In October, the Center for BrainHealth® unveiled the new home of its Brain Performance Institute™. The 62,000-square-foot building and program center, located in Dallas, is the first of its kind, offering scientifically based programs to increase brain performance, health and regenerate brain cells.

Surrounded by some of the world’s top brain researchers and clinicians, Center for BrainHealth founder and chief director Dr. Sandra Bond Chapman led a “Reimagined Ribbon-Cutting” that ignited a synapse between two neurons. The moment signified the official opening of the building as well as the launch of a nationwide and globally relevant Brain Performance Movement that is a rallying cry for people to change the way that people care for and think about their brains.

Dr. Leanne Young, executive director of the Brain Performance Institute, said the new building is home to programs that help people at all stages of life.

“This isn’t just about preventing dementia, although it’s important to so many. It’s about improving brain performance and health in everyone right now,” Young said. “The Institute will help young people focus in school, retrain the minds of those affected by military experiences or sports injuries, strengthen mental acuity among corporate leadership and empower each and every one of us to take charge of our own brains so that we can have healthier, stronger, more energetic brains today and in the future.”

INAUGURAL PROGRAMS OFFERED AT THE BRAIN PERFORMANCE INSTITUTE:

**BRAINHEALTH® PHYSICAL**
A brain performance assessment that focuses on the frontal lobe, the area of the brain responsible for executive function, including planning, judgment, reasoning, decision-making and problem-solving

**COGNITIVE TRAINING**
Cognitive training sessions and training workshops for individuals ranging from middle school children to senior citizens who want to get a “mental edge”. Based on research conducted by Center for BrainHealth scientists, studies have shown that when these strategies are applied consistently, it can lead to both structural and functional brain changes.

**CHARISMA™:** SOCIAL COGNITION TRAINING
Social cognition training for people ages eight through adulthood who want to improve their ability to navigate social situations. This interactive training utilizes a game-based virtual platform called Charisma™.

**MINDFULNESS**
The Brain Performance Institute’s mindfulness program is unique in that it includes aspects of positive psychology throughout the program. Offerings include grant-funded programs for first responders, including the flagship program offered to the Dallas Police Department, as well as drop-in meditation classes, introduction to mindfulness classes, and more in-depth programs.

**DISCOVERY GROUP**
For individuals with Alzheimer’s disease or other forms of dementia and their caregivers, the Brain Performance Institute offers the Discovery Group, which helps reframe the diagnosis by focusing on refining existing strengths, rather than on lost function and provides practical tools for navigating the journey ahead. Thanks to private philanthropy, the Discovery Group is offered at no cost to participants.
LETTER FROM
the Chief Director

In the quiet of the new Brain Performance Institute, on October 19th, as I waited for the building to open to a day of Grand Opening activities, one thought kept running through my mind: “It begins here.” In all fairness, I’ve been thinking, “It begins here,” whenever I anticipated that day for the better part of a year. But, those words were not just about the opening of the Institute to the public – as fun as it was to watch more than a thousand people come through the doors that first week. Those words were also – even more so – about starting a movement. A Brain Performance Movement.

People today think about their brains more than ever. We think about learning differences, impairments, depression or anxiety, injuries, strokes and, scariest of all, dementia. But, the Brain Performance Movement isn’t really about any of these things. Instead, it is about thinking about our brains when they are healthy, and taking the actions we can take to maintain or increase brain health, improve brain performance, and build disease resistance. The Brain Performance Movement is about taking charge of our brains, and by doing so, whether we start in disease or in health, taking our brain health and performance to the next level. The time for the Brain Performance Movement is now, because decades of research by scientists at the Center for BrainHealth and partnering scientists across the globe have taught us one amazing, irrefutable truth: Together, we can unlock brain performance.

And, so, the Brain Performance Movement has launched. And, there is only one thing that I would love more than for you to come to enjoy our world-class lectures and brain-centric programs and services at the Brain Performance Institute – and that is for you to make a conscious decision to join the Brain Performance Movement. Make a commitment to yourself to think about and care for your brain each and every day. Choose to be an advocate, activist, evangelist or just a peaceful upholder of brain healthy habits and encourage others to do the same. In doing so, we can protect against decline and take brain performance to the next level.

This may be simpler than you think. In this edition of BrainMatters, please check out our simple steps to be a stellar cerebral member of the Brain Performance Movement.

With gratitude,

THE BRAIN PERFORMANCE MOVEMENT
Take charge of your brain.

5x5

POWER DOWN
Recalibrate your attention for five minutes, five times a day. Power down, look away from the screen, and stop multitasking.

THINK DEEPLY
Boost your neurotransmitters by spending a little more time every day in deep thought.

STAY HEART HEALTHY
What is good for the heart is good for the brain: eat, sleep and move your feet.

Pro tip:
Download the BrainHealth app from the iTunes store to kick-start your 5x5s.

brainperformanceinstitute.com
The Friends of BrainHealth, a circle of donors supporting the Center for BrainHealth® at The University of Texas at Dallas, awarded five $25,000 Distinguished New Scientist Awards at the annual Friends of BrainHealth Scientist Selection Luncheon, sponsored by Katherine and Bob Penn, on September 28. Since 2008, the Friends of BrainHealth have raised more than $2.2 million to fund independently designed research studies led by scientists who are establishing their careers. This year’s Visionary Friend award recipients, selected by committee recommendation, include:

**DANA JUETT DISTINGUISHED NEW SCIENTIST**
Erin Venza, MS, CCC-SLP
*Chemobrain Prevalence and Brain Resilience in Breast Cancer Patients*
“Chemobrain” is a term to describe the persistent cognitive complaints experienced after chemotherapy treatment. This study will examine the effectiveness of a short-term cognitive reasoning training program to improve cognitive, psychological, and brain health in breast cancer survivors who have completed treatment within the past six months to five years.

**LINDA & JOEL ROBUCK DISTINGUISHED NEW SCIENTIST**
Namrata Das, MD, MPH [insert aware title]
*Decoding Brain Energy Metabolism in Individuals at Risk for Alzheimer’s disease*
This project aims to profile metabolic changes in the brains of individuals at risk for Alzheimer’s disease, specifically those with mild cognitive impairment (MCI) to support developments of new disease tracking methods that can provide a comprehensive treatment approach.

**KATHERINE & BOB PENN DISTINGUISHED NEW SCIENTIST**
Aimee Herron, MS & Breonte Jones
*From Virtual to Reality: A Strategic Social Learning Training for Parents*
This study will serve as a basis for creating a social cognition companion app to help individuals with social cognitive challenges, such as those on the autism spectrum, thrive in the real world. The app is intended for parents whose child completed the Brain Performance Institute’s Charisma training (formerly known as Virtual Reality Social Cognition Training) and aims to help further facilitate adoption of the learned strategies.

**JENNIFER & PETER ROBERTS DISTINGUISHED NEW SCIENTIST**
Hana Miric, MS
*Training Strategic Learning to Improve Psychological Health & Functional Outcomes in Adults with Traumatic Brain Injury*
This study will examine how strategic learning performance test results translate in terms of psychological health and everyday functioning of traumatic brain injury (TBI) survivors. Findings will help reveal cognitive processes that account for what may be impeding TBI patients from returning to productive lives years after having sustained a mild to moderate traumatic brain injury.

**FRIENDS OF BRAINHEALTH DISTINGUISHED NEW SCIENTIST**
Finalists Lyndahl Himes, Alan Dunn, and Monroe Turner presented research proposals during the Friends luncheon, competing for one award voted on by Friends in attendance. Dunn proposed a traumatic brain injury study to discover improved tools of detection and recovery tracking. Turner’s proposal sought to investigate the relationship between neural activity and oxygen metabolism in multiple sclerosis patients in comparison to that of neural activity and blood flow – the traditional way to infer neural activity. Ms. Himes received the audience choice award for her proposal.

Lyndahl Himes, BS
*Neural Mechanisms of Mindfulness and Depressed Mood*
The aim of this study is to lay the groundwork for mindfulness training as an alternative to conventional treatments currently used for major depressive disorder, examining the extent to which mindfulness training is able to increase hippocampal volume - a measure that is compromised in individuals with major depressive disorder. Using healthy individuals and correlating hippocampal volume changes to behavioral responses after a negative mood induction, the study seeks to illuminate a neuro-biomarker indicative of treatment responsiveness and provide evidence for mindfulness training as an effective treatment for major depressive disorder.

The Friends of BrainHealth kicked off its 2018 campaign November 1 with co-chairs Robin Bagwell and Dr. Elizabeth Hughes. Friends of BrainHealth offers seven membership levels: Ambassador ($250), Companion ($500), Friend ($1,000), Special Friend ($2,500), Esteemed Friend ($5,000), Distinguished Friend ($10,000), and Visionary Friend ($25,000).
This document contains a list of donors whose contributions are recognized. The list details various individuals, businesses, and organizations that have made donations to the organization over a specified period. The contributions are acknowledged in a formal and organized manner, reflecting the gratitude of the recipients toward the donors. The list includes names, titles, and affiliations, providing a comprehensive view of the contributors. The compilation is a testament to the generosity and support received from a diverse range of philanthropic sources.
On Tuesday, November 14, the Center for BrainHealth and its Brain Performance Institute part of The University of Texas at Dallas bestowed Mrs. Margaret McDermott, the iconic Dallas philanthropist and visionary, with the 2017 Legacy Award. Many know Mrs. McDermott for her dedication to the arts, but few realize her intense devotion to UT Dallas, which her beloved departed husband Eugene founded in 1969 along with Erik Jonsson and Cecil Green.

The evening’s speakers included UT Dallas President Dr. Richard Benson and UT Dallas Executive Vice President Dr. Hobson Wildenthal who referred to Mrs. McDermott a “chief executive of a major enterprise of doing wonderful things”. Center for BrainHealth advisory board chair Debbie Francis introduced a special tribute video celebrating Mrs. McDermott’s positive influence on the city in which Mayor Mike Rawlings said “[Margaret] doesn’t want any credit; she wants to just keep giving back because she feels so thankful”.

Brook Hollow’s ballroom was packed with 260 guests, including former first lady Laura Bush, Margot and Ross Perot, Peggy and Carl Sewell, Jane and Bud Smith, Gene Jones, Edith and Peter O’Donnell, Lyda Hill, Lisa and Kenny Troutt, Stacey and Dan Branch, Gayle and Paul Stoffel, Lisa and Clay Cooley, and Lottye and Bobby Lyle. Dinner co-chairs Caren Prothro and Debbie Rose.
10/12
Grand Opening Gala

The positive attitude of the team was apparent and contagious.
– Dale H.

10/19
Public Grand Opening

Great topics, visionary speakers!
– Gloria A.

[The] positive attitude of the team was apparent and contagious.
– Dale H.
**OLDER ADULT INNOVATION AND BRAIN NETWORKS IMPROVED AFTER COGNITIVE TRAINING**

A Center for BrainHealth pilot study demonstrated that its cognitive training program, known as SMART, improves innovative thinking, along with corresponding positive brain changes, in healthy adults over the age of 55.

"Innovative cognition – the kind of thinking that reinforces and preserves complex decision-making, intellect and psychological well-being – does not need to decline with age," said Dr. Sandra Bond Chapman, Center for BrainHealth founder and chief director and lead author of the study. "This study reveals that cognitive training may help enhance cognitive capacities and build resilience against decline in healthy older adults."

In the randomized pilot trial, researchers compared the effect of SMART (a program that focuses on teaching strategies that foster attention, reasoning and broad-based perspective-taking) to aerobic exercise training (known to be good for brain health) and a control group on innovative cognition. Performance was measured by an individual’s ability to synthesize complex information and generate a multitude of high-level interpretations. The 58 participants were assessed at baseline, mid- and post-training using innovative cognition measures and functional MRI, a brain scanning technology that reveals brain activity.

Findings published recently in Frontiers in Aging Neuroscience revealed that the 19 participants in the SMART group improved their performance on innovative cognition measures by an average of 27 percent from baseline to mid- and post-training periods. The physical exercise and control groups did not show improvement.

The work was supported by a grant from the National Institute of Health and by grants from the T. Boone Pickens Foundation, the Lyda Hill Foundation and Dee Wyly Distinguished University Endowment.

**AMYGDALA’S LEAD ROLE IN FACIAL RECOGNITION SHOWS SOCIAL LINK TO SURVIVAL**

New research from the Center for BrainHealth reveals that the amygdala may play a larger role in the brain’s ability to recognize faces than previously thought. Findings published in Neuropsychologia revealed that the amygdala was more face-specific than the fusiform face area (FAA), the area of the brain traditionally recognized as specialized for facial recognition.

"These findings lead us to believe that the amygdala may be getting a ‘preview’ before the brain’s primary visual cortex sends the signal to the fusiform face area,” said Dr. Leanne R. Young, executive director, Brain Performance Institute at the Center for BrainHealth, led the team study.

"The amygdala is associated with survival – fight or flight – it acts as a gateway regulating what we pay attention to. We would expect the amygdala to be activated in the presence of scary or threatening faces – something that our brain might perceive as potentially impeding our survival. However, we were surprised to find how active the amygdala is in the presence of emotionally neutral faces," explained Dr. Dan Krawczyk, Center for BrainHealth deputy director and associate professor in the UT Dallas School of Behavioral and Brain Sciences. "This highlights the importance of social cognition, which includes the ability to recognize faces. This process is key for our survival."

**$2.5M NIH AWARD TO INVESTIGATE CANNABIS USE DISORDERS**

The National Institutes of Health (NIH) recently awarded Dr. Francesca Filbey, director of Cognitive Neuroscience of Addictive Behaviors at the Center for BrainHealth $2.5 million to examine cannabis use disorders. The brain-imaging study will investigate the brain mechanisms behind problems related to cannabis use in American and Dutch cannabis users. Conducted in partnership with Dr. Janna Cousijn at the University of Amsterdam in the Netherlands, the study will investigate individual and cultural effects on the severity of cannabis use disorder. Drs. Filbey and Cousijn hope their findings will reveal brain-based markers that may help create new prevention and intervention strategies and inform public health policies.

“We aim to disentangle how environmental factors, such as legality, may lead to differences in how cannabis use disorder manifests in the brain,” said Dr. Filbey.

Characterized by compulsive drug-seeking despite negative consequences, cannabis use disorders are currently the most prevalent of all illicit substance use disorders. Approximately 10 percent of marijuana users become addicted to cannabis. Long-term recovery is achieved by less than 20 percent of those who seek treatment.

**CENTER FOR BRAINHEALTH DEPUTY DIRECTOR WRITES THE BOOK ON REASONING**

**FROM THE PUBLISHER:**

Essential reading for neuroscientists, cognitive scientists, neuropsychologists and others interested in the neural mechanisms behind thinking, reasoning and higher cognition, the textbook: Reasoning: The Neuroscience of How We Think presents a sustained focus on the neurobiological processes behind reasoning throughout all chapters. It also synthesizing research from animal behavior, cognitive psychology, development, and philosophy for a truly multidisciplinary approach. The book considers historical perspectives, state-of-the-art research methods, and future directions in emerging technology and cognitive enhancement.

Dr. Dan Krawczyk, associate research professor and deputy director of the Center for BrainHealth, holds the Debbie and Jim Francis Chair in Behavioral and Brain Sciences at The University of Texas at Dallas and is also an associate professor in psychiatry at the University of Texas Southwestern Medical Center.
Technology and media use is a ubiquitous part of the daily lives of our children, and only increasing. By most estimates, many of our adolescents are spending half of their waking time on media and technology. Understandably, there is much concern and much hope around the impact that this could have on our brains, particularly those that are still developing. In this talk, Dr. Uncapher, Assistant Professor of Neurology at the University of California San Francisco, will discuss the growing body of evidence investigating how technology and media use may be associated with cognitive, psychosocial, and academic differences, and the implications for how we engage with tech in our homes, schools, and daily life.

Sleep and Circadian Rhythms: The Brain Benefits of Getting Enough Sleep
Russell Foster, PhD

We are dominated by time. But beyond the alarm clock that drives us out of bed our bodies answer to a much older clock that can be found in almost all living things. An internal 24hr biological clock (circadian clock) regulates and drives much of our biology, timing our sleep and even influencing the chances of having a heart attack or surviving cancer. Understanding how these rhythms are generated and regulated within the brain has been one of the great triumphs of neuroscience. As Director of the Sleep and Circadian Neuroscience Institute at the University of Oxford, Dr. Foster will lead us through the science and importance of sleep and circadian rhythms, what happens when these systems go wrong and the consequences of our increasingly 24/7 world. He may even change your mind about why you need to sleep more!