Our Vision

To dramatically improve the lives of those with mental illness and ultimately enable people to live full, happy and productive lives.

Our History / Who We Are

The Foundation began as a family movement and has become the world’s leading private funder of mental health research grants. The Foundation funds the most innovative ideas in neuroscience and psychiatry to better understand the causes and develop new ways to effectively treat brain and behavior disorders. These disorders include depression, bipolar disorder, schizophrenia, autism, attention-deficit hyperactivity disorder, anxiety, borderline personality disorder, obsessive-compulsive disorder and post-traumatic stress disorder.

The first NARSAD Grants were awarded in 1987. Since then the Foundation has awarded more than $324 million to fund more than 4,800 grants to more than 3,800 leading scientists around the world. This has led to over $3 billion in additional funding for these scientists.
How We Do It

100% of dollars raised for research are invested in grants leading to advances and breakthroughs in brain and behavior research.

Our grants support a broad range of the best ideas in brain research. Funding for our grants is focused on three priority areas to better understand and treat mental illness, aiming toward prevention and ultimately cures:

**Basic Research** to understand what happens in the brain to cause mental illness

**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 cure and prevent brain and behavior disorders

Our Values

- We believe better treatments and breakthroughs come from scientific discovery.
- We fund only those scientists whose research is reviewed and recommended by our world-renowned Scientific Council.
- 100% of contributions for research go directly to research. Costs for administration and fundraising are underwritten by two family foundations.
- Our financial operations are transparent. Those who manage our Foundation are committed to honesty and integrity.

Scientific Council

Led by Dr. Herbert Pardes, the founding President of our Scientific Council, the Council reviews and selects the most promising research ideas with the greatest potential to lead to breakthroughs. The Council is composed of 150 world-renowned scientists including 2 Nobel Prize winners, 4 former directors of The National Institute of Mental Health, 4 recipients of the National Medal of Science, 13 members of the National Academy of Sciences, 21 chairs of psychiatric departments, and 47 members of the Institute of Medicine.
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Dear Foundation Supporters,

The year 2014 was one of outstanding advances in the field of brain and behavior research thanks to you and the many others who generously support the Brain & Behavior Research Foundation.

The Foundation increased its commitments to alleviating the suffering of mental illness by awarding grants that will lead to further advances and breakthroughs in scientific research. Since 1987, we have awarded more than $324 million to fund more than 4,800 grants to more than 3,800 leading scientists around the world who are researching the causes of and new and better ways to treat brain and behavior disorders. Our seed money has led to over $3 billion in additional funding for these scientists. These disorders include depression, bipolar disorder, schizophrenia, autism, attention-deficit hyperactivity disorder, anxiety, borderline personality disorder, obsessive compulsive disorder and post-traumatic stress disorder.

Our NARSAD grants are one of the most vital supports for mental health research in the world, focused on three priority areas:

- **Basic Research** to understand what happens in the brain to cause mental illness
- **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 cure and prevent brain and behavior disorders

The research community can no longer rely as it has in past years on ample government funding with reasonable annual increases. Because of the decrease in government funding for young scientists, we are at great risk of losing an entire generation of scientists. We must now look to the private sector for leadership and innovation.

This past year we granted a total of $18 million to our 200 Young Investigator Grantees, 40 Independent Investigator Grantees and 15 Distinguished Investigator Grantees. We expect they will make exciting discoveries over the next few years.

Some of the major discoveries made by our grantees in 2014 are highlighted in this report. They include findings that identify a new brain biomarker for depression risk in young children; the capability of a fast acting antidepressant to quickly restore the ability to experience pleasure in people with bipolar disorder; a comprehensive study of rare autism mutations; a potential method for predicting suicide risk with a blood test; and the largest study to date of common gene disruptions in schizophrenia.

We are pleased to report that the Foundation has initiated an annual prize to honor humanitarian leaders worldwide who enhance the life of persons impacted by mental illness—The Pardes Prize. The first prize was named for and awarded to Dr. Herbert Pardes in recognition of his more than 50 year achievements in pioneering better treatments and organizational structures to bring better and more hopeful lives for those impacted by mental illness. We honored all of his achievements, from his earliest medical and psychiatric work, to his service as U.S. Assistant Surgeon General and Director of the National Institute of Mental Health, Presidency of the American Psychiatric Association, Vice Presidency for Health Sciences for Columbia University and Dean of the Faculty of Medicine of Columbia’s College of Physicians and Surgeons and his leadership as President and CEO of the Columbia Presbyterian Medical System, as well as his volunteer achievements in initiating and leading the Scientific Council of this organization for the past 28 years. The award will be one of the very few renowned international prizes for humanitarian achievement.

In our selection of prize winners we honored the unique achievements of 14 distinguished scientists and researchers. One example of the caliber of our prizewinners includes a physician who serves both as a professor at the Karolinska Institutet in Sweden and at the University of North Carolina in the United States - Dr. Patrick F. Sullivan. Dr. Sullivan received the Lieber Prize for outstanding achievement in schizophrenia research as a leader in the important movement in psychiatric genomics—the study of genes linked to mental disorders. In a remarkable achievement which broadens the research field, he and a few colleagues cofounded the Psychiatric Genomics Consortium in 2007, which
now includes some 800 scientists from more than 90 research institutions in 25 countries. They have amassed samples from 60,000 patients suffering from schizophrenia and estimate that the total number of samples across psychiatric illnesses could reach 400,000 people. Dr. Sullivan received a NARSAD grant as a Distinguished Investigator in 2010.

Research shows anywhere from 25 percent of Americans will experience a mental illness during their lifetime. One of the saddest aspects of mental illness is that it often strikes people at a very young age. Psychiatric conditions such as schizophrenia, bipolar disorder, depression, and chemical dependence all begin to surface in adolescence and young adulthood. For the parents and siblings of young people diagnosed with psychiatric disorders, it can be frightening, bewildering, and frustrating. Where do they turn for help? As part of our focus, information that can be of practical use to families coping with the diagnosis of a behavioral disorder or mental illness will now be featured in our Quarterly publications which will have guidance and advice from Scientific Council members and recipients of NARSAD research grants who are leaders in the field of pediatric psychiatry.

As science continues to unlock the complex brain and behavior disorder puzzle, we will continue to find new and better ways to prevent, treat and hopefully cure these devastating diseases. Without your support we would not have the funding to meet our essential research goals to dramatically improve the lives of those with mental illness, and ultimately, enable people to live full, happy and productive lives. It is a privilege to report that 100% of the dollars we raise for research are invested into our grants leading to advances and breakthroughs in brain and behavior research because our operating expenses are covered by two family foundations. And while we are pleased with our progress over the past 28 years, we know that we cannot sit back and rest because finding the cures for brain and behavior disorders is one of our society’s greatest challenges.

With sincere thanks and regards,

JEFFREY BORENSTEIN, M.D.  
President & C.E.O.

STEPHEN A. LIEBER  
Chair, Board of Directors

HERBERT PARDES, M.D.  
President, Scientific Council
Led by Dr. Herbert Pardes, the founding President of our Scientific Council, the all-volunteer group of leading mental health researchers reviews and selects the most promising research ideas with the greatest potential to lead to breakthroughs.

The Council is composed of 150 world-renowned scientists including 2 Nobel Prize winners, 4 former directors of The National Institute of Mental Health, 4 recipients of the National Medal of Science, 13 members of the National Academy of Sciences, 21 chairs of psychiatric departments, and 47 members of the Institute of Medicine.

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

We welcome our newest members.

P. JEFFREY CONN, PH.D.
Lee E. Limbird Professor of Pharmacology
Director, Vanderbilt Center for Neuroscience Drug Discovery
Vanderbilt University

Dr. Conn’s translational research, for which he has won numerous awards, focuses on schizophrenia, depression, and other brain disorders. With his colleagues, Dr. Conn’s efforts include discovery of a fundamentally new mechanism for targeting specific neurotransmitter receptors that show promise as drug targets. As Director of the Vanderbilt Center for Neuroscience Drug Discovery, he has pioneered a new model by which universities can actively take part in drug discovery research and novel approaches for treatment of major brain disorders. This work has generated multiple drug candidates now being advanced in partnership with foundations and pharmaceutical companies.

JAY N. GIEDD, M.D.
Child and Adolescent Psychiatrist
Chief, Brain Imaging in the Child Psychiatry Branch
National Institute of Mental Health
National Institutes of Health

Since 1991, Dr. Giedd has been conducting large-scale longitudinal studies on autism, attention-deficit hyperactivity disorder, and childhood-onset schizophrenia. His research has led to over 200 papers covering a wide range of topics and helped advance neurodevelopmental hypotheses of psychiatric disorders that remain the focus of several ongoing investigations throughout the world. Dr. Giedd’s current focus is on application of the brain development insights obtained to guide interventions and improve the lives of young people and their families.
PAMELA SKLAR, M.D., PH.D.
Chief, Division of Psychiatric Genomics
Professor of Psychiatry,
Neuroscience and Genetic and
Genomic Sciences
Icahn School of Medicine at Mount Sinai

Dr. Sklar has been engaged in genetic research on causes of schizophrenia and bipolar disorder for the past 15 years. Her research utilizes both family and population-based approaches, with linkage as well as association studies. Currently, she is the Principal Investigator on three National Institutes of Health grants on the genetics of schizophrenia and bipolar disorder. Dr. Sklar is also the founder of the International Schizophrenia Consortium; co-chair of the bipolar disorder working group and coordinating committee member for the Psychiatric Genome-Wide Association Study (GWAS) Consortium; manuscript writing team member; and is on the editorial boards of Neurropsychiatric Genetics and Psychiatric Genetics.

MURRAY B. STEIN, M.D., M.P.H.
Distinguished Professor of Psychiatry and Family & Preventive Medicine
Vice Chair, Clinical Research in Psychiatry
Director, Anxiety & Traumatic Stress Disorders Program
University of California, San Diego

Dr. Stein’s research interests include the epidemiology, neurobiology, and treatment of anxiety disorders especially social phobia, panic disorder, and post-traumatic stress disorder. His research studies include interventions for anxiety disorders in primary care, pharmacological approaches to treatment-resistant anxiety disorders, and functional neuroimaging research in anxiety and trauma-related disorders. He has written or co-written more than 500 peer-reviewed scientific articles on these topics. Dr. Stein is coeditor, with Martin Antony Ph.D., of the Oxford Handbook of Anxiety and Related Disorders (2009). In addition to his posts at UCSD, he is also a Staff Psychiatrist at the VA San Diego Healthcare System.

JIM VAN OS, M.D., PH.D., MRCPSYCH
Professor and Chairman, Department of Psychiatry and Psychology
Maastricht University Medical Centre,
The Netherlands

As Director of Psychiatric Services at Maastricht University Medical Centre, Dr. van Os runs a service for treatment-resistant depression and first episode psychosis. He serves as coordinator of a project on gene environment interactions in schizophrenia, and is active in clinical gene-environment interaction research in depression and bipolar disorder. In 2011, he was elected member of the Royal Netherlands Academy of Arts and Sciences and serves on the editorial boards of several psychiatric journals such as Psychological Medicine, Schizophrenia Research, Schizophrenia Bulletin, Early Intervention in Psychiatry, Epidemiology and Psychiatric Sciences, Psychosis Journal, The Journal of Mental Health and the Journal of Psychiatry and Neurological Sciences. He is an Academic Editor at PLOS ONE. Dr. van Os is also a Visiting Professor of Psychiatric Epidemiology at the Institute of Psychiatry, London, UK.
10 Major Discoveries of 2014

- A Brain Biomarker That Can Predict Recurrent Major Depression in Toddlers
- Our Clearest Glimpses So Far of the Complex Genetics Underlying Autism
- Ketamine Restores the Ability to Experience Pleasure in Bipolar Depression
- Novel Marker in Brain Scans Reveals Patient-Specific PTSD Brain Dysfunction
- Research Shows Too Many Synaptic Connections in Brains of Children with Autism
- Foundation-Supported Study Identifies Potential Method for Predicting Suicide Risk with a Blood Test
- Largest Schizophrenia Genetics Study Confirms Role of Common Gene Disruptions
- Sophisticated Stem Cell Technology Enables Team To Trace Gene-Induced Pathologies Implicated in Schizophrenia
- A Drug That Blocks Formation and Recall of Fear Memories in Mice Could Be Used in PTSD
- Scalp EEG Test Could Be Used to Predict Future Psychosis
A team that included three past recipients of NARSAD Grants—nine grants in all, spanning the period 1995 to 2013—reported the first-ever structural brain biomarker that predicts a small child’s risk of having recurrent major depressive disorder (MDD).

The researchers used MRI scans to measure the volume of a brain area called the anterior insula (AI). They found that in children at high risk for recurrent MDD, the volume of the AI was smaller than in children not at risk for depression or other psychiatric disorders. The AI is a part of the brain that is engaged when we process self-conscious emotions, including guilt.

The result, published in *JAMA Psychiatry* November 12th, was made possible by careful follow-up of a large group of children over a 10-year period. Over 300 children aged 3 to 5 were initially recruited for the study. Of these, 145 were found after examination to have already suffered a depressive episode or were deemed at risk of becoming depressed. Although depression, like other disorders, is sometimes hard to diagnose in small children, the team knew that one of the most consistent and robust correlates of preschool-onset depression has been the tendency for pathological guilt. Examples of such guilt include fixation on feeling bad about a minor misbehavior; feeling like “a bad kid” without objective reason, or taking blame for things without warrant. In children under 3 who experience such feelings, risk of having MDD by age 5 has been estimated at 10 times the norm.

Thus, the team’s discovery of a correlation between small AI volume and MDD risk is a significant advance, making possible improved diagnosis and estimation of prognosis. The next question to be addressed concerns causality: does the AI shrink in response to pathological guilt feelings? Or does a smaller than normal AI dispose a child to have such feelings?
Our Clearest Glimpses So Far of the Complex Genetics Underlying Autism

Two studies of DNA sampled from families with one child diagnosed with autism spectrum disorder (ASD)—the largest such studies published to date—have provided our most vivid picture of autism’s vexing genetic complexity. Together, the studies identified dozens of genes not previously linked with autism. They also predict that advances in technology will make possible the discovery of hundreds of additional autism-risk genes.

Both studies were published online in *Nature* on October 29th. Six former recipients of NARSAD Grant awards, two members of the Foundation’s Scientific Council (Dr. Sklar and Dr. Buxbaum), and the 2012 winner of the Foundation’s Ruane Prize for Outstanding Achievement in Child and Adolescent Psychiatric Research (Dr. State), were among the authors of the two papers, along with colleagues working at 50 labs across the U.S. and overseas.

Much of autism risk will ultimately be traced to mutations inherited by a child from a parent. The new studies focused on another contributor to total risk, stemming from mutations that are seen in a child with ASD but not in either parent. These “spontaneous” mutations, which are the result of errors in DNA copying when sperm and egg combine to form a unique individual, are called de novo, or new mutations.

Some de novo mutations are harmless—they occur in places in the chromosomes where they do not interfere with the operation of important genes. Others, occurring in critical spots, can disrupt the action of key genes and can be devastating. Twenty-seven such “likely gene-disrupting” (LGD) mutations were closely examined in one of the two papers. The other study scrutinized 107 mutated risk genes “enriched” in a sample of 3,871 ASD patients. In both studies, many of the affected genes are known to be activated at the dawn of life, when the brain is building neural networks. Among the specific functions impacted are the formation of synapses, or communications junctions between nerve cells; transcription, the process by which a class of regulatory genes encodes proteins to regulate the expression of other genes; and the bundling of DNA in the cell nucleus in packages called chromatin, which helps determine when specific genes can be activated.
Ketamine Restores the Ability to Experience Pleasure in Bipolar Depression

Many psychiatric patients lose interest in simple activities that once they may have enjoyed. It's a condition known medically as anhedonia, and now there is hope for relief, thanks to the work of two Foundation-funded researchers—Carlos Zarate, Jr., M.D. and Jonathan Paul Roiser, Ph.D., both former recipients of NARSAD Independent Investigator Awards.

For the first time, their work reveals that, in patients with bipolar depression, the experimental drug ketamine can help quickly reduce feelings of disinterest when other treatments have failed. Approved by the FDA decades ago as an anesthetic and known to have hallucinogenic side effects—particularly when abused as a recreational drug—ketamine has been the subject of intensive clinical research. Dr. Zarate and other investigators (including Foundation Scientific Council members Dennis Charney, M.D., and John Krystal, M.D.) have previously shown that controlled administration of ketamine can quickly relieve general symptoms in people with treatment-resistant major depression. Only recently has ketamine’s effects on anhedonia specifically been explored.

As Drs. Zarate, Roiser, and colleagues reported on October 14th in Translational Psychiatry, 36 people with treatment-resistant bipolar depression received a dose of ketamine or a placebo on two test dates, two weeks apart. Patients who were given a single dose of ketamine reported a reduction in their levels of anhedonia in as little as 40 minutes. This improvement lasted for as long as two weeks in some patients and occurred independently of reductions in other depression symptoms. The results now need to be reproduced in larger studies. They lend support to continuing efforts to develop ketamine analogs with reduced side-effects.
People with post-traumatic stress disorder (PTSD) experience a variety of symptoms, two of which can be listlessness and emotional detachment. New research using high-resolution positron emission tomography (PET) brain imaging now links these symptoms to specific abnormalities in brain function. This raises the prospect that treatments for PTSD, like those for, say, cancer or heart disease, might be adjusted to fit an individual’s specific case, an example of “precision medicine.”

Published in *JAMA Psychiatry* on September 17th, 2007 NARSAD Independent Investigator grantee Alexander Neumeister, M.D., and colleagues reported using a new, harmless radioactive tracer in concert with PET scanning to look at parts of the brain presumed to be associated with PTSD symptoms. The tracer binds to a class of natural opioid receptors in the brain known as kappa opioid receptors (KORs). The tracer’s use is an example of how basic research findings build, one upon the next, to generate progress. Prior work in animals had established a link between KORs and dynorphin, a naturally occurring opioid released in response to stress.

Dr. Neumeister and colleagues found that after exposure to trauma, a low availability of KOR in the brain’s amygdala (a processor of emotion) is associated with heightened symptoms of listlessness and detachment—but not other PTSD symptoms such as anxious arousal or hypervigilance. Further research will test the hypothesis that reduced KOR levels may be linked to PTSD symptoms in concert with lower levels of the stress hormone cortisol, suggesting a potentially new role for cortisol as a biomarker of certain types of PTSD symptoms.
Research Shows Too Many Synaptic Connections in Brains of Children with Autism

Early in its development the brain generates a vast number of neurons. In accordance with a developmental program inscribed in our genes, these neurons forge networks of connections with other neurons, near and far. The ultimate result is the astonishingly complex adult brain. But long before we reach maturity, our brain crucially embarks on a process of “pruning” the dense tangle of connections made across tiny gaps called synapses between cells. It has been proposed that this pruning process is disrupted in people with autism spectrum disorder (ASD).

Research published August 21st in Neuron by a team of researchers led by David Sulzer, Ph.D., a two-time NARSAD grantee, and 2010 NARSAD Distinguished Investigator Grantee Bradley S. Peterson, M.D., Ph.D., and including four other former NARSAD Grantees, demonstrated that there is indeed an over-abundance of synapses in the brains of young people with ASD.

The researchers tested the theory by comparing postmortem brains donated by families of children who had been diagnosed with ASD with those of children without ASD: 13 from children with ASD aged 2 to 9; 13 from children with ASD aged 13 to 20; and 22 from children without ASD (“controls”). The team discovered that by late childhood, synaptic density was more than 50 percent higher in children with ASD vs. those with typically developing brains, and sometimes as much as two-thirds greater.

This deficit in pruning synapses may contribute to abnormalities in cognitive functions that humans acquire in their late childhood, teenage or early adult years, such as the acquisition of executive skill such as reasoning, motivation, judgment, language and abstract thought, the researchers reported. Many children diagnosed with autism spectrum disorders reach adolescence and adulthood with functional disability in these skills.

DAVID SULZER, PH.D.
Professor, Clinical Neurology, Pharmacology and Psychiatry Research Laboratories for Parkinson’s Disease Professor, Departments of Neurology and Psychiatry Columbia University

BRADLEY S. PETERSON, M.D., PH.D.
Director, Institute for the Developing Mind Children’s Hospital Los Angeles Director, Division of Child and Adolescent Psychiatry Keck School of Medicine University of Southern California
Foundation-Supported Study Identifies Potential Method for Predicting Suicide Risk with a Blood Test

Zachary Kaminsky, Ph.D., used his 2010 NARSAD Young Investigator grant to perform basic research that led in 2014 to the identification of a method that could predict with 80% to 96% accuracy, who, within a group of psychiatric patients, had experienced suicidal thoughts or had attempted suicide.

The study first focused on a mutation in a gene called SKA2—involved in the brain’s response to stress hormones—in brain samples from control subjects and from people with mental illness. From this analysis, researchers including former NARSAD Young Investigator Grantees Jennifer Payne, M.D., and Holly Wilcox, Ph.D., noticed that in samples from brains of people who had died by suicide, levels of SKA2 were significantly reduced. They discovered, within the common mutation of this gene, that in some subjects an attachment of a particular chemical group to the DNA—called an epigenetic modification—altered the way the SKA2 gene functioned. A more significant level of this modification was found in the subjects who had died by suicide.

In another part of the study, blood samples from living participants were tested. From the largest sample (325 participants), the researchers found similar epigenetic changes to the SKA2 gene in participants with suicidal thoughts or attempts. From this data, they were able to create a model that predicted which of the participants were experiencing suicidal thoughts or had attempted suicide with 80% to 96% certainty, based on the results of a blood test. The results were published in *The American Journal of Psychiatry* on July 30th.

It is thought SKA2 may be linked to inhibition of negative thoughts and controlling impulsive behavior. The researchers reason that if there isn’t enough SKA2 protein, or if it is altered in some way, stress hormone receptors are unable to suppress the release of cortisol, a stress hormone, throughout the brain. Previous research has shown that such cortisol release is abnormal in people who attempt or die by suicide.
Some questions in science are solved by a few pioneers toiling in their laboratories, but others depend on huge international teams. In the past several years, “Big Science” has come to schizophrenia research in the form of large genome-wide association studies (GWAS). In the latest news from this effort, published July 22nd in *Nature*, more than 100 regions of the genome show association with schizophrenia, the genetic version of smoke indicating the strong likelihood of fire. In genetic terms, the smoke could signal a genetic variation that changes a person’s odds of developing schizophrenia.

More than 80 institutions participating in the Psychiatric Genomics Consortium (PGC) contributed blood samples from nearly 37,000 people with schizophrenia and more than 113,000 control subjects without mental illness, making this one of the largest biomedical experiments ever, and certainly the largest in mental illness. “The fact that we were able to detect genetic risk factors on this massive scale shows that schizophrenia can be tackled by the same approaches that have already transformed our understanding of other diseases,” said the paper’s senior author and 2012 Foundation Lieber Prizewinner for Outstanding Achievement in Schizophrenia Research Michael O’Donovan, M.D., Ph.D. The success of the massive Consortium was due in no small part to its co-founder Patrick Sullivan, M.D., recipient of a 2010 NARSAD Distinguished Investigator grant and the winner of the Foundation’s Lieber Prize in 2014.

The international research team identified 128 independent genetic associations spanning 108 different “loci,” or areas of the genome where variations in sequence were associated with schizophrenia. Eighty three of these loci had not been previously identified. Greater association was found with genes that are expressed in the brain, and also among genes with important roles in the functioning of the immune system. This work confirms some previous hypotheses about genetic associations and also offers some entirely new insights.
A remarkable new technology that enables the reprogramming of patients’ skin cells so that they develop into other types of cells, including neural precursors and neurons, has enabled a team of researchers to gain new insight into what brain mechanisms can cause schizophrenia to develop.

Working with this stem cell technology, the team was able to reprogram human skin cells from people who had a genetic mutation in a region on chromosome 15 called 15q11.2—a region known to be irregular in schizophrenia, autism spectrum disorder and intellectual disability. The cells were reprogrammed to form neural progenitor cells (precursor cells for neurons) in a laboratory dish. The team, led by the wife-and-husband team of Guo-li Ming, M.D., Ph.D., and Hongjun Song, Ph.D., 2010 and 2008 NARSAD Independent Investigator Grantees, respectively, reported July 3rd in the journal *Cell* that they identified a particular gene whose loss in these patients altered typical developmental brain processes.

Each of the patients’ cell samples was missing one of the normal two copies of a gene called CYFIP1. The experiments showed that loss of this gene altered the skeletons of developing brain cells, which in turn disrupted the orderly layers those cells would normally form in the brain. The researchers then worked with animal models to alter the genomes in mouse embryos so that they made less of the protein created by CYFIP1. The brain cells in these mice turned out to have similar defects in structure compared to those in the dish-grown human cells. Having less CYFIP1 protein also caused some neurons in the developing mice to end up in the wrong layer within the brain.

The researchers also found that CYFIP1 is part of a complex of proteins called WAVE, which has also been linked to schizophrenia pathology. This angle was studied with 2013 NARSAD Distinguished Investigator Grantee Joel E. Kleinman, M.D., Ph.D., Daniel R. Weinberger, M.D., 1990 and 2000 NARSAD Distinguished Investigator Grantee, and others. The work broadly illustrates the potential of using human induced pluripotent stem cells—iPSCs—as a discovery tool in tackling the mystery not only in schizophrenia pathology but also that of other complex psychiatric disorders.
A Drug That Blocks Formation and Recall of Fear Memories in Mice Could Be Used in PTSD

A research team led by two-time NARSAD Grantee and Foundation Scientific Council member Kerry Ressler, M.D., Ph.D., reported in the June 26th issue of *Neuron* that a medication called osanetant, already known to be safe for use in humans, shows potential to treat the symptoms of post-traumatic stress disorder (PTSD) before they become disabling.

Dr. Ressler and colleagues focused their efforts on examining the activity of a pair of genes active in the brain’s amygdala region—involved in the processing of emotions and fear. These genes that had been linked in earlier studies to the formation, retention and recall of traumatic memories. Traumatic memories that get retriggered persistently and cannot be “extinguished” are the primary symptom of PTSD, and can play a role in panic disorder and many phobias.

The genes in question are called Tac1 and Tac2, and while previous research had attempted to treat the formation of fear memories by intervening with the mechanisms set in motion by Tac1, the experiments had not proven successful in treating PTSD-like symptoms. Dr. Ressler and team, however, showed promising results by focusing on intervening with mechanisms set in motion by activation of the Tac2 gene.

The researchers found that drugs acting on cells in which Tac2 is active could be used to block fear memory consolidation shortly after exposure to a trauma. Mice given osanetant shortly after a “trauma” (a sound paired with a shock) could still learn to become afraid but the mice did not freeze as much in response to the sound a day later, even if the medication was given up to an hour after training. Further studies will determine if the desired effect is achieved and maintained in human patients.
The clinical symptoms currently used to predict a patient’s risk of future psychosis fail two-thirds of the time. Only one in three people identified by clinical criteria as being at risk actually developed a psychotic disorder in a three-year follow-up study. This makes the decision to prescribe, or to take, antipsychotic medications as an early preventive intervention extremely difficult since these medications carry risk of serious side effects.

The need for an accurate biomarker—a biological predictor—of psychosis is critical. Two-time NARSAD Grantee Daniel Mathalon, M.D., Ph.D., and colleagues, reported March 15th in *Biological Psychiatry* that they may have found such a biomarker in a brain event called mismatch negativity.

Detected in scalp electroencephalography (EEG) recordings, mismatch negativity is an EEG signal that is automatically elicited from the auditory cortex and frontal lobe of the brain in response to hearing sounds that deviate from preceding sounds. The response occurs even when we are not paying attention to the sounds. Believed to reflect the ability to form short-term memory, mismatch negativity has been shown to be deficient in patients with schizophrenia.

Dr. Mathalon and team assessed mismatch negativity in three groups: patients with schizophrenia, patients clinically assessed to be at high risk for psychosis, and healthy controls. Mismatch negativity was seen in schizophrenia patients, as expected, but also in the high-risk individuals. Observed over a 12-month period, mismatch negativity was significantly reduced in those who ultimately developed a psychotic disorder. This result demonstrated that mismatch negativity deficits precede the onset of psychosis in clinical high-risk individuals, and that the larger the deficit, the more imminent the risk for conversion to a psychotic disorder.
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.

The Foundation’s Grant Program

Since 1987 the Foundation has awarded more than $324 million to fund more than 4,800 grants to more than 3,800 leading scientists around the world.

NARSAD DISTINGUISHED INVESTIGATOR GRANTS
Initiated in 1988—enable outstanding scientists to pursue new, cutting-edge ideas with the greatest potential for breakthroughs.

NARSAD INDEPENDENT INVESTIGATOR GRANTS
Initiated in 1995—support mid-career scientists during the critical period between initiation of research and receipt of sustained funding.

NARSAD YOUNG INVESTIGATOR GRANTS
Initiated in 1987—help researchers launch careers in neuroscience and psychiatry and gather pilot data to apply for larger federal and university grants.
Distinguished Investigators

The Distinguished Investigators’ projects demonstrate the variety of ways in which our knowledge about mental illness and brain and behavior disorders is advancing. Some of these studies represent collaborations of disciplines, while others took a deep look using a single discipline.

“The most striking conclusion is that a number of these projects, although labeled in terms of one or another syndrome, actually have relevance for several. The underlying fundamental neurobiology and psychobiology are beginning to come together in ways that suggest the emergence of a new integrative science for dealing with mental illness and addictive states. The result of this work will be better understanding of mental disorders and more personalized care.”

JACK D. BARCHAS, M.D.
Chair and Barklie McKee Henry Professor of Psychiatry
Weill Cornell Medical College
Psychiatrist-in-Chief, Weill Cornell Medical Center
New York-Presbyterian Hospital and Payne Whitney Clinic Chair
Distinguished Investigator Grant Selection Committee
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104
Applications

15
Grants

$1.5M
Awarded
Basic Research

AUTISM SPECTRUM DISORDER
Karen Faith Berman, M.D.
National Institute of Mental Health,
National Institutes of Health

DEPRESSION
Gerard Sanacora, M.D., Ph.D.
Yale University

MULTIPLE DISORDERS
Jill M. Goldstein, Ph.D.
Brigham and Women’s Hospital,
Harvard University

Robert D. Hawkins, Ph.D.
Columbia University

Tracey J. Shors, Ph.D.
Rutgers University

Claes Wahlestedt, M.D., Ph.D.
University of Miami

SCHIZOPHRENIA
Angelique Bordey, Ph.D.
Yale University

Jane R. Taylor, Ph.D.
Yale University

Suzanne Zukin, Ph.D.
Albert Einstein College of Medicine
of Yeshiva University

FEAR-RELATED LEARNING
AND MEMORY
Yi E. Sun, Ph.D.
University of California, Los Angeles

New Technologies

ADDITION
Harry A. Lester, Ph.D.
California Institute of Technology

Next Generation Therapies

ANXIETY
David Eidon Clapham, M.D., Ph.D.
Harvard University

DEPRESSION
Lee Stuart Cohen, M.D.
Massachusetts General Hospital,
Harvard University

Lisa M. Monteggia, Ph.D.
University of Texas Southwestern Medical Center at Dallas

SCHIZOPHRENIA
Paul F. Worley, M.D.
Johns Hopkins University

“The Brain & Behavior Research Foundation was able to build a platform for recruiting new people as well as supporting accomplished people already in the field. This has made an enormous impact in our collective attempt to discover the biological basis of psychiatric disorders.”

ERIC R. KANDEL, M.D.
Nobel Prize Winner
Columbia University University Professor
Fred Kavli Professor and Director, Kavli Institute for Brain Science
Foundation Scientific Council Member
Independent Investigators

Hailing from seven countries and 32 institutions, 40 mid-career scientists are applying powerful new technologies and new insights to study mental illnesses such as anxiety, autism spectrum disorder, bipolar disorder, depression and schizophrenia.

Noting that almost half of these men and women received NARSAD Young Investigator Grant support early in their careers, Dr. Post stated: “All of these investigations made possible with the support of NARSAD Grants are cumulatively and exponentially advancing what is known about the brain and how to treat its illnesses. By expanding our knowledge of genetics and epigenetics, brain circuitry, neural pathways and how these impact behavior, we are steadily increasing the possibilities for those with mental illness to live full and productive lives.”

ROBERT M. POST, M.D.
Head, Bipolar Collaborative Network
George Washington University
Chair, Independent Investigator Grant Selection Committee
Foundation Scientific Council Member
Basic Research

ANXIETY
Garret D. Stuber, Ph.D.
University of North Carolina at Chapel Hill

BIPOLAR DISORDER
Benjamin I. Goldstein, M.D., Ph.D.
Sunnybrook Health Sciences Centre, University of Toronto, Canada

Tracey L. Petryshen, Ph.D.
Massachusetts General Hospital, Harvard University

DEPRESSION
Maura Boldrini, M.D., Ph.D.
Columbia University

Kathryn L. Evans, Ph.D.
University of Edinburgh, Scotland

Erika E. Forbes, Ph.D.
University of Pittsburgh

Roxann Roberson-Nay, Ph.D.
Virginia Commonwealth University

Daniel J. Smith, M.B., Ch.B., M.D.
University of Glasgow, Scotland

MULTIPLE DISORDERS
Kathryn Grace Commons, Ph.D.
Children’s Hospital, Boston

Alysson Renato Muotri, Ph.D.
University of California, San Diego

Anju Vasudevan, Ph.D.
McLean Hospital, Harvard University

SCHIZOPHRENIA
Alberto Bacci, Ph.D.
Brain and Spine Institute, Paris

Oleg V. Evgrafov, Ph.D., D.Sc.
University of Southern California

David C. Glahn, Ph.D.
Yale University

EATING DISORDERS
Benjamin R. Arenkiel, Ph.D.
Baylor College of Medicine

New Technologies

BIPOLAR DISORDER
Benicio N. Frey, M.D., Ms.C., Ph.D.
McMaster University, Canada

Vincent A. Magnotta, Ph.D.
University of Iowa

Dimitri Van De Ville, Ph.D.
Ecole Polytechnique Federale de Lausanne, Switzerland

MULTIPLE DISORDERS
Adam G. Carter, Ph.D.
New York University

David J. Foster, Ph.D.
Johns Hopkins University

John M. Hettema, M.D., Ph.D.
Virginia Commonwealth University

SCHIZOPHRENIA
Romina Mizrahi, M.D., Ph.D.
Centre for Addiction and Mental Health, University of Toronto, Canada

ADDITION
Sheena A. Josselyn, Ph.D.
Hospital for Sick Children, University of Toronto, Canada

"Before I joined the National Institute of Mental Health, I reviewed NARSAD Grant applications. In every case, the discussion went in exactly the opposite direction. We would ask, ‘Has somebody done this before?’ Then we shouldn’t fund it as a NARSAD Grant. ‘Are we going to find out something we know already?’ Then it’s not a NARSAD Grant. ‘Is this truly innovative? Is this cutting edge? Is this something that no one has tried to do before?’ If so, then this is a NARSAD Grant.”

THOMAS R. INSEL, M.D.
Director, National Institute of Mental Health
Former Foundation Scientific Council Member

Next Generation Therapies

ANXIETY
Rajeshwar Awatramani, Ph.D.
Northwestern University

Thomas L. Kash, Ph.D.
University of North Carolina Chapel Hill

DEPRESSION
Rodrigo A. Cunha, Ph.D.
University of Coimbra, Portugal

Flavio Frohlich, Ph.D.
University of North Carolina, Chapel Hill

Dimitris N. Kiosses, Ph.D.
Weill Cornell Medical College, Cornell University

SCHIZOPHRENIA
Katherine E. Burdick, Ph.D.
Icahn School of Medicine at Mount Sinai

Erika Jääskeläinen, M.D., Ph.D.
University of Oulu, Finland

EINAT LIEBENTHAL, D.Sc.
Brigham & Women’s Hospital, Harvard Medical School

Steffen Moritz, Ph.D.
University Hospital Hamburg-Eppendorf, Germany

Yuri Rassovsky, Ph.D.
University of California, Los Angeles

Joshua L. Roffman M.D., M.MSc.
Massachusetts General Hospital

Jason Tregellas, Ph.D.
University of Colorado Anschutz Medical Campus

ARISTOTLE N. VOINESKOS, M.D., Ph.D.
Centre for Addiction and Mental Health, University of Toronto, Canada

MULTIPLE DISORDERS
Angel Barco, Ph.D.
Institute of Molecular Biology of Barcelona, Spanish Research Council, Spain

Benjamin N.R. Cheyette, M.D., Ph.D.
University of California, San Francisco

Allison D. Redlich, Ph.D.
State University of New York, Albany
Young Investigators

Covering a broad spectrum of mental illnesses, these Young Investigator Grants function as catalysts to get new ideas off the ground that may not otherwise be supported. The Foundation is very grateful to all of our donors for making these awards possible.

“In addition to a significant base of grants for basic brain research to understand what happens in the brain to cause mental illness, we also see an uptick in the number of grants focused on the development of next generation treatments and therapies. There is also an increasing trend in the number of investigators utilizing cutting-edge technologies to better study the brain.”

HERBERT Y. MELTZER, M.D.
Northwestern University
Feinberg School of Medicine
Chair, Young Investigator Grant Selection Committee
Founding Member, Foundation Scientific Council

PLEASE CONSIDER INVESTING IN A RESEARCH PARTNERSHIP WITH OUR NEW INVESTIGATORS.

For more information, visit bbrfoundation.org/research-partner

700 Applications
200 Grants
$12.5M Awarded
Basic Research

ANXIETY
Andrew L. Eagle, Ph.D.
Michigan State University

ATTENTION-DEFICIT HYPERACTIVITY
Marta Ribases, Ph.D.
Vall d’Hebron Research Institute VHIR, Spain

AUTISM SPECTRUM DISORDER
Elise Brooks Robinson, Sc.D., M.P.H.
Massachusetts General Hospital, Harvard University
Yijing Su, Ph.D.
Johns Hopkins University
Simone Tomasi, M.D., Ph.D.
Yale University
Ryan K.C. Yuen, Ph.D.
The Hospital for Sick Children, University of Toronto, Canada

BIPOLAR DISORDER
Seth A. Ament, Ph.D.
Institute for Systems Biology
Jacob C. Garza, Ph.D.
Massachusetts General Hospital, Harvard University
Marla Kay Perna, Ph.D.
Vanderbilt University
Diana I. Simeonova, Dipl.-Psych., Ph.D.
Emory University School of Medicine
Abdullah Cagri Yuksel, M.D.
McLean Hospital, Harvard University

DEPRESSION
Anita Ellen Autry, Ph.D.
Harvard University
Mounira Banasr, Ph.D.
Yale University
Joanna M. Chango, Ph.D.
McLean Hospital, Harvard University
Itzamarie Chevere-Torres, Ph.D.
Rutgers University
Hyong Jin Cho, M.D., Ph.D.
University of California, Los Angeles
Victoria Stephanie Dalton, B.Sc., Ph.D.
Trinity College Dublin, Ireland

Simone de Jong, Ph.D.
Institute of Psychiatry, King’s College London, University of London, England
Susanne Rosalie de Rooij, Ph.D.
University of Amsterdam, The Netherlands
Dani Dumitriu, M.D., Ph.D.
Icahn School of Medicine at Mount Sinai
Carrie R. Ferrario, Ph.D.
University of Michigan
Peter Matthew Kaskan, Ph.D.
National Institute of Mental Health, National Institutes of Health
Ian Sutherland Maze, Ph.D.
The Rockefeller University
Divya Deepak Mehta, Ph.D.
University of Queensland, Australia
Therese Marion Murphy, Ph.D.
University of Exeter, England
Thalia K. Robakis, M.D., Ph.D.
Stanford University
Marianne Louise Seney, Ph.D.
University of Pittsburgh
William Kyle Simmons, Ph.D.
Laureate Institute for Brain Research
Nicholas Stavropoulos, Ph.D.
New York University School of Medicine
Marcus Stephenson-Jones, Ph.D.
Cold Spring Harbor Laboratory
Makoto Taniguchi, Ph.D.
McLean Hospital, Harvard University
Eva Haimo Telzer, Ph.D.
University of Illinois at Urbana-Champaign
Junqian Xu, Ph.D.
Icahn School of Medicine at Mount Sinai

MULTIPLE DISORDERS
Monica Aas, Ph.D.
University of Oslo, Norway
Simona L. Buetti, Ph.D.
University of Illinois at Urbana-Champaign
Sebastien Delcasso, Ph.D.
Massachusetts Institute of Technology
Santhosh Girirajan, M.B.B.S., Ph.D.
Lehigh Valley Hospital Medical Center, Pennsylvania State University
Brad Alan Grueter, Ph.D.
Vanderbilt University
Matthew C. Judson, Ph.D.
University of North Carolina at Chapel Hill
Marija Kundakovic, Ph.D.
Columbia University
Julien Muffat, Ph.D.
Whitehead Institute for Biomedical Research
Shraddha Pai, Ph.D.
Centre for Addiction and Mental Health, University of Toronto, Canada
Alma I. Rodenas-Ruano, Ph.D.
Albert Einstein College of Medicine of Yeshiva University
Laura J. Sittig, Ph.D.
University of Chicago
Karin Johanna Hendrika Verweij, Ph.D.
VU Medisch Centrum, Vrije Universiteit Amsterdam, The Netherlands
Melanie von Schimmelmann, Ph.D.
Icahn School of Medicine at Mount Sinai

POST-TRAUMATIC STRESS DISORDER
Joanna Izabella Giza, Ph.D.
Cornell University
Stephanie Sillivan, Ph.D.
The Scripps Research Institute

SCHIZOPHRENIA
Jessica A. Bernard, Ph.D.
University of Colorado, Boulder
Hong Goo Chae, Ph.D.
Cold Spring Harbor Laboratory
Joshua J. Chiappelli, M.D.
Maryland Psychiatric Research Center, University of Maryland
Yongku P. Cho, Ph.D.
Hartford Hospital, University of Connecticut
Lot de Witte, M.D., Ph.D.
University Hospital Utrecht, Utrecht University, The Netherlands
Basic Research

continued

ANXIETY
Avishek Adhikari, Ph.D.
Stanford University

Suleyman I. Gulseren, M.D., Ph.D.
University of Washington

Libi Hertzberg, M.D., Ph.D.
Tel Aviv University, Israel

Sehba Husain-Krautter, M.B.B.S., Ph.D.
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Salk Institute for Biological Studies

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IRCCS Fondazione Santa Lucia, Italy

Matthew Luke MacDonald, Ph.D.
University of Pittsburgh

Jacob J. Michaelson, Ph.D.
University of Iowa

Simon Trent, Ph.D.
Cardiff University, Wales

Brooke Viertel, Ph.D.
University Medical Center Hamburg-Eppendorf, University of Hamburg, Germany

Guangying K. Wu, Ph.D.
George Washington University

Wenchun Zhang, Ph.D.
Johns Hopkins University

EATING DISORDERS
Sindy Cole, Ph.D.
Boston College

Marcelo Dietrich, M.D., Ph.D.
Yale University

EPILEPSY
Seung Tae Baek, Ph.D.
University of California, San Diego

Ramon Y. Birnbaum, Ph.D.
Ben-Gurion University of the Negev, Israel

PANIC DISORDER
Justin S. Feinstein, Ph.D.
Laureate Institute for Brain Research

RETT SYNDROME
Hao Wu, Ph.D.
Johns Hopkins University School of Medicine

ATTENTION-DEFICIT HYPERACTIVITY DISORDER
Nikola Todorov Markov, Ph.D.
Princeton University

Lucina Q. Uddin, Ph.D.
University of Miami

Nan Yang, Ph.D.
Stanford University

BIPOLAR DISORDER
Danai Dima, Ph.D.
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DEPRESSION
Jessica Andrews-Hanna, Ph.D.
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Rosemary Bagot, Ph.D.
Icahn School of Medicine at Mount Sinai

Chun-hui Chang, Ph.D.
University of Pittsburgh

Jonathan J. Nassi, Ph.D.
Salk Institute for Biological Studies

Karen Ryan, Ph.D.
Trinity College Dublin, Ireland

Jennifer Tropp Sneider, Ph.D.
McLean Hospital, Harvard University

Brendon Omar Watson, M.D., Ph.D.
Weill Cornell Medical College

MULTIPLE DISORDERS
Cendra Aguilon, Ph.D.
Université René Descartes, France

Philip G. Browning, Ph.D.
Icahn School of Medicine at Mount Sinai

Jeremiah Yaacov Cohen, Ph.D.
Johns Hopkins University School of Medicine

Lauren Celia Faget, Ph.D.
University of California, San Diego

Jennifer H. Foss-Feig, Ph.D.
Connecticut Mental Health Center, Yale University

“NARSAD Young Investigator Grants are the backbone of the effort and the most important philanthropic program for supporting the early careers of young investigators interested in mental illness research.”

DANIEL R. WEINBERGER, M.D.
CEO, Lieber Institute for Brain Development
Foundation Scientific Council Member
Next Generation Therapies

ANXIETY
Christine Elizabeth Gould, Ph.D.
VA Palo Alto
Health Care System, Stanford University

Tija Carey Jacob, Ph.D.
University of Pittsburgh

Ting Lu, Ph.D.
University of Illinois at Urbana-Champaign

ATTENTION-DEFICIT HYPERACTIVITY DISORDER
Agatha Lenartowicz, Ph.D.
University of California, Los Angeles

Stephanie Dunkel Smith, Ph.D.
Yale Child Study Center, Yale University

AUTISM SPECTRUM DISORDER
Lior Brimberg, Ph.D.
Zucker Hillside Hospital Campus of The Feinstein Institute for Medical Research

Latha Soorya, Ph.D.
Rush University

Brittany Gail Travers, Ph.D.
University of Wisconsin

BIPOLAR DISORDER
Nao Jennifer Gamo, Ph.D.
Johns Hopkins University

Alison R. Berent-Spillson, Ph.D.
University of Michigan

Becky Catherine Carlyle, Ph.D.
Yale University

Shun-Chiao Chang, Sc.D.
Brigham and Women's Hospital, Harvard University

Dipesh Chaudhury, Ph.D.
Icahn School of Medicine at Mount Sinai

Sharon Dekel, Ph.D.
Massachusetts General Hospital, Harvard University

Christine Ann Denny, M.S., Ph.D.
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Faranak Farzan, Ph.D.
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Jennifer C. Felger, Ph.D.
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Allyson Kimberly Friedman, Ph.D.
Icahn School of Medicine at Mount Sinai

Miguel Angel Garcia-Cabezas, M.D., Ph.D.
Boston University

Stefan Goetz, Ph.D.
Duke University Medical Center, Duke University

ANXIETY
Virginia Garcia-Marin, Ph.D.
New York University

Ozgun Gokce, Ph.D.
Stanford University
Ian Cameron Gould, D. Phil. University of New South Wales, Australia

R. Matthew Hutchison, Ph.D.
Harvard University

Roozbeh Kiani, M.D., Ph.D.
New York University

Markita Patricia Landry, Ph.D.
Massachusetts Institute of Technology

Elena Michaelovsky, Ph.D.
Tel Aviv University, Israel

Jacqueline Morris, Ph.D.
University of Pennsylvania

Alexandre Mourot, Ph.D.
University Pierre and Marie Curie, France

Ligia Assumpcao Papale, Ph.D.
University of Wisconsin-Madison

OBSESSIVE-COMPULSIVE DISORDER
Yen-Yu Ian Shih, Ph.D.
University of North Carolina at Chapel Hill

POST-TRAUMATIC STRESS DISORDER
Chadi Abdallah, M.D.
Yale University

Joshua Cisler, Ph.D.
University of Arkansas for Medical Sciences

Jonathan Richard Epp, Ph.D.
The Hospital for Sick Children, University of Toronto, Canada

Jonathan Paul Fadok, Ph.D.
Friedrich Miescher Institute, Switzerland

Léma Massi, Ph.D.
Friedrich Miescher Institute, Switzerland

SCHIZOPHRENIA
Joshua W. Cordeira, Ph.D.
Harvard Medical School, Harvard University

Fei Du, Ph.D.
Harvard Medical School, Harvard University

Colin Shaun Hawco, Ph.D.
Centre for Addiction and Mental Health, University of Toronto, Canada

Conrad Lyegbe, Ph.D.
Institute of Psychiatry, King's College London, University of London, England

Youngcho Kim, Ph.D.
University of Iowa

Felic Reddy, Ph.D.
VA Greater Los Angeles Healthcare System
West Los Angeles, University of California, Los Angeles

Yuri B. Saalmann, Ph.D.
University of Wisconsin-Madison

Peter Savadjiev, Ph.D.
Brigham and Women's Hospital, Harvard University

Ilana Witten, Ph.D.
Princeton University

Tracy L. Young-Pearse, Ph.D.
Brigham and Women's Hospital, Harvard University

ADDICTION
Kevin Wang, Ph.D.
Oregon Health and Science University

BORDERLINE PERSONALITY DISORDER
Sarah Kathryn Fineberg, M.D., Ph.D.
Yale University

FRAGILE X SYNDROME
Emma Puighermanal, Ph.D.
INSERM, France

TOURETTE SYNDROME
Deanna Jacquelyn Greene, Ph.D.
Washington University School of Medicine

Latha Soorya, Ph.D.
Massachusetts General Hospital, Harvard University

Sharon Dekel, Ph.D.
Columbia University

Faranak Farzan, Ph.D.
Centre for Addiction and Mental Health, University of Toronto, Canada

Jennifer C. Felger, Ph.D.
Emory Clinic, Emory University

Allyson Kimberly Friedman, Ph.D.
Icahn School of Medicine at Mount Sinai

Miguel Angel Garcia-Cabezas, M.D., Ph.D.
Boston University

Stefan Goetz, Ph.D.
Duke University Medical Center, Duke University
Next Generation Therapies CONTINUED

Mira Alexandra Jakovcevski, Ph.D.
Max-Planck Institute for Psychiatry,
Max-Planck Society, Max Planck Institutes,
Germany

Chung Sub Kim, Ph.D.
University of Texas at Austin

Yevgenia Kozorovitskiy, Ph.D.
Northwestern University

Chun Hay Alex Kwan, Ph.D.
Yale University

Benjamin Bruce Land, Ph.D.
Yale University

Joelle LeMoult, Ph.D.
Stanford University

Margarita Rivera, Ph.D.
Hospital Universitario San Cecilio, Spain

Benjamin A. Samuels, Ph.D.
Research Foundation for Mental Hygiene, Inc.,
New York State Psychiatric Institute,
Columbia University

Marina Lopez Sola, Ph.D.
University of Colorado, Denver

Giulia Treccani, Ph.D.
University of Milano Bicocca, Italy

Hongyu Yang, Ph.D.
University of California, Los Angeles

Kymberly D. Young, Ph.D.
Laureate Institute for Brain Research

MULTIPLE DISORDERS
Wesley Brian Asher, Ph.D.
Columbia University

Valeria Gazzola, Ph.D.
Netherlands Institute for Neuroscience,
The Netherlands

Lior Greenbaum, M.D.
Chaim Sheba Medical Center,
Tel Aviv University, Israel

Michy Kelly, Ph.D.
University of South Carolina

Shalini Lal, Ph.D.
Douglas Mental Health University Institute,
McGill University, Canada

Benjamin C. Nephew, Ph.D.
Tufts University

Stephanie Perreau-Lenz, Ph.D.
SRI International

Ann Polcari, Ph.D.
Northeastern University

Seethalakshmi Ramanathan, M.D.
Hutchings Psychiatric Center

Alessandra Raudino, Ph.D.
University of New South Wales, Australia

Ling Shan, Ph.D.
University of California, Los Angeles

Sonal G. Thakar, Ph.D.
University of California, San Diego

OBSESSIVE-COMPULSIVE DISORDER
Carolyn I. Rodriguez, M.D., Ph.D.
Research Foundation for Mental Hygiene, Inc.,
New York State Psychiatric Institute,
Columbia University

POST-TRAUMATIC STRESS DISORDER
Antoine Besnard, Ph.D.
Massachusetts General Hospital,
Harvard University

Lorenzo Diaz-Mataix, Ph.D.
New York University

Raül Andero Gali, Ph.D.
Emory University

Linda Isaac, Ph.D.
Stanford University

Sandra Jurado, Ph.D.
University of Maryland School of Medicine

Imanuel Ruvin Lerman, M.D., M.S.
University of California, San Diego

Alik Sunil Widge, M.D., Ph.D.
Massachusetts General Hospital,
Harvard University

SCHIZOPHRENIA
John Daniel Cahill, M.B.B.S
Yale University

Hsun-Hua Chou, M.D., Ph.D.
University of California, San Diego

Charmaine Demanuele, Ph.D.
Massachusetts General Hospital,
Harvard University

Anna Rose Docherty, Ph.D.
Virginia Institute for Psychiatric and
Behavioral Genetics,
Virginia Commonwealth University

Paolo Fusar-Poli, Ph.D.
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University of London, England

Rachel A. Hill, Ph.D.
University of Melbourne, Australia

Dennis Kaetzel, Ph.D.
Institute of Neurology/ University College London,
University of London, England

Sarah Christine McEwen, Ph.D.
Neuropsychiatric Institute and Hospital,
University of California, Los Angeles

Brent Gregory Nelson, M.D.
University of Minnesota

Nichole Marie Neugebauer, Ph.D.
Northwestern University

Maria V. Puig, Ph.D.
Massachusetts Institute of Technology

Jianping Zhang, M.D., Ph.D.
Zucker Hillside Hospital
Campus of The
Feinstein Institute for Medical Research

ADDITION
Carmelo Mario Vicario, Ph.D.
Bangor University, United Kingdom

ALZHEIMER’S DISEASE
Sanjeev Kumar, M.D.
Centre for Addiction and Mental Health,
University of Toronto, Canada

BORDERLINE PERSONALITY DISORDER & SUICIDE
Anthony Charles Ruocco, Ph.D.
Centre for Addiction and Mental Health,
University of Toronto, Canada

RETT SYNDROME
Hyeong-Min Lee, Ph.D.
University of North Carolina at Chapel Hill
Community Events

When you hold a fundraiser, you play a key role in helping us fund better prevention and treatment protocols. With the support of family, friends and your community, you can make a difference in the fight against mental illness and the stigma it bears.

HIKE for Mental Health, Various Dates

HIKE for Mental Health was born of a single vision: a world in which everyone, including those who suffer from mental illness, can find the simple joy of living. Joining a hike helps raise awareness and money for mental health research.

Team Daniel: Running to Support Brain & Behavior Research Foundation, Year Round

Team Daniel consists of members of the Laitman family including Daniel who lives a productive life with schizophrenia and his parents, Rob and Ann. They run the Walt Disney World Half-Marathon every year as well as other races across the country in an effort to raise money for schizophrenia research.
Foundation Events

NY Symposium, October 24, 2014

Above, From left to right:
Jack D. Barchas, M.D., Scientific Council
Anita Thapar, M.D., Ph.D.
David L. Braff, M.D.
Kay Redfield Jamison, Ph.D.
Robert M.A. Hirschfeld, M.D., Scientific Council
Patrick F. Sullivan, M.D.
Klerman Freedman Awards Dinner, July 25, 2014

From left to right:
Daniel R. Weinberger, M.D., Scientific Council
Stephen and Connie Lieber, Chairman of the Board and President Emerita
BJ Casey, Ph.D., Scientific Council
Annual Dinner, October 24, 2014

Above, From left to right:
Eric R. Kandel, M.D., Scientific Council, Jeffrey Borenstein, M.D., President & CEO, Mehmet Oz, M.D.
Herbert Pardes, M.D., President, Scientific Council, Nancy Wexler, M.D., Bob Wright
Dr. Oz gives the inaugural Pardes Prize to Dr. Herbert Pardes
Board Members and Annual Dinner Co-Chairs, Suzanne Golden and Virginia Silver

Productive Lives Awards,
April 30, 2014

From left to right:
Tom Insel, M.D., Judy Collins, Francis S. Collins, M.D., Ph.D., and Board Member Susan Lasker Brody
Dr. Tom Insel and Dr. Jeffrey Borenstein
Bruce Cohen, Gabe Catone and Mark B. Porter
Jeffrey Borenstein, M.D. and Dr. Francis Collins
Discovery to Recovery Conference, Washington, D.C., September 16, 2014

Below, From Left to Right:
Jeffrey Borenstein, M.D. and Congressman Tim Murphy, Ph.D.
Keith O’Neil, Former NFL Super Bowl Champion
Meet the Scientists

Webinar Series

Join us the second Tuesday of each month for our Meet the Scientist Webinar Series hosted by Foundation President & CEO, Jeffrey Borenstein, M.D.

Hear the world’s leading mental health researchers and members of our Scientific Council present the latest in new technologies, diagnostic tools, early intervention strategies and next-generation therapies for mental illness.

Upcoming Events

BORDERLINE PERSONALITY DISORDER
D. Bradford Reich, M.D.
Tuesday, July 14, 2015, 2:00 p.m.–3:00 p.m. EST

MOOD DISORDERS
Carrie E. Bearden, Ph.D.
Tuesday, October 13, 2015, 2:00 p.m.–3:00 p.m. EST

ADDICTION
Nora D. Volkow, M.D.
Wednesday, August 19, 2015, 2:00 p.m.–3:00 p.m. EST

SCHIZOPHRENIA
Carol A. Tamminga, M.D.
Tuesday, November 10, 2015, 2:00 p.m.–3:00 p.m. EST

NEW APPROACHES IN TREATING DEPRESSION
Fritz A. Henn, M.D., Ph.D.
Tuesday, September 8, 2015, 2:00 p.m.–3:00 p.m. EST

AUTISM AND NEW FINDINGS
Joseph Buxbaum, Ph.D.
Tuesday, December 15, 2015, 2:00 p.m.–3:00 p.m. EST
Stories of Productive Lives

People living with mental illness often face numerous challenges in managing their day to day life. Inspired by their unique stories of grace and determination we acknowledge these challenges and recognize the capacity for families and individuals to persevere and often live productive lives with the help of both science and the support of family and friends which in turn gives voice to often silent, closeted and misunderstood illnesses of the brain.
Pride in a Son’s Courage

Through the Foundation, Martha Atherton says she has a better understanding of mental illness and a strong conviction that research will alleviate the suffering caused by mental illness.

John Atherton is a 53-year-old electronics whiz and inventor living in Portland, Oregon. He also lives with schizophrenia and Asperger’s syndrome. His mother, Martha Atherton, explains that it took years for John to get the right combination of medications to alleviate his debilitating symptoms. She has been his unwavering supporter and a trusted companion during many dark periods when John questioned whether his life was worth living.

Martha and her late husband Robert Atherton had three sons, and lost two of them to cystic fibrosis. John, the middle son, began showing signs of psychiatric illness in his teens.

As is often the case in children with Asperger’s, John was an outstanding student. Toward the end of high school, he says, “I began to unravel.” John struggled through three years of electrical engineering studies at the University of Illinois, but could not complete his degree. By that time, he says, “I was down and out. I thought about suicide.”

After a long and agonizing period marked by disappearances from home, hospitalizations and trial-and-error treatments, John finally found some relief with the antidepressant fluoxetine (Prozac). Today, he is stabilized on a combination of antipsychotic and antidepressant medications.

It is hard for Martha to articulate the pride she feels in her son’s courage and the joy she shares in his success as an inventor. She and her late husband are longtime supporters of the Brain & Behavior Research Foundation, through which she says she has developed a better understanding of autism and schizophrenia and a strong conviction that research will eventually lead to the alleviation of suffering caused by mental illness.

John Atherton with one of several inventions he has patented—a hand-held voltage indicator that determines whether a power cord is live or dead.
Staving Off “The Darkness”

Arthur Peck puts his faith in the promise of research if the day should come that more of his family members will need effective treatments to treat psychiatric illness.

The Peck siblings—Wendy, Amy, and Robert—have in common a history of clinical depression, something they shared with their late mother. Fortunately, they have all found treatments that worked, and they all also benefit from a Rock-of-Gibraltar father whom Amy says “has essentially saved each of us from the darkness, at some point.”

The Pecks are determined not to let mental illness upend their lives.

Eleven years ago, when Amy moved from Washington, D.C. to St. Louis for her husband’s new job, it triggered a deep depression. “Within a month of the move, I was in a bad way,” she recalls.

Amy called her father. Not knowing a soul in St. Louis, he in turn called the Brain & Behavior Research Foundation. Responding to Amy’s plight, the Foundation put Dr. Peck in touch with Herbert Pardes, M.D., President of the organization’s Scientific Council. “Dr. Pardes told me he’d make sure someone in St. Louis would see Amy that day,” Dr. Peck says, “And that’s exactly what happened.”

Psychiatrist Dan W. Haupt, M.D., diagnosed Amy with bipolar depression and prescribed the mood stabilizer lamotrigine (Lamictal), which successfully treated her. Amy also credits her recovery to Dr. Haupt’s astute assessment of the person inside her illness and his unpatronizing and reassuring approach to her care.

The Peck children now have grown children of their own, bright, independent and engaged in busy lives. Arthur Peck fervently hopes his grandchildren are spared the family’s struggles with depression. He crosses his fingers, saying “so far, so good” and puts his faith in the promise of research if the day should come that more of his family members will need effective treatments to treat psychiatric illness.
Finding a Way to Help and Heal

An annual event commemorating the life of Jonathon Robbins raised $27,000, all of which was donated to a Foundation Research Partner.

Toward the end of his freshman college year, Jonathon Robbins began to experience symptoms of schizophrenia. He didn’t make it through his sophomore year.

“He went from being an outgoing, honor-roll student to a young man who didn’t want to leave the house,” says Kathy Robbins of her son. One night, after driving to Texas, presumably on the instruction of the voices he heard, he came back home after driving for 48 hours, and asked for help.

“When we took him to the hospital,” Kathy says, “they told us he had caffeine-induced psychosis. I remember thinking, ‘Well, I suppose there is such a thing.’ But of course it was ridiculous.” Jonathon’s hallucinations and delusional thoughts began to worsen. Hospitalized once more, he finally received a definitive diagnosis. When the doctors thought Jonathon was stabilized, they released him. That day he went home and took his life. Jonathon was 22 years old.

“I kept wondering what would have helped Jonathon,” Kathy says. She searched the Internet and discovered the Brain & Behavior Research Foundation. “I knew we had to raise money for their research.” The Robbins are not wealthy people. But they are rich in relatives and friends, whom they counted on to pitch in when they came up with the idea of holding an annual walk/run event to raise money for the Foundation. The Robbins named the event “Let the Sun Shine,” because, says Kathy, “Jonathon was the sunshine in our lives.” In 2014, Let the Sun Shine raised $27,000, all of which was donated to the Foundation’s Research Partners Program.

Kathy says her consolation is the certainty that “Jonathon died knowing how much we loved him.”
An Agonizing Journey and a “Blessing”

"Seeing positive treatments that have come from research is a blessing."

Janet and Donald Boardman, Sr. (a Foundation board member), remember with chilling clarity the last time their son Donald, Jr., had to be hospitalized against his will.

“When the sheriffs came,” Janet says, “he was in our back yard, very ill, very angry, and when he started walking away, one of the officers hit him with a billy stick. Then they pushed him down, put handcuffs on him and pepper-sprayed him.” As the spray drifted into the house, Mrs. Boardman, and her younger daughter, Kate, watched him being taken away—again.

For years the Boardmans, like many families in similar circumstances, lived with the anguish and frustration of trying to protect a loved one with schizophrenia, often from himself. Before lasting help finally came in the form of the antipsychotic medication clozapine (Clozaril), Donald, Jr., had gone through periods of homelessness, suicidal thoughts, 15 hospitalizations, and an arrest for assault. A sympathetic judge helped Donald Jr. focus on compliance with his treatment plan.

The Boardmans have supported the Brain & Behavior Research Foundation for the past 15 years. Their faith in research is understandable. Donald Jr.’s recovery was due in large measure to the work of Foundation Scientific Council Member Herbert Y. Meltzer, M.D., the principal investigator on the trials that led to the approval of the use of clozapine for treatment-resistant schizophrenia. With clozapine and supplemental antidepressant and anti-anxiety medication, the voices in Donald, Jr.’s head, while not completely gone, became controllable.

Today, Donald, Jr. lives on his own in Baltimore, near his doctors. He has a job, which he has held for 12 years, driving for a pharmacy. Says Donald, Sr., “Seeing positive treatments that have come from research is a blessing.”
Our Research Partners Program enables donors to select and support a scientist’s project from amongst the most promising, cutting-edge proposals in mental illness research. Sponsoring one year of support for a Young Investigator is $30,000 (now $35,000 in 2015); an Independent Investigator, $50,000; and a Distinguished Investigator, $100,000.

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Dennis J. Kos
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Frank E. Kozak, Jr.
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Jay I. Kreider, Jr.
Ida Kreingold
Nancee A. Kretschmer
Michael Kreul
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Michael Kruuczkiewicz
Ellen Kurtis
Sadie E. Ladick
Victor M. LaFata
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Paul Langford
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Jenna R. Laubach
Megan Lavin
Jerome C. “Jerry” Lawrence
Marsha D. Lawson
Mary Lawson
We are pleased to report on the financial position and results of the Brain & Behavior Research Foundation for 2014. We are appreciative and thankful for the commitment of Foundation leadership, dedicated staff, volunteers and our strong donor support base that allows the Foundation to perform its vital work. We remain indebted to the Foundation Scientific Council, our distinguished research leaders covering virtually every major discipline within brain and behavior science, who volunteer their expertise to select and recommend the most promising grant projects to fund.

Contributions increased in 2014 and we received major support from bequests for which we are deeply grateful for the generosity of the individuals and their families. We would like to acknowledge the extraordinary bequest from the late Oliver D. Colvin, Jr. that continues to support our efforts at the Foundation. Together, all these donations further the Foundation’s mission to alleviate the suffering caused by mental illness by awarding grants that will lead to advances and breakthroughs in scientific research.

With our strengthened financial posture, we continue to aim for a future of accelerating research accomplishments to help those living with mental illness to live full and productive lives. In 2014, the Foundation awarded additional NARSAD Grants bringing the total investment in mental health research to more than $324 million since inception.

With thanks to the generosity of two family foundations, all supporting services were once again underwritten in 2014. This allows for contributions targeted for research to go directly to funding NARSAD Grants. The financial report shown herein has been summarized from our 2014 audited financial statements. The Foundation’s complete audited financial statements and our most recent IRS Form 990 are available online at bbrfoundation.org or contact our office at 800.829.8289 for copies of the material.
## Combined Statement of Financial Position

<table>
<thead>
<tr>
<th></th>
<th>DECEMBER 31, 2014</th>
<th>DECEMBER 31, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$22,350,676</td>
<td>$9,825,107</td>
</tr>
<tr>
<td>Investments, at fair value</td>
<td>11,164,075</td>
<td>9,951,960</td>
</tr>
<tr>
<td>Contributions receivable</td>
<td>1,436,500</td>
<td>1,873,281</td>
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<tr>
<td>Other receivables</td>
<td>12,009</td>
<td>87,031</td>
</tr>
<tr>
<td>Pledges receivable, net</td>
<td>780,440</td>
<td>2,247,449</td>
</tr>
<tr>
<td>Prepaid expenses and other assets</td>
<td>21,415</td>
<td>19,868</td>
</tr>
<tr>
<td>Assets held in charitable remainder trusts</td>
<td>1,460,182</td>
<td>1,404,297</td>
</tr>
<tr>
<td>Fixed assets, net</td>
<td>81,617</td>
<td>101,242</td>
</tr>
<tr>
<td>Security deposits</td>
<td>77,110</td>
<td>77,110</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td><strong>$37,384,024</strong></td>
<td><strong>$25,587,345</strong></td>
</tr>
<tr>
<td><strong>LIABILITIES AND NET ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>209,211</td>
<td>269,558</td>
</tr>
<tr>
<td>Grants payable</td>
<td>20,093,716</td>
<td>12,578,705</td>
</tr>
<tr>
<td>Accrued compensation</td>
<td>50,295</td>
<td>42,426</td>
</tr>
<tr>
<td>Annuities payable</td>
<td>871,832</td>
<td>861,080</td>
</tr>
<tr>
<td>Charitable gift annuities payable</td>
<td>317,912</td>
<td>360,716</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td><strong>21,542,966</strong></td>
<td><strong>14,112,485</strong></td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unrestricted</td>
<td>(1,081,384)</td>
<td>2,142,098</td>
</tr>
<tr>
<td>Unrestricted - board designated endowment</td>
<td>11,509,262</td>
<td>4,509,262</td>
</tr>
<tr>
<td><strong>Total Unrestricted</strong></td>
<td><strong>10,427,878</strong></td>
<td><strong>6,651,360</strong></td>
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<tr>
<td>Temporarily restricted</td>
<td>499,680</td>
<td>100,000</td>
</tr>
<tr>
<td>Permanently restricted</td>
<td>4,913,500</td>
<td>4,723,500</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td><strong>15,841,058</strong></td>
<td><strong>11,474,860</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$37,384,024</strong></td>
<td><strong>$25,587,345</strong></td>
</tr>
</tbody>
</table>
## Combined Statement of Activities

<table>
<thead>
<tr>
<th>SUPPORT AND REVENUE</th>
<th>YEAR ENDED DECEMBER 31, 2014</th>
<th>YEAR ENDED DECEMBER 31, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributions</td>
<td>$7,816,588</td>
<td>$6,509,363</td>
</tr>
<tr>
<td>Special Events, net</td>
<td>584,805</td>
<td>428,779</td>
</tr>
<tr>
<td>Contribution of services</td>
<td>1,389,537</td>
<td>1,310,739</td>
</tr>
<tr>
<td>Bequests</td>
<td>21,683,838</td>
<td>4,442,392</td>
</tr>
<tr>
<td>Net realized and unrealized gains on investments</td>
<td>1,184,440</td>
<td>697,782</td>
</tr>
<tr>
<td>Net appreciation of assets held in charitable remainder trusts</td>
<td>55,885</td>
<td>271,676</td>
</tr>
<tr>
<td>Dividend and interest income</td>
<td>322,676</td>
<td>344,568</td>
</tr>
<tr>
<td><strong>Total Support and Revenue</strong></td>
<td><strong>33,037,769</strong></td>
<td><strong>14,005,299</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENSES</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Program Services</th>
<th>YEAR ENDED DECEMBER 31, 2014</th>
<th>YEAR ENDED DECEMBER 31, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research grants and awards</td>
<td>22,681,953</td>
<td>8,915,971</td>
</tr>
<tr>
<td>Scientific advancement</td>
<td>1,747,843</td>
<td>1,641,936</td>
</tr>
<tr>
<td>Program support</td>
<td>2,101,977</td>
<td>1,954,619</td>
</tr>
<tr>
<td><strong>Total Program Services</strong></td>
<td><strong>26,531,773</strong></td>
<td><strong>12,512,526</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supporting Services</th>
<th>YEAR ENDED DECEMBER 31, 2014</th>
<th>YEAR ENDED DECEMBER 31, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundraising*</td>
<td>793,219</td>
<td>877,139</td>
</tr>
<tr>
<td>Administration*</td>
<td>1,346,579</td>
<td>1,661,858</td>
</tr>
<tr>
<td><strong>Total Supporting Services</strong></td>
<td><strong>2,139,798</strong></td>
<td><strong>2,538,997</strong></td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>28,671,571</strong></td>
<td><strong>15,051,523</strong></td>
</tr>
</tbody>
</table>

| Change in Net Assets                 | 4,366,198                    | (1,046,224)                  |
| Net Assets, beginning of year        | 11,474,860                   | 12,521,084                   |
| **NET ASSETS, END OF YEAR**          | **$15,841,058**              | **$11,474,860**              |

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

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4 Recipients of the National Medal of Science
13 Members of the National Academy of Sciences
21 Chairs of Psychiatry & Neuroscience Departments at Leading Medical Institutions
47 Members of the Institute of Medicine
Investing in Breakthroughs To Find a Cure

**OUR 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.

**OUR VISION:**
To bring the joy of living to those affected by mental illness—those who are ill and their loved ones.

**HOW WE DO IT:**
100% of our donor contributions for research are invested in NARSAD Grants leading to discoveries in understanding causes and improving treatments of disorders in children and adults, such as depression, schizophrenia, anxiety, autism, and bipolar, attention-deficit hyperactivity, post-traumatic stress and obsessive-compulsive disorders.

**OUR CREDENTIALS**
For more than a quarter of a century, we have awarded more than $324 million to fund more than 4,800 grants to more than 3,800 scientists around the world.