

Vol 14 No.2 Summer 2013

# Discover!

news from the Brain Research Foundation

## 60 Years Igniting Innovation



Don't miss our sixty 60<sup>th</sup> Anniversary Banners that will be installed in Chicago's downtown this fall! These beautifully designed banners are sure to catch your eye while heightening awareness of the BRF in the Chicagoland area.

We've also adapted our logo to promote this milestone event. Our theme, "60 Years Igniting Innovation," is featured on both the banners and our 60<sup>th</sup> Anniversary logo.

In 1953, neurologist Dr. Frederic Gibbs organized a group of doctors to form the Brain Research Foundation (BRF). His vision was to support a "brain institute" for the unified research, treatment and training of experts in disorders of the brain. This would become the first foundation of its kind in the world, funding the best and brightest scientists to foster leading-edge research to study the brain. Although his focus was epilepsy, Dr. Gibbs recognized that discoveries about how the brain and nervous system function would eventually lead to understanding the many diseases that result when they are compromised.

The William E. Fay, Jr. and Clinton E. Frank families became an integral part of Dr. Gibbs' vision when they sought his help for their daughters who suffered from seizures. Their passion for the BRF, combined with their business acumen and community outreach, paved the way for the Foundation to support revolutionary ideas and serve as a catalyst for future discoveries.

Sixty years later, the Foundation continues the mission that was set forth in 1953—to focus on brain research that is disease neutral and dedicated to moving science closer to finding answers that will one day lead to preventions and cures.

As we celebrate our 60<sup>th</sup> Anniversary this year, we want to take a moment to thank all of our friends, donors, scientists, Trustees and supporters who have shown their commitment to neuroscience and faith in the Brain Research Foundation over these past six decades. Your support is not only responsible for our success and longevity, but more importantly, it has helped us move closer to the prevention and treatment of neurological diseases. We hope that in our lifetime we will be able to add the word "cures."



**Brain Research  
Foundation 1953-2013**

**60 YEARS IGNITING INNOVATION**

In this issue:	
Dear Friends	page 2
Foundation Forward	page 3
BRF Lab Notes	page 4
Associate Board News	page 6
Prairie State Cycling Series	page 7
2013 Discovery Dinner	page 8

# Dear Friends,

## Board of Trustees of the Brain Research Foundation

William E. Fay, Jr., *Chairman Emeritus*  
Nathan Hansen, *President*  
Norman R. Bobins, *Vice President*  
David H. Fishburn, *Treasurer*  
Richard M. Kohn, *Secretary*  
Terre A. Constantine, Ph.D.,  
*Executive Director*

C. Brant Ahrens  
Mary J. Beattie  
Peter J. Eschenbach  
Robert D. Glick  
Linda H. Heagy  
Diane B. Jastromb  
Kathryn G. Johnson  
Robert S. Johnson  
Patricia B. Koldyke  
Bennett L. Leventhal, M.D.  
John D. Mabie  
Robert C. Malenka, M.D., Ph.D.  
Susan J. Moran, D. Phil.  
Suzanne M. K. Moskow  
Peter B. Pond  
Thomas A. Reynolds III  
Mary H. Smart  
Katherine A. Thompson



I am very pleased to tell you that this year the Brain Research Foundation celebrates 60 years of supporting innovative neuroscience research.

I am so proud to be leading a foundation that, for six decades, has successfully executed its mission to advance discoveries that will lead to novel treatments and the prevention of all neurological diseases. Our signature program, the BRF Seed Grant Program, invests in promising research that will help us understand the brain. It is risk capital for untested ideas and it is these revolutionary ideas that will eventually produce astounding breakthroughs.

**This year the budget for the National Institutes of Health (NIH) was cut 5%—this amounts to \$1.55 billion that will not be available to fund critical scientific research.**

Since 1981, we have funded \$10.2 million in Seed Grants. Our grantees have used this funding to answer questions and generate new data to secure additional outside grant funding of over \$200 million. This is an incredible 1:20 return on investment! But an ROI isn't our only goal; we are looking for answers. As we support these projects more and more answers will come.

Dr. Hande Ozdinler from Northwestern University is an example of one of the amazing scientists we have been so pleased to fund over the years. Dr. Ozdinler's recent discovery, which was funded in part by a BRF Seed Grant, identified for the first time a gene that's present in both motor neurons in the brain and spinal cord that may explain why these neurons break down in ALS. This research offers hope for those who are suffering from this devastating disease.

More now than ever, private funding of neuroscience is extremely vital to jumpstart pilot research projects that will advance our understanding of brain function. While the federal government is the largest funder of scientific research, its budget is still far less than needed. This year is no exception. In fact, due to the Sequestration, the budget for the National Institutes of Health (NIH) was cut 5% or \$1.55 billion. This means that medical breakthroughs will likely be delayed. Not only will hundreds of grants not be funded, budgets of grants that are currently funded will be decreased.

Your support does make a difference. It accelerates the funding of neuroscience research to hasten the cure of neurological disorders. The BRF will continue our mission until the most complex organ of the body—the brain—is understood.

I hope this newsletter inspires you to continue to donate to a cause that affects us all, and that you are as proud as I am of the work we have done together.

Sincerely,

A handwritten signature in black ink, reading "Terre A. Constantine". The signature is fluid and cursive, with a long, sweeping underline.

Terre A. Constantine, Ph.D.  
Executive Director

# Foundation Forward

## Donor Appreciation Event

Almost 50 donors and friends of the BRF gathered at The Casino in Chicago for our first Donor Appreciation event on Tuesday, June 11<sup>th</sup>. Hosted by Trustee Kathryn Johnson, the event celebrated the many wonderful supporters who make the Brain Research Foundation such a vibrant and successful organization. The BRF's 60-year legacy would not be possible without the commitment of our dedicated friends and champions. Two past BRF Seed Grant recipients spoke briefly about how the funding they received from the Foundation has dramatically shaped their future research and advancements in neuroscience.

If you were not able to attend this reception, we hope to see you at a BRF event in the near future. For more information on how to be a part of to this and future events, please contact our Development Director at [sdipasquale@theBRF.org](mailto:sdipasquale@theBRF.org).



Trustees Richard Kohn and Susan Moran with Joan Kohn.



Mary Galvin with Sarah and Jim Taich and Trustee Mary Smart

## California Fundraiser

In perfect alignment with the Foundation funding research nationwide, we were thrilled to receive a phone call from a new supporter in California asking us to be the beneficiary of a fundraiser that she was hosting. Over 50 guests attended a reception at the home of Lauren Meltzer outside of San Francisco. The evening raised over \$3,000. We are thrilled that we have new friends from across the nation supporting us here in Chicago, and thank Lauren and her co-host, Katherine Heidel, for their excellent efforts and wonderful philanthropy. There are many ways to contribute to the BRF, and together we can make a real difference in the research and study of the various neurological diseases that impact all of our lives in some way.

## Did You Know?

Instead of making one or two gifts a year, you can now sign up for automatic deductions! Visit the BRF website and fill out the online giving form or call Development Director Sandra DiPasquale at 312.759.5157. We deeply appreciate those donors who sign up for automatic deductions, as it shows us that they are truly committed to our mission and faithful supporters of the work we do.

With your help, the Brain Research Foundation continues to grow, bringing us closer to unravelling the mysteries of the brain. We thank you for your support and encourage you to help us spread the word about the important work we're doing.

## Ways of Giving

There are several ways in which donors can participate in the work of the Brain Research Foundation.

**Direct Gifts** Contributions are accepted in the form of cash, check, credit card, and stock.

**Matching Gifts** If you work for one of the growing number of companies that has a Matching Gift Program, the amount of your gift could be multiplied. Please check with your Human Resources Office to see if your company offers this benefit.

**Planned Giving** Long-term estate and financial planning can enable you to make a substantial contribution to the Brain Research Foundation. Examples of planned gifts include: bequests, life insurance policies, charitable remainder trusts, charitable lead trusts, and charitable gift annuities.

## Memorial and Honorary Gifts

You can make a donation in memory of someone or give a gift in honor of a special person.

For more information call the BRF at 312.759.5150 or visit us at [www.theBRF.org](http://www.theBRF.org).

# BRF Lab Notes

Established to help innovative neuroscience researchers gather the data required to validate their hypotheses, the BRF Seed Grants are a critical first step in understanding neurological disorders. Since 1981, BRF has awarded more than \$10.2 million to fund early stage research focused on novel ideas. By enabling scientists to generate the preliminary data required for major grants, the Foundation estimates that its investments have led to a factor of twenty times more funding for grantees and research.



Ravi Allada, M.D.

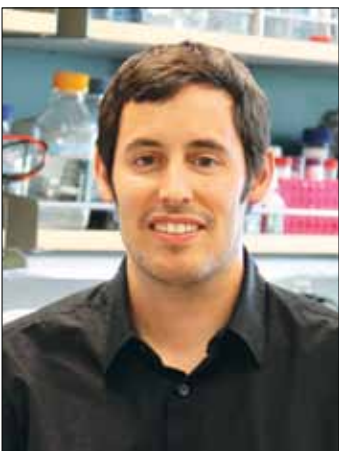
## 2011 BRF Seed Grant Leads to almost \$7 Million in Government Funding

In our Spring 2012 *Discover!* Newsletter, we featured Dr. Ravi Allada's 2011 BRF Seed Grant project on circadian clocks and neurodegenerative disease. Patients with neurodegenerative diseases, such as Alzheimer's, Huntington's and Parkinson's diseases, often suffer from sleep and circadian disorders. This disruption of sleep makes caregiving extraordinarily difficult, and in many cases, worsens disease symptoms.

Since that article, Dr. Allada has completed his research project and uncovered some interesting results. Using findings generated from his \$40,000 Seed Grant, Dr. Ravi Allada was awarded a \$6.7 million grant from The Defense Advanced Research Project Agency (DARPA) to continue work on the effects of circadian rhythms on neurodegeneration. "The data generated with the BRF Seed Grant now allows us to broaden our scope and examine the

interaction between metabolic, circadian and aging timers relevant to processes such as age-related neurodegeneration," stated Dr. Allada, Chair of Neurobiology at Northwestern University.

"This is another terrific case study that aptly demonstrates how the Seed Grant Program for neuroscience research is designed to work," stated Terre A. Constantine, Ph.D., Executive Director of BRF. "With a modest investment by BRF and the strong results that Dr. Allada's lab produced, funding of important research can be expanded rapidly." BRF provides seed grants to novel, early stage scientific research that may otherwise go unfunded, which puts innovative science at risk of not moving forward. Dr. Allada's work adds to the complex area of cognitive decline, which is in vital need of more research and funding to advance science and our understanding of age-related brain disorders.



Pascal Kaeser, M.D.

## 2013 BRF Seed Grant: The Mechanism Behind Neuron Communication

The brain is the most complex organ of the body. Cells within the brain, called neurons, communicate with each other to influence vision, movement, memories, emotion—just about every activity that governs how we live our lives. So it's vitally important to understand how these 100 billion cells form, grow, connect and communicate.

In the human brain, synapses are the contact points where neurons communicate. Faulty communication between neurons at synapses is a hallmark of many brain disorders, including autism, mental retardation, and schizophrenia. Although we understand the important role of the signal transmission at synapses, we need a clearer picture of the mechanisms behind it. Understanding what is happening in a healthy brain

will enable us to understand what is happening in brains that don't function normally.

Dr. Pascal Kaeser, Assistant Professor of Neurology at Harvard University, is using his 2013 BRF Seed Grant to decipher what is regulating the signal transmission at synapses. He is focusing on molecules that have been shown to be involved in this regulation of synapses but their exact role is not understood. This knowledge will be critical to advance our understanding of the pathological mechanisms in brain disorders and may uncover novel therapeutic targets for a variety of neurological diseases. The BRF is pleased to be able to support Dr. Kaeser's critical research, as well as the leading-edge research of all our Seed Grant winners.

## 2013 Seed Grant Recipients

### **Brian Y. Chow, Ph.D.**

*Department of Bioengineering,  
University of Pennsylvania*

Non-invasive optogenetic engineering of cortical dynamics  
Areas of research: Autism, epilepsy, schizophrenia

### **Stephanie C. Dulawa, Ph.D.**

*Department of Psychiatry and Behavioral Neuroscience,  
The University of Chicago*

Functional characterization of genes associated with obsessive compulsive disorder using mouse models  
Area of research: Obsessive-compulsive disorder (OCD)

### **Xin Jin, Ph.D.**

*Department of Molecular Neurobiology Laboratory,  
The Salk Institute for Biological Studies*

Optogenetic dissection of the striatal subcircuits during action sequence learning  
Areas of research: Huntington's disease, OCD, Parkinson's disease

### **Pascal S. Kaeser, M.D.**

*Department of Neurobiology,  
Harvard University*

Activity-induced adaptations in the molecular machines that control neurotransmitter release  
Areas of research: Autism, schizophrenia

### **Aimee W. Kao, M.D., Ph.D.**

*Department of Neurology,  
University of California, San Francisco*

Progranulin deficiency and neuronal-microglial interactions in the pathogenesis of neurodegenerative disease  
Area of research: Alzheimer's disease

### **Matthew J. Kennedy, Ph.D.**

*Department of Pharmacology,  
University of Colorado*

Controlling synaptic function with light  
Areas of research: Alzheimer's disease, autism, schizophrenia

### **Yingxi Lin, Ph.D.**

*Department of Brain and Cognitive Sciences,  
Massachusetts Institute of Technology*

A systems biology approach to identify transcription regulatory networks in healthy and diseased neurons  
Area of research: Autism

### **Qin Liu, Ph.D.**

*Department of Anesthesiology,  
Washington University in St. Louis*

The molecular and neural basis of itch sensation  
Area of research: Itch perception

### **Axel Nimmerjahn, Ph.D.**

*Department of Biophotonics,  
The Salk Institute for Biological Studies*

The role of astrocyte-neuron communication in normal brain function and mental disorder  
Area of research: Schizophrenia

### **Debra L. Silver, Ph.D.**

*Department of Molecular Genetics and Microbiology,  
Duke University*

Distal mRNA localization and translation in neural stem cells during mammalian cortical development  
Areas of research: Autism, intellectual disability  
Associate Board Seed Grant

### **Yongli Zhang, Ph.D.**

*Department of Cell Biology,  
Yale University*

Structures, stabilities, and formation kinetics of amyloid beta precursors and oligomers  
Area of research: Alzheimer's disease

### **Zhaolan (Joe) Zhou, Ph.D.**

*Department of Genetics,  
University of Pennsylvania*

Epigenetic control of experience-dependent neural plasticity  
Areas of research: Neural Plasticity, neurodevelopment

## Scientific Review Committee

### **Sangram S. Sisodia, Ph.D.**

**SRC Chair**  
*Department of Neurobiology,  
The University of Chicago*

### **Ted Abel, Ph.D.**

*Department of Biology,  
University of Pennsylvania*

### **Scott T. Brady, Ph.D.**

*Department of Anatomy and Cell Biology,  
University of Illinois at Chicago*

### **Judy L. Cameron, Ph.D.**

*Department of Psychiatry,  
University of Pittsburgh*

### **John F. Disterhoft, Ph.D.**

*Department of Physiology,  
Northwestern University*

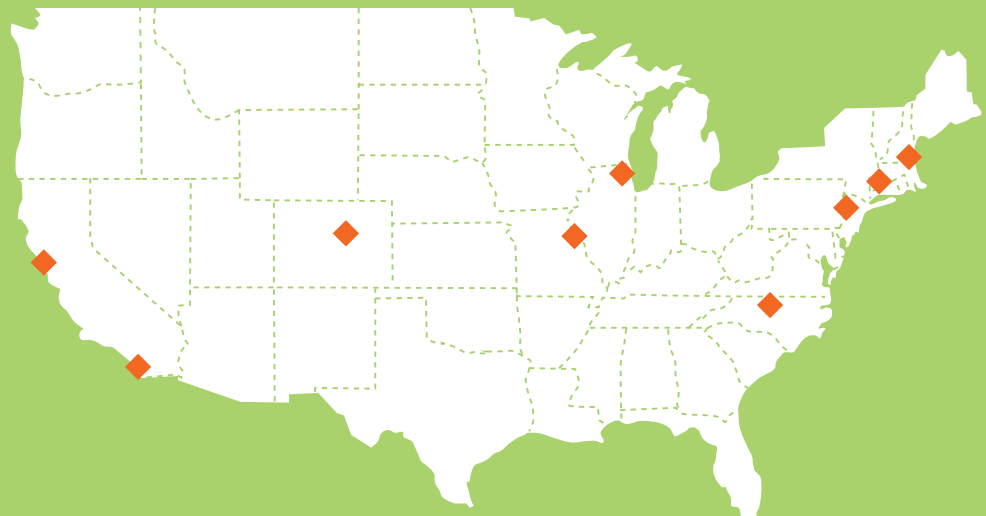
### **Daniel A. Peterson, Ph.D.**

*Department of Neuroscience,  
Rosalind Franklin University of Medicine and Science*

### **John L.R. Rubenstein, M.D., Ph.D.**

*Department of Psychiatry,  
University of California, San Francisco*

This year, the BRF is excited to have expanded our Seed Grant Program nationwide. We received extraordinary proposals and our 12 Seed Grant winners span the country from coast to coast. With your help, we hope to fund even more groundbreaking projects in the upcoming years.



# BRF Associate Board News

## BRF Associate Board Executive Committee

Jennifer E. Falconer, *Chair*  
Julie A. Schultz, *Vice Chair*  
Graham V. Bayly, *Treasurer*  
Michele M. Haynes, *Secretary*

Vanessa A. Bachtell  
Katherine Booth  
Jennifer M. Carr  
Ryan A. Cordier  
Liza Dorsey  
Stacy J. Flanigan  
L. Tracy Foote  
Adam C. Gilgis  
A. Victoria Johnson  
Nekesa Josey  
Michael C. Kasdin  
Amy Kaskie  
Kelli M. Kluga  
Colby McVey  
Whitney L. Morgan  
Eric S. Newmark  
John S. Nicholson  
Yezi Peng  
Tina M. Plechaty  
William B. Rao  
Paul S. Rashid  
Andrew Swigart  
Elizabeth A. Wolcott

## Associate Board at Large

Sarah M. Burke  
Lua M. Clark  
Peter G. Glick  
Jennifer E. Hobbs, Ph.D.  
Matthew H. Johnson  
Patrick M. Peterman  
Arielle Saporta  
Brian Vereb

The dynamic and diverse Associate Board of the Brain Research Foundation is a group of young professionals committed to making a positive difference in the lives of children with brain disorders. In order to help fund cutting-edge neuroscience research and educational programs, the Board hosts several educational and fundraising events that build awareness about the importance of supporting research for diseases of the brain in children.

## Healthy Children, Healthy Brains

On Wednesday, May 1<sup>st</sup> the Associate Board hosted a lecture by BRF Trustee Dr. Bennett Leventhal at the Robert Healy Elementary School in Chicago. The informative discussion focused on children and adolescent brain disorders including ADHD, aggressive behavior, autism, anxiety, bullying, depression and eating disorders. Dr. Bennett Leventhal is the Deputy Director at the Nathan S. Kline Institute for Psychiatric Research.

The lecture was free and open to the public, and highlights the many wonderful education initiatives that the Associate Board undertakes to fulfill their mission: to raise awareness about neuroscience research focused on children. For more information on these and other free and educational events, please contact the BRF office at [info@theBRF.org](mailto:info@theBRF.org) or call 312.759.5150.



Associate Board Members Julie Schultz (AB Vice Chair), Jennifer Falconer (AB Chair) and Amy Kaskie with Bennett L. Leventhal, MD.

## 6th Annual White Sox Event

On Tuesday, May 21<sup>st</sup> the Associate Board set a record by selling 750 tickets to the White Sox vs. Red Sox game. Sections 158 and 159 in U.S. Cellular Field were filled with BRF board members, donors and friends, all committed to a White Sox win and supporting neuroscience research. The White Sox beat the Red Sox 3-1, just as the rain started to fall.

Once again Jennifer Falconer, Associate Board Chair led the sales streak by selling an amazing 124 tickets! To everyone who came out to support the BRF Associate Board and the Foundation, we send our sincerest thanks.

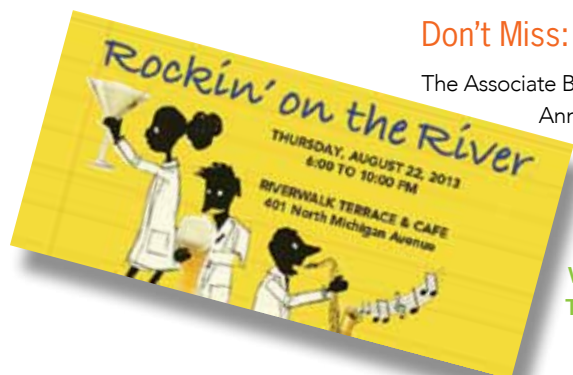


## Don't Miss: The 4th Annual Rockin' on the River

The Associate Board invites you to their annual fundraiser, Rockin' on the River, celebrating the BRF's 60<sup>th</sup> Anniversary. Join us for a night of cocktails, hors d'oeuvres and dancing to the fantastic One Night Band. All this plus amazing raffle prizes and silent auction items await you on a lovely summer evening at a beautiful location right on the Chicago River.

- When** Thursday, August 22<sup>nd</sup>  
**Where** Riverwalk Terrace and Café  
**Tickets** To purchase your \$75 ticket, please visit the website [www.theBRF.org](http://www.theBRF.org). All tickets must be purchased in advance.

Questions? Please call the BRF office at 312.759.5150 or find us on Facebook and post your questions or comments. All proceeds will benefit the Brain Research Foundation.



# Prairie State Cycling Series/ Intelligentsia Cup

Sustaining a simple exercise regimen from young adulthood through our latter years is perhaps the most powerful tool we have to fend off cognitive decline, like Alzheimer's disease, that debilitate an aging population. Biking is just one enjoyable way to accomplish this.

The BRF is partnering with PSCS to help build awareness of the positive effects of exercise and will also offer guidance about fitting helmets properly and the critical importance of helmet safety. We look forward to seeing you at the races!

The Brain Research Foundation (BRF) and Prairie State Cycling Series are partnering in the 2013 cycling series in the Chicago area to promote key educational initiatives around brain health. The series will be in eight locations throughout the area over two weeks in July and is expected to draw substantial crowds of spectators and participants.

Our support of the cycling series aligns with our educational initiative relating to delaying cognitive decline. "Sustaining an exercise regimen from young adulthood through our latter years is perhaps the most simple and powerful tool we have to fend off cognitive decline, like Alzheimer's, that debilitate an aging population," states Terre A. Constantine, Ph.D., Executive Director of BRF, "Biking is an activity that people of all ages can do so it is a natural fit for BRF to participate in the series. We were very pleased to learn how passionate Prairie State Cycling Series leadership is about promoting these issues."

In addition to our exercise education efforts BRF will promote proper helmet use among series attendees through demonstrations by BRF staff, offer proper helmet fitting, and provide information about the important research that BRF funds.

"These competitive men and women racing around the course in their helmets are terrific role models," continued Constantine. "And yes, for those of us recreational riders, falls do happen while 'just going to the corner or up the street' in our neighborhoods, but concussions can be prevented and head injuries minimized. With the help of Prairie State Cycling Series we will reinforce that message during the series."

"We are proud to partner with the BRF to promote a healthy lifestyle and keep our kids safe and concussion-free," states Marco Colbert, Executive Director of Prairie State Cycling Series. "Coaches teach helmet safety to football and baseball players every season, yet our children are riding their bikes, often unprotected, on concrete! Together we can help change that and bring those messages to our bike race fans."

Stop by and visit the BRF tent in Chicago, Crystal Lake, Beverly, Elmhurst, Lake Bluff and St. Charles. For more information about the cycling series, visit <http://www.prairiestatecyclingseries.com>.

Visit the BRF tent at these races:

## **Chicago**

Saturday July 13  
10:50 am - 6:30 pm  
GPS location: 1850 W. Fulton St.  
Chicago

## **Crystal Lake**

Sunday July 14  
9:00 am - 4:30 pm  
GPS location: Raue Center,  
26 N. Williams  
Crystal Lake

## **Beverly**

Thursday July 18  
4:40 pm - 6:30 pm  
GPS location: 107th & Longwood Dr.  
Chicago

## **Elmhurst**

Friday July 19  
10:50 am - 6:30 pm  
GPS location: Wilder Mansion,  
211 South Prospect Ave.  
Elmhurst

## **Lake Bluff**

Saturday July 20  
10:50 am - 6:30 pm  
GPS location: 113 E. Scranton Ave.  
Lake Bluff

## **St. Charles**

Sunday July 21  
8:50 am - 5:00 pm  
GPS location: Sammy's Bike Shop,  
602 S. 1st Street  
St. Charles



111 West Washington Street  
Suite 1710  
Chicago, Illinois 60602

Non-Profit  
Organization  
U.S. Postage  
PAID  
Chicago, IL  
Permit No. 8374

For more information on the  
Brain Research Foundation, please  
call 312.759.5150 or visit our  
website at [www.theBRF.org](http://www.theBRF.org)

You can also follow us online:

[www.facebook.com/  
brainresearchfoundation](http://www.facebook.com/brainresearchfoundation)

<https://twitter.com/TheBRF>



## II.5.13 60<sup>th</sup> Anniversary Discovery Dinner

Please save the date of Tuesday, November 5<sup>th</sup> so that you can join us at the Ritz-Carlton Chicago for our annual Discovery Dinner. We look forward to celebrating six decades of our Foundation with our valued friends and supporters whose commitment to neuroscience research has sustained us over these many years. Co-chaired by Suzanne M. Kopp-Moskow & Michael Moskow and Alicia & Peter Pond, the evening promises to be a lovely commemoration of 60 years of extraordinary advancements in neuroscience. We are thrilled to have founding board member, William E. Fay, Jr. as our Honorary Co-Chair. Tickets start at \$500 and tables start at \$5,000. If you are interested in tickets or sponsorship opportunities, please contact Sandra DiPasquale at 312.759.5157 or [sdipasquale@theBRF.org](mailto:sdipasquale@theBRF.org).