# NEURODEGENERATIVE DISEASE RESEARCH AT THE CENTER FOR BRAIN REPAIR

As a group, the major neurodegenerative diseases – Alzheimer's, Parkinson's and Huntington's – significantly affect the quality of life of millions of people worldwide. The goal of our research programs is to develop treatments that ameliorate the adverse effects of these diseases and improve the quality of life.

# ONGOING ALZHEIMER'S RESEARCH AT THE CENTER FOR BRAIN REPAIR

- Dynamics of plaque formation in the hippocampus in Alzheimer's disease, and the development of drugs for plaque depolymerization. Ewa Bienkiewicz, Ph.D., and James Olcese, Ph.D.
- Genetics and cell biology of the mechanisms of removal of degraded proteins in Alzheimer's and other neurodegenerative diseases. Yi Zhou, Ph.D., Tim Megraw, Ph.D., and Yanchang Wang, Ph.D.
- Interaction between traumatic brain injury and early-onset Alzheimer's disease. Cathy Levenson, Ph.D., Tom Morgan, Ph.D., Jake VanLandingham, Ph.D., and James Olcese, Ph.D.
- Using stem cells to treat brain damage and the role of immune system in the survival of stem cell transplants. Yi Ren, Ph.D.
- Melatonin therapy for Alzheimer's and other disorders of cognition. James Olcese, Ph.D.
- Stem cells in the developing and mature brain. Richard Nowakowski, Ph.D.
- Zinc supplementation and hippocampal function in health and disease. Cathy Levenson, Ph.D., and Tom Morgan, Ph.D.
- Next-generation sequencing, proteomic analysis and sex biases in Alzheimer's disease. Cindy Vied, Ph.D., Kerry Maddox, Ph.D., James Olcese, Ph.D., and Richard Nowakowski, Ph.D.
- Functional reorganization of brain circuits in Alzheimer's disease. Sanjay Kumar, Ph.D.
- Novel therapies for depression. Mohamed Kabbaj, Ph.D., and Hussam Jourdi, Ph.D.
- Novel dopamine receptor analogs for treatment of memory deficits. Pradeep Bhide, Ph.D., Deirdre McCarthy, B.Sc., and Jinmin Zhu, M.D., Ph.D.
- Brain structure and behavior in Alzheimer's disease models. James Olcese, Ph.D., and Charles Ouimet, Ph.D.

# EXTERNAL COLLABORATORS AT THE CENTER FOR BRAIN REPAIR

- Nutan Sharma, M.D., Ph.D. Massachusetts General Hospital and Harvard Medical School, Boston
- D. Cristopher Bragg, Ph.D. Massachusetts General Hospital and Harvard Medical School, Boston
- Laurie Ozelius, Ph.D. Mount Sinai School of Medicine, New York



## ALZHEIMER'S IS A FAMILY MATTER



# The Alexander "Sandy" Halperin, DDS Alzheimer's Research Fund

Fund Number-F07794

# Center for Brain Repair

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## THE FACE OF ALZHEIMER'S DISEASE

Alexander "Sandy" Halperin, DDS, was diagnosed with early-onset Alzheimer's disease in 2010 at the age of 60. Sandy studied at the New York University College of Dentistry, where he received his degree. Upon graduation, Sandy continued his studies at Eastman Dental Center, where he specialized in prosthodontics. Prior to his diagnosis, Sandy also held positions as co-owner of a community newspaper, president of a marketing, advertising and public relations firm, and city commissioner for Weston, Fla. Toward the end of his professional career, Sandy was employed as a dental consultant for the Florida Department of Health. He reviewed charts of complaints that were filed against dentists, analyzing the data and offering his opinions.

It was during the case review process that Sandy began to notice changes in his memory. After spending up to an hour reviewing and writing an analysis of a specific case, Sandy was not able to recall a single detail about the case within moments of closing the file. He reported these concerns to his primary care physician and pursued a neuropsychological evaluation at the Mayo Clinic in Scottsdale and with his neurologist in Tallahassee, Fla. Upon receiving his diagnosis, Sandy was relieved to have validation for the cognitive problems that were affecting his professional and personal life.

As a person living with dementia, Sandy has chosen to remain active as an alumni member of the national Early-Stage Advisory Group. Sandy hopes to bring awareness to what he calls "invisible illnesses" or medical problems that may not be readily seen by others. His goal is to speak to a variety of audiences on behalf of patients dealing with a cognitive impairment such as Alzheimer's disease and other dementias. Tireless in his networking and outreach efforts, Sandy is compelled to be a part of the discovery of treatments, preventions and cures, as well as de-stigmatizing the diagnosis of dementia. Sandy and his wife, Gail, live in Tallahassee. They have two daughters, Karen and Lauren, and three granddaughters, Emma, Rebecca and Madeline. He is the focus of a CNN documentary chronicling his journey with Alzheimer's disease.

"Partnering with FSU's College of Medicine has been my best step in enhancing Alzheimer's research funding."

Sandy Halperin

### NEURODEGENERATIVE DISEASE RESEARCH AT FSU

The goal of the Florida State University College of Medicine's Alzheimer's research program at the Center for Brain Repair is to develop innovative means of diagnosis, intervention and treatment, as well as to shape public policy and national advocacy to benefit Alzheimer's patients, caregivers and families.



#### THE COST OF ALZHEIMER'S DISEASE

Alzheimer's disease has become the leading cost for the U.S. Medicare and Medicaid programs, totaling at least \$142 billion this year – more than either heart disease or cancer. By the year 2050, it is expected that the costs for caring for people with Alzheimer's and other cognitive disorders will soar to an estimated \$1.3 trillion. One-third of people who die have Alzheimer's at the time of their death, and Alzheimer's is now the 6th leading cause of death in the U.S. Approximately 40 percent of Alzheimer's caregivers suffer from depression.

# A NATIONAL EMPHASIS ON ALZHEIMER'S

In January 2011, President Obama signed the National Alzheimer's Project Act, which outlined five goals, including the development of effective treatment strategies by 2025. Consequently, researchers at laboratories and medical centers have redoubled their efforts to find strategies for detection, prevention and treatment. While there's still no cure, the last few years have brought exciting research and promising discoveries that give cause for hope for Alzheimer's sufferers and their loved ones.

Together we can change the future for our families by supporting research and discovery initiatives at the Florida State University College of Medicine through your tax-deductible gift to:

FSU Foundation The Alexander "Sandy" Halperin, DDS Alzheimer's Research Fund (F07794)

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