The BrainHealth® Project Receives Major Gift

Jennifer and Peter Roberts have made a magnanimous one million dollar gift to catapult The BrainHealth® Project’s innovative technology development. They have opened doors for others to build momentum at UTDallas’ Center for BrainHealth, which is leading an international collaboration of top scientists at major research institutes including Berkeley, UCSF, Stanford, MIT, Harvard and others.

The BrainHealth Project assesses a multitude of health data, with the goal of reaching at least 120,000 individuals, engaging and tracking progress over 10 years. This endeavor elevates the new frontier of brain health to significantly enhance brain performance at every stage of life.

"The ability to strengthen and lengthen brain capacity is something we all want. As a businessperson, I know how progress in this ONE area would be a tremendous game-changer for our families, institutions and nation. No one wants to outlive their brain’s functionality, which currently happens far too often," said Mr. Roberts.

Shortly after moving to Dallas, Mrs. Roberts became involved with BrainHealth after being inspired by a leader of the Think Ahead Group of young professionals. The Robertses represent some of the Center’s most enthusiastic donors and mentors. In addition to the Project, they have supported the capital campaign for the Brain Performance Institute, the Center’s Adolescent Reasoning Initiative, and the Friends of BrainHealth to support rising stars.

WOULD YOU LIKE TO GO PAPERLESS?

Sign up to receive Brain Matters Quarterly, the e-edition! Please email brainmatters@utdallas.edu

7th Annual ASPENBRAINLAB
FRIDAY, JULY 12, 2019
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Future Brain
Hear Dr. Chapman speak on how to tackle our greatest health challenge – optimizing Brain Health and cognitive capacity throughout our lifespan.

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Center for BrainHealth’s Brain Matters Newsletter

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USAA Foundation, Inc. and BPI Team Up to Help Military Caregivers

In 2018, the Brain Performance Institute™ received a grant from the USAA Foundation, Inc. to design and deliver retreats for military caregivers. Combining the Center for BrainHealth’s cognitive training, (SMART), with mindfulness training and science-based stress management strategies, these retreats provide military caregivers with a respite from the stressors of daily life and practical tools to improve their brain health and performance.

“Our goal is to educate caregivers about their brain health and arm them with techniques to enhance communication, accomplish goals, and improve decision-making,” said Katie Hinds, lead clinician for the Warrior Training Team at the Brain Performance Institute.

Thanks to this generous grant, participants can attend free of charge. The first retreat took place in Dallas in October, followed by Washington, D.C. in November, Las Vegas in January, San Antonio in February and April, and San Diego in May. Two remaining retreats are scheduled in Raleigh, N.C., and Dallas.

All retreats have received overwhelmingly positive feedback from participants. In addition to reporting a heightened awareness of brain health and the practical strategies for managing stress, caregivers have expressed gratitude for the chance to form bonds with peers.

“I learned valuable skills to improve my focus and concentration, awareness of how I spend my mental energy, and the importance of brain health,” said one caregiver who attended the D.C. retreat.

“The retreat provided a much-needed getaway, surrounded by great women. The program was really well done.”

The USAA Foundation, Inc. has a rich history of supporting the military community – specifically, recognizing the unique challenges that military caregivers face each day and the need for programs that prioritize their health and well-being.

“Our military caregivers selflessly prioritize the health and well-being of the warriors in their care, often over their own,” said Harriet Dominique, Senior Vice President, Corporate Responsibility, USAA and President of the USAA Foundation, Inc. “We are proud to support organizations, like the Brain Performance Institute, who are working creatively and collaboratively to make an impact in the lives of these deserving men and women.”

The Center for BrainHealth® and the Brain Performance Institute are deeply grateful to the USAA Foundation, Inc. for enabling us to make a difference in the lives of military caregivers across the nation.

A few spots are still available at press time. For more information, visit: https://brainhealth.utdallas.edu/programs/retreat/

A Message from Advisory Board Chair

As I approach my first anniversary chairing the Center for BrainHealth’s Advisory Board, I am just as inspired by the amazing work taking place here today as I was 12 years ago when I first met Sandi Chapman and learned of her vision for the Center for BrainHealth. Moreover, I am very encouraged by the exciting growth and the potential ahead.

Our board includes many Dallas leaders who are dedicated supporters and advocates. Over the past year, we have participated in BrainHealth programs, learned about cutting-edge technology being leveraged, and heard from people who are empowered by taking control of their own brain health. We are better informed about the myriad ways in which this organization is helping people unlock their brain potential.

As I begin my second year, I am encouraged by the level of interest and engagement I see on the board. I am pleased with the evolution of the Brain Performance Institute’s programs to include game-changing tools for corporations. And I am thrilled with the way The BrainHealth Project is coming together.

I urge each of us to continue doing our part to create a BrainHealthy future.

Cutting-Edge Scanners Boost Research Capabilities

Our research capabilities are expanding with the addition of two 3T magnetic resonance imaging (MRI) machines. Located at the Brain Performance Institute, these are the first set of MRI scanners for UT Dallas and are some of the very few such machines in North Texas dedicated exclusively to research related to the human brain.

The design and field strength of the Siemens MAGNETOM Prisma 3T MRI machines are optimized for functional MRI (fMRI), while providing crisp anatomical detail. The 3T offers unmatched performance for research, with a signal-to-noise ratio that reduces distortion to facilitate the acquisition and interpretation of data. These state-of-the-art machines also open the door to innovative approaches such as hyper-scanning, in which two subjects engage in simultaneous, linked studies. Calibration testing is now underway and brain imaging studies will commence in the coming weeks.

We are thankful to the donors whose support has helped make the Imaging Center a reality – in particular, Robert Meadows and The Meadows Foundation, Bea Wallace, the Katherine C. Carmody Charitable Trust, the Roy & Christine Sturgis Charitable Trust, and other anonymous individual donors.

Your gift will help us continue to extend BrainHealth throughout the community.

Please make your tax-deductible donation at brainhealth.utdallas.edu/donate/
RESEARCH UPDATES

Exploring the Value of Cognitive Training for Adults with Mild Cognitive Impairment

Researchers in Dr. Chapman’s lab investigated the effects of combining two non-pharmacological interventions for adults with Mild Cognitive Impairment (MCI): eight semi-weekly sessions of Strategic Memory Advanced Reasoning Training (SMART), a cognitive training program shown to improve reasoning and ability to extract the bottom-line message from complex information; and Transcranial Direct Current Stimulation (tDCS) over the left frontal region, an area associated with cognitive control and memory recovery success in people with Alzheimer’s disease.

All 22 participants showed immediate cognitive improvements in higher-order executive functions (conceptual reasoning and fluency), sustained gains in objective episodic memory and subjective memory satisfaction. The SMART + sham group showed significant immediate gains after training on two measures of executive function – inhibition and innovation, and episodic memory. Counter to expectations, these gains were blocked in the SMART + active tDCS group.

“People with MCI are flooded with daily life information that can overwhelm a compromised brain. Fortunately, these results suggest they can improve cognitive functions given certain trainings,” said the study’s lead author, Namrata Das, MD, MPH. “This study adds to the compelling evidence that cognitive training provides an intervention option to benefit people with MCI, to strengthen their cognitive capacity and even their daily memory function.”

This study was funded by BvB Dallas, Sammons Enterprises, Barbara Wallace and Kelly King Charitable Foundation Trust, the AWARE Fund of the Dallas Foundation, and the Golden Rule Family Foundation.


The Neurochemistry of Social Perception

Cues signaling trust and dominance are crucial for social life. Recent research from Dr. Krawczyk’s lab explored whether administering nasal spray doses of oxytocin and vasopressin – two chemically similar hormones known to affect social cognition – would influence the perception of trustworthiness and/or social dominance. This research extended previous studies on the effects of oxytocin, which had inconsistent findings and only explored its influence on perceptions of trustworthiness.

The study was led by Dr. Adam Teed, whose 2015 Linda and Joel Robuck Distinguished New Scientist Friends of BrainHealth Award partially funded this research.

A group of 20 men observed images of human faces with neutral expressions and rated the levels of trustworthiness and social dominance perceived. They repeated this exercise under three conditions: with oxytocin, with vasopressin, and with a saline placebo.

Oxytocin consistently led to the faces being perceived as more dominant. This novel finding was also reflected in changes in regions of the brain related to social perception as observed using fMRI.

Both hormones were shown to affect brain activity, across both trustworthiness and dominance, indicating that the hormones have the potential to affect the brain even when the changes did not reach a threshold of observable behavior.

This research may inform translational applications regarding the way people take in social information or social cues such as facial expressions.


The Center for BrainHealth continues to deliver Stress Solutions as part of the curriculum for the Caruth Police Institute’s Leadership Development Series. This 15-day program is specifically geared toward patrol officers, detectives, and senior corporals, and it takes a seminar-style approach to examining procedural leadership, procedural justice, evidence-based practice, conflict resolution, leadership legacies, and policing in complex socioeconomic/political atmospheres.

Over the past 15 months, we have worked with more than 150 officers and civilian employees of area PDs through this program. The most recent cohort included members of the DFW Airport PD, Mesquite PD, Irving PD, Dallas PD and U.S. Marshals.
As a nurse, wife and mother, I strive to provide my family with opportunities to attain optimal health. Having many first responder and military veteran family members further enhances my appreciation of the importance of all epigenetic inputs that optimize neuroplasticity. Our ability to live our best lives possible is hinges on our brain health. I am fascinated with the cutting-edge science and research that takes place every day at the Center for BrainHealth® and Brain Performance Institute™, and I look forward to learning and creating awareness of these important missions.

During graduate school at SMU, I completed my practice at Pate Rehabilitation, working with traumatic brain injury patients. I came to love neuropsychology and have continued to study the brain and its impact on emotional wellness. I have greatly admired the work the Center for BrainHealth does in our community. My psychology practice, Heritage Counseling & Consulting, strives to provide the most progressive treatment options available, and I believe my participation as an Advisory Board member furthers that goal. It is a pleasure and an honor to be a part of this organization.
As a nurse, wife and mother, I strive to provide my family with opportunities to attain optimal health. Having many first responder and military veteran family members further enhances my appreciation of the importance of all epigenetic inputs that optimize neuroplasticity. Our ability to live our best lives possible hinges on our brain health. I am fascinated with the cutting-edge science and research that takes place every day at the Center for BrainHealth® and Brain Performance Institute™, and I look forward to learning and creating awareness of these important missions.

I learned that our daily habits can be toxic to our brain’s health, and there are simple, helpful ways to not become overwhelmed in our daily lives. Guess the old saying “take time to smell the roses” is still a valid statement.

On March 23, we hosted Science in the City in partnership with Dallas Morning News. A grand success from every perspective! 520 people registered, making this a great opportunity to connect with a new audience. Our researchers and clinicians shared insights related to their work on topics that included happiness, stress, lying, addiction, storytelling and the power of observation, to name just a few.

We also appreciate our loyal volunteers, who were stationed throughout the building and helped the morning run smoothly. Thank you to them all!

I learned that our daily habits can be toxic to our brain’s health, and there are simple, helpful ways to not become overwhelmed in our daily lives. Guess the old saying “take time to smell the roses” is still a valid statement.

Event Participant
Brain experts from across the nation came to the Center for BrainHealth® to share their groundbreaking research during the annual February lecture series. We are deeply grateful to our presenting sponsor, The Container Store, for supporting the series for the 12th year in a row.

FEBRUARY 5
The BUDHAGIRL Lecture
The Craving Mind: Why We Get Hooked and How to Hack our Minds to Break Bad Habits
Judson Brewer, MD, PhD

We are all vulnerable to craving – whether it’s a compulsion to constantly check social media, binge eat, smoke, or other behaviors we may find ourselves uncontrollably repeating. Why are bad habits so hard to overcome? Do our own minds hold the key to conquer the cravings we know are unhealthy for us?

Dr. Brewer explained why habits are formed and how to tap into the mechanisms to overcome destructive habits, building our natural capacity to become more self-aware, curious and kind.

FEBRUARY 12
Surprising Approaches to Boost Brain Power for You and Your Kids
Adele Diamond, PhD

Dr. Diamond shared different approaches to improve thinking, reasoning and self-control, such as computerized training, physical activity and mindfulness. Attendees learned why the special properties of the dopamine system in the brain’s prefrontal cortex play such a central role in these cognitive functions, as well as the interrelated roles that stress, pride, hope, shame and belonging all play in one’s health and well-being.

FEBRUARY 19
Curing Dementia: From Basic Science to Global Health
Bruce Miller, MD

While Alzheimer’s disease is more common in older people, frontotemporal dementia is the most common cause of dementia in people under the age of 60. Dr. Miller spoke about the latest breakthroughs in research and approaches to reduce the impact of dementia worldwide, including innovative collaborations between laboratory scientists and clinical scientists using genetics, proteomics and molecular imaging.

FEBRUARY 26
Virtual Reality: A New Window into Health and Clinical Treatment
Skip Rizzo, PhD

Clinical Virtual Reality (VR) has produced encouraging results when applied to cognitive, psychological, motor and functional impairments. Clinical VR applications are set to become indispensable tools for healthcare researchers and practitioners. Dr. Rizzo shared the latest advances in VR, including its application in the pro-social area of healthcare.