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Discover!

news from the Brain Research Foundation

Seed Grant's Worldwide Success: Advancing Science One Gene at a Time

Twenty years ago the BRF funded Dr. Kári Stefánsson's research. Since then he has been advancing science one gene at a time.

When I first read the article in the *New York Times* on a researcher from Iceland, the name, Kári Stefánsson, seemed familiar. So I wasn't too surprised to find out that I knew the name because the BRF awarded Dr. Stefánsson several Fay/Frank Seed Grant Awards from 1982 to 1993. He was then a faculty member in neurology at the University of Chicago. The topic of his seed grant projects varied from better understanding cancer to identifying possible proteins involved in multiple sclerosis.

In 1996, Dr. Stefánsson decided to return to his homeland of Iceland to start a company called deCODE Genetics. deCODE Genetics' goal is to analyze and understand the human genome, identifying key genetic risk factors for dozens of common diseases.

In July 2012, Stefánsson and his colleagues reported online in the top-tier journal *Nature* that they discovered a rare gene mutation that protects people against Alzheimer's disease. While this "protective" mutation is uncommon, it provides strong evidence that excessive levels of a normal brain peptide, amyloid beta, play a major role in the development of Alzheimer's disease. The mutation protects the brain by slowing the production of amyloid beta. This is good news to companies that have been focusing on developing drugs that reduce brain amyloid beta levels as effective therapies that may slow the progression of Alzheimer's.

Later that year, Dr. Stefánsson's team made news again by publishing that there was a direct correlation between the number of genetic mutations in children and the age of the father at conception. Over the years, a lot of focus has been put on the mother's age and the health of the child. But apart from Down syndrome, it seems that the father's age plays a more significant role than once thought. Studies suggest that disorders such as schizophrenia and autism are influenced by the age of the father, not the mother.

The BRF played a major part in Dr. Stefánsson's early career, and we continue to help other scientists in theirs, advancing the understanding of neurological disorders. Our office may be in Chicago but it is thrilling to see what impact the Brain Research Foundation is having all over the world.

—Terre A. Constantine. Ph.D., BRF Executive Director

The BRF has expanded our Seed Grant funding nationally. We fund neuroscience research that seeks to develop a deeper understanding of how the human brain and nervous system function. This is an exciting expansion of our mission because it strengthens networks across the neuroscience community and fosters new research. We're pleased to be able to support novel ideas that researchers throughout the country are eager to explore.

In this issue:

BRAIN RESEARCH FOUNDATION

Innovate. Explore. Discover.

Dear Friends,

This past year was an extremely dynamic period for the Brain Research Foundation (BRF). The Foundation continued our mission to support the best neuroscience research by creating a new, nationwide research program, the Scientific Innovations Award, and by expanding our Seed Grant funding nationally. This growth enables the Foundation to support even more promising and innovative research. This progress can only happen because of you, our generous donors. I am very proud of the fact that 100% of your tax deductible donations went to research and education this past year, and will into the foreseeable future. I am extremely grateful to our friends who continue to support the worthy work we do.

2013 is a big milestone for the BRF. We are celebrating our 60th anniversary. While there are still many questions about the brain and nervous system, we have been part of some amazing answers. We have advanced the understanding of the brain by funding projects such as the creation of a mouse-model for epilepsy, investigation into neuroprotection after stroke, and interpretation of genes and environment on neuropsychiatric diseases, to name just a few.

I am very proud of the fact that 100% of your tax deductible donations went to research and education this past year, and will into the foreseeable future.

Your support helps us maintain our commitment to research and education that betters the lives of children and adults. We hope you will help us continue our mission in 2013, and we promise to steward your contributions responsibly and update you on our research progress through the year.

Sincerely,

Terre A. Constantine, Ph.D.
Executive Director

We have advanced the understanding of the brain by funding projects such as the creation of a mouse-model for epilepsy, investigation into neuroprotection after stroke, and interpretation of genes and environment on neuropsychiatric disease.

Welcome Our New Development Director

We are very pleased to welcome **Sandra Jaggi DiPasquale** as our Development Director. In her new position, Sandy will be responsible for strengthening the Brain Research Foundation's fundraising strategy and performance, and increasing Chicago's philanthropic community engagement with Foundation activities.

Prior to joining BRF, Sandy spent over 12 years at the Art Institute of Chicago, most recently as Director of Development at the School of the Art Institute of Chicago (SAIC) where she founded the nation's first Annual Giving Conference for Schools of Art and Design in 2010.

"Having many friends and family members affected with neurologic disorders, I am passionate about the mission of the Brain Research Foundation and am very eager to support the important work it does. I am very excited to be on board."

Born in Switzerland and raised in the Chicago area, Sandy graduated from DePaul University and earned her Masters in Arts Administration and Public Policy from SAIC.

Foundation Forward

Donor Profile: Rob Johnson

Most of us have a story about a friend, family member or other loved one who has suffered from the effects of a neurological disorder. For many of our donors, these stories have compelled their unwavering support of the BRF. We recently asked Rob Johnson, one of our Trustees, to share his story with us.

What was it about the work being done at the Brain Research Foundation that made you decide to join the Board of Trustees?

My first awareness of the BRF came about 10 years ago when folks from Channel 7 worked with the BRF on a fundraiser for John Drury—a hero of mine—a legendary anchor in this town for many years who was struck down by Lou Gherig's disease (also known as ALS). To be able to support something that was important to his family made a big impact on me.

When your friends and family find out that you are a Trustee of the BRF, what do they say or ask?

Our name, the Brain Research Foundation, is great because it clearly explains exactly who we are. When people ask, "well, what do you do?" I tell them that we support research for every neurological disorder you can think of, so if Parkinson's is your interest, or ALS, or concussions, etc., we research all of these things. That's what makes our narrative so strong. I think not being disease specific helps us make significant contributions to research in all the various fields because our audience and support base is so wide and varied.

There are so many worthy charities and foundations doing excellent work and all are asking donors for financial support. What compelling message can you give as to why they should choose to donate to the BRF instead of another organization?

I think that everybody needs to know that the money we raise at the BRF goes directly to the researchers tackling the most complicated neurological issues in their various fields. Many organizations have significant administrative costs, but the BRF tries to keep our operational costs low and those expenses are generally covered by the income from investments. This means that the BRF is in a unique position and can say that 100% of donor dollars goes to research and education. Additionally, the seed grant money that the BRF provides to these researchers enables them to receive greater funding from other sources, including the government. This is what sets us apart from so many other groups—that the money you donate to the BRF goes directly to the neuroscience researchers or to education initiatives. We are really making a difference.

Interest in the BRF seems to be growing. Why do you think that is?

I think that people understand that so many neurological issues affect so many families in one way or another. Maybe it's your close friend, your brother, someone you know or somebody you love is or will potentially be affected with a neurological disease. Once you realize this sobering fact, you can turn to the BRF as an ally. It gives family members a resource and a way to get involved with an organization that is making a difference and funding groundbreaking research.

Is there any personal anecdote that you wish to share with the BRF audience, to explain why you are so passionate about what we do?

The reason I believe in the mission of the BRF so strongly is because it furthers the research of important issues that could affect any family. I have a brother with Down syndrome and it is something I have spent my life trying to learn more about. In addition, I have relatives who live with mental illness and multiple sclerosis, and I want to be part of the solution when it comes to better understanding them, and perhaps even conquering them some day. This is why the BRF is so relevant, because it deals with a wide array of issues that affect ***all of us.***

—Rob Johnson is the weekday anchor of the CBS2 evening newscasts at 5:00 PM and 10:00 PM [photo: Abel Sanchez]

With your help, the Brain Research Foundation continues to grow, bringing us steps 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 or to donate today, please call Sandra DiPasquale at 312.759.5157 or visit us at www.theBRF.org.

Our 2012 Discovery Dinner

BRF Raised Over $650,000 for Research and Education at the 2012 Discovery Dinner.

The Frederic A. Gibbs Discovery Award

Dr. Frederic A. Gibbs was a neurologist who helped found the Brain Research Foundation in 1953. He was a pioneer in the use of electroencephalography (EEG) for the diagnosis and treatment of epilepsy. The Discovery Awards honor companies and individuals who are dedicated to advancing neuroscience through research, education, and philanthropy.

More than 250 guests attended the Brain Research Foundation's Discovery Dinner at the Four Seasons on Monday, October 29. The annual dinner was chaired by BRF Trustees Suzanne M. Kopp-Moskow and John Mabie with their spouses Michael H. Moskow and Martha Mabie. Rob Johnson, BRF Trustee and CBS2 News Anchor, kept the evening lively and the audience engaged as Master of Ceremonies.

Two individuals were the recipients of the Brain Research Foundation's Frederic A. Gibbs Discovery Award. Michael W. Ferro, Jr., Founder and Chief Executive Officer of Merrick Ventures, LLC, was presented the award for Philanthropic Leadership by last year's recipient, Greg Case, President and Chief Executive Officer of Aon Corporation. Michael was honored with the Discovery Award because Merrick Ventures is a technology investment company that has helped transform, through Internet technology, the industries of manufacturing, financial services and healthcare.

As the recipient of last year's Community Service award, Norman R. Bobins presented the second Discovery Award to David M. Holtzman, M.D. Dr. Holtzman is the Professor and Chairman of the Department of Neurology at Washington University School of Medicine. Dr. Holtzman's contributions to the world of neuroscience have advanced the understanding of neurodegenerative diseases like Alzheimer's.

Panel Discussion: Reducing the Risks of Cognitive Decline

The evening's panel was moderated by BRF Executive Director, Terre A. Constantine, Ph.D., and was comprised of three distinguished scientists who addressed the most recent findings on reducing cognitive decline: James A. Mastrianni, M.D., Ph.D. Associate Professor, Department of Neurology, University of Chicago; Robert J. Vassar, Ph.D., Professor, Department of Cell and Molecular Biology, Northwestern University; and Robert S. Wilson, Ph.D., Professor, Departments of Neurological Sciences and Behavioral Sciences, Rush University Medical Center.

The lively conversation addressed many aspects of how to prevent cognitive decline, regardless of age, race or gender. The positive message from all three researchers was that it is never too late to take an active role in preventing decline. Moderate daily exercise, adequate sleep and surrounding oneself with social activities were a few of the recommendations made by our esteemed panel to prevent and even reverse the cognitive effects of aging. After an enlightening question and answer session with the audience, the panelists thanked the Foundation for its extraordinary work in supporting neuroscience research.

From left: Nathan Hansen, BRF Board President and Suzanne M. Kopp-Moskow, BRF Trustee and Discovery Dinner co-chair

David M. Holtzman, M.D. receiving the Discovery Award for Community Service from Norman R. Bobins, BRF Trustee

Eric and Jen Ferguson, and Rob Johnson, Master of Ceremonies and BRF Trustee

From left: Greg Case, President and Chief Executive Officer, Aon Corporation, presenting the Discovery Award for Philanthropic Leadership to Michael W. Ferro, Jr., Founder and Chief Executive Officer, Merrick Ventures, LLC.

Brant Ahrens and Jenny Carr, Associate Board members, Jill Hankee and Lua Clark, Associate Board member

Michael Moskow, evening co-chair, Terre Constantine, Ph.D., BRF Executive Director, Suzanne M. Kopp-Moskow, and John Mabie, evening co-chairs and Trustees, and Martha Mabie, evening co-chair

Robert J. Vassar, Ph.D., David M. Holtzman, M.D., and Robert Wilson, Ph.D., Tracy Holtzman and Sam Sisodia, Ph.D.

The Brain Research Foundation is deeply grateful for the generosity of our donors. Because of their tremendous support, the BRF will continue to fund discoveries that conquer disorders of the brain.

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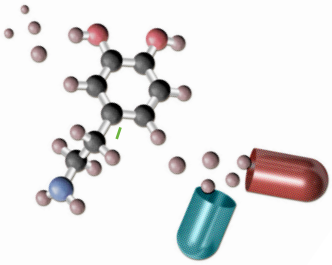

Foundation Lab Notes

Jean Hébert, Ph.D

Brian Litt, M.D.

Scientific Innovations Award Winners

In January 2013, the BRF announced the winners of our 2nd annual Scientific Innovations Award (SIA). We established the award to support ground-breaking research being done by distinguished investigators. The Foundation awarded two SIAs which are two-year grants totaling $150,000 each.

Research institutions from across the United States were invited to nominate one faculty member to apply for the SIA. The BRF's Scientific Review Committee evaluated many worthy SIA applications and selected the most promising ideas for funding. By selecting projects from highly experienced and productive scientists, the BRF supports novel approaches that will lead to significant findings in understanding the brain. The two outstanding projects that were ultimately chosen were from Jean Hébert, Ph.D. (Department of Neuroscience at Albert Einstein College of Medicine) and Brian Litt, M.D. (Department of Neurology at the University of Pennsylvania).

Dr. Jean Hébert's project titled, "How receptive is the adult neocortex to incorporating new projection neurons?" is an ambitious undertaking to develop an approach to disperse neurons throughout brain regions like the neocortex, which is used for our highest cognitive functions. The main neurons of the neocortex can be lost due to neurodegenerative diseases such as Alzheimer disease and ALS, or insults such as stroke or trauma. Once lost, these neurons are not replaced, leading to permanent functional deficits. Developing strategies to replace these lost neurons is a daunting task because of the complexity and size of the neocortex.

The goal of Dr. Hébert's proposal is to develop an approach for introducing new widely dispersed neurons in the adult neocortex, providing a paradigm for testing whether they can functionally integrate and eventually provide the substrate for improved cognitive function.

Dr. Brian Litt's project titled, "Nanodevices to treat neurological diseases," takes an innovative look at building a nanoscale-based technology platform that delivers therapy for neurologic and psychiatric disease at the cellular level. Many of the most common neurological and psychiatric disorders, such as epilepsy, depression, Parkinson's disease and schizophrenia, are caused by problems with brain networks. These problems usually result from dysfunction in one particular type of cell or one location in the brain.

Dr. Litt proposes a new, cutting edge technique to treat brain network disorders with nanodevices. He proposes to make devices that can deliver medications, genes, electrical stimulation and other treatments directly to the affected cells, without disturbing other areas in the body. His belief is that treatments with nanodevices will be much more effective than current protocols and that they have the potential to dramatically improve treatment of the causes underlying some of the most common neurologic and psychiatric illnesses.

"The role of the BRF is to help fill the funding gap through our research grant programs so breakthrough projects like these can get off the ground," said Terre Constantine, BRF Executive Director. "Our ultimate goal is to facilitate the discovery of new scientific knowledge that will result in improved treatments and cures for neurological diseases. We're enthusiastic about the potential of the work Dr. Hébert and Dr. Litt are doing to help achieve this goal."

Associate Board News

The Brain Research Foundation Associate Board focuses on making a positive difference in the lives of children with brain disorders and their families through public educational programs and by supporting cutting-edge neuroscience research.

Associate Board Event Moves BRF Forward

One way the Associate Board generates awareness and support is through its annual event Rockin' on the River. Thanks to the incredible enthusiasm, effort and generosity of the event's sponsors, contributors and attendees, the BRF Associate Board is pleased to report that its recent fundraising event was a great success! Almost $60,000 was raised to help support the mission of the Brain Research Foundation.

Attendees enjoyed the wonderful venue along the Chicago riverwalk at 401 N. Michigan. The event featured refreshing cocktails, raffle prizes and the music of One Night Band, who graciously donated their time and amazing talent. Delicious hors d'ouevres and desserts kept the crowd fueled for a night of socializing and dancing for an extremely worthy cause.

The BRF Associate Board raised over $3,000 from raffle tickets alone. Prize winners took home tickets to multiple sporting events, a wine tasting tour at City Winery and the most coveted prizes of the evening—VIP passes to Pitchfork Music Festival and a VIP Detroit Redwings vs. Chicago Blackhawks experience. Congratulations to all our winners!

The Associate Board greatly appreciated all who helped make this event such a huge success. We look forward to seeing you all there next year.

From left, Bill Rao, Associate Board member and Graham Bayly, Associate Board Treasurer

Midori Par, Dawn Ishler, Marietta Probst and Tina Plechaty, Associate Board member

(Pictured left) Back Row: Colleen Walsh, Jennifer Falconer, Associate Board President, Jessica Schleimer and Molly Powers

Front Row: Eamonn Conaghan, Larry Powers and Maureen Powers

Photos: Niraj Patel

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6 Decades of Discoveries

This year the Brain Research Foundation is celebrating our 60th anniversary.

1953

60 YEARS

2013

The Foundation was established in 1953 by neurologist Dr. Frederic A. Gibbs and has a long and esteemed history in Chicago. Dr. Gibbs enlisted two families who were close friends, both of whom had children suffering from seizure disorders, William E. Fay, Jr. and Clinton E. Frank, to start fundraising for the newly formed Brain Research Foundation.

Our 60th anniversary year is the perfect time to continue our nascent initiative to expand funding nationally. We know that Dr. Gibbs and Clint Frank would be thrilled at this momentous next step—to fund the absolute best in neuroscience research in the entire nation. Bill Fay, who currently resides in Florida, is still an active participant on our board and has been a great supporter of this expansion.

We are extraordinarily proud to be part of the BRF legacy and want to thank you, our friends, volunteers and donors, for helping us continue to fund innovative neuroscience research and education. Together we continue to play a key role in supporting the research that will have a profound influence on the quality of human life.

Please stay in touch throughout the year as we announce details about our special 60th Anniversary Discovery Dinner and other celebratory events.