

Discover!

news from the Brain Research Foundation

We Are the Venture Capital Investors of Brain Research

Our investment of \$10.2 million has generated over \$217.4 million in additional funding for high potential research.

Venture capital is financial capital provided to early-stage, high-potential growth startup companies. Long before “venture capital” became a household word, the Brain Research Foundation was providing seed money to neuroscientists to fund high risk research that other sources were unwilling to invest in.

We are taking a calculated risk, supporting a research project in its early stages, with the understanding that some outcomes may be ground-breaking while others many not—but all results generate new findings that help advance the understanding of the brain.

Results are extremely important to our Scientific Review Committee and our Board of Trustees. Each year, we determine the impact of the projects we

fund. We track how our investments in research expand the breadth of neuroscience knowledge as demonstrated through the many articles published as a result of the funding we provide as well as larger funding grant recipients obtain as a result of the work we funded. These scientific achievements are key measures of their success as a result of BRF seed grants.

Since its inception, the Fay/Frank Seed Grant Program has distributed \$10.2 million to neuroscientists. This “venture capital” investment enabled them to generate the data required to obtain over \$217,456,824 in further funding from other sources, such as the National Institutes of Health (NIH).



**BRAIN RESEARCH
FOUNDATION**

Innovate. Explore. Discover.

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Dear Friends,



It is with a heavy heart that I write this letter because we have lost someone whose passion and dedication can never be replaced. But I am also smiling remembering a man who really loved life.

Bill Fay was actively involved with the Brain Research Foundation for six decades, most recently as Chairman Emeritus of the Board of Trustees. He called into every board meeting, every executive committee meeting and every research committee meeting. He was so excited to hear about what latest and greatest research the Foundation was funding.

I will miss Bill. I will miss hearing his voice on the

phone. I will miss him calling me "dear." I will miss his great stories about polo, being a flight instructor in the Navy and his last flight which he piloted in his 80s! Most of all I will miss talking about the Brain Research Foundation with him—talking about its history, its impact on neuroscience, its expansion and its longevity. And Bill was a major force behind all of what the Foundation has accomplished and everything it will accomplish.

I am so grateful that he was able to come to our Discovery Dinner on October 22, 2014 where we were privileged to honor him with the BRF Founder's Award. At 97, he traveled from Florida to not only accept this well-deserved award but to see his family, visit his hometown of Joliet and go to his house in Winnetka where so many memories were created with his lovely wife Marg and their children. This last trip meant the world to him.

As you read this newsletter, you will see that the BRF continues to fulfill its mission that Bill helped create by funding truly innovative neuroscience research. You will learn more about BRF's 2015 Neuroscience Day which featured posters from students and postdoctoral fellows and lectures from various BRF supported scientists. We recently announced the winners of our 4th Annual 2015 Scientific Innovations Awards. Three very worthy projects were determined by our Scientific Review Committee based on their innovative ideas and to greatly advance the arena of neuroscience.

Of course we would not be able to fund these amazing programs without our supporters. In October, we held our Annual Discovery Dinner at the Ritz-Carlton Chicago where we honored two wonderful gentlemen, Bill Fay and Dr. Richard A. Chaifetz. It was a very successful event with an interesting panel on exercise and reducing the risks of cognitive decline. We were pleased that many people learned more about the BRF's mission. And we were thrilled to have found a new trustee, Richard Chaifetz. It is with people like this that the Foundation will continue to grow.

Thank you to everyone who is involved—our trustees, our donors and our friends. I think 2015 will be another great year!

Sincerely,



Terre A. Constantine, Ph.D.
Executive Director and CEO

The BRF will continue to fulfill the mission that Bill Fay helped create by funding truly innovative neuroscience research.

Foundation Forward

BRF welcomes Dr. Richard A. Chaifetz to our Board of Trustees



Richard A. Chaifetz, Psy.D.

Dr. Richard A. Chaifetz is the Founder, Chairman and Chief Executive Officer of ComPsych Corporation, the world's largest provider of employee assistance programs and the pioneer and leading provider of fully integrated employee assistance, behavioral health, wellness, work-life, and human resource administration services. ComPsych provides services to more than 62 million individuals and 23,000 organizations

throughout the U.S. and more than 120 countries.

Dr. Chaifetz has served on the board of directors to several public and private corporations which currently include Pixel Press, Save Wave, Kennet Partners and Vistria Group. He is on the board of trustees of The Field Museum of Natural History, Saint Louis University, TCS Education System and the Miami University Farmer School of Business.

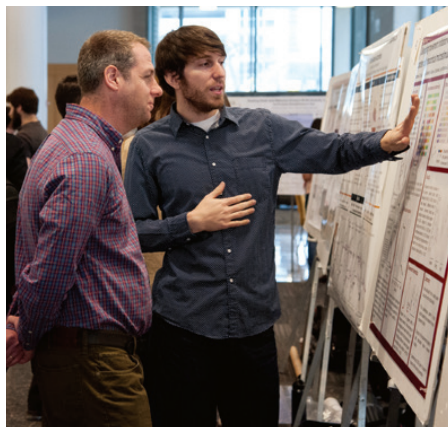
Richard and his wife Jill are active philanthropists through their Chaifetz Family Foundation. Notable gifts include the Chaifetz Arena at Saint Louis University, Chaifetz Trading Center at Miami University Farmer School of Business, Richard and Jill Chaifetz Curator of Zoology at the Field Museum, and the Make-A-Wish Foundation.

BRF's Neuroscience Day recognizes exceptional graduate students and post doctoral fellows



Dr. John A. Disterhoft (Northwestern University) discussing a student's poster.

Brain Research Foundation brought together Chicago's top neuroscientists and students to unveil new research on Alzheimer's disease, autism, vision and aging at Lurie Medical Research Center of Northwestern University.



Dr. Mitchell F. Roitman (UIC) reviewing one of the student's poster.

Graduate students and post-doctoral fellows presented nearly 50 posters at this unique forum evaluated by a team of neuroscientists representing various Chicago institutions. Immediately following the presentations, lecturers covered key areas in the field. The event ended with four prizes given to the top four poster presenters.

Among the researchers who presented posters was **SangWook Lee from the University of Chicago** who used the video game "Pong" to explore how the brain makes visual decisions.

Dr. Claire Piochon from the University of Chicago identified deficits in synaptic plasticity and pruning as potential causes for motor problems in autism.

According to research done by **Dr. Katherine Sadleir from Northwestern University**, blocking an increase of BACE1 protein could be therapeutically useful in slowing or preventing Alzheimer's.

Dr. Nicola Corbett from Rush University explored why many aged individuals present with impaired forms of learning and memory without ever being diagnosed with dementia.

Congratulations to the winners of the 2015 Neuroscience Day poster presentations:

Post Doctoral Fellows

Dr. Rodolfo Gatto

University of Illinois at Chicago
Addressing the in vivo contribution of JNK3 to Huntington's disease pathogenesis

Dr. Virginie Buggia-Prevot

The University of Chicago
A function for EHD family proteins in unidirectional retrograde dendritic transport of BACE1 and A β production

Graduate Students

Shannon Wolfman

The University of Chicago
Cellular and synaptic mechanisms of nicotine aversion

Trishna Mukherjee

The University of Chicago
Shared sensory estimates for human motion perception and pursuit eye movements

Discovery Dinner

On October 22, 2014, an audience comprised of friends, donors and supporters attended the Brain Research Foundation's annual Discovery Dinner at the Ritz Carlton for an informative, sincere and heartfelt evening.

Thanks to the generosity of BRF's trustees, donors, friends and volunteers, we raised over \$550,000 to fund the nation's most innovative neuroscience research.

Chaired by **Joan and Richard Kohn** and **Alicia and Peter Pond**, the evening highlighted the accomplishments of two individuals who are important to the BRF.

Trustee Peter Pond presented the Founder's Award to **William E. Fay, Jr.** for his extraordinary passion and steadfast commitment to the Foundation. At 97, Bill traveled from Florida to accept the award, calling the evening and event "one of the most incredible nights of my life." A touching video was created to commemorate Bill's 60-year legacy of supporting the BRF. We were happy that we were



William E. Fay, Jr. receiving the Founder's Award, presented by BRF Trustee and Discovery Dinner co-chair, Peter Pond

able to present the award to him, in a room full of people who deeply appreciated his unwavering commitment.

Dr. Richard A. Chaifetz was awarded the Frederic A. Gibbs Discovery Award for Philanthropic Leadership by BRF Trustee and Vice President, Norm Bobins. Dr. Chaifetz is the Founder, Chairman and Chief Executive Officer of ComPsych Corporation. Dr. Chaifetz and his wife Jill are active philanthropists through their Chaifetz Family Foundation. Notable gifts include the Chaifetz Arena at St. Louis University, Chaifetz Trading Center at Miami University Farmer School of Business and Richard and Jill Chaifetz Curator of Zoology at the Field Museum.

After the two awards were presented, guests enjoyed a lively and educational panel from two of the nation's top neuroscientists and special guest, **Adolph Kiefer**, gold medalist in the 100-meter backstroke in the 1936 Olympics. The enlightening discussion recognized the importance of physical exercise and how it can delay or even possibly prevent the onset of cognitive decline.



Alicia and Peter Pond, Discovery Dinner co-chairs



BRF President and Discovery Dinner co-chairs Richard and Joan Kohn



Norm Bobins presenting the Frederic A. Gibbs Discovery Award for Philanthropic Leadership to Dr. Richard A. Chaifetz



Matthew Rahn, Dr. Terre Constantine, BRF Executive Director and CEO and Dr. Sam Sisodia, Chair of the BRF Scientific Review Committee



The Honorable Anne M. Burke, Richard Price, CEO Mesirow Financial and Eve Tyree, James Tyree Foundation



Joyce and Adolph Kiefer, Gold Medalist, 1936 Olympics



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Lab Notes

BRF's 2015 Scientific Innovations Awards grant \$450,000 toward neuroscience research

Federal funding for exploratory research can be extremely difficult to obtain. We help fill the funding gap so that breakthrough projects like these can get off the ground.

The BRF recently awarded our 4th Annual Scientific Innovations Awards (SIA). The SIA is a grant program that provides funding for innovative science in basic and clinical neuroscience. Three scientists were selected to receive the two-year grants for \$150,000 each.

The BRF facilitates the discovery of new scientific knowledge that will lead to improved treatments and cures for neurological diseases.

The SIAs were established to provide funding and support for creative, exploratory, and cutting edge neuroscience in recognized research laboratories under the direction of established investigators.

Brain Research Foundation's Scientific Review Committee, consisting of neuroscientists from various institutions throughout greater Chicago and the nation, reviewed the SIA proposals and made recommendations for funding to the BRF.

Synaptome of a memory

In order for scientists to understand the cellular mechanisms of learning and memory, they must first make improvements in understanding where connections, namely synapses, occur in the brain and how these connections change during learning and



memory. **Kristen Harris, Ph.D., University of Texas-Austin** is conducting research that focuses on understanding the synaptic mechanisms of memory using three-dimensional reconstruction from serial section electron microscopy. New viral approaches will be used to reconcile specific sources and the phenotype of the activated synapses with changes in synaptic ultrastructure. Through her research Dr. Harris hopes to better understand how a memory is formed in a normal brain, which could lead to new treatments for diseases such as autism and Alzheimer's.

The functional logic of inhibitory microcircuits

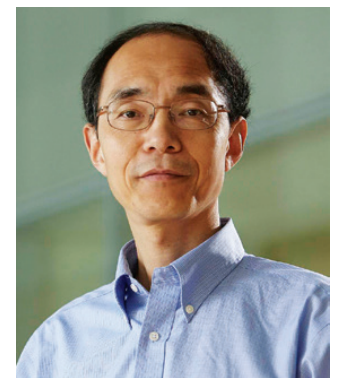
Thomas Jessell, Ph.D., Columbia University is a prominent



neuroscientist whose research focuses on the mechanisms by which neural circuits in the spinal cord control movement, examining how neurons communicate and connect. In his work funded by the SIA grant, Dr. Jessell will be researching how inhibitory neural circuits impose patterned motor output. Dr. Jessell hopes that his research will clarify the intricate nature of motor circuits, paving new ways to enhance motor system recovery after damage from neurodegenerative diseases such as ALS, or traumatic disorders such as stroke.

Disruption of the Shank3 gene in a new model for studying ASD

With the help of an innovative new genome editing technology, **Guoping Feng, Ph.D., Massachusetts Institute of Technology** is creating a new



model to study autism spectrum disorders and psychiatric disorders. As a result of this research, Dr. Feng hopes to be able to understand autism further and provide a biomarker for future therapies.

We are extremely enthusiastic about the outcome of the research from this year's award recipients and anticipate that the investigations supported by these grants will yield high-impact findings and result in major grant applications with the National Institutes of Health (NIH) and other funding entities, as well as significant publications in notable peer-reviewed journals.



William E. Fay, Jr. (1917–2015)

On January 7, 2015, the Brain Research Foundation lost its co-founder and Chairman Emeritus, William E. Fay, Jr. He was 97.

Bill was a dynamic Chicago businessman and Executive Vice President for Smith Barney & Company until he retired in 1982 as a consultant. As Chairman Emeritus of the Brain Research Foundation, he remained dedicated to the Brain Research Foundation and its mission.

The reason he came to help build the Brain Research Foundation was because of his youngest daughter, Lisa.

In October 1958, Margaret and Bill Fay noticed that their 10-month-old daughter Lisa was having small, involuntary tremors. As time passed, Lisa began having seizures which came more frequently and with increased intensity. This led the Fays on a long journey to find answers and treatments for their little girl.

In desperation, they took Lisa to various specialists around the country. That is when they met Dr. Frederic A. Gibbs at the University of Illinois. Dr. Gibbs was a leading neurologist involved in researching the causes, diagnoses and treatments of epilepsy.

The Fays finally found some hope and treatments for Lisa, but Bill quickly realized that there were only hypotheses about brain function, no facts. He understood that in order to understand pediatric epilepsy one needed to have answers as to how the entire brain functioned, not just focus on one area or one disease. Coincidentally, Dr. Gibbs had just organized a group of doctors to form the beginning of what is now known as the Brain Research Foundation. Bill and his family decided to wholeheartedly support this Foundation. Bill's leadership was critical in creating a foundation that became one of the country's oldest and most innovative organizations supporting brain research.

While we were greatly saddened by learning of his passing, we all remain deeply grateful to Bill for leaving such a tremendous legacy and truly changing the landscape of neuroscience research.



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save the date **JUNE 7**



Please save the date for the Associate Board's White Sox event fund-raiser and friend-raiser. This annual event is designed to increase awareness about the BRF and raise funds to help underwrite a Fay/Frank Seed Grant with a focus on neurological issues in children.

Five hundred tickets are available for the **Sox vs. Detroit Tigers on June 7th at 1:10 p.m.** It's Family Sunday which means that before the game there is an autograph session with select players and coaches. There are lots of kid-friendly activities, like face painting, balloonists and caricature artists.

After the game and if weather permits, kids get a chance to run the bases!

Tickets are \$25 each. Please call the BRF office at 312.759.5150 or go to www.theBRF.org to purchase your tickets before they sell out!