jonathan "Johnny" Bart Lindenberg Hans K. Lindgren Lina Litinskaya-Weinbaum Richard E. Little Lauren G. Liu Xiao H. Liu Tyler Livas Margaret Lively Amanda "Manda" Llovd-Lumsden, DVM Bettie Lobato John "Jack" S. Logue II Mark E. London Mary L. London Sarah Longyear Danielle M. Lorenz Victor G. Lottmann Alan Lowry's daughter Christopher Ludwig James M. Luerich Matthew "Matt" M. Lugo Michael D. Luketic Gary A. Lund William C. Lund Helene Lundak Donna E. Lundeen June Lutticken Barbara Lyons Matthew C. Lyons Katherine "Kay" MacDonald Noel A. Machado Michele Macintire's Uncle Tommy Robert "Robbie" P. Macioce Ronald E. MacKenzie Marissa N. MacLaughlin Laura A. Madl Ellen M. Madulka Vincent "Vince" V. Magi Gordon H. Maginnis II Michelle M. Magnuson Peggy Maguire Dr. Thomas J. Maher, Jr.

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Betty Rosenberg Robert Rosenberg Chris Ross Mitchell S. Ross Christina Rossi lanet Rossi Ann Roth (Mrs. Donald I. Roth) Joan Roth Lewis Roth Essie Rothman Estelle Rothman Matthew S. Rothman Aaron B. Roush, M.D. Joan Rowe Derek Rowlev Meredith E. Roy S. Alexander Royden Marc Ruben Sarah A. Rudnick Philip R. Ruggiero Ian M. Ruggles Donald J. Rully Linda Sacks Candace Salvo Pasquale Salvo Carol Sanchez August Sancis Mason C. Sanders Carla Santamaria Lourdes M. Santos Elijah L. Sarantakos Melissa L. Saunders Donald Savage Linda Schamp Trent Scharf Father Jack L. Schauble Terry Scheffler Susan Schick-Berlin Lee R. Schoolmeesters Richard B. Schreiber Sarah "Sally" Strain Schryver Dorothy E. Schultzbank Edna Schwanebeck Theodore "Teddy" Schwarting Michael L. Schwartz Sherri Schwartz David J. Scott David L. Seaguist Rich Searle Laurie Seeds's brother Michael Seeds Briston J. Segraves Brian C. Seidenberg Paz Selo Werner A. Selo Gary S. Sevitsky Karen Seykora Kelsey Shane **Richard Shannon**

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Amanda Tucci

Kimberly Turner-W Tyler David M. Unger Joey Upchurch Chan S. Valentine Ryan van der Mos Police Sergeant A Lola Mae Verdun Emily Vergo's brot Iohn M. Vergo Helen G. Verrey Allen E. Vincent Keith A. Vinskofsk Gregory Von Burg Paul Von Burg Ken Vorisek Bruce K. Waite Robert Wallace Don Walsh Christina Walters' leremy Walters Elaine Wane Howard N. Wane Justin Z. Wang Edith Ward Michael F. Ward Donna Watson Merle Watson Sherri E. Webb Norman Wegweise Daniel Weig Irving Weinflash Nathan Weinflash Susie Weinflash Jacob Weitzman James C. Welbour Ann Welch Ben and Laura We James C. Welch Mark P. Wendling Thomas J. Wendt lennifer N. Wenz Susan L. Wessman Allie West's friend Robert Wetzel Timothy L. Whitmer Eamonn D. Wholley Dr. James Wicoff Iohn A. Wiederkehr II Michael G. Wieman Bobbye C. Wiggins Ruby N. Wiggins Ronna D. Wilbert Aaron Wilcox Henry "Hank" M. Wile Brekhus A. Williams Robin Williams Laurie Williams-Wheeler's son Katelyn A. Willmonton

Wilhelm	Margaret Wills Edwin "Eddie" L. Wilson III Richard K. Wilson Timo Wilson
	Stuart J. Winston
	David Winter
st	
lexander Vazquez	Douglas Wistner
	Christopher Wittman
ther	Clare Ellen (Costello) Wojtusik
	Eldon A. Wolf
	Cheryl E. Wolfe
	June Wolfe
<i and="" constraints="" of="" set="" set<="" td="" the=""><td>Troy Wolfe</td></i>	Troy Wolfe
g	Farrell J. Wolfson
	King Chu Wong
	Charles R. Wood
	Geoffrey D. Wood
	Kenneth A. Wood
	Rachel A. Wood
's friend	Alan H. Woodard
	Carolyn Woods
	Bernard Wortman, Ph.D.
	Andrew Wyberanec
	Todd Yancey
	Ji Lei Yang
	Michael Yelenosky
	Charlotte Young
	Josh Young
	Susan M. Zach
ser	Neal Zafran
	Leah Zanoni
	Zachary V. Zarr
1	Peter W. Zartman
	Andrew W. Zeh
	Maria Zeier
rne	Edward N. Ziegler
	Gladys P. Ziegler
'elch's daughter	Barry L. Zimmerman
	Stan Ziubrzynski
T.	Dominic J. Zockle
,	Aaron W. Zundel
	Aaron w. Zunuer

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"Established over three decades ago, the BBRF is a contemporary non-profit organization run by true mental health professionals. Their commitment to donating 100% of funds to game-changing research, coupled with their approachable and altruistic team made them the ideal partner for a brand like Gravity. "

> **Mike Grillo** CEO, Gravity Products

Getting the Word Out

Connecting on Social Media

The Brain & Behavior Research Foundation maintains a strong social media presence in order to communicate and engage with all of our constituents and group members.

f) 365 K+ **FACEBOOK LIKES**

6.5k+ TWITTER FOLLOWERS

> 400 +**YOUTUBE VIDEOS**

You Tube

418K+ VIDEO VIEWS 2.8M+ MINUTES WATCHED



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SAN FRANCISCO MARATHON Kamal Patel San Francisco, CA TradeRev.com Toronto, Canada SGT. ALEXANDER VAZOUEZ

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Brain & Behavior Research Foundation In the News

April 2018 **BRIT & CO**

'Mariah Carey's Bipolar Disclosure Sheds Light on a Misunderstood Mental Illness'

June 2018

TODAY.COM

'Anthony Bourdain's Suicide Puts Spotlight on Men's Mental Health'

'6 Symptoms of Depression You Should Never Ignore'

HEALTH DAY

'Women More Prone to Anxiety Than Men, Review Finds'

THE NEW YORKER

'Anthony Bourdain, Kate Spade, and the Preventable Tragedies of Suicide'

July 2018 **INSIDE PHILANTHROPY**

'Focused and Strategic: How a Family Tapped Wall Street Wealth for Impact on Mental Health'

October 2018 **BRAIN WORLD MAGAZINE** Interview with Dr. Jeffrey Borenstein

BBRF MULTIMEDIA PROGRAMMING



In addition to supporting research, we believe it is crucial to share research findings with the public. Two ways that we work to educate the general public are through our television series, *Healthy Minds with Dr. Jeffrey Borenstein* and our *Meet the Scientist* monthly webinar series.

Healthy Minds, now in its fifth season, aims to remove the stigma of mental illness and demonstrate that with help, there is hope.

The series, nominated for a 2018 Emmy[®] Award for best Public/Current/Community Affairs: Series, shows common psychiatric conditions through inspiring personal stories, as well as, experts sharing cutting-edge information, including new approaches and next-generation therapies in diagnostics, treatment and research. Season 5 examined some of the most pressing public health issues including the opioid epidemic, traumatic brain injuries and concussions, and the rising rate of anxiety and other mental health issues affecting our youth. Episodes include:

- Youth and Mental Wellness: Lady Gaga's Born This Way Foundation
- New Treatments for Youth Anxiety (Part 1)
- New Treatments for Youth Anxiety (Part 2)
- Opioid Epidemic: What Every Family Needs To Know
- Concussion: How To Protect Your Brain
- Living with Bipolar Disorder
- Schizophrenia: New Approaches to Recovery
- Obsessive-Compulsive Disorder

- Technology and Mental Health
- Post-Partum Depression
- Research and Evidence Based Treatment
- Youth and Mental Health Early Intervention
- Refractory Depression
- Managing Stress
- Brain Science and Art Season 5 is available for viewing on the BBRF website. bbrf.org/healthyminds

September 18, 2018

Dorothy K.Y. Sit, M.D.

including Bipolar Depression

Meet the Scientist Webinar Series

Dr. Jeffrey Borenstein hosts the free monthly Meet the Scientist webinar series where leading brain and behavior researchers discuss their current work on the latest in new technologies, early intervention strategies and next-generation therapies for mental illness. Each hour-long monthly webinar includes time for researchers to answer questions posed by members of the online audience.

January 9, 2018 The Social Brain in Anorexia Nervosa Carrie J. McAdams, M.D., Ph.D.

February 13, 2018 Psychotic Disorders: Current Concepts and Therapeutics William T. Carpenter, Jr., M.D.

March 13, 2018 Quantifying Difficulties in Social Interaction in Borderline Personality Disorder Sarah Kathryn Fineberg, M.D., Ph.D.

April 10, 2018 What's New with TMS for Depression and Other Brain Diseases Mark S. George, M.D. May 8, 2018 Genomics Across Diagnostic Boundaries to Improve Precision Medicine in Psychiatry Stephan Ripke, M.D., Ph.D.

June 12, 2018 Ketamine: Why Now? How? Where Do We Go from Here? John H. Krystal, M.D.

July 10, 2018 Rare Misspellings of the Genome, Dopamine Mishandling, and ADHD Randy D. Blakely, Ph.D.

August 14, 2018 Lifting the Veil on Neurons that Assign Good or Bad Associations to our Environment Kay M. Tye, Ph.D. October 9, 2018 Nicotine Receptors in the Brain: Implications for Addiction and Depression Marina R. Picciotto, Ph.D. November 13, 2018

Bright Light Therapy for Mood Disorders

Pathways to New Treatments in Autism Spectrum Disorder Jeremy M. Veenstra-VanderWeele, M.D.

December 4, 2018, Neuroimaging Inflammation in Clinical Depression and Obsessive Compulsive Disorder Jeffrey Meyer, M.D., Ph.D.

2018 webinar episodes are available for viewing on the BBRF website. bbrf.org/webinar

PLAN YOUR FUTURE, SHAPE YOUR LEGACY

There are many ways to support the Brain & Behavior Research Foundation during your lifetime and one particularly meaningful way is through planned giving.

When you include BBRF as part of your legacy plan, you help ensure that our groundbreaking research continues.

Gifts which benefit the Foundation also personally benefit its donors by helping to fulfill important family and financial goals and ensure that our scientists will have the resources to continue making advances in mental health research, today and tomorrow.

"Marla and I donate to the Brain & Behavior Research Foundation in support of science and the hope of finding better treatments for mental illness.

Better treatments came too late for my brother, Stewart, who lost his battle with schizophrenia, and too late for my father, Ken, who suffered from depression. But we believe that with ongoing research, it will not be too late for millions of other people thanks to BBRF. We know this because we have seen the scientific breakthroughs and results that have come from funding scientists. Marla and I are dedicated to helping people who live with mental illness and doing what we can to be a part of the solution by our continued giving to BBRF."

—Ken Harrison, Board Member

To learn more, please contact us at 646-681-4889 or plannedgiving@bbrfoundation.org.



2018 Financial Summary*

Combined Statement of Financial Position

		DECEMBER 31, 2018
ASSETS		
Cash and cash equivalents		\$5,850,675
Investments, at fair value		14,957,266
Contributions receivable		708,183
Pledges receivable, current portion		2,010,000
Prepaid expenses and other assets		89,123
	Total Current Assets	23,615,247
Assets held in charitable remainder trusts		1,287,823
Fixed assets, net		38,546
Pledges receivable, net-less current portion		3,817,651
Security deposits		262
	Total Assets	\$28,759,529

LIABILITIES AND NET ASSETS		
Liabilities		
Accounts payable and accrued expenses		\$60,639
Grants payable		19,863,771
Accrued compensation		102,095
Annuities payable		680,513
Charitable gift annuities payable		181,616
	Total Liabilities	20,888,634
Net Assets		
Net assets without donor restrictions		2,957,395
Net assets with donor restrictions		4,913,500
	Total Net Assets	7,870,895
	Total Liabilities and Net Assets	\$28,759,529

* The Foundation's complete audited financial statements are available on our website.

Combined Statement of Activities

		YEAR ENDED
		DECEMBER 31, 2018
SUPPORT AND REVENUE		
Contributions		\$15,556,817
Special events, net		381,244
Contribution of services		1,908,417
Bequests		2,330,941
Net realized and unrealized losses on investments		(450,793)
Net depreciation of assets held in charitable r	emainder trusts	(178,707)
Dividend and interest income		280,034
	Total Support and Revenue	19,827,953

EXPENSES		
Program Services		
Research grants and awards		14,052,583
Scientific advancement		1,986,729
Program support		2,530,355
	Total Program Services	18,569,667
Supporting Services		
Fundraising**		908,528
Administration**		1,758,414
	Total Supporting Services	2,666,942
	Total Expenses	21,236,609
Change in Net Assets		(1,408,656)
Net Assets, beginning of year		9,279,551
	Net Assets, end of year	\$7,870,895

** All fundraising and administration expenses are funded by specially designated grants.



747 Third Avenue, 33rd Floor New York, NY 10017

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RESEARCH FOR RECOVERY



For more than 30 years the Brain & Behavior Research Foundation has fostered new research pathways and transformative breakthroughs. 60k+ ^{donors}

Our 60,000 donors have joined together in the great challenge of modern medical science — overcoming mental illness.



Since 1987 the Foundation has awarded more than \$394 million to fund more than 5,700 grants.



Grants have been given to more than 4,700 leading scientists around the world.

100% OF EVERY DOLLAR DONATED FOR RESEARCH GOES TO RESEARCH



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