SAVE THE DATE...

The 10th Annual Evening of Hope – May 8, 2014

Please save the date for the 10th Annual Evening of Hope to be held on Thursday, May 8th, 2014 at the Sheldon Concert Hall. The evening begins with cocktails, dinner and a concert followed by a dessert reception with the artists.

We are excited to announce that Mr. and Mrs. Robert Hermann will be honorary co-chairs of our 10th Anniversary event and Dr. William A. Peck, MD, former Dean of the Washington University School of Medicine, will accept the Spirit of Hope Award. Dr. Peck was instrumental in forming the partnership between Hope Happens and Washington University to create the Hope Center for Neurological Disorders and will receive the award in honor of his past and continuing support.

The Evening of Hope will feature a performance by the Marcus Roberts Trio in the perfect acoustics of the Sheldon Concert Hall. Led by pianist Marcus Roberts and featuring bassist Rodney Jordan and drummer Jason Marsalis, the Trio takes the audience on a journey through the early days of jazz—from Scott Joplin to Louis Armstrong.

The Marcus Roberts Trio was founded in 1995, and are now known around the world for their signature style and entirely new approach to jazz trio performance. Although the piano is typically the focus of most jazz trios, the Marcus Roberts Trio musicians equally share in shaping the direction of the music by changing its tempo, mood, texture and form.

Marcus Roberts grew up in Jacksonville, Florida, where his mother’s gospel singing and the music of the local church left a lasting impact on his own musical style. After losing his sight at age five, he began teaching himself to play the piano, receiving his first formal lesson at age twelve. Roberts studied classical piano at Florida State University with Leonidus Lipovetsky, and at age 21, began touring with Wynton Marsalis. His critically acclaimed repertoire reflects his tremendous versatility as an artist and includes solo piano, duets and trio arrangements of jazz standards, as well as original suites of music, large ensemble works and symphony orchestra recordings.

For further information, visit Marcus Roberts’ website www.marcusroberts.com.

Tickets for our anniversary event are $250 per person. Sponsorships are available at various levels, beginning with Patrons at $1,000 per couple up to Principal Sponsors at $20,000 and over. If you were a sponsor or patron for last year’s Annual Evening of Hope, we thank you for your generous support and look forward to your continued support for the 10th Annual Evening of Hope.

In order to reach our goal and allocate necessary funding to the Hope Center for Neurological Disorders at Washington University School of Medicine, we need your support and participation once again. The Hope Center continues to make significant progress in many important areas that affect the brain and nervous system. Proceeds from the 10th Annual Evening of Hope will support this collaborative and translational research, which one day will lead to cures for the thousands of people who are diagnosed with neurological disorders every day. Please read more about significant Hope Center breakthroughs on page 3 of this newsletter.

We will soon be sending out event sponsorship information detailing various levels of giving. If you or your company would like to become a sponsor, please contact Gabriela Inderwies at (314) 725-3888 or e-mail at gabriela@hopehappens.org.
A Message from the Board President

Dear Friends of Hope Happens,

On behalf of the Hope Happens family I want to thank our all our donors and supporters for making 2013 another outstanding year. We genuinely appreciate your friendship and involvement and we hope that you will join us again next year for our 10th Anniversary Evening of Hope on May 8, 2014 featuring the Marcus Roberts Trio at the Sheldon.

We are excited to report that we launched our new campaign, the Shout Out for Hope. Shout Out for Hope is an innovative awareness raising and fundraising tool on Facebook. Go to Facebook application and add your voice to the Shout Out to honor a loved one.

Our most exciting news comes from the Hope Center, where we can look back on a year of exciting discoveries and successes in the treatment of neurological disorders. Supported by Hope Happens funding, three new collaborative pilot projects have just been launched. We portrait the new pilot projects as well as some of the most exciting Hope Center breakthroughs in this newsletter.

Neurological research advancements made at the Hope Center exemplify the concept and the philosophy of Hope Happens and The Hope Center. Using collaborative, translational research will bring treatments and cures more rapidly from bench to bedside giving hope to those currently afflicted and to future generations.

With such exciting news, we look forward to an extraordinary year in 2014. However, continued success and discovery requires your assistance.

Our challenge for the upcoming year is to carry on the momentum generated by all this positive activity. At any moment, our dedicated team of scientists and researchers may discover the answer to a neurological disorder, which might then lead to breakthroughs in others. Your support remains critical and brings hope to all those affected by neurological disorders.

With warm wishes for a happy and healthy holiday season,

Toby Martin
President of the Board
Add Your Voice to the Shout Out for Hope

Shout Out for Hope is a new Facebook community that makes it easy for us all to share stories of hope, rally to support research for treatments and cures, and celebrate victories big and small. Adding your voice to the Shout Out is easy – just go to Shoutoutforhope.org, choose Create a Shout Out and honor a loved one.

There are many reasons to join. Think about it: who in your life has been affected by a neurological disorder? Alzheimer’s, ALS, Parkinson’s, MS, CP, Huntington’s, epilepsy, brain injury or stroke? Everyone knows someone who is affected by one of these diseases.

We invite you to create YOUR Shout Out for Hope on Facebook. Be it through writing a note, taking a photo or recording a video, just answer the questions: Who do you know? What is your hope? In doing so, you’ll briefly describe the person you’re honoring and what makes that person special, and you’ll get to articulate your hope to find treatments and cures. It’s as simple as that—you can create one or a million!

By adding your voice you will help create a movement. Our hope is to control neurological disorders by finding treatments and cures. Like us, these disorders are also connected. When Hope Center scientists collaborate and discover breakthroughs for one disorder, that success can lead to treatments and cures for another...and another...That’s why we have a reason to rise, a reason to collaborate, a reason to start a movement, a reason to hope.

Neuroscience Colloquium

In September and October of this year, the Office of Neuroscience Research at Washington University coordinated the Fourth Annual Neuroscience Colloquium. The event featured lectures by prominent national and international scientists followed by a reception. Researchers attending the colloquium had the opportunity to network and share information about their most recent neurological research activities.

The Neuroscience Colloquium is a collaboration of more than 25 different Washington University departments, and this year’s lectures featured a wide variety of topics and discussions. Among the visiting scientists were Timothy Murphy (University of British Columbia) “Imaging and optogenetic tools for elucidating cortical circuit structure function during and after stroke”, Don Cleveland, PhD, University of California, San Diego (“From Charcot to Lou Gehrig: mechanism and therapy in ALS and beyond”) and John Wood, PhD, University College London (“Peripheral pain mechanisms”).
Faces of Hope:

New Hope Center Pilot Projects Announced

Each year, the Hope Center for Neurological Disorders announces new Pilot Projects for innovative neurological research. The projects, which must involve at least two collaborating laboratories, are selected for their scientific merit, innovation, and ability to advance the mission and translational neuroscience goals of the Hope Center and Hope Happens.

Out of the applications that have been submitted by Hope Center researchers, the Hope Center Steering Committee announced three winners of the Pilot Project competition, to be funded in 2014. Hope Happens is proud that Danforth Challenge funds are continuously used to support the Pilot Projects. For more detailed information about the Principal Investigators and the scientific scope of the four new pilot projects, please visit the Hope Center’s website hopecenter.wustl.edu.

Project #1

Promoting axonal regeneration in models of ALS via activation of the preconditioning response in iPSC-derived human neurons

**Principal Investigator:**
Aaron DiAntonio
(WUSTL Developmental Biology)

**Co-Investigators:**
Jeffrey Milbrandt (WUSTL Genetics),
Timothy Miller (WUSTL Neurology)

Our objective is to find new treatments for neuronal injury and disease by promoting regeneration of axons through the “preconditioning” response. Preconditioning is the phenomenon where a prior neuronal injury stimulates an improved regenerative response to a subsequent injury. Our long-term goal is to identify candidate drugs and/or genes that can activate the pro-regenerative preconditioned state without the need for a prior injury.

To accomplish this goal, we will study the preconditioning response of human neurons derived from induced pluripotent stem cells (iPSCs). These stem cells are themselves derived from human skin and so are readily accessible and can be derived from patients with neurological disease. These patient-derived iPSCs will allow us to explore cellular models of neurological disease, such as ALS, in which enhanced regeneration would be helpful.

If successful, these studies will allow us to perform large-scale screens for factors that promote regeneration of human neurons.
Brain injury is the main cause of disability in children. Following brain injury, children often compensate remarkably well. It is thought that the developing human brain compensates for injuries through use-driven reorganization of the remaining intact brain structures, but the mechanisms remain unknown. Understanding these mechanisms is important for designing neurorehabilitative treatments that enhance recovery.

Constraint-induced movement therapy (CIMT) is a treatment for one-sided weakness that requires restraining the stronger upper extremity while undergoing intense therapy for the weaker side. CIMT provides an elegant model-system for studying the neural mechanisms of use-driven brain reorganization. Advances in magnetic resonance imaging (MRI) of the brain (“multi-modal brain MRI”) now allow us to track changes in the brain’s functional organization. To identify brain changes most important for improved motor behavior we also need to acquire accurate, unbiased data about real-world behavior.

This project will pioneer the use of wearable movement biosensors in children to provide continuous measures of three-dimensional extremity movement, from which we can derive the accurate outcome measures needed for clinically useful brain-behavior correlations. Merging advanced multi-modal MRI and biosensor technologies will identify functional links between brain regions most important for improving real-world movement in children. Such critical brain links can then be targeted with medications, therapies, brain stimulation and neurofeedback.
Scientists at Washington University School of Medicine in St. Louis have measured a significant and potentially pivotal difference between the brains of patients with an inherited form of Alzheimer’s disease and healthy family members who do not carry a mutation for the disease.

Researchers have known that amyloid beta, a protein fragment, builds up into plaques in the brains of Alzheimer’s patients. They believe the plaques cause the memory loss and other cognitive problems that characterize the disease. Normal brain metabolism produces different forms of amyloid beta.

The new study shows that research participants with genetic mutations that cause early-onset Alzheimer’s make about 20 percent more of a specific form of amyloid beta – known as amyloid beta 42 – than family members who do not have the Alzheimer’s mutation.

Scientists found another, more surprising difference linked to amyloid beta 42 in mutation carriers: signs that amyloid beta 42 drops out of the cerebrospinal fluid much more quickly than other forms of amyloid beta. This may be because amyloid beta 42 is being deposited on brain amyloid plaques.

“These results indicate how much we should target amyloid beta 42 with Alzheimer’s drugs,” said Randall Bateman, MD, the Charles F. and Joanne Knight Distinguished Professor of Neurology. “We are hopeful that this and other research will lead to preventive therapies to delay or even possibly prevent Alzheimer’s disease.”

The study appeared June 12 in Science Translational Medicine.

In addition to helping develop treatments for inherited Alzheimer’s, investigations of these conditions have helped scientists lay the groundwork for advances in treatment of the much more common sporadic forms of the disease.

Three forms account for most of the amyloid beta found in the cerebrospinal fluid: amyloid beta 38, 40 and 42. Earlier studies of the human brain after death and using animal research had suggested that amyloid beta 42 was the most important contributor to Alzheimer’s. The new study not only confirms this connection but also quantifies overproduction of amyloid beta 42 for the first time in living human brains.

Bateman, who co-developed a technique that measures the rate at which amyloid beta is produced and cleared from the cerebrospinal fluid, contacted several Washington University colleagues to see if they could develop a way to analyze the types of amyloid beta being produced in the brain. Bateman, metabolism expert Bruce Patterson, PhD, and biomedical engineer Donald Elbert, PhD, created a new mathematical model to describe the production and clearance of amyloid beta.

Scientists are testing the new model on data from 11 research participants with Alzheimer’s mutations and 12 related family members who did not have the genetic errors that cause Alzheimer’s. The model let the scientists compare the production rates of the protein’s different forms, revealing an increase in amyloid beta 42 production in subjects with an Alzheimer’s gene.

“Working in isolation, any one of us would likely have gotten the wrong answer, or no answer,” Elbert said. “Bringing our different skill sets together let us tackle a very complex physiological problem.”

Scientists are testing the new model on data from approximately 100 Alzheimer’s patients.

“We hope that our new insights about the production and clearance of amyloid beta proteins will pave the way for future studies aimed at understanding and altering the metabolic processes that underlie this devastating disease,” Patterson said.

Reprint from Washington University News Room. To read the entire article, go to https://news.wustl.edu/news/Pages/25529.aspx
The holiday season is peak time for charitable donations and there are many different ways to support Hope Happens. Our grants directly support the Hope Center for Neurological Disorders, and your donations, whether large or small, are an investment in the future of neurological research.

Help us to continue the fight by making a tax-deductible gift today. Donate online at hopehappens.org or mail your contribution to our office. Any amount you feel comfortable giving is deeply appreciated. With your support, we can continue to provide hope today in the lives of people with neurological disorders.

Cash or stock gifts may be made to Hope Happens for Neurological Disorders through various giving instruments.

**Pledges**
Pledges can be made over a period of three to five years payable annually with a billing month of choice.

**Stocks and Securities**
Hope Happens accepts stock and securities gifts. Please obtain instructions to transfer stock or other equities to Hope Happens at (314) 725-3888 or info@hopehappens.org.

**Tribute Gifts**
Tributes are made in honor or memory of someone. Notification is promptly mailed to inform honorees and families of the tribute made.

**Planned Gifts**
Contributions of significant assets may be made during a donor’s lifetime or posthumously through planned giving. Hope Happens accepts gift annuities, charitable lead trusts and charitable remainder trusts along with estate documents such as wills and bequests.

**Matching Gifts**
Matching gifts are a great way to maximize your donation’s impact. You can ask your company’s HR department about matching gift programs. If your company has a matching gift program, please send Hope Happens your employer’s form to process the match.

---

Here’s an easy way to raise money for Hope Happens. Just start using Yahoo! powered Goodsearch.com as your search engine, select Hope Happens as a donation recipient, and they’ll donate about a penny to your favorite cause every time you do a search!

In addition, do all of your holiday shopping through their online shopping mall, Goodshop.com, where you can shop at more than 2,600 top online retailers, and a percentage of your purchases will go Hope Happens. You pay the same price as you normally would, but a donation goes to your cause! You can also enroll in the Gooddining program. Eat at over 10,000 participating restaurants nationwide and you can earn up to 6% of every dollar spent on the meal as a donation. Here’s the website — http://www.goodsearch.com/.
OUR MISSION

At Hope Happens our mission is to improve the lives of people with neurodegenerative disorders by funding collaborative, translational research that has the potential to fast-track new treatments and cures.

Corporate Matching Gifts

With matching gifts you can double or even triple the impact of your gift!

Many employers sponsor matching gift programs and will match their employees’ charitable contributions. Some companies also match gifts from retirees or spouses. To find out if your company has a matching gift program, talk to your employer’s human resources department. Hope Happens counts matching gifts toward a Hope Society Membership and Annual Giving recognition.

You, too, can offer HOPE

Your gift to The Hope Center will:

- Fuel the momentum of fast-breaking research developments at the Hope Center by eliminating the lag time in traditional funding mechanisms
- Support evaluation of new drugs and therapies not ready for pharmaceutical company development
- Provide funding for targeted interdisciplinary Hope Center research projects

For more information, please contact:
Gabriela Inderwies, Development Officer
gabriela@hopehappens.org or 314-725-3889