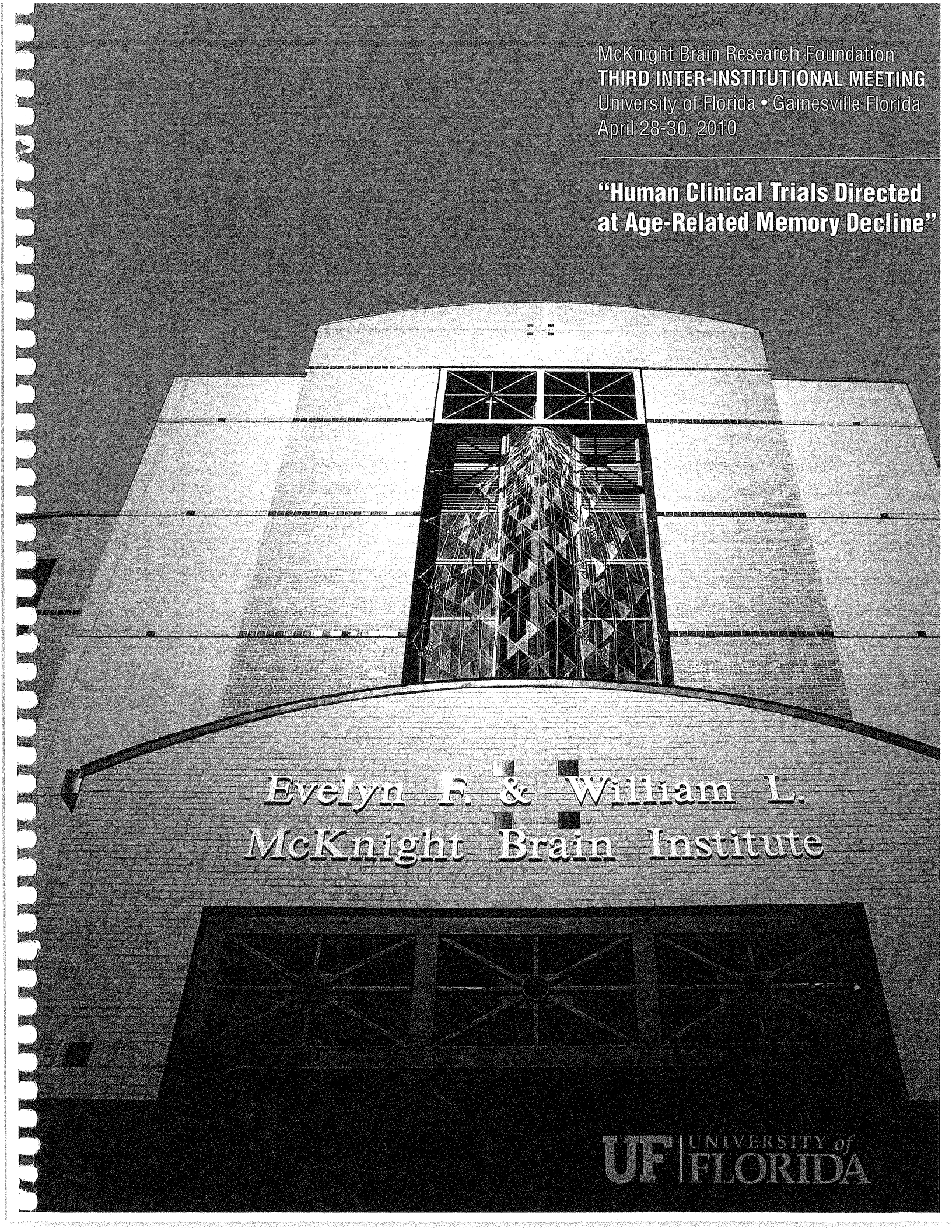
McKnight Brain Research Foundation

THIRD INTER-INSTITUTIONAL MEETING

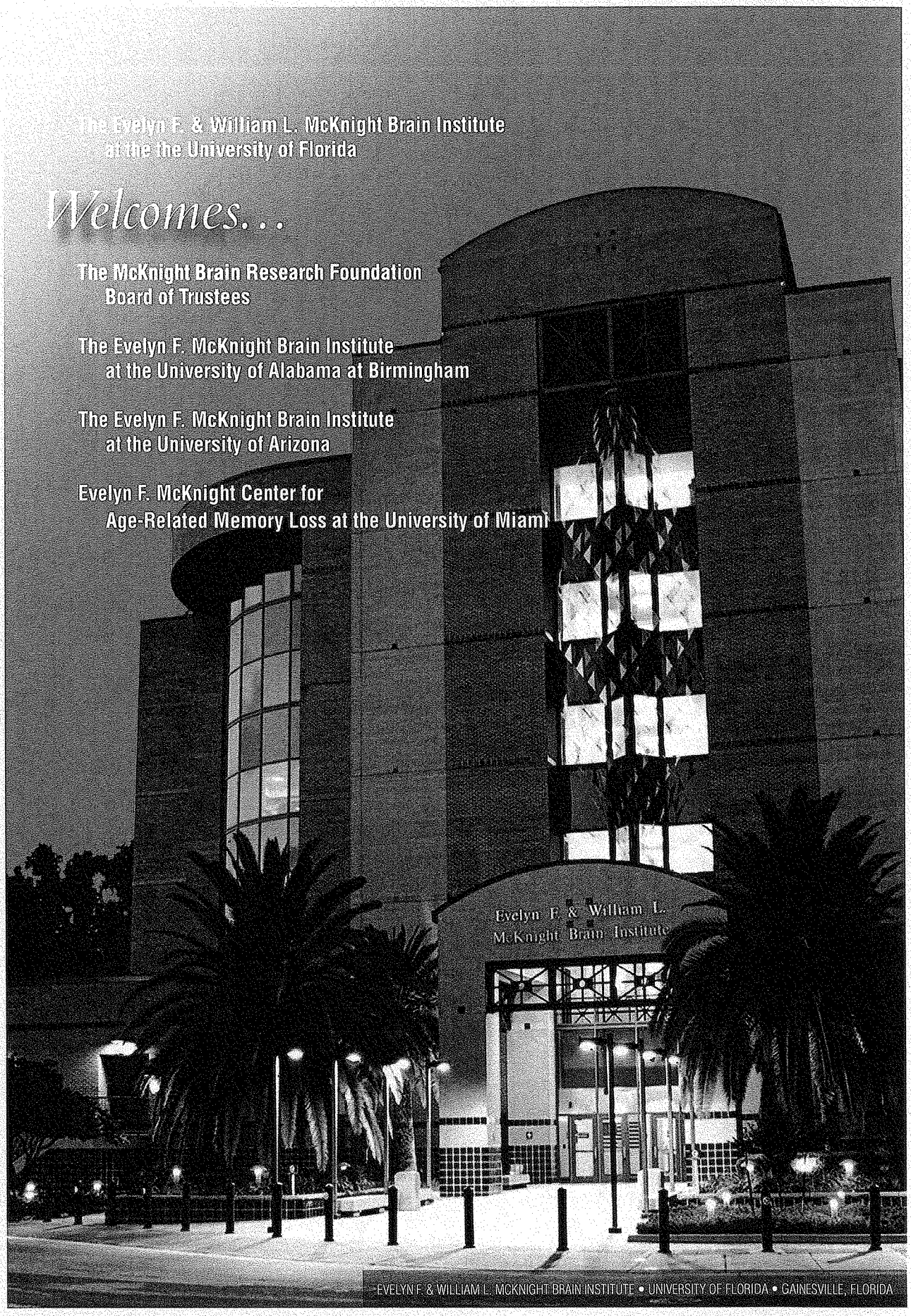
University of Florida • Gainesville Florida

April 28-30, 2010

"Human Clinical Trials Directed at Age-Related Memory Decline"



UF UNIVERSITY of FLORIDA


The Evelyn F. & William L. McKnight Brain Institute
at the the University of Florida
Welcomes...
The McKnight Brain Research Foundation
Board of Trustees
The Evelyn F. McKnight Brain Institute
at the University of Alabama at Birmingham
The Evelyn F. McKnight Brain Institute
at the University of Arizona
Evelyn F. McKnight Center for
Age-Related Memory Loss at the University of Miami
Evelyn F. & William L.
McKnight Brain Institute
EVELYN F. & WILLIAM L. MCKNIGHT BRAIN INSTITUTE • UNIVERSITY OF FLORIDA • GAINESVILLE, FLORIDA

Special thanks to the McKnight Brain Research Foundation Board of Trustees for their enduring support of Brain Research.

LtoR: John G. Clarkson, M.D., Teresa W. Borcheck, Henry H. Raattama Jr., J.D., Legal Counsel, Judith A. Salerno, M.D., Michael L. Dockery, M.D., Nina Ellenbogen Raim, M.D., J.D., J. Lee Dockery, M.D.

The Evelyn F. McKnight Brain Research Foundation® was created on May 26,1999. Its purpose is to promote research and investigation of the brain in the fundamental mechanisms that underlie the neurobiology of memory with clinical relevance to the problems of age related memory loss.

tmbrf.org

Evelyn F. McKnight Center for Age Related Memory Loss

AGENDA SUMMARY (FULL AGENDA CAN BE FOUND ON THE PAGES FOLLOWING THE TAB)

WEDNESDAY, APRIL 28, 2010

3:00 p.m.	Registration Opens
6:30 p.m. - 8:00 p.m.	Reception - Cocktails & light hors d'oeuvres

THURSDAY, APRIL 29, 2010

7:00 a.m. - 8:30 a.m.	Buffet breakfast for participants - Century Ballroom B & C
8:00 a.m. - 8:45 a.m.	Registration - Pre-function area outside Century Ballroom A
8:45 a.m. - 9:05 a.m.	Welcome & Opening Remarks -Century Ballroom A

SESSION I – TOPICS

9:10 a.m. - 9:30 a.m.	"Abnormalities of glutamate neurotransmission in elderly, cognitively impaired patients with schizophrenia"
9:30 a.m. - 9:50 a.m.	"Brain Morphological Correlates of Successful Aging in a Population-based Sample"
9:50 a.m. - 10:10 a.m.	"Tau, Excitability, and Neuronal Dysfunction"
10:10 a.m. - 10:25 a.m.	Break
10:25 a.m. - 10:45 a.m.	"Age-Related Memory Decline – Directions for Intervention?"
10:45 a.m. - 11:05 a.m.	"Neuroimaging Studies in Healthy & Pathological Aging"
11:05 a.m. - 11:25 a.m.	"Advancing the science of cognitive interventions with older adults: Empirical and conceptual needs"
11:25 a.m. - 12:25 p.m.	Lunch
12:25 p.m. - 1:00 p.m.	Shuttles Depart to McKnight Brain Institute
1:00 p.m. - 1:10 p.m.	Welcome to McKnight Brain Institute - DeWeese Auditorium
1:15 p.m. - 2:15 p.m.	McKnight Brain Institute - Group tours 1) Neuroimaging by Magnetic Resonance 2) Radio surgery and deep brain stimulation 3) Oak Hammock-University of Florida partnership presentation 4) Cell and Tissue Analysis Core (CTAC) and Adult Stem Cell Engineering and Therapeutics Core (ASCENT) 5) Powell Gene Therapy Center Vector Core 6) New Exercise & Assessment Facility,
2:15 p.m. - 2:45 p.m.	Shuttle service to UF Hilton Hotel & Conference Center - Pickup in front of MBI

SESSION II – PANEL DISCUSSION

	Thomas Foster, Ph.D., Moderator
2:50 p.m. - 4:10 p.m.	Panel Discussion: "Creativity and the Aging Brain" "Clinical studies from trials to cohort: Moving from experimental observations to clinical trials."
6:00 p.m. - 7:00 p.m.	Cocktail Reception Pre-function area outside Century Ballroom A
7:00 p.m. - 9:00 p.m.	Dinner - Century Ballroom A • Keynote Speaker - Kenneth M. Heilman, M.D.

FRIDAY, APRIL 30, 2010

8:00 a.m. - 9:00 a.m.	Breakfast & Meeting of Trustees, McKnight Directors, Endowed Professors and Endowed Chairs poster discussion Magnolia Room
7:30 a.m. - 8:55 a.m.	Buffet Breakfast - Pre-function Area
9:00 a.m. - 9:15 a.m.	Thomas Foster, Ph.D. invite group & explain poster session
9:15 a.m. - 10:30 a.m.	Poster Session – Century Ballroom B & C
10:30 a.m. - 11:00 a.m.	Break and room check-out
11:00 a.m. - 12:00 p.m.	Keynote Speaker – Scott Small, M.D. - Century Ballroom B & C
12:00 p.m. - 12:10 p.m.	Closing Remarks – Michael L. Good, M.D. - Century Ballroom B & C
12:00 p.m. - 1:00 p.m.	Box Lunch - Pre-function Area
1:00 p.m. - 4:00 p.m.	Hotel shuttle service to airport

Evelyn F. & William L. McKnight
Brain Institute

Third Annual Inter-Institutional Meeting of
McKnight Brain Research Foundation (MBRF) Funded Institutions

"Human Clinical Trials Directed at Age-Related Memory Decline"

April 28, 29, and 30, 2010
University of Florida
Gainesville, Florida 32610

***Please note all events are located at the Hilton University of Florida Conference Center unless otherwise noted.**
Questions ? Please contact Sandy Pulcini at Pulcini@ufl.edu or (352) 339-6213

Wednesday, April 28, 2010

12:00 p.m. - 5:00 p.m.	Board Meeting/Luncheon Boardroom
3:00 p.m.	Registration Opens Pre-function Area
6:30 p.m. – 8:00 p.m.	Reception *Cocktails & light hors d'oeuvres* Hilton University of Florida Conference Center Century Ballroom B & C. 1714 SW 34th Street Gainesville, FL 32607 (352) 371-3600

Thursday, April 29, 2010

7:00 a.m. - 8:30 a.m.	Buffet breakfast for participants Century Ballroom B & C
8:00 a.m. - 8:45 a.m.	Registration Pre-function area outside Century Ballroom A

8:45 a.m. – 9:05 a.m. Welcome & Opening Remarks
Century Ballroom A

David Guzick, M.D., Ph.D.
Senior Vice President Health Affairs &
President UF&Shands Health System
University of Florida

J. Lee Dockery, M.D.
Evelyn F. McKnight Brain Research Foundation Trustee

SESSION I – Speakers
Thomas Foster, Ph.D., Moderator

9:10 a.m. - 9:30 a.m. *"Abnormalities of glutamate neurotransmission in elderly, cognitively impaired patients with schizophrenia"*
James Meador-Woodruff, M.D.
Heman E. Drummond Professor and Chair
Department of Psychiatry and Behavioral Neurobiology
University of Alabama at Birmingham

9:30 a.m. – 9:50 a.m. *"Brain Morphological Correlates of Successful Aging in a Population-based Sample"*
Clinton B. Wright, M.D.
Scientific Director
Evelyn F. McKnight Center for Age Related Memory Loss
Associate Professor
Department of Neurology, Miller School of Medicine
University of Miami

9:50 a.m. – 10:10 a.m. *"Tau, Excitability, and Neuronal Dysfunction"*
Erik Roberson, M.D., Ph.D
Assistant Professor
Departments of Neurology & Neurobiology
University of Alabama at Birmingham

10:10 a.m. – 10:25 a.m. Break

10:25 a.m. – 10:45 a.m. *"Age-Related Memory Decline – Directions for Intervention?"*
Glen Finney, M.D.
Assistant Professor
Program Director, Neurology Residency Program
Department of Neurology
Evelyn F. McKnight Brain Institute
University of Florida

10:45 a.m. – 11:05 a.m. *"Neuroimaging Studies in Healthy & Pathological Aging"*
Gene E. Alexander, Ph.D.
Professor & Director, Brain Imaging
Behavior & Aging Lab
Department of Psychology & Evelyn F. McKnight Brain Institute
University of Arizona

11:05 a.m. – 11:25 a.m. *"Advancing the science of cognitive interventions with older adults: Empirical and conceptual needs"*
Michael Marsiske, Ph.D.
Associate Professor & Associate Chair of Research
Department of Clinical & Health Psychology
College of Health Professions & College of Liberal Arts & Science
University of Florida

11:25 a.m. – 12:25 p.m. Lunch
Century Ballroom B & C

12:25 p.m. - 1:00 p.m. Shuttles Depart to McKnight Brain Institute
Pick up in traffic circle outside Hilton registration desk

1:00 p.m. – 1:10 p.m. Welcome to McKnight Brain Institute
DeWeese Auditorium

Dennis Steindler, Ph.D.
Executive Director
The Evelyn F. and William L. McKnight Brain Institute
Joseph J. Bagnor/Shands Professor of Medical Research
Program in Stem Cell Biology and Regenerative Medicine
University of Florida

1:15 p.m. - 2:15 p.m. McKnight Brain Institute
Group tours

1) Joanna R. Long, Ph.D.
Neuroimaging by Magnetic Resonance

2) Michael Okun, M.D.
Radio surgery and deep brain stimulation

3) Star Bradbury
Oak Hammock-University of Florida partnership presentation

4) Michael Rule
Cell and Tissue Analysis Core (CTAC) and Adult Stem Cell Engineering and Therapeutics Core (ASCENT)

5) Nathalie Clement, Ph.D
Powell Gene Therapy Center Vector Core

6) Jocelyn Lee, Ph.D. ARRC-New Exercise & Assessment Facility,

2:15 p.m. - 2:45 p.m. Shuttle service to UF Hilton Hotel & Conference Center
Pickup in front of MBI

SESSION II – Panel Discussion
Thomas Foster, Ph.D., Moderator

2:50 p.m. – 4:10 p.m. Panel Discussion
Century Ballroom A
Clinical studies from trials to cohort:
Moving from experimental observations to clinical trials.

Marco Pahor, M.D.
Professor & Chair
Department of Aging & Geriatric Research
College of Medicine
University of Florida

Wajeeh Bajwa, M.D.
Director of the Office of Regulatory Affairs and Licensing Clinical Translational Sciences Institute
University of Florida

Hubert H. Fernandez, M.D., F.A.A.N.
Associate Chair of Academic Affairs
Co-Director, Movement Disorders Center
Department of Neurology
University of Florida

Eric Reiman, M.D.
Director, Alzheimer's Disease Research Program
Scientific Director, PET Center
Clinical Director Neurogenomics Program
Professor & Associate Head for Research and Development
University of Arizona

Ralph Sacco, M.S., M.D., F.A.A.N., F.A.H.A.
Executive Director
Evelyn F. McKnight Center for Age Related Memory Loss
Professor and Olemberg Family Chair in Neurological Disorders
Miller Professor of Neurology, Epidemiology, and Human Genetics
University of Miami

6:00 p.m. - 7:00 p.m. Cocktail Reception
Pre-function area outside Century Ballroom A

7:00 p.m. - 9:00 p.m. Dinner
Century Ballroom A

8:00 p.m. **Keynote Speaker**
"Creativity and the Aging Brain"
Kenneth M. Heilman, M.D.
Clinical Professor of Neurology & Health Psychology
Program Director and Chief, NF/SG VAMC
Director, UF Cognitive and Memory Disorder Clinics
Department of Neurology, College of Medicine

Friday, April 30, 2010

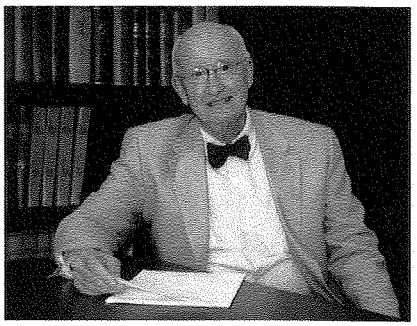
8:00 a.m. – 9:00 a.m. Breakfast & meeting of Trustees, McKnight Directors, Endowed Professors and Endowed Chairs to discuss poster session
Magnolia Room

7:30 a.m. - 8:55 a.m. Buffet Breakfast
Pre-function Area

9:00 a.m. - 9:15 a.m.	Introduction to Poster Session Thomas Foster, Ph.D.
9:15 a.m. – 10:30 a.m.	Poster Session Century Ballroom B & C
10:30 a.m. – 11:00 a.m.	Break and room check-out
11:00 a.m. – 12:00 p.m.	**Keynote Speaker** *"Zooming in on cognitive aging: MRI maps to molecular mechanisms"* **Scott Small, M.D.** Associate Professor Department of Neurology – Aging and Dementia Columbia University, New York Century Ballroom B & C
12:00 p.m. – 12:10 p.m.	Closing Remarks Century Ballroom B & C **Michael L. Good, M.D.** Dean, College of Medicine Folke H. Peterson/Dean's Distinguished Professor University of Florida
12:00 p.m. - 1:00 p.m.	Box Lunch Pre-function Area
1:00 p.m. – 4:00 p.m.	Hotel shuttle service to airport

Keynote Speakers

Kenneth Heilman, M.D.
Clinical Professor of Neurology & Health Psychology
Program Director and Chief, NF/SG VAMC
Director, University of Florida
Cognitive and Memory Disorder Clinics
Department of Neurology, College of Medicine
Phone: (352) 273-5550
Email: Heilman@neurology.ufl.edu



Dr. Kenneth M. Heilman received his M.D. degree from the University of Virginia in 1963 and subsequently spent two years training in Internal Medicine at Cornell University Medical Center (Bellevue). During the Vietnam War he joined the Air Force and was Chief of Medicine at NATO Hospital, Izmir, Turkey. When he was discharged from the service, he took a Neurology residency and fellowship at the Harvard Neurological Unit (Boston City) with Dr. Derek Denny-Brown and then with Dr. Norman Geschwind. After completing his residency and fellowship, he joined the faculty at the University of Florida in 1970, as an Assistant Professor. He was promoted to Associate Professor in 1973 and Professor in 1975. He received an endowed chair in 1990 making him the first James E Rooks, Jr. Professor of Neurology. In 1998, he was in the first group of the faculty to be awarded the title of Distinguished Professor. He is also a professor of Clinical and Health Psychology.

Dr. Heilman is an active clinician who is Director of the Memory and Cognitive Disorder Clinics. His primary clinical interests are in attentional, emotional and cognitive disorders. His expertise as a clinician has been recognized by being listed in every edition of the Best Doctors in America as well as other publications. Dr. Heilman is also an educator. In addition to teaching medical and psychology students, he is active in resident education and has been director of a post doctoral program that has trained more than 50 post doctoral fellows. The majority of these fellows now hold academic positions in this and other universities. Several of Dr. Heilman's former fellows are now leaders in academic Neurology and Neuropsychology. Dr. Heilman also has an active research program. He is the author of several texts, and has more than 400 books, chapters and articles in peer reviewed journals.

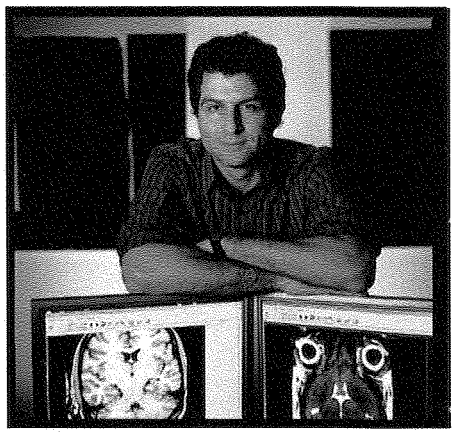
Research Interests:

Dr. Heilman's research has been almost continuously funded by federal agencies (e.g., VA Merit Review and/or National Institutes of Health) for the last 30 years. Currently, he and his coworkers receive more than one million dollars a year in research funding. In recognition of his research contributions, he was in the first group of individuals to receive the University of Florida Research Foundation Professorships. Dr. Heilman also received the Clinical Research Award from the University of Florida College of Medicine. He had been elected President of the International Neuropsychology Society and the Behavioral Neurology Society. This latter organization also gave him the Outstanding Achievement Award for his research and educational contributions to Neurology.

Some of the research advances he and his coworkers reported include:

- The demonstration that a cortical (frontal-parietal)-limbic (cingulate)-reticular (thalamic and mesencephalic) network mediates attention and that the right hemisphere is dominant for attending to both sides of the environment.
- Prior to three decades ago it was thought that the left hemisphere was dominant for speech and language. Dr. Heilman and his coworkers demonstrated that it was the right hemisphere that was important for emotional communication.
- That skilled movement, such as using a pair of scissors, is mediated by a left hemisphere modular network where the parietal lobe contains the memories of the spatial trajectories needed to perform skilled movements and the frontal lobe (premotor cortex) performs the computations that transfer this knowledge to a motor code.
- That the right hemisphere's parietal lobe controls the autonomic nervous system.

Scott A. Small, MD
Associate Professor
Department of Neurology – Aging and Dementia
Columbia University, New York
Phone: (212) 305-1269
Email: sas68@columbia.edu



After graduating from NYU with a B.A. in experimental psychology, Dr. Small began the MD/PhD program at Columbia University in Eric Kandel's laboratory. Discovering that he enjoyed patient care more than he anticipated, he decided to focus exclusively on his medical training. After completing a medical internship at UCLA, a neurology residency and chief residency at Columbia, and a fellowship with Richard Mayeux, Dr. Small 'returned' to research. Informed by his prior experience studying neuronal physiology and pathophysiology he began a research program at Columbia dedicated to investigating intractable disorders of the brain. Taking a decidedly top-down approach, he optimized brain imaging tools designed to pinpoint brain dysfunction in human patients and mouse models of disease. More recently, Dr. Small has combined brain imaging with gene-expression technologies to uncover novel molecular defects underlying Alzheimer's disease and aging. Dr. Small is the recipient of numerous awards, including the Beeson Scholar Award in Aging Research from the American Federation on Aging, the McKnight Neuroscience of Brain Disorders Award, the Derek Denny-Brown Young Neurological Scholar Award from the American Neurological Association, and the Lamport Award for Excellence in Clinical Science Research from Columbia University.

Evelyn F. McKnight Brain Institute Meeting Participants
University of Alabama at Birmingham

Michael Brenner, Ph.D.
Professor
Evelyn F. McKnight Brain Institute
Department of Neurobiology

Lynn Dobrunz, Ph.D.
Assistant Professor
Evelyn F. McKnight Brain Institute
Department of Neurobiology

Alecia K. Gross, Ph.D.
Assistant Professor
Evelyn F. McKnight Brain Institute
Department of Vision Sciences

John G. Hablitz, Ph.D.
Professor
Vice Chair, Department of Neurobiology
Associate Director, Evelyn F. McKnight Brain Institute

Felecia Hester, MBA
Research Associate
Department of Neurobiology

David C. Knight, Ph.D.
Assistant Professor
Department of Psychology

Farah D. Lubin, Ph.D.
Assistant Professor
Department of Neurobiology
Evelyn F. McKnight Brain Institute

Lori Wakefield McMahon, Ph.D.
Associate Professor
Department of Physiology & Biophysics
Evelyn F. McKnight Brain Institute

James H. Meador-Woodruff, M.D.
Heman E. Drummond Professor and Chair
Department of Psychiatry and Behavioral Neurobiology

Linda Overstreet Wadiche, Ph.D.
Assistant Professor
Department of Neurobiology
Evelyn F. McKnight Brain Institute

Lucas Pozzo-Miller, Ph.D.
Professor
Department of Neurobiology
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Erik Roberson, M.D.
Assistant Professor
Departments of Neurology & Neurobiology
Evelyn F. McKnight Brain Institute

Eric D. Roth, Ph.D.
Postdoctoral Fellow, J. David Sweatt Laboratory
Department of Neurobiology
Evelyn F. McKnight Brain Institute

Tania L. Roth, Ph.D.
Postdoctoral Scholar
Department of Neurobiology
Evelyn F. McKnight Brain Institute

J. David Sweatt, Ph.D.
Professor
Chair, Department of Neurobiology
Director, Evelyn F. McKnight Brain Institute

Anne Theibert, Ph.D.
Associate Professor
Department of Neurobiology
Evelyn F. McKnight Brain Institute

Kristina M. Visscher, Ph.D.
Assistant Professor
Department of Neurobiology
Evelyn F. McKnight Brain Institute

Scott Wilson, Ph.D.
Assistant Professor
Department of Neurobiology
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Michael Brenner, Ph.D.
Professor
Department of Neurobiology
Evelyn F. McKnight Brain Institute
Phone: (205) 934-1011
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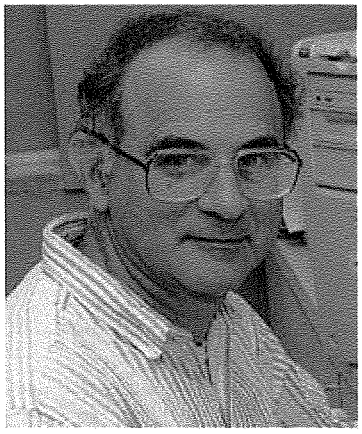

Dr. Brenner's laboratory studies the molecular biology of astrocytes, the most common cell type in the central nervous system (CNS). Astrocytes are responsible for many of the homeostatic controls in the CNS, such as maintaining the blood-brain barrier and proper neurotransmitter levels. Astrocyte serve as precursors for neurons and oligodendrocytes during development, and also serve as stem cells for the production of these cell types in the adult. CNS injury stimulates astrocytes to undergo a reactive response, which contributes to healing but can also lead to further damage. The work focuses on the transcriptional regulation of a gene encoding an intermediate filament protein specific to astrocytes, glial fibrillary acidic protein (GFAP), and on the biological role of this protein. The GFAP gene is of interest because it is turned on as astrocytes mature, and its activity increases dramatically during the reactive response. Thus, study of GFAP transcription will yield insights into mechanisms governing development, reaction to injury, and cell specificity, ultimately allowing these processes to be manipulated.

Dr. Brenner's laboratory has also discovered that heterozygous coding mutations in the GFAP gene are responsible for Alexander disease, a rare but fatal neurological disorder. Interestingly, although this establishes that the primary genetic defect in this disease is in astrocytes, the infantile form of Alexander disease is marked by massive myelination defects, and the later onset forms by neuronal dysfunction. Thus the study of this disorder not only has direct clinical implications, but also will reveal critical interactions between astrocytes and oligodendrocytes and between astrocytes and neurons that occur throughout the life span.

Lynn Dobrunz, Ph.D.
Assistant Professor
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Evelyn F. McKnight Brain Institute
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Dr. Dobrunz's research program uses electrophysiological approaches to study synaptic transmission and regulation of presynaptic properties at synapses in the hippocampus. Using hippocampal brain slices and cultured hippocampal neurons from rodents, the lab studies short-term plasticity and the cellular and molecular mechanisms underlying the activity dependent modulation of neurotransmitter release. Projects in the lab include the study of mechanisms and effects of

(continued)

target-cell specific short-term plasticity, including the role of postsynaptic influences on the formation and function of presynaptic terminals. The lab also studies the changes that occur in presynaptic function during normal postnatal development and during normal aging.

Alecia K. Gross, Ph.D
Assistant Professor
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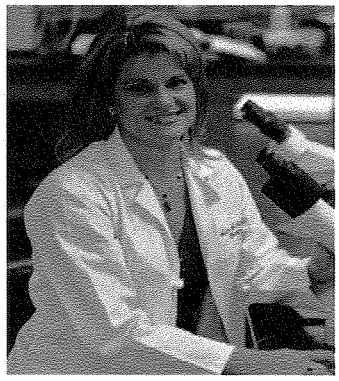

Dr. Gross' interest is in G protein-coupled receptor (GPCR) trafficking and signaling in neurons. One of the most fundamental problems in molecular neuroscience and cell biology is the proper assembly of signal-transducing membranes including the transport and sorting of protein components. A major cause of neurodegenerative and other inherited disorders is the improper localization of receptors and other signaling or transport proteins. The Gross Lab uses the dim-light photoreceptor protein rhodopsin as a model GPCR to better understand this process in the neural retina, and has been investigating the molecular interactions of proteins that interact with rhodopsin during folding, transport and those involved in the biogenesis of disk membranes in the outer segments of rods. In addition, using transgenic *X. laevis* and knock-in mice expressing mutants and fusion proteins of rhodopsin, they are studying both the molecular mechanisms of retinal degeneration as well as *in vivo* imaging of rhodopsin trafficking in live animals.

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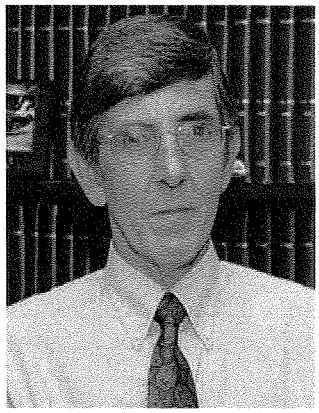

Dr. Hablitz's research is centered on understanding control of activity in local cortical circuits. He is using studies on synaptic transmission to further understand basic biophysical properties of mammalian central neurons, as well as to explore the pathophysiology of experimental epilepsy. Whole-cell voltage-clamp recordings from visually identified neurons are used in *in vitro* brain slice preparations. The goal of these studies is to determine the types of synaptic interactions present among pyramidal cells and interneurons in neocortex and how these patterns change over the lifespan. A particular goal is to understand how dopamine, an important modulator of working memory, affects excitability of individual neurons in prefrontal cortex. Additional studies involve the use of imaging techniques to directly visualize activity in presynaptic nerve terminals. These studies examine modulation of neurotransmitter release in normal neocortex and animal models of cortical dysplasia.

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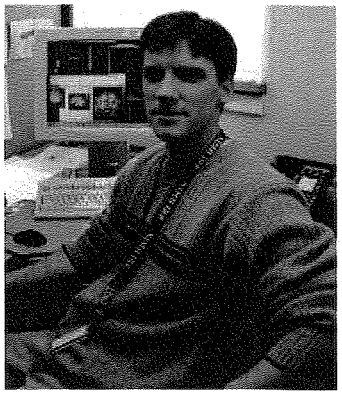

Dr. Knight's research is focused on better understanding the neural substrates of human learning, memory, and emotion using functional magnetic resonance imaging (fMRI). His research employs a Pavlovian fear conditioning paradigm during fMRI to explore changes in human brain activity that occur during this type of associative learning. Findings from these studies are consistent with laboratory animal research in that they indicate the thalamus, amygdala, hippocampus, cingulate, and sensory cortex are important components of the neural circuitry that supports learning and memory of conditional fear in humans. Dr. Knight has been developing methodologies designed to expand the use of autonomic and behavioral measures that are recorded simultaneously with fMRI. The use of such data to extract additional information from functional images may provide more detailed insights into the neural circuitry that mediates certain cognitive processes. Dr. Knight's laboratory is also interested in the role of awareness in the expression of fear-related behaviors, the neural circuitry mediating aware and unaware fear memory processes, and brain regions that process properties of fearful stimuli compared to regions that produce behavioral and autonomic fear responses.

Farah D. Lubin, Ph.D.
Assistant Professor
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Dr. Lubin's research is primarily directed towards identifying molecular mechanisms that serve to regulate gene expression changes necessary for learning and memory. Currently, Dr. Lubin's lab is focused on characterizing the role of epigenetic mechanisms, such as histone methylation, DNA methylation, and signaling cascades that mediate the interaction of the nuclear factor-kappa B (NF-κB) transcription factors to chromatin and determine how they participate in the regulation of gene expression as they relate to learning and memory and memory deficits associated with epilepsy. Her research program focuses on neurons and synapses in the hippocampus, an area of the brain that plays an important role in learning and memory. She is investigating the epigenetic regulation of brain derived neurotrophic factor (BDNF) and early growth response-1 (EGR1/Zif268) transcripts during memory formation. This has lead to the discovery that gene regulation of *BDNF* and *Zif268* transcripts are dynamically regulated by DNA methylation and specific histone modifications in hippocampus during memory consolidation. Current work also includes an assessment of histone deacetylase inhibitors and demethylating agents (histone and DNA) that may be promising in the mitigation or disruption of cognitive disorders.

Lori Wakefield McMahon, Ph.D.
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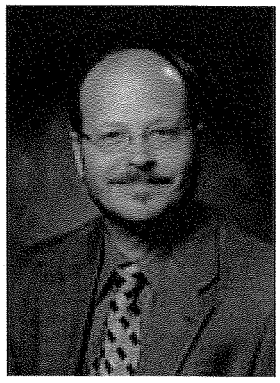
My lab is currently investigating the role of estradiol in hippocampal synapse density, synaptic plasticity and learning. We are particularly interested in determining how loss of estradiol during aging impacts hippocampal function and whether hormone replacement therapy can activate estradiol-dependent mechanisms to restore normal synaptic function in hippocampus as well as hippocampal dependent learning and memory. Ovariectomized female rats treated with estradiol at various intervals following ovariectomy are used as a model system. Experiments involve electrophysiological measurements of NMDA currents, synaptic transmission, and long-term plasticity in acute brain slices. We have recently reported that estradiol increases NMDA transmission mediated by NR2B containing receptors and that is causally related to the heightened LTP induced by estradiol. Determining how estradiol and hormone replacement affects hippocampal function could lead to development of therapies to alleviate hormone-dependent memory loss in aging.



James H. Meador-Woodruff, M.D.
Heman E. Drummond Professor and Chair
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Dr. Meador-Woodruff received his BS in Chemistry from the University of Richmond, and his MD from the Medical College of Virginia. He then moved to Ann Arbor, and completed a combined residency in psychiatry and a research fellowship at the University of Michigan. After completing his research training, he joined the faculty of the Department of Psychiatry and the Mental Health Research Institute at the University of Michigan where he remained for nearly 22 years. He left Michigan in April 2006 to become the Heman E. Drummond Professor and Chairman of the Department of Psychiatry of University of Alabama at Birmingham (UAB). He moved his lab largely intact to UAB, and his current research focus is on understanding brain abnormalities in schizophrenia. His research has been continuously funded by NIH since 1989. His laboratory's primary research interest is on understanding how different parts of the brain communicate with other parts via a variety of chemical signals, and how this communication is disrupted in schizophrenia. His current focus is on studying the expression of genes associated with glutamatergic neurotransmission within individual cells in the nervous system. He also has a longstanding interest in teaching and mentorship, including serving on the APA Corresponding Committee on Research Training which he chaired in 2006. (continued)

He is a frequent faculty participant at the annual APA Research Colloquium for Junior Investigators, and was the director of the University of Michigan's Psychiatry Residency Research Track, holding one of the first NIH grants to fund such programs. Nearly 100 trainees have rotated through his lab. He is Editor-in-Chief of the journal Neuropsychopharmacology

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The research in the laboratory of Dr. Linda Overstreet-Wadiche is focused on understanding the role of adult generated neurons in a region of the brain that is associated with learning and memory. Most neurons are generated during embryogenesis, but in the hippocampus newborn neurons are continuously produced throughout adulthood and growing evidence suggests that they participate in hippocampal-dependent cognitive and emotive functions. The proliferation, survival and integration of newborn neurons are regulated by many factors including aging and environmental enrichment, allowing adult neurogenesis to provide a link between experience and structural plasticity of the brain. Dr. Overstreet-Wadiche's lab uses transgenic mouse models and electrophysiological techniques to explore how experience-dependent factors control adult neurogenesis and how newborn neurons in turn participate in hippocampal network activity.

Lucas Pozzo-Miller, Ph.D.
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The long-term research interest of the Pozzo-Miller lab is to characterize the functional role of structurally defined neuronal compartments such as dendritic spines, dendrites and presynaptic terminals, and how they participate in synaptic development, function and plasticity as they relate to learning & memory and neurodevelopmental disorders. We specifically focus on the actions of neurotrophins in the hippocampus. Neurotrophins such as brain-derived neurotrophic factor (BDNF) are secretory proteins that regulate neuronal survival and differentiation, as well as synapse development, function and plasticity. Neurotrophic factors are strong candidates to provide the molecular signaling pathways mediating complex interactions leading to appropriate dendritic maturation and synapse development. We are currently investigating the "BDNF hypothesis" of Rett syndrome, a neurodevelopmental disorder of genetic origin associated with autism and mental retardation. (continued)

Rett syndrome is associated with mutations in *MECP2*, a methylated DNA-binding transcriptional regulator of several genes, including *BDNF*. Tools: acute and cultured brain slices, neuronal cell cultures, transgenic mice, post-mortem brain samples, cDNA plasmids, sh/siRNA. Techniques: intracellular patch-clamp whole-cell recordings simultaneously with intracellular Ca2+ imaging, voltage-dye imaging, synaptic vesicle recycling, immunocytochemistry, electron microscopy, confocal microscopy, multiphoton excitation microscopy, DiOlistic cell labeling, quantitative analyses of neuronal and synaptic morphology, particle-mediated gene transfer.

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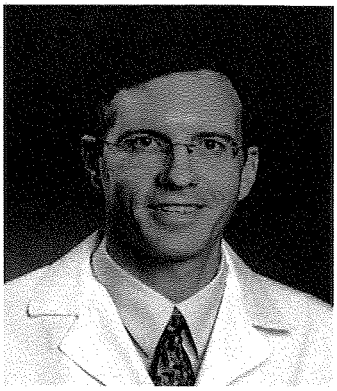

Dr. Roberson's laboratory is devoted to understanding the neurobiology of neurodegenerative diseases and thereby contributing to the development of better treatments for patients with these disorders. The lab is focused on two conditions, Alzheimer's disease and frontotemporal dementia, and largely on the role of the microtubule-associated protein tau. Tau is the major component of the neurofibrillary tangles in Alzheimer's disease, and mutations in tau cause frontotemporal dementia. The lab uses mouse models of this disease to study how tau contributes to neuronal dysfunction. In Alzheimer's models, Dr. Roberson has found that reducing the expression of tau makes the brain resistant to Aβ, the peptide that drives neuronal dysfunction in AD. The lab is currently working on how tau reduction acts to prevent Aβ-induced neuronal dysfunction. The group is also working on mouse models of frontotemporal dementia, and how tau mutations cause the abnormalities in social function, emotion, and neuropsychiatric symptoms seen in this disease.

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Dr. Roth's research focuses on applying integrative methods to examine many aspects of spatial ecology. He uses molecular, neurophysiological, behavioral, and ecological techniques to address questions related to spatial environmental interactions, animal navigation, and spatial learning and memory. Currently he is examining the role of molecular epigenetic mechanisms in maintaining spatial representations of the environment within the hippocampus.

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Dr. Roth's research focuses on defining molecular mechanisms responsible for environmental influences on CNS gene activity, development of behavior, and psychiatric disorder. Her current research efforts utilize a rodent model of early-life experience to understand the relationship between early environmental manipulations and epigenetic programming of patterns of gene expression and cognition. Behavioral and biochemical approaches are used in infant, adolescent, and adult animals to address this relationship.

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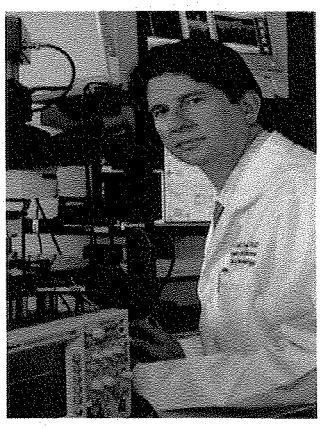

Dr. Sweatt's research program focuses on molecular mechanisms underlying learning and memory. Dr. Sweatt uses knockout and transgenic mice to investigate signal transduction mechanisms in the hippocampus, a brain region known to be critical for higher-order memory formation in animals and humans. His laboratory also uses a large number of genetically engineered mouse models for human learning and memory disorders in order to investigate the molecular and cellular basis of human memory dysfunction. His laboratory has discovered a number of new roles and mechanisms of gene regulation in memory formation, focusing on studies of transcription factors, regulators of chromatin structure, and other epigenetic mechanisms such as chemical modification of DNA. Overall his work seeks to understand the role of regulation of gene expression in synaptic plasticity and long-term memory formation and storage. His laboratory also is interested in using what they have learned about the molecular basis of hippocampal synaptic plasticity and memory formation to generate insights into human.

Anne Theibert, Ph.D.
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Many diseases are linked to dysregulation of second messenger signaling cascades. One important second messenger system is the phosphoinositide (PI) system, in which inositol lipids function as second messengers and cofactors for many cellular activities stimulated by growth and trophic factors, hormones, cytokines, and neurotransmitters. Dr. Theibert's research focuses on investigating the intracellular targets for several of the PI second messengers in the nervous system. They are particularly interested in the function of PtdInsP3 in neurons and glia, since they have demonstrated that this lipid is required for cells to extend processes, termed neurites, in response to trophic factors and extracellular matrix. Neurites eventually form mature axons and dendrites, which contact each other at synapses, and allow for information transfer between neurons. Using biochemical and molecular techniques, they have isolated and cloned several novel phosphoinositide receptors from brain. One of these receptors is involved in regulating vesicle trafficking and the actin cytoskeleton, two activities which are involved in neurite outgrowth and new synapse formation. Studies are underway to determine the role of these receptors in neuronal development and synapse formation, and the molecular mechanisms which regulate receptor expression, targeting to intracellular compartments, and modulation of activity. Several potential homologues of these receptors are present in the genetically tractable organism, Saccharomyces cerevisiae, which allows us to use yeast genetics to complement the biochemical and molecular approaches in dissecting the function of these brain phosphoinositide receptors.

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Dr. Visscher is interested in characterizing what brain mechanisms underlie the human ability to flexibly process inputs from the environment. We often process the same information in different ways at different times. For example, sometimes we may hear a string of numbers (e.g. a phone number on a commercial from the radio) and try to remember it, while at another time, the same string of numbers may be irrelevant, and we may ignore it. Dr. Visscher uses a variety of tools to better characterize how human brain activity before a stimulus is presented may impact the ways in which that stimulus is processed. Behavioral measurements (psychophysics and eye movements), measurement of electrical activity in the human brain using EEG, and measurement of neural activity through fMRI allow insight into this question. (continued)

Dr. Visscher started at the University of Alabama at Birmingham in April 2009, after a postdoctoral fellowships at Harvard University, where she worked with Randy Buckner and studied how connectivity among brain areas (as measured with functional MRI) change with experience. She used psychophysical and EEG techniques to examine how brain activity before a stimulus influences whether a stimulus will interfere with items in working memory during a previous postdoctoral fellowship at Brandeis University working with Robert Sekuler. She received her Ph.D. in Neuroscience from Washington University in St. Louis in 2004, where, with Steve Petersen, she studied how techniques of fMRI can be used to examine different timecourses of neural activity.

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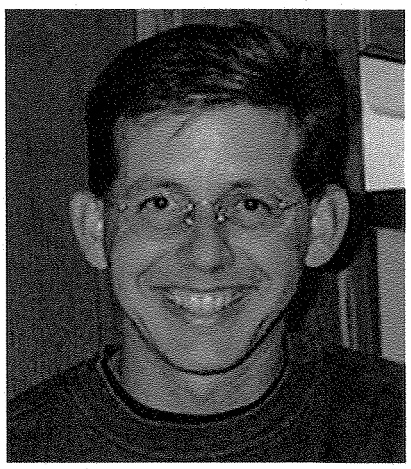

The focus of Scott Wilson's research is to investigate how regulated protein turnover by the ubiquitin proteasome pathway controls nervous system development and function. By using a combination of genetics, biochemistry, electrophysiology and behavioral analyses, the Wilson laboratory has investigated ubiquitin-signaling events that are required for synapse maturation, the induction of synaptic plasticity, learning and memory in mice. Results from these studies demonstrate the importance of localized ubiquitin recycling to maintain efficient protein turnover at synapses and indicate that changes in ubiquitin homeostasis may contribute to neurodegenerative diseases.

Evelyn F. McKnight Brain Institute Meeting Participants
University of Arizona

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Department of Psychology and
Evelyn F. McKnight Brain Institute

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Graduate Research Assistant
Cognition and Neuroimaging Laboratory
Department of Psychology
Evelyn F. McKnight Brain Institute

Carol A. Barnes, Ph.D.
Regents' Professor, Psychology and Neurology Director
Evelyn F. McKnight Brain Institute
Research Scientist, ARL Division of Neural Systems, Memory & Aging

Kaitlin L. Bergfield, B.S.
Graduate Associate
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Christine M. Burns
Graduate Research Assistant
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Neuropsychology, Emotion and Memory Lab

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Emily C. Edmonds
Clinical Psychology Doctoral Student
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Marsha R. Penner, Ph.D.
Postdoctoral Research Associate
Department of Psychology
University of Washington

Eric M. Reiman, M.D.
Executive Director, Banner Alzheimer's Institute
Chief Scientific Officer, Banner Health Research Institute
Clinical Director, Neurogenomics Division, Translational Genomics Research Institute
Professor and Associate Head of Psychiatry
Member, Evelyn F. McKnight Brain Institute
Director, Arizona Alzheimer's Consortium

Linda L. Restifo, M.D., Ph.D.
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Member, Evelyn F. McKnight Brain Institute
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Clinical Psychology Program, Neuropsychology
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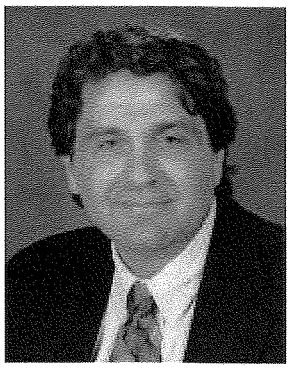

Dr. Alexander's research interests focus on the study of brain-behavior relationships in the context of healthy aging and age-related, neurodegenerative disease to help elucidate the mechanisms of human cognitive aging. He uses neuroimaging techniques, including structural and functional magnetic resonance imaging (MRI) and positron emission tomography (PET), in combination with measures of cognition and behavior to address research questions on the effects of healthy aging and Alzheimer's disease on the brain. A major focus of his research program includes the use of multivariate network analysis techniques with neuroimaging methods and measures of neuropsychological function, health status, and genetic risk to advance understanding on how these multiple factors interact to influence cognitive function as we age. Dr. Alexander's research also includes the application of these techniques to non-human animal models of aging and age-related disease. He is Professor in the Clinical and Cognition & Neural Systems Programs and directs the Brain Imaging, Behavior & Aging Lab in the Department of Psychology and in the Evelyn F. McKnight Brain Institute.

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Elsa Baena is second year graduate student in the Clinical Neuropsychology Program. She graduated with honors in Psychology and a certificate in Life-Span Development and Gerontology in 2006 from the University of Akron. After graduation she was part of Duke University's Post-baccalaureate Research Education Program (PREP) where her research focused in investigating basic episodic memory processes by comparing age groups. Currently, she studies age-related changes in memory processes and how those changes relate to brain function by using neuropsychological testing, behavioral and neuroimaging techniques such as functional magnetic resonance imaging (fMRI).

Carol A. Barnes, Ph.D.
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The central goal of Dr. Barnes' research and teaching program is the question of how the brain changes during the aging process and the functional consequences of these changes on information processing and memory in the elderly. Her research program involves studies of behavior and neurophysiology in young and old laboratory animals. This work provides a basis for understanding the basic mechanisms of normal aging in the brain and sets a background against which it is possible to assess the effects of pathological changes such as Alzheimer's disease. Some current work also includes an assessment of therapeutic agents that may be promising in the alleviation or delay of neural and cognitive changes that occur with age. Dr. Barnes is a Regents' Professor at the University of Arizona, Director of the Evelyn F. McKnight Brain Institute at the University of Arizona and recipient of the Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging. The objective of the Evelyn F. McKnight Brain Institute is to uncover the neurobiological changes in the brain that cause memory changes as we age, and to unravel which changes are due to normal aging and which are due to disease states.

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Kaitlin Bergfield's research focuses on the study of aging, age-related cognitive decline, and Alzheimer's disease, using univariate and multivariate network analysis techniques with structural MRI. Recently, Kaitlin's research showed a network pattern of gray matter volume reductions that differentiated a group of individuals with amnestic mild cognitive impairment (aMCI) who later converted to Alzheimer's disease (AD) from a group of healthy elderly subjects. The results indicate a regionally distributed pattern of MRI gray matter atrophy that precedes the conversion to dementia in individuals with aMCI and includes reductions in brain regions that are known to be affected early in AD.

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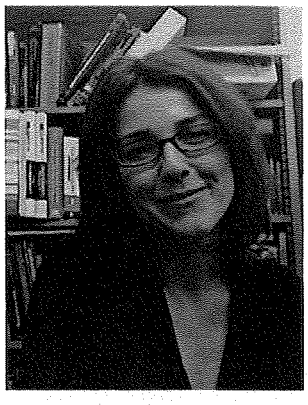

Christine's research interests include identifying risk factors for Alzheimer's disease in the Latino community and what longitudinal effects metabolic syndrome or its components may have on brain metabolism and cognition. Her thesis utilizes P.E.T. and neuropsychological testing to investigate the relationship between fasting blood glucose and potential risk for Alzheimer's disease. As elevated blood glucose is a potentially modifiable risk factor for dementia, longitudinal imaging studies may assist in the identification of interventions that may ameliorate this risk in aging adults.

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The primary goal of Dr. Chawla's research is the question of how the brain changes during the normal aging process and the functional consequences of these changes on information processing and memory in the elderly. Her research involves behavioral studies of immediate-early genes and neural plasticity mechanisms using spatial and temporal compartmental analysis in young and old laboratory animals. This work provides a basis for understanding the basic mechanisms of normal aging in the brain and sets a background against which it is possible to assess the effects of pathological changes such as Alzheimer's disease. Dr. Chawla is a Assistant Research Scientist and heads the molecular research team in Dr. Carol Barnes laboratory at the University of Arizona, Evelyn F. McKnight Brain Institute and the ARL Division of Neural Systems Memory and Aging at the University of Arizona.

Emily C. Edmonds
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The central goal of Emily's research is to investigate the differential contribution of executive functioning, memory, and perceptual abilities to performance on tests of facial recognition. This line of research focuses on how a breakdown in one or more of these cognitive processes may lead to false recognition of faces. Emily's doctoral thesis is aimed at exploring false recognition in healthy older adults and individuals with prosopagnosia. This project also involves examining the behavioral and neural correlates of face recognition impairment in patients with frontotemporal dementia.

Alaina Glatting
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Alaina Glatting graduated May, 2008 with a BA in Psychology and a BS in Physiological Sciences from the University of Arizona. She will graduate in May 2010 with her Masters in Physiological Sciences. Alaina has previous experience with hippocampal single cell recordings and is interested in path integration and the processing of spatial information. Building on this background, Alaina's thesis focuses on a behavioral and hippocampal ensemble recording study in young and aged rats, using the spatial eyeblink conditioning task that Dr. Leslie Schimanski has developed to examine possible age differences in spatial memory accuracy. Ms. Glatting has applied to medical school and feels that it is important to gain a foundation in and exposure to research before going on to her clinical studies. Alaina does hope to continue conducting research while in her medical career.

Elizabeth L. Glisky, Ph.D.
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Betty Glisky's research interests include changes in memory and executive function that occur as a result of normal aging or age-related neurological conditions such as MCI or Alzheimer's disease. Recent collaborative work has focused on tracking longitudinal changes in cognitive function in a cohort of normally-aging older adults, and relating those changes to measures of brain integrity, genetic predisposition, and other health variables. The goals of this research are to understand the variability in the normal aging process, to identify early indicators of what might be abnormal aging, and to design and implement interventions that might be instrumental in enabling older adults to maintain optimal memory function into the oldest years. Dr. Glisky's work has been supported by the National Institute on Aging, the Arizona Biomedical Research Council, the Arizona Alzheimer's Consortium, and the Evelyn F. McKnight Brain Institute.

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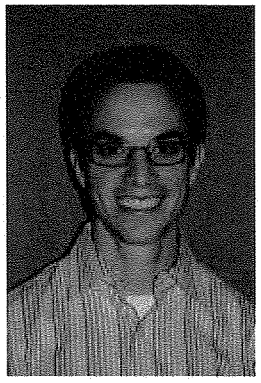

Matt's main research interests are in memory, memory disorders associated with aging and brain damage, and memory rehabilitation. Principal aims of Matt's current research include accurately characterizing the cognitive and neural mechanisms of effective encoding strategies, and discovering novel methods for enhancing memory in memory-impaired individuals. Specifically, Matt's ongoing research investigates the effect of self-referential processing on different types of memory commonly impaired in older adults and individuals with neurologically-based memory deficits. Matt's Master's thesis investigated the mnemonic utility of a new encoding strategy referred to as "self imagining" – or the imagining of an elaborative event from a personal perspective – on different types of memory. In future research, Matt hopes to develop memory training programs that provide long-lasting benefits for individuals with memory deficits.

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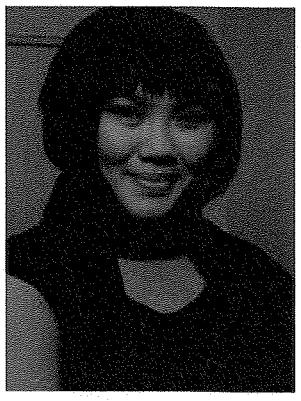

The central goal of Lan's research interests lie in investigating the plasticity of the nervous system. Specifically, Lan's doctoral thesis is aimed at exploring the neural correlates of reward by studying the characteristics of the dopaminergic neurons found in the ventral tegmental area and how these may change during normal aging. High density neural recording ensembles as well as molecular imaging techniques are being utilized to achieve a greater understanding of not only the systems level response to reward, but also to gain insights into the possible processes that underlie age-related cognitive decline.

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The central goal of Mays' research is studying the nervous system and the organization of its basic components. Mays uses a multidisciplinary approach to study molecular mechanisms that underlie synaptic function. Experiments are performed on the fruit fly (Drosophila melanogaster), an advantageous model system due to the wide variety of genetic tools available in this species. More specifically, she utilizes synapses of genetically modified Drosophila as a model system to examine the function of the gene product and its signaling pathways.

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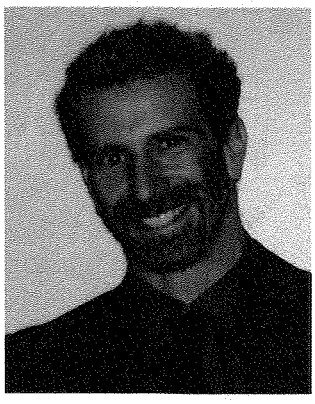

Nathan Insel is investigating how aging affects neural processing in the frontal cortex during decision-making. He records electrophysiological signals from the frontal cortex of rats running for food reward, with the ultimate goal of linking age differences in cortical computation to known age-associated cellular and cognitive changes. Nathan began at the Barnes lab as an

(continued)

undergraduate in the summer of 1997 with the aspiration to understand how the brain works, and hopes that aging effects on the brain aren't severe enough to impede this journey in the years ahead.

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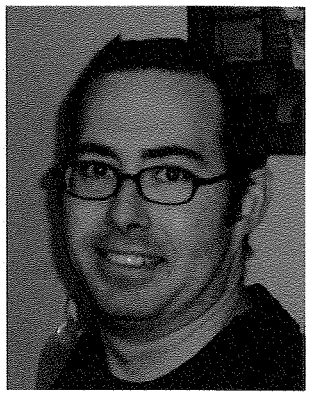

Dr. Lister received his doctoral training at Boston University researching the effects of prenatal protein malnutrition on the neuroanatomy of the adult rat hippocampal formation. After studying structure throughout graduate school, he came to NSMA to learn more about function, and is involved in efforts for automating whole brain imaging as well as projects that use the expression of immediate early genes (such as Arc and Homer) to map behavior-induced neural circuits. Current progress on automated brain imaging has focused on work with collaborators at Rensselaer Polytechnic Institute to automate montaging of high resolution confocal images encompassing entire cortical regions. He is also involved in using 3D catFISH to analyze encoding in the hippocampus and cerebral cortex in young and old animals to assess age-related impairments in the ability of these structures to represent information. 3D catFISH is a technique that combines fluorescent in situ hybridization with high resolution confocal microscopy of immediate-early gene expression to evaluate the exact neural circuits activated by behavior. Behaviorally relevant neuronal activity is known to induce the expression of certain immediate early genes, such as Arc. The localization of Arc mRNA within cellular compartments (nucleus vs. cytoplasm) is consistently time-dependent, allowing the researcher to probe multiple time points within the same animal. Current projects examine the effects of exercise on Arc expression and age-related differences in Arc expression in the hippocampus and entorhinal cortices during behavior.

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In general, Dr. Penner's primary research interest is directed at understanding how the brain changes during the normal aging process and how these changes may contribute to impaired memory function. Recent work in Dr. Barnes' lab at the University of Arizona has been directed at the question of whether age-associated changes in immediate-early gene transcription within the aged hippocampus is regulated by epigenetic mechanisms, such as DNA methylation. Dr. Penner recently joined Dr. Sheri Mizumori's lab at the University of

(continued)

Washington where she is investigating how dopamine impacts the efficiency of different information processing systems including the frontal cortex and hippocampus, two brain regions impacted early during the normal aging process.

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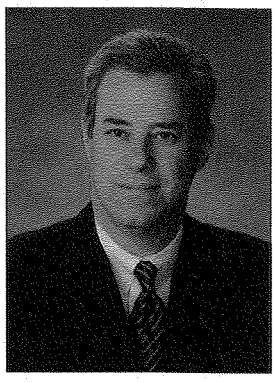

Dr. Reiman is Executive Director of the Banner Alzheimer's Institute and Chief Scientific Officer at Banner Health, Clinical Director of the Neurogenomics Division at the Translational Genomics Research Institute (TGen), Professor and Associate Head of Psychiatry at the University of Arizona, and Director of the Arizona Alzheimer's Consortium. His research interests include brain imaging, genomics, the unusually early detection and tracking of Alzheimer's disease (AD), and the rapid and rigorous evaluation of promising AD prevention therapies. He and his colleagues have used imaging techniques to detect and track brain changes in cognitively normal carriers and non-carriers of the apolipoprotein E (APOE) ε4 allele, a common Alzheimer's susceptibility gene. They have shown how imaging techniques could help identify effective primary prevention therapies without having to study a many healthy volunteers or wait many years to determine if they go on to develop symptoms. They reported the first genome-wide association studies of Alzheimer's disease and the individual variation in normal human memory, and have used the latter information to identify promising treatments to improve memory in older people. Their recently proposed Alzheimer's Prevention Initiative is intended to conduct the first pre-symptomatic AD trials of investigational AD-modifying treatments in cognitively normal PS1 carriers and APOE ε4 homozygotes close to their estimated age at risk for symptomatic AD and provide the evidence needed by regulatory agencies to approve pre-symptomatic treatments based on brain-imaging or cerebrospinal fluid biomarker endpoints that are reasonably likely to predict a clinical benefit.

Linda L. Restifo, M.D., Ph.D.
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Dr. Linda Restifo received her B.A., M.D., and Ph.D. (Genetics) degrees from the University of Pennsylvania, where her doctoral research explored the molecular genetics of steroid-hormone-regulated gene expression during development. She completed three years of postgraduate clinical training in Internal Medicine and Neurology, the latter at Harvard Medical School hospitals. During her postdoctoral research training at Brandeis University, she linked her scientific and clinical interests in a project aimed at understanding how genes control brain remodeling during postembryonic development.

Dr. Restifo now directs a research program focused on the genetic control of brain development, with an emphasis on how genetic mutations and environmental exposures cause mental retardation and autism. Her research team is developing novel strategies both to better understand and to treat developmental brain disorders. Her goal is to identify safe and effective drug therapies that improve cognitive function of patients with these disorders. This would represent a dramatic change—for the better—in the medical approach toward diagnosis and treatment of children with developmental delay or cognitive/behavioral problems. Dr. Restifo is also interested in the connection between brain development and brain aging. In particular, she is testing the hypothesis that genetic and environmental influences on brain development can also be risk factors for aging-related neurodegeneration.

The Restifo lab uses bioinformatics, molecular genetics, and cell biology, primarily in the fruit fly genetic model system. Dr. Restifo and colleagues have developed a novel cellular bioassay, based on primary culture of developing brain neurons, that can reveal defects caused by mutations or toxins. They have recently completed a proof-of-concept drug screen and have encouraging results from cross-species validation studies. Collaborators include computer scientists, computational chemists, mechanical engineers, cancer biologists, a neuroethologist, and a child psychiatrist, as well as other neurobiologists.

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Dr. Lee Ryan received a Ph.D. in Cognitive and Clinical Psychology at the University of British Columbia in 1992. She is currently a faculty member of the Evelyn F. McKnight Brain Institute at the University of Arizona as well as the Director of the Cognition and Neuroimaging Laboratories, making magnetic resonance imaging (MRI) technology available to cognitive neuroscience researchers on campus. Her research focuses on the neural basis of memory and understanding how age-related changes in brain function affect memory in older adults. She has a special interest in memory disorders such as Alzheimer's Disease, and is currently conducting research using various MRI methods as a tool for detecting subtle markers of change in brains of individuals with risk for Alzheimer's disease prior to the onset of memory impairments.

As an associate professor in the Cognition and Neural Systems program and the Clinical Neuropsychology program at the University of Arizona's Department of Psychology, Dr. Ryan teaches undergraduate classes in human memory and graduate level courses such as Human Brain Behavior Relationships, Cognitive Neuroscience, and Principles of Neuroanatomy. As a clinical psychologist, Dr. Ryan works with individuals and families who are coping with chronic and progressive diseases that affect cognitive functioning, including multiple sclerosis, Parkinson's disease, and Alzheimer's disease.

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Dr. Samson's project addresses the effects of normal aging on reward processing and goal-directed behavior. Using appetitive instrumental tasks, she investigates how young and aged rats adapt their behavior to changes in reward value and task contingencies. She is interested in understanding how the network activity of the amygdala and prefrontal cortex mediate incentive learning and how their neurophysiological properties are different in young and aged rats. Results from her project will provide insight into the mechanisms of age-related changes in goal-directed behaviors. Dr. Samson was trained as an *in vitro* electrophysiologist, and is currently a Post-Doctoral Associate at the Evelyn F. McKnight Brain Institute at the University of Arizona.

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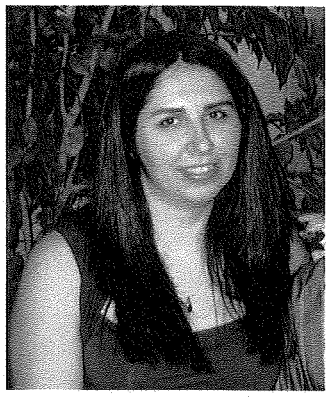

Dr. Schimanski's research focuses on spatial memory and place representations in the hippocampus of aged rats. She is examining whether old and young rats learn differently in a spatial version of classical eyeblink conditioning, and whether there are corresponding age-related changes in "place cell" properties in hippocampal area CA1. Her work will provide insight into whether known changes in hippocampal information processing affect spatial memory during aging. Dr. Schimanski was trained as an electrophysiologist and behavioral neuroscientist, and is currently a Post-Doctoral Associate at the Evelyn F. McKnight Brain Institute at the University of Arizona.

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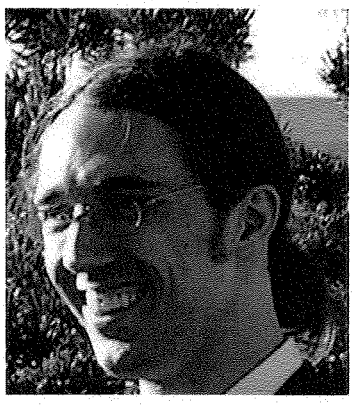

Mr. Thome's research focuses on studying populations of neurons in the temporal lobe of awake and freely behaving primates using molecular imaging techniques as well as multiple single unit recordings. He is using freely navigating primates in real and virtual environments in combination with molecular imaging techniques. In particular, he is seeking to understand whether ensembles of neurons in navigation related structures show patterns of activation similar to those seen in rodents. In addition, the project aims to understand whether there exist differences in patterns of ensemble activity between real and virtual environments. This work will clarify basic questions regarding primate temporal lobe function and provide insight into the extensibility of findings in rodents to higher primates. A second set of experiments, using data from young and old primates, is aimed at understanding the functional role of oscillations in the primate temporal lobe and whether these change with age. Mr. Thome received an interdisciplinary B.A in Cognitive Science at the University of Arizona.

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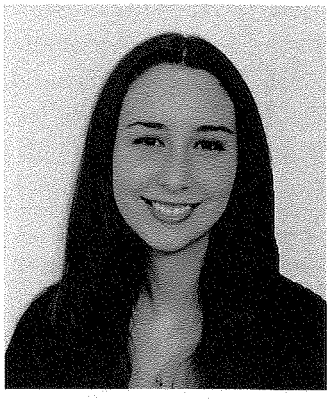

Michelle Valfre's research focuses on relationships between individual differences in cognitive function, biomarkers, genetic risk factors, and neuroanatomical changes in both successful and pathological aging using structural MRI. She is currently investigating interactions of patterns of regional gray matter network decline and hypertension in cognitively normal older adults and patients with Alzheimer's disease. Future research aims to examine correlates of functional neural networks underlying executive function and memory performance in healthy older adults with and without risk factors for Alzheimer's disease.

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Dr. Walther investigates the relationship between cognitive functioning and structural changes of the brain associated with healthy aging and neurodegenerative diseases. Currently, she is assessing the utility of diffusion-weighted magnetic resonance imaging (DWMRI) in identifying early neuropathological markers of Alzheimer's disease (AD) in cognitively healthy older adults with increased risk for AD, which might enable early diagnosis and early treatment. She earned her Ph.D. in Psychology in Germany where her research was focused on the development of assessment and intervention methods for individuals with neurological impairment.

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Dr. Abrams investigates memory and language processes in young and older adults, specifically the processes involved in retrieving words and the changes in these processes that occur normal aging. Specific areas of interest include: (1) memory retrieval failures such as the tip-of-the-tongue (TOT) states, which are naturally-occurring retrieval failures that are characterized by a temporary inability to recall a known word; and (2) language errors such as the production of spelling errors as well as homophone substitution errors, such as *bear* instead of *bare*. One core question under study is: How do people spontaneously resolve their TOT states; how does the elusive word suddenly pop into mind, seemingly out of nowhere? Her research suggests that these resolutions are not accidental and instead are a direct result of encountering the sounds of the TOT word. Her work has identified more precisely that the initial syllable of the TOT word is the key; hearing or reading another word that shares the first syllable with the TOT word will resolve the TOT and allow the missing word to come to mind. Dr. Abrams has also discovered that grammatical class plays a pivotal role in resolving TOT states, where only similar-sounding words that are a different part of speech from the TOT word are helpful. For example, if having a TOT for the word *rosary* (a noun), encountering an adjective like *robust* helps to resolve the TOT, whereas encountering another noun like *robot* does not. Furthermore, reaping the benefits of similar-sounding words on TOT resolution gets more difficult as we age. Adults in their upper 70s and 80s are less likely to resolve a TOT after encountering a similar-sounding word that is the same part of speech, relative to an unrelated word, suggesting an increased susceptibility for similar-sounding words to become fiercer competitors for retrieval. Dr. Abrams plans to continue studying the complex cognitive processes that underlie people's ability to produce language.

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Lori J. Altmann, Ph.D. is an Assistant Professor in the Department of Speech, Language and Hearing Sciences at the University of Flordia who trained as a neurolinguist at the University of Southern California and the University of Kansas. She currently serves as the doctoral student advisor for the department and is director of the UF Language and Brain Interest Group. (continued)

Dr. Altmann's research centers on interactions between cognition and language use, specifically in how impairments in one domain (such as cognition) affect performance in the other domain (language), in adult and aging populations. This interest has lead to studies examining language and cognitive performance in individuals with Alzheimer's disease, stroke, Parkinson's disease and dyslexia, as well as in healthy aging. A corollary line of research examines the effects of artificially exaggerating cognitive impairments via dual task paradigms to simulate the effects of everyday multitasking on a variety of motor and cognitive tasks. This research on cognitive-motor interference involves collaboration with researchers in the fields of Kinesiology, Neurology, Neuropsychology, Physical Therapy, and Speech Pathology at UF, Northeastern University, and Rosalind Franklin University.

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Following my graduate training at the University of Florida, I completed a post-doctoral fellowship at the Pennington Biomedical Research Center to further enhance my knowledge of nutritional and lifestyle-based treatments of metabolic diseases, such as obesity and Type 2 diabetes. During my post-doctoral training, I worked on a number of important NIH-funded projects related to the treatment of obesity and metabolic diseases. In June of 2007, I took a joint Assistant Professor position within the Department of Aging and Geriatric Research and the Department of Clinical and Health Psychology at the University of Florida. During the past three years, I have served as the Principal Investigator or Co-Principal Investigator on five grants related to the effects that lifestyle and biological compounds have on aging and metabolic disease processes.

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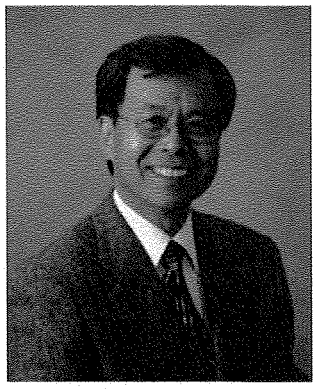

Dr. Tetsuo Ashizawa is Professor and Chairman of the Department of Neurology at the University of Florida, Gainesville, Florida. Dr. Ashizawa also holds the Melvin Greer Professor of Neurology. Dr. Ashizawa received his medical degree from the Keio University School of Medicine in Tokyo in 1973. He completed his neurology residency training and subsequent clinical and basic science fellowships at Baylor College of Medicine. In 1981 he joined the faculty at Baylor, where he climbed to the academic rank of tenured Professor 1997.
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In 2002 Dr. Ashizawa was recruited to the University of Texas Medical Branch (UTMB) in Galveston, Texas to chair the Neurology Department, and then moved to Gainesville, Florida in April 2009 as Chair of the Department of Neurology at UF. He has published over 180 papers in leading scientific and clinical journals and Books. Dr. Ashizawa's basic science research projects have primarily been focusing on neurogenetic disorders caused by expanded short tandem repeats, including myotonic dystrophy, Friedreich's ataxia and autosomal dominant spinocerebellar ataxias. His current research is to investigate the pathogenic mechanism of spinocerebellar ataxia type 10 (SCA10). Dr. Ashizawa is also the principal investigator of a nationwide consortium for clinical research on SCA1, SCA2, SCA3 and SCA6. This consortium is one of the Rare Disease Clinical Research Consortia (RDCRC) organized and funded by the National Institute of Health (NIH). This consortium will establish the infrastructure and database to prepare for future clinical trials of new therapies for SCAs.

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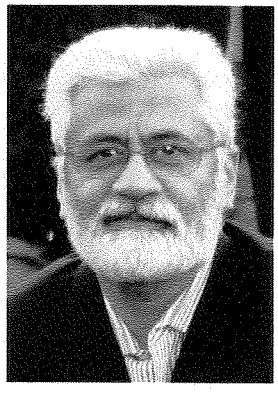

Dr. Bajwa received his PhD in Biochemistry from the University of Glasgow, Scotland, in 1981 and did post-doctoral work on yeast expression systems with Albert Hinnen, first at the Freidrich Meschier Institute (Basel, Switzerland) and then at Ciba-Geigy Biotechnology Center (Basel, Switzerland). Dr. Hinnen was the first scientist to develop yeast transformation system. Dr. Bajwa joined Hershey Medical Center, Penn State University in 1985. He then moved to a biotechnology company, Strohtech Inc, in Detroit. His group was the first to successfully express functional human hemoglobin in yeast. Dr. Bajwa then moved to Duke University Medical Center, North Carolina, in 1998. Based on Dr. Bajwa's work at Duke, the NCRR mandated the Research Subject Advocate program for all GCRCs in 2001. Dr. Bajwa was the founding member of Society of Research Subject Advocates. Bajwa's work spans a breadth from molecular and genetics work, to animal studies and to human clinical trials. He specializes in GxP regulations and in dealing with issues related to drug development. Dr. Bajwa is currently Director of Regulatory Affairs, CTSI, University of Florida.

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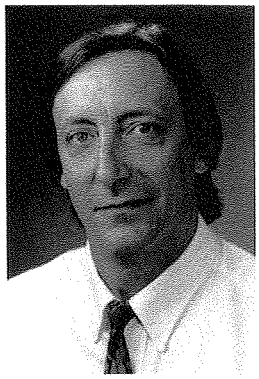

In October, 2006, I assumed responsibilities as Chair of the Department of Clinical and Health Psychology at the University of Florida in Gainesville, FL. Prior to October, I had spent 7 years as Director of the Doctoral Program in Clinical Psychology. I have been a faculty member at UF since September 1979. My research focuses on human memory disorders, epilepsy, and preclinical detection of dementia using a comparative neuropsychology approach. I teach courses in Critical Thinking, Cognitive Psychology, Forensic Neuropsychology, and Evidence-Based Practice in Psychology. I currently have 7 Ph.D. students in my laboratory. I am Board Certified in Clinical Neuropsychology by the American Board of Clinical Neuropsychology (ABCN), a specialty board of the American Board of Professional Psychology (ABPP). I am also involved in national neuropsychological organizations. I am Past President of APA Division 40 (Clinical Neuropsychology) and continue to serve on the Oral Examiner Cadre for the American Board of Clinical Neuropsychology. Together with Jerry Sweet, Ph.D., I co-edit **The Clinical Neuropsychologist**, a journal devoted to advancing the empirical basis of practice in Clinical Neuropsychology. Current research in the laboratory focuses on a comparative neuropsychology approach to human memory disorders with applications to epilepsy and preclinical detection of dementia. Several studies are ongoing in which paradigms adapted from the animal literature are being applied to the study of human memory disorders.

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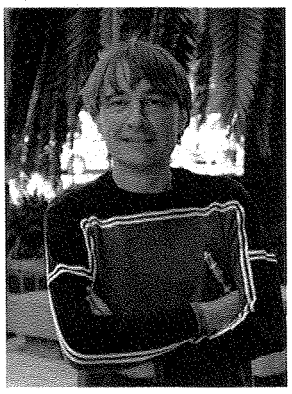

Stephen J Blackband, Ph.D., is an MR physicist, Professor in Neuroscience at the Brain Institute at UF, running in partnership with the National High Magnetic Field Laboratory in Tallahassee. Dr Blackbands faculty line was provided by the state of Florida in support of the NHMFL when it was founded, and Dr Blackband is an integral part of the NHMFL program. Dr Blackband has over 20 years MR experience after training under Sir Peter Mansfield at Nottingham University, England, with junior with early career at Johns Hopkins, USA, and Hull University, England. His work primarily involves technique, technology and application development for high Field MRI, particularly MR microscopy. Dr Blackband was on the team that performed the first MR image of a single cell (a frog ova) and performed the first studies on isolated single neurons, and recently the first direct MRI of mammalian neurons with cellular level fiber tract mapping. (continued)

Ongoing projects include the development of a web based mouse brain atlas, studies of a mouse model of ALS-PDC, 13C spectroscopy in tumors, and using MR to monitor biofuel extraction from biomass.

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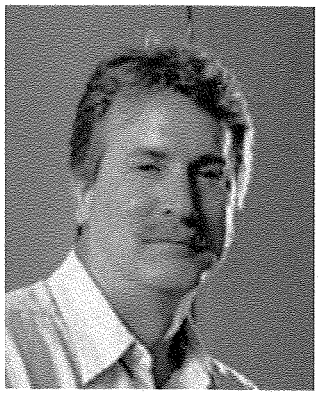

Over the past several years there has been tremendous progress in identifying the gene products that mediate a number of neurodegenerative disorders, including familial Alzheimer's disease, familial amyotrophic lateral sclerosis, and Huntington's disease. These disorders are all progressive, fatal disorders that result from the dysfunction and death of specific populations of nerve cells. In all of these disorders, a change in the amino acid sequence of specific proteins initiates a cascade of events that lead to disease. A common feature of these disorders is the accumulation of misfolded proteins or peptides in regions of the CNS affected by each disease. My laboratory is committed to investigations designed to elucidate the molecular processes by which specific mutant proteins cause disease. This work involves the use of transgenic mouse models, knockout mice, and cell culture systems to examine the effect of mutations on the function and biology of the mutated proteins. Collectively, these approaches provide insight into the molecular mechanisms of disease and have the potential to identify new therapeutic strategies for these disorders.

Frank Bova, Ph.D., FACR, FAAPM, FAIMBE
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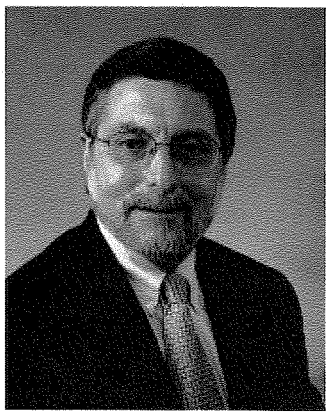

Frank Bova was born in New York City on March 19.1950. He attended Renesslear Polytechnic Institute receiving a Bachelors and Masters in Biomedical Engineering. He went on to receive a Ph.D. in Nuclear Engineering Sciences with a specialization in Medical Physics from the University of Florida in 1977. (continued)

In 1978 Dr. Bova joined the Department of Radiation Oncology at the University of Florida. In 1991 he was appointed as the Einstein Fund Professor of Computer-Assisted Stereotactic Neurosurgery within the Department of Neurosurgery. In January of 1999 he joined the faculty of Neurosurgery at the University of Florida and was appointed Professor of Neurosurgery. (continued)

Since 1979 Dr. Bova has been a member of the Graduate research Faculty at the University of Florida and was appointed to the Doctoral Research faculty in 1987. He holds appointments in the Departments of Nuclear and Radiological Sciences and the Department of Neuroscience. He is also active in the American Association of Physicist in Medicine serving as a Board member in 1998-2000 and as President of the Southeast and Florida Chapters. He has also served as a Board member of the International Society of Radiosurgery. Dr. Bova has served on committees for the State of Florida's Department of Radiation Control, the American Cancer Society, American College of Radiology, the Florida Radiological Society, the American Society of Therapeutic Oncologists, the American Association of Physicist in Medicine and the International Streotactic Radiosurgery Society. He has also serves as a Delegate to the International Electrotechnical Commission and a Liaison to the NEMA for Therapeutic Radiology. He has been active in the American Board of Radiology, chairing the Physics section of the written examination for Therapeutic Oncologist from 1994-1999. Dr Bova is Fellow of the American Association of Physicists in Medicine, a Fellow of the American College of radiology and a Fellow of the American Institute Medical l and Biological Engineering.

In 1985 Dr. Bova and Dr. William Friedman began a collaborative project that was responsible for establishing the University of Florida's radiosurgery program. Since its inception this program had treated over 2500 radiosurgery patients and has received 9 patents. Dr. Bova is the Director of the Radiosurgery/Biology Laboratory at the University of Florida Brain Institute. Dr. Bova's has recently been recognized by the University of Florida with his second appointment as a UF Research Foundation Professor.

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Dr. Bowers is an Professor of Clinical and Health Psychology in the College of Public Health and Health Professions, a UF Research Foundation Professor, and Division Head of the Neuropsychology area. She directs the Cognitive Neuroscience Laboratory at the McKnight Brain Institute, and holds a joint appointment in the Department of Neurology. Dr. Bowers received her Ph.D. from UF in 1978 following an internship in clinical neuropsychology at the Boston Veterans Administration Medical Center. She completed a post-doctoral fellowship in behavioral neurology at UF in 1979, joined the Neurology faculty in 1980, and the faculty in Clinical and Health Psychology in 1998. She is a founding member of the Center for Neuropsychological Studies (CNS) and author of the Florida Affect Battery. She serves on the Editorial Boards of the Journal of the International Neuropsychological Society and The Clinical Neuropsychologist. Dr. Bowers has been continuously grant funded by NIH since 1980, serves on various NIH and VA research review panels, and has mentored numerous undergraduates, graduate students, and post-doctoral fellows over the years.

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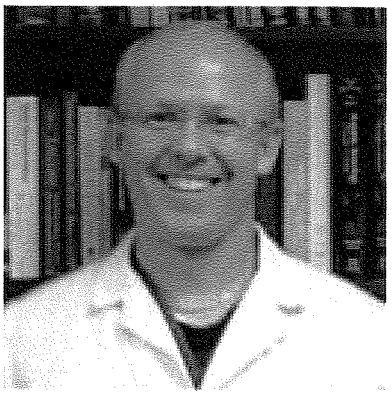

Dr. Burtis is currently a Behavioral Neurology Fellow under the mentorship of Dr. Kenneth Heilman at the University of Florida, Department of Neurology. He completed his residency as chief at the University of Kentucky, Department of Neurology.

Christy S. Carter, Ph.D.
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Dr. Carter received her BA degree with highest honors in Psychology from the University of Colorado and her doctorate in Biological/Experimental Psychology with a minor in Neurobiology from the University of North Carolina at Chapel Hill. Dr. Carter then accepted a faculty position in the Department of Internal Medicine, Division of Geriatrics, at the Wake Forest University School of Medicine in Winston-Salem North Carolina. Currently, she is an Assistant Professor in the Department of Aging and Geriatrics at the UF College of Medicine. Dr. Carter also serves as Leader and co-Leader of the Claude D. Pepper Older Americans Independence Center Pilot/Exploratory and Preclinical Cores, and is a member of the UF Institute on Aging Executive Board. Dr. Carter's research focuses on the development of preclinical rodent models for assessing the efficacy of preventative treatments for age-related physical and cognitive decline. These interventions include diet, exercise, as well and nutritional and pharmaceutical approaches. She is currently the PI of an NIH RO1 funded grant designed to assess the effects of inhibition of the renin-angiotensin system on physical performance, body composition and biological parameters in aged rats. Dr. Carter's work has been published in many outstanding scientific journals including *The Lancet*, *Nature* and *Endocrinology*. She is a member of several scientific societies including the Gerontological Society of America and the American Geriatrics Society where she is a past recipient of the Austin Bloch outstanding post-doctoral student and Young Investigators awards respectively.

Kimberly Case
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Kimberly is a graduate student in the Department of Psychology at the University of Florida and is planning to graduate with her PhD in Spring 2010. Her main research interests include the acquisition and subsequent decline of cognitive functions and the link between these behavioral changes and the brain. While Kimberly's training has focused on basic science, she is hoping to branch out into the field of translational and clinical applications to the elderly. Her current work focuses on the neurological changes associated with memory training and aging employing physiological measures such as EEG and fMRI to understand these changes across the lifespan.

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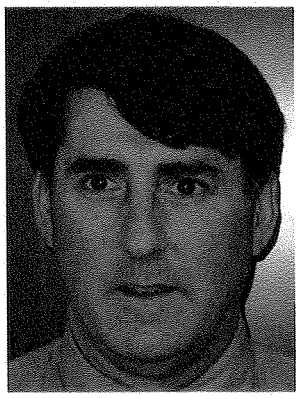

Dr. Bruce Crosson is a Professor of Clinical & Health Psychology at the University of Florida, a Senior Research Career Scientist under the Rehabilitation Research & Development Service of the Department of Veterans Affairs, and an Honorary Professor of Health and Rehabilitation Sciences at the University of Queensland in Brisbane, Australia. His research interests are in understanding how brain systems support word retrieval and semantic memory and how neural plasticity makes relearning possible during rehabilitation. In addition to measures of behavior, word retrieval, and semantic memory, his laboratory relies heavily on functional and structural MRI. The current portfolio of NIH and VA funded projects in his laboratory includes studies of neural plasticity during aphasia rehabilitation, the integrity of the corticospinal tract and its role in upper extremity function after stroke, basal ganglia functions in language and semantic memory in 1991 Gulf War illness, and word retrieval models in Alzheimer's disease. A significant and related portion of his portfolio is dedicated to research on normal aging, including studies about changes in word retrieval, semantic memory, episodic memory, and motor systems. Indeed, four of the eight current awards from NIH, the VA, and the German Foundation for Science for which he is a primary mentor are in the area of normal aging. Two recent trends are prominent in this aging research: (1) the presence in word retrieval of hemispheric asymmetry reduction in old adults (HAROLD) for tasks that are strongly lateralized in young adults and (2) the loss of interhemispheric inhibition during motor tasks in old adults. (continued)

Recent discoveries from his laboratory include the applicability of the HAROLD phenomenon to frontal activity in simple word retrieval paradigms (both picture naming and category member generation), the intactness of the inferior temporal substrates for semantic memory in old adults, and dedifferentiation of the neural substrates of word retrieval in old-old vs. young-old adults. Current aging studies in the laboratory include: a study of interhemispheric inhibition during motor and word retrieval tasks in aerobically fit and sedentary old adults, the neural substrates of improved memory in neurologically normal adults taking Aricept vs placebo, the role of relative task difficulty in recruitment of right frontal structures during word retrieval in young and old adults, and the effect of aerobic exercise on verbal executive functions.

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Lauren Crump, MPH is the Associate Director of the Institute on Aging (IOA) and Vice Chair for Administration and Finance in the Department of Aging and Geriatric Research at the University of Florida. Previously she was the Administrator of the Wake Forest University School of Medicine (WFUSM) Claude D. Pepper Older Americans Independence Center (OAIC) from 2000 through January 2005, and was the Administrative Director in the section of Geriatrics serving as administrator over all section budgets, grants and studies since 1998. During this time, she has managed over 93 independently funded studies, which have resulted in over $170 million in total costs. Thus, she is very experienced and knowledgeable in her role. Ms. Crump prepares and oversees the sponsored research grant budgets, monitors compliance with budgetary guidelines and human subject and animal care and use provisions. She facilitates internal communication within the IOA, and coordinates communication with other universities and the National Institute on Aging. She is responsible for writing all required reports. In addition to her role as Administrator of the UF OAIC, she works closely with the project managers in our Aging and Rehabilitation Research Center to ensure budgetary compliance with all clinical trials. This helps to assure integration and success of the OAIC and future studies that result from the OAIC.

Also during her employment at WFUSM, Ms. Crump was an administrator in the Office of Facilities Planning, Construction, and Design. She worked closely with project managers, construction managers, architects, and designers to develop construction proposals, and administratively managed the progress of all projects from planning and design, to construction and closeout. She is very skilled as a project liaison on this construction project to ensure all phases of design and construction will be completed as planned, and according to scope.

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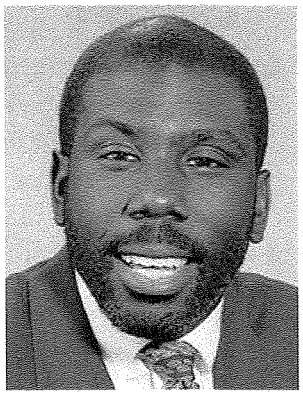

Duane E. Dede earned his Ph.D. in Clinical Psychology from the University of Louisville in 1992. He then went on to a Fellowship in Clinical Neuropsychology at the University of Michigan Medical Center. Dr. Dede joined the faculty in 1993 and is presently a Clinical Professor in the department of Clinical and Health Psychology at the University of Florida in Gainesville. He is active in the training of graduate students, interns and postdoctoral fellows. Dr. Dede is the co-director of the University of Florida's Center for Traumatic Brain Injury Research. Research interests and publications include neuropsychological impact of sports related concussions; adult learning disabilities and patient/family psychosocial adjustment of chronic illness. A recent focus has been on determining the cognitive impact of concussions in football and soccer at the collegiate and high school level. This data will lay the groundwork for establishing empirical guidelines for return to play guidelines.

Vonetta M. Dotson, Ph.D.
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Vonetta Dotson is an Associate Professor in the Department of Clinical and Health Psychology at the University of Florida. She received her Ph.D. from the same department in 2006 with a specialization in neuropsychology and a certificate in gerontology. She completed her postdoctoral training in the Laboratory of Personality and Cognition in the National Institute on Aging Intramural Research Program under the mentorship of Drs. Susan Resnick and Alan Zonderman. Her research focuses on 1) applying neuroimaging and behavioral techniques to the study of the etiology and consequences of depressive disorders in the context of normal and pathological aging, 2) examining the depressive spectrum hypothesis—whether depression is best conceptualized as a continuum, starting with subthreshold depressive symptoms and dysthymia and ending with major depression, and 3) understanding whether factors such as age, sex, and race contribute to variability in the relationships between depression, cognition, and brain structure and function.

Leilani Doty, Ph.D.
Director, Cognitive and Memory Disorder Clinics
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Faculty Appointment, UF Department of Clinical & Health Psychology
Faculty Associate, Center for Neuropsychological Studies
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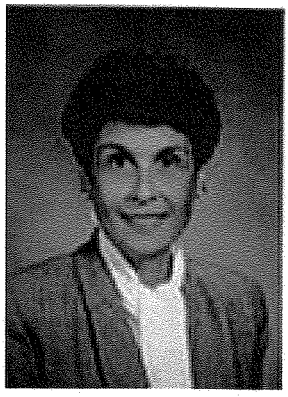

Since 1988 Dr. Leilani Doty, a faculty member of the University of Florida (UF) Department of Neurology, has worked with Kenneth M. Heilman, MD in the Memory Disorder Clinic, one of now 15 clinics that comprise the Department of Elder Affairs, Florida-wide, Alzheimer's Disease Initiative. At her recommendation in 1996, the Alzheimer's Disease Initiative Advisory Committee created the ADI Ethics Subcommittee; they appointed her as its first Chair. Approaching driving safety challenges related to Florida families who are dealing with progressive dementia has been a top issue for Dr. Doty for about 14 years. She was the lead author on a white paper (2005) regarding an ethics-based policy on driving and dementia in Florida and is writing a book on *Driving, Dementia and Mobility Counseling.*

At Dr. Doty's recommendation, the Alzheimer's Disease Initiative Advisory Committee formed the ADI Education and Training Subcommittee in 2007; they appointed her as its first Chair. She is currently editing an update of the 1996 Alzheimer's Disease Training Manual of the Department of Elder Affairs.

Dr. Doty's various academic and community activities include being, when she was the President of the Mental Health Association, a co-founder of the local Alzheimer's Association, Gainesville-Ocala Chapter, now called the Central & North Florida Chapter of the Alzheimer's Association. She has written a great deal about various facets of progressive dementia, including recent articles on Driving and Dementia, Alzheimer's Disease, Frontotemporal Lobar Degeneration, Mild Cognitive Impairment, Lewy Body Dementia, and Emotional Distance, available at no cost on the web site www.AlzOnline.net. Also, she just revised a chapter on "Our Older Years" for the 2011 edition of Our Bodies Ourselves (Boston Women's Health Book Collective). Public recognition of her work includes the *1997 Representative Cynthia Moore Chestnut Service Learning Award for Excellence*; the *1998 University of Florida Women of Achievement Award*; the 2003 *Most Interesting Job and Professional Journey, Massachusetts General Hospital School of Nursing Alumni Association Award (Class of 1963)*; and listings in several **Who's Who** editions. Board memberships in the local community and in national professional organizations include her service as Communications Chair and appointment to the international Board of SELAM (Senior Executive Leadership in Academic Medicine), which fosters leadership development in upper level women administrators in academic health campuses and centers in the U.S. and Canada.

Pamela Dubyak, M.S.
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Ms. Dubyak received her B.A. in Psychology and American Civilization from Brown University in Providence, Rhode Island. Her postbaccalaureate work at Rhode Island Hospital included working on a Hepatitis C prevention research study for substance users. As a doctoral candidate in the Department of Clinical and Health Psychology in the University of Florida College of Public Health and Health Professions, she continues to work in the field of health psychology. For her Master's project, she examined the differences in sleep misperception in caregiving and noncaregiving older adults. Currently, she is investigating the effects (i.e., weight loss, adherence, and cost-effectiveness) of a lifestyle-based weight loss intervention delivered via a large group (i.e., approximately 30 participants) versus a small group (i.e., approximately 10 participants) in obese women.

Meagan T. Farrell, M.S.
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Meagan Farrell is a third year graduate student in Psychology, specifically the Behavioral and Cognitive Neuroscience area. Meagan is a member of the Predoctoral Aging Training Program funded by a training grant from the National Institute on Aging to the University of Florida. Her research is focused on the cognitive processes that enable the production and comprehension of language in young and older adults, with an emphasis on age-related changes to speech production and the retrieval of words from memory. One of older adults' most frustrating cognitive problems is an age-linked increase in word retrieval failures, or tip-of-the-tongue (TOT) states. Meagan is interested in the characteristics of words that bring about functional changes to word retrieval processes, i.e. do older adults have greater difficulty in retrieving particular types of words or sounds? Her recent work demonstrated that relative to young adults, older adults are more likely to have a TOT for words beginning with infrequently-used syllables, but not words beginning with a high-frequency syllables. Meagan plans on furthering this line of research to indentify other lexical and phonological variables that may contribute to explanations of why word retrieval becomes more problematic with age. Upon completion of her PhD, Meagan plans to continue investigating age-associated changes to language and memory processes at an academic research institution.

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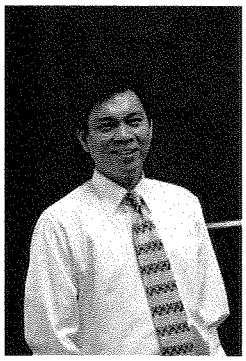

Hubert H. Fernandez, MD, is Associate Professor of Neurology, Associate Chair of Academic Affairs, Director of Clinical Trials for Movement Disorders, Co-Director of the Movement Disorders Program, , all at the University of Florida. He received his medical degree in the Philippines, and completed his neurology residency at Boston University and a postgraduate fellowship in movement disorders at Brown University.

Dr. Fernandez is a Fellow of the American Academy of Neurology (also Executive Board Member of its Movement Disorders Section) and an active member of several professional societies, including the American Neurological Association, Movement Disorders Society (also a member of the Scientific Issues Committee; Chair of the Task Force on Psychosis Scales), and the Florida Society of Neurology (also an Executive Board Member and the President-elect). He is a member of several consortiums of academic clinical trial investigators: Parkinson Study Group (Co-Chair of the Functional Neurosurgical Working Group), Dystonia Study Group (also a member of the Executive Board), and Huntington Study Group. Dr. Fernandez's work has been published in 6 books, 2 dozen book chapters, and over 150 abstracts. He has authored over 150 peer-reviewed clinical publications on Parkinson's disease (PD) and other movement disorders, including long-term care, drug therapy, clinical trials and the non-motor aspects of PD, especially behavioral and cognitive dysfunction. Dr. Fernandez has also served as an ad hoc grant reviewer for the Alzheimer's Society of Canada, the NIH/NINDS, the Orphan Products Development at the Food and Drug Administration. He is a member of the editorial board of *Movement Disorders* and *Clinical Neuropharmacology*, and is an ad hoc reviewer of more than a dozen peer-reviewed journals, including *New England Journal of Medicine, Neurology, Annals of Neurology, Parkinsonism and Related Disorders, Journal of Neurology, Neurosurgery and Psychiatry, Journal of Neurology, Journal of Clinical Psychiatry, and European Journal of Neurology*. Dr. Fernandez has initiated or participated in over three dozen single-center and multi-center clinical trials. He is currently the Co-Medical Editor of the Movement Disorders Society Website.

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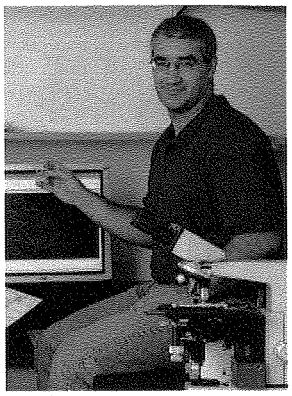

Dr. Fernandez-Funez received his Ph.D. in February 1998 from Universiad Autonoma de Madrid, where he worked as a Postdoctoral Associate until October of 1998. In November 1998, he became a Postdoctoral Associate at Baylor College in Houston, Texas. In February 2004, he left Baylor and became an Assistant Professor for the Department of Neurology at UTMB. At UTMB, he worked in the George and Cynthia Mitchell Center for Neurodegenerative disorders. Interests include: Molecular mechanisms of neurodegeneration in Alzheimer's disease Prion disorders.

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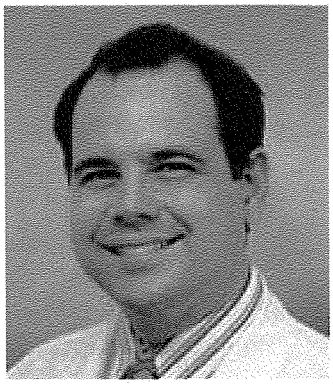

Glen Finney earned his M.D. from Temple University, Philadelphia, PA andcompleted his residency training at the University of Miami/Jackson Memorial Hospital in Miami, Florida. He then completed his fellowship training in Behavioral Neurology with the Malcom Randall VAMC & University of Florida. His research interests include Behavioral Neurology.

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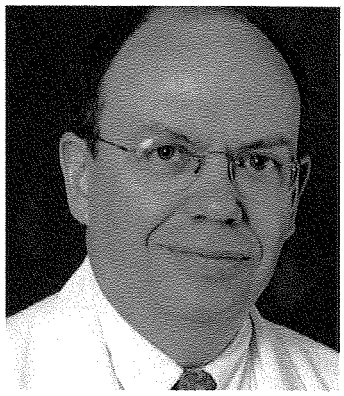

Dr. FitzGerald currently holds a courtesy faculty appointment in the department of Neurology at UF. He currently is supported by the Veterans Administration with a Career Development Award.

He has strong research interests in cognitive neuroscience and advanced magnetic resonance imaging. His current translational research imaging projects include: diffusion tensor imaging of white matter after blast injury with mild TBI and investigation of the effect of donepezil on semantic memory in the healthy elderly. Dr. FitzGerald also has a TBI clinic in the VA.

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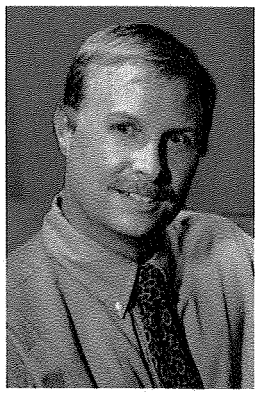

My research program utilizes a combination of behavioral characterization with biochemical, molecular, and electrophysiological techniques to obtain a vertically integrated perspective on neural aging, from the molecular to the cognitive level. The two main goals of the lab are to identifying mechanisms for age-related memory impairment and test treatments to alleviate memory deficits. Regulation of Ca^{2+} is thought to play a role in age-related neurodegeneration and the synaptic plasticity that underlies memory. Our research shows that rapid forgetting is associated with a shift in the threshold for Ca^{2+}-dependent synaptic plasticity, LTP and LTD. Subsequent research clarified the mechanisms and showed that age-related changes in synaptic plasticity are due to altered Ca^{2+} regulation involving NMDA receptors, voltage-dependent Ca^{2+} channels, and intracellular Ca^{2+} stores interacting with processes for cell excitability. Moreover, a shift in the activity of LTD/LTP signaling mechanisms (i.e. phosphatase/kinase activity) was found to underlie a decrease in synaptic strength and correlate with memory impairment. These signaling cascades impinge on transcriptional regulation and recent work has examined gene expression associated with memory decline during aging. Current research is addressing the undying cause of altered Ca^{2+} regulation and is focused on homeostatic processes of oxidative stress and protein degradation pathways. This body of work characterizes several biological markers of age-related memory impairment and provides a model linking age-related memory decline with major hypotheses for aging, altered Ca^{2+}

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homeostasis and oxidative stress, through a change in Ca^{2+} signaling cascades to markers of brain aging including the shift in synaptic plasticity, increased susceptibility to neural toxicity, and altered gene regulation.

Research directed at testing the effectiveness of treatments in ameliorating delaying/ ameliorating memory decline and preventing/reversing markers of brain aging includes behavioral treatments (exercise, environmental enrichment), diet (vitamin E, high fat, caloric restriction) and viral vector gene delivery (superoxide dismutase, estrogen receptor, growth factors).

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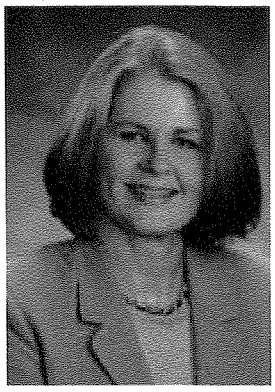

Leslie Gonzalez Rothi, PhD, currently serves as a Research Career Scientist and Program Director of the VA RR&D Brain Rehabilitation Research Center of Excellence at the Gainesville VA Medical Center, and the Bob Paul Family Professor of Neurology in the University Of Florida College of Medicine. Additionally, she is currently a Visiting Scholar of the University of Queensland, Brisbane, Australia, and of the University of Athens, Greece. In these appointments, Dr. Gonzalez Rothi serves as a clinical researcher, administrator and educator. Dr. Gonzalez Rothi received her Ph.D. from the University of Florida and completed a postdoctoral fellowship in behavioral neurology/neuropsychology. Dr. Gonzalez Rothi has held many professional leadership roles. She has served on the Executive Boards of the Academy of Aphasia, the International Neuropsychological Society, the Academy of Neurologic Communication Disorders and Sciences, and Division 2 (Neurologic Communication Disorders) of the American-Speech-Language-Hearing Association; serving as President of all but the first.

Dr. Gonzalez Rothi is a fellow of the American Psychological Association and of the American-Speech- Language-Hearing Association, a recipient of the "Outstanding Leader Award" given by the Academy of Neurologic Communication Disorders and Sciences, and is the recipient of a University of Florida Research Professorship in recognition of outstanding research and scholarly achievements. Dr. Gonzalez Rothi was honored as the 2007 Paul B. Magnuson awardee, the highest recognition given by the Department of Veterans Affairs for "outstanding rehabilitation research dedicated to seeking new knowledge to benefit the nation's veterans". Dr. Gonzalez Rothi was awarded the Clinical Career Award by the Florida Speech-Language-Hearing Association in recognition of outstanding contributions to the field of speech-language pathology. Most recently she was awarded the University of Florida College of Public Health and Health Professions 2009 Outstanding Alumni Awardee for Communication Sciences and Disorders. For the last 25 years, Dr. Gonzalez Rothi's research has focused on understanding the

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brain organization of spoken language, reading, spelling, memory, attention/intention, gesture and tool use, and more recently her focus has grown to include studies of the treatment of disorders of these systems using experiential and physiologic treatment combinations. To report her findings, Dr. Gonzalez Rothi has edited two books focused on various aspects of neuropsychology and has authored hundreds of articles in scientific publications. Dr. Gonzalez Rothi's research has been funded by the National Institutes of Health of the U. S. Public Health Service and by the Rehabilitation Research and Development Service of the U. S. Department of Veterans Affairs. Currently, in addition to serving as the Principal Investigator of the Center of Excellence grant funded by the VA RR&D Service to the North Florida/South Georgia Veterans Health System in Gainesville, she serves as Program Director of an NIH Institutional training grant for postdoctoral fellows in rehabilitation neuroscience research.

Michael Good, M.D.
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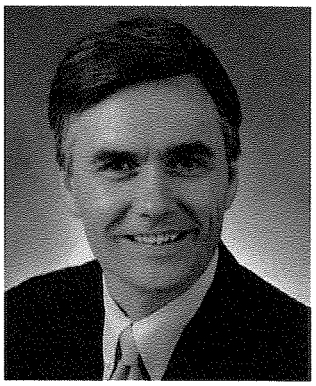

Michael L. Good, M.D., was appointed the ninth dean of the University of Florida College of Medicine in December 2009. Dr. Good seeks to foster an exciting academic culture that attracts, develops, invigorates and inspires the loyalty of the nation's best faculty and staff. He plans to build on more than 50 years of College of Medicine achievements to sustain UF leadership in medical education adapted to 21st-century practice and discovery, support cross-campus collaborative research teams in state-of-the-art environments and ensure that only the safest, highest-quality, most compassionate and family centered care is delivered in UF and Shands clinics and hospitals.

In his 20 years on the UF College of Medicine faculty, Dr. Good has held numerous leadership positions at UF and its clinical affiliates. Most recently, he served as senior associate dean for clinical affairs and chief of staff at Shands at UF and Shands AGH hospitals. His leadership experience also extends to the North Florida/South Georgia Veterans Affairs Health System, which he served as chief of staff and system medical director. While assigned to the VA, he also served as chief of the anesthesiology service at the VA hospital in Gainesville.

Dr. Good graduated with distinction from the University of Michigan, earning a B.S. degree in computer and communication sciences. He earned his medical degree from Michigan before pursuing a residency and a research fellowship in anesthesiology at the University of Florida. Early in his academic career at UF, he led a team of engineers and physicians in developing the Human Patient Simulator, a sophisticated computerized teaching tool now used in health-care education programs throughout the world. A member of the Association of American Medical Colleges, the University Health System Consortium, the American Medical Association and the Florida Medical Association, Dr. Good currently serves on the board of directors of the Alachua County Medical Society.

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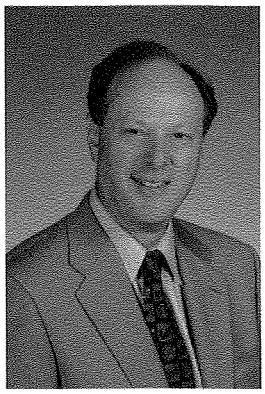

David S. Guzick, M.D., Ph.D. was appointed Senior Vice President, Health Affairs and President, UF & Shands Health System, at the University of Florida, on July 1, 2009. An internationally known expert in reproductive endocrinology, Dr. Guzick was elected in 2008 to the Institute of Medicine, one of the nation's highest honors in the fields of medicine and health.

From 2002-2009, Dr. Guzick was Dean of the School of Medicine and Dentistry at the University of Rochester in Rochester, NY. In addition to serving as dean, Guzick was the director of the University's Clinical and Translation Science Institute. He was principal investigator for the Clinical and Translational Science Award from the National Institutes of Health in 2006 when the NIH selected Rochester as one of first 12 institutions in the country to receive this award. The $40 million grant from NIH was the largest grant ever from NIH to the University of Rochester.

During Guzick's term as dean at the University of Rochester, the value of NIH grants and contracts to the School of Medicine and Dentistry increased to $155 million annually, resulting in an NIH rank of 24 among 130 medical schools, the highest ranking for the School since 1992. In 2003, under Dean Guzick's leadership, the Association of American Medical Colleges selected the school for its Outstanding Community Service Award. In 2005, the Accreditation Council for Graduate Medical Education (ACGME) gave the School an unprecedented six-year accreditation for its residency programs, making the School the first to get the extended accreditation. It is still the only institution to receive one. In 2008, the Liaison Committee on Medical Education (LCME) awarded the School a full eight-year accreditation with high praise for the dean's outstanding leadership and a commitment to medical education and medical students. As dean, Guzick also led a sustained and highly successful campaign to raise funds for scholarships and reduce medical student debt.

From 1995 until 2002, Guzick served as the Henry A. Thiede professor and chair of the Department of Obstetrics and Gynecology at the University of Rochester, in addition to chief of service of obstetrics and gynecology at Strong Memorial Hospital and Highland Hospital. From 1986-1995, he was at the University of Pittsburgh School of Medicine, where he served as professor of Obstetrics, Gynecology and Reproductive Science and director of Reproductive Endocrinology. He earned his M.D. degree and Ph.D. from New York University as part of the Medical Scientist Training Program of the National Institutes of Health. Following a residency in obstetrics and gynecology at The Johns Hopkins Hospital, he completed a fellowship in reproductive endocrinology at the University of Texas, Southwestern Medical School.
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As a clinician and researcher, Guzick advanced knowledge in the evaluation and management of infertility, polycystic ovarian syndrome and endometriosis. In 2004, he was inducted into the Society of Scholars at the Johns Hopkins University as a national and international leader in reproductive endocrinology. He was cited for his methodological contributions to the analysis of infertility data, which are widely used, his research on the efficacy of treatments for endometriosis, and his studies demonstrating increased cardiovascular risk among women with polycystic ovarian syndrome that have led to a focus on the long-term management of this condition.

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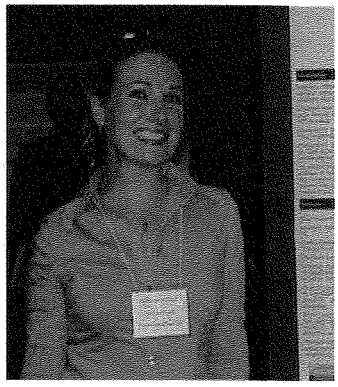

Erin Hastings's research focuses on methods to maximize learning in older adulthood, with a special focus on non-ability factors such as memory self-efficacy. She is especially interested in applied intervention work that seeks to improve performance and motivation through both strategy instruction and an emphasis on changing beliefs about memory in late life. She has a Masters Degree in Education (2002), as well as Psychology (2006), and is interested in applying educational psychology theories shown to improve children's learning to older adult learning. Ms. Hastings (ABD) has received numerous national awards including the American Psychological Association (APA) Division 20 Award for Completed Research for her study entitled "The relative success of a self-help and group-based memory training program for older adults" and an APA Dissertation Research Award. At the University of Florida, she has also been awarded a Grinter Fellowship and the Leighton E. Cluff Award for Aging Research. Her research is currently supported by an institutional Kirchstein National Research Service Award training grant funded by the National Institute on Aging to the University of Florida (Grant T32AG020499, "Physical, Cognitive and Mental Health in Social Context").

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My laboratory primarily focuses on CNS drug design, targeting a nicotinic acetylcholine receptor ("α7") that participates in brain circuits involved in cognitive processes and sensory gating (inhibition of response to recurrent stimuli). One compound, GTS-21, is currently in phase II clinical tests for Alzheimer's disease, schizophrenia and attention deficit hyperactivity disorder. A new project targets other nicotinic receptors that influence dopamine levels in parts of the brain involved in drug addiction (ventral tegmentum-nucleus accumbens) and in motor function (striatum).

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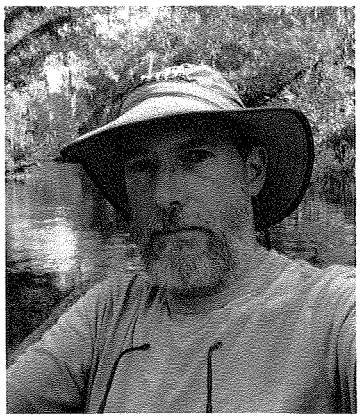

My laboratory is primarily interested in developing models of and therapeutics for dementing neuropathology associated with aging. We have developed and used adeno-associated viral vector technology to make preclinical gene delivery models of inherited and sporadic tauopathies, and inherited amyloidopathies, as well as age-related memory dysfunction related to the role of dephosphorylation in the MAPK pathway activated by neurotransmitter glutamate binding to metabotropic receptor subtype 5. We have also used the gene transfer approach to try to counteract tau, amyloid, and memory-related pathology by expressing degradative enzymes and neurotrophic factors. A pilot project is currently in progress to evaluate the potential for a microencapsulated formulation of the endogenous neuropeptide orexin to antagonize memory loss in aged, memory-impaired rats. Previous studies related to memory and aging include a comprehensive electrophysiological analysis of hippocampal synaptic function and plasticity across the lifespan of adult rats prior to the age when mnemonic dysfunction emerges. The laboratory is strongly focused on a variety of anatomical techniques including stereology and quantitative histometry. Behavioral assays include alternation, water maze, and avoidance learning and retention. Biochemical and molecular analyses of protein and gene expression, and intracellular signal transduction, complement anatomical, behavioral, and electrophysiological methods. Secondary interests of the lab include active collaboration in studies on septohippocampal development, stereotypy related to environmental impoverishment, histological validation of phenomena derived from magnetic resonance imaging techniques, and the development of epilepsy.

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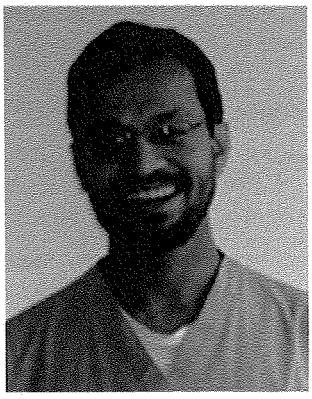

M.B.B.S., Patna University, Patna University, Medicine, 2004
University of Florida, College of Medicine, Neurology Department, Resident - Appointed: 2007
2006-2007, Resident, Resurrection Westlake Hospital, Melrose Park, IL, Medicine
2004-2006, Graduate Student, University of Iowa, Carver College of Medicine
(continued)

Dr. Kumar's publications include:

Serra A, Sechi G, Singh S, Kumar A (Aug 2007) Wernicke encephalopathy after obesity surgery: a systematic review, Neurology, 69(6)615; author reply 61

Singh S, Kumar A (Mar 2007) Wernicke encephalopathy after obesity surgery: a systematic review, Neurology, 68(11)807-11

He is a member of the American Academy of Neurology, Florida Society of Neurology, and the Neurocritical Care Society

Ashok Kumar, Ph.D.
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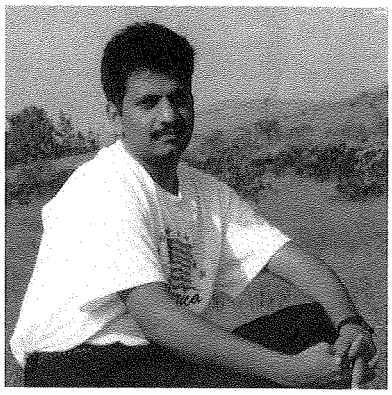

The central focus of my research program is directed towards understanding how the dysregulation of Ca2+ homeostasis during senescence impact synaptic function and cell excitability as well as its influence on age-related memory loss. Aging is associated with a shift in synaptic plasticity favoring long-term depression (LTD) over long-term potentiation (LTP) and we have shown that the magnitude of the Ca2+ -dependent, K+ mediated afterhyperpolarization (AHP) plays a critical role in setting the threshold for induction of synaptic plasticity. Our results demonstrates that Ca2+ release from intracellular Ca2+ stores and voltage-gated Ca2+ channels contribute to the enhanced AHP and regulates the threshold for synaptic plasticity induction. There is a shift in susceptibility to induction of long-term depression during aging; however, the asymptotic level of synaptic modification (LTP/LTD) does not change with age. Rather, induction impairments are observed using weak stimulation parameters.

In addition, Dr. Kumar is interested in investigating the impact of environmental enrichment and exercise on biological markers of brain aging and its effect on cognitive performance during senescence. The AHP, which is enhanced during aging, regulates the induction of LTP, in part by limiting NMDA receptor activation. Recently published results suggest that environmental enrichment reduced the increased AHP amplitude in aged animals. Dr. Kumar also study effects of estrogen on hippocampal function across the lifespan, and our results indicate that estrogen rapidly increases neuronal excitability, decreases AHP, and augments the strength of synaptic transmission. Finally, my research will determine the complex interaction of cholinergic transmission on hippocampal synaptic function during senescence and delineate the mechanisms. which contribute to age-related memory loss. The overall broader goal of my research is in pursuit of fundamental knowledge of mechanisms underlying alterations in hippocampal function during aging, as well as the application of that knowledge to extend healthy and successful aging, while reducing the burdens of cognitive aging and age-related neurodegenerative diseases. Dr. Kumar earned his Bachelor and Masters of Sciences and Ph.D. from The University of Lucknow/Central Drug Research Institute, Lucknow, and is currently working as a Research Assistant Professor with Dr. Thomas C. Foster at the Department of Neuroscience/McKnight Brain Institute, University of Florida, Gainesville.

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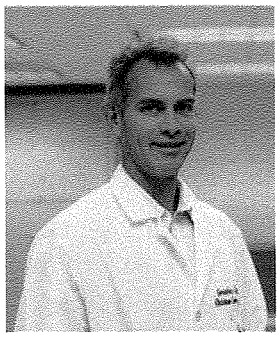

Christiaan Leeuwenburgh received his PhD from the University of Illinois, Urbana-Champagne in 1995 where his doctoral work focused on the regulation of glutathione homeostasis during chronic glutathione deficiencies and/or supplementation. He completed postdoctoral studies in Internal Medicine, Division of Geriatrics and Gerontology and **Division of** Atherosclerosis, Nutrition and **Lipid** Research at Washington University School of Medicine, Saint Louis with Drs John Holloszy and Jay Heinecke. He became an Assistant Professor in 1998 at the University of Florida and the Director of the Biochemistry of Aging Laboratory. He was promoted to Associate Professor in 2002 and Professor in 2007. In 2005 he joined the newly created Institute on Aging at the University of Florida, where he became the Chief of the Division of Biology of Aging for the Department of Aging and Geriatric Research. Dr. Leeuwenburgh has a joined appointment with Anatomy and Cell Biology and an is adjunct faculty of Biochemistry and Molecular Biology and a member of the graduate Interdisciplinary Program in Biomedical Sciences of the College of Medicine. Dr. Leeuwenburgh major research focus is to better understand the molecular mechanisms of programmed cell death (apoptosis) and mitochondrial bioenergetic failure with age. The Division of Biology of Aging utilizes and collaborates with scientist using, yeast, transgenic mice, rodent models for intervention studies. The division actively participates in several clinical translational studies, investigating mechanisms of mitochondrial dysfunction, sarcopenia and fatigue in humans.

In these later studies, his group investigates the role of apoptosis in the loss of human skeletal muscle mass with age in low and high functioning older adults. He has participated in various NIH study sections, NIH workshops focused on the biology of aging and geriatric research. He has published papers in The Journal of Biological Chemistry, American Journal of Physiology, PLoS One, Journal of Gerontology, FASEB Journal, Experimental Gerontology, Neurobiology of Aging, Rejuvenation Research, Aging Cell and Science. He is currently a section editor for Experimental Gerontology. He received the Nathan Shock Award from the National Institute on Aging (2004), the Merck Geriatric Cardiology Research Award from the Society of Geriatric Cardiology (1999-2000) and the National Research Service Award of the NIH from the National Institute on Aging (1997-1998); a Young Investigator Award from the Oxygen Society (1996); and held an American Heart Association Pre-doctoral Fellowship (1993-1995) from the Illinois Affiliate. His work on assessment of mitochondrial mediated apoptosis, oxidative damage in aging has been increasingly recognized and appreciated by gerontologists worldwide.

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Christiana Morison Leonard is Emeritus Professor of Neuroscience at the McKnight Brain Institute of the University of Florida, where she has taught and conducted research for more than 30 years. She was educated at Radcliffe College, the University of California at Berkeley, MIT, and Rockefeller University. Her research has been directed towards understanding the neuroanatomical and genetic origins of behavioral variation, both within and between species. She has worked on prefrontal cortex, the taste and olfactory systems, bird song, and face perception. Currently she is collaborating with investigators in the UK, Canada and the US on studies of dyslexia, specific language impairment, neonatal cocaine exposure, Prader Willi syndrome and Parkinson's Disease. She specializes in developing quantitative measures of cortical variation. Her work suggests that measures of brain size and auditory cortex asymmetry predict cognitive function across a broad range of diagnoses including dyslexia, specific language impairment and schizophrenia. Thus, anatomical risk factors, like genetic risk factors, do not appear to be specific for particular complex behavioral disorders. Her work has been supported by the March of Dimes, the NIH, the NSF, and the VA. She has been Treasurer and Finance Committee Chairman of the Society for Neuroscience, a program officer for the National Science Foundation, and served on many government review panels evaluating national research centers for learning disabilities and autism.

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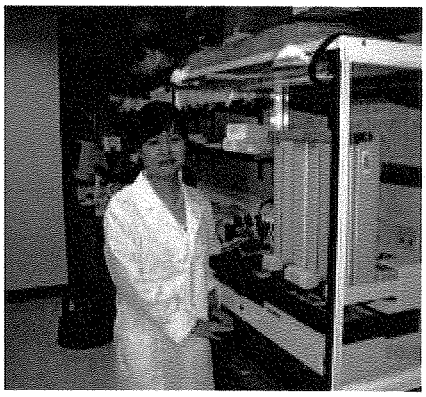

Dr. Liu graduated from Xinxiang Medical University, China and got her M.S. at Qingdao University, China and Ph.D. at Health Sciences University of Hokkaido, Japan. Dr. Liu now is working with Dr. Hendrik Luesch as a postdoc research associate at University of Florida on genome-scale screens, drug discovery and modes of action of marine natural products. Towards discovering novel genes involved in human's defense against oxidative stress and neurodegeneration, her genomic screens with Dr. Luesch for ARE activators provide the foundation to find novel ways to prevent and treat age-related disorders, such as Alzheimer's disease, age-related memory loss, Parkinson's and Huntington's disease. (continued)

This work and other such studies are forming the intellectual backbone for understanding how to activate ARE in the absence of general oxidative stress and a yet unexploited therapeutic approach to degenerative diseases and aging. Dr. Liu is also working on the modes of action of marine natural products both *in vitro* and *in vivo*.

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Research in the Luesch lab lies at the interface of chemistry and biology and addresses multiple aspects of the drug discovery process ranging from assay development, identification and structure determination of bioactive small molecules, to studies toward the mechanism of action of small-molecule drug candidates and the discovery of novel putative drug targets. In our quest for small molecules with biomedical utility we mainly scrutinize natural products derived from marine cyanobacteria and eukaryotic algae. Active compounds are isolated using bioassay-guided fractionation and their structures determined using a combination of spectroscopic techniques. Subsequently, we use various genomic, proteomic and metabolomic profiling techniques to elucidate the mechanism of action of these compounds. We are also carrying out studies to disclose the function and action of genes/proteins that are putatively involved in cancer, aging, and neurodegeneration. Candidate genes are identified by high-throughput genome-wide screening. Validated genes are then subjected to molecular and biological characterization. The ultimate goal is to modulate gene or protein function with small molecules which could then be translated into valuable chemical biology tools or even novel drugs. Our recent focus has been on gene products that modulate oxidative stress levels through activation of the antioxidant response element (ARE). In humans, the ARE regulates the expression of a number of cytoprotective antioxidant enzymes and scavengers which contribute to the endogenous defense against oxidative stress. The activation of the ARE in the absence of general oxidative stress could provide a novel therapeutic approach for the treatment of various neurodegenerative diseases, stroke and aging.

Dr. Luesch received his *Diplom* in Chemistry at the University of Siegen (Germany) in 1997. He attended the University of Hawaii at Manoa to study marine natural products chemistry and obtained his Ph.D. in Chemistry under the supervision of Prof. Richard E. Moore in 2002. He then undertook three years of postdoctoral studies as an Irving S. Sigal Fellow at The Scripps Research Institute in La Jolla under the guidance of Prof. Peter G. Schultz in the area of functional genomics. In 2005 he joined the faculty of the Department of Medicinal Chemistry at the University of Florida.

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Ms. Marcinkiewcz received her Bachelor's degree from the Department of Biomedical Engineering at Johns Hopkins University. She is currently a doctoral candidate in the Department of Neuroscience at the University of Florida and has been conducting her research with Darragh P. Devine in the Department of Psychology.

Her research is focused on the molecular mechanisms underlying stress-induced psychopathology and biological depression, with a particular focus on the role of the organic cation transporter 3 (OCT3) as an interface between stress pathways and serotonin systems in the brain. She has recently demonstrated that the OCT3 is differentially expressed in animals with a depressive phenotype and that stress can regulate expression of the OCT3. Chronic stress has been shown to accelerate the aging process and can lead to age-associated neuropathology that includes hippocampal atrophy, cognitive decline, hormonal dysregulation, and emotional disorders in the elderly. The deleterious effects of stress are exacerbated in aged populations due to loss of negative feedback drive in parts of the brain that mediates stress recovery. Her experiments show that age-related changes in stress tolerance and dysregulation of the HPA axis may be associated with altered expression and regulation of the OCT3. However the good news is that aged individuals may be good candidates for treatment with OCT3 antagonists, which have been shown to induce behavioral plasticity in animals with increased OCT3 expression. Ms Marcinkiewcz is currently undertaking a project to elucidate the role of the organic cation transporter-3 in the pharmacological response to antidepressant treatment, which will further our understanding of the interactions between the high-affinity serotonin transporter and the OCT3 in treating depression in the elderly.

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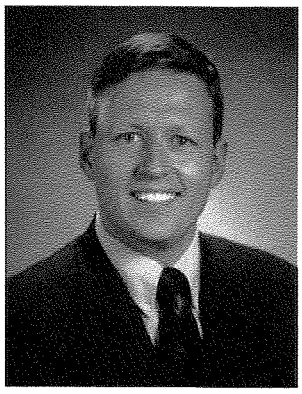

Michael Marsiske is an Associate Professor in the Department of Clinical and Health Psychology, College of Health Professions. He is also the Associate Chair for Research in this department. He currently holds a joint appointment in the Department of Psychology, College of Liberal Arts and Sciences. Marsiske is also a Coordinator of the University of Florida Network for Biobehavioral and Social Aging. From 2000-2003, he served as Associate Director for Research in the University of Florida Institute on Aging; he also served as Interim Director of the IoA during the first six months of 2003. (continued)

He currently serves as Leader of the Recruitment Core, part of a National Institute on Aging-funded Pepper Older Americans' Independence Center funded to the IoA's current Director, Marco Pahor MD.

Dr. Marsiske received a B.Sc. in Psychology from the University of Toronto. At the Pennsylvania State University, Dr. Marsiske received both M.S. and Ph.D. degrees from the Department of Human Development and Family Studies, where he was also a National Institute on Aging Pre-Doctoral Trainee in the Gerontology Center. Dr. Marsiske received a three-year post-doctoral fellowship from the Center for Psychology and Human Development of the Max Planck Institute for Human Development. Prior to coming to the University of Florida, Dr. Marsiske was an Assistant Professor in the Institute of Gerontology and the Department of Psychology at Wayne State University. He is a Fellow of the Gerontological Society of America, and is a past recipient of the Springer Award for Early Career Achievement in Research and Adult Development and Aging from Division 20 of the American Psychological Association. Marsiske is a past-Chair of the NIA-S (Behavioral and Social Sciences) Initial Review Group for the National Institute on Aging, and he currently serves on the Editorial Boards of the *Journals of Gerontology: Psychological Sciences* and of *Aging, Neuropsychology and Cognition.*

Presently he serves as a principal investigator on the NIH-funded study ACTIVE, which examines long-term cognitive training effects on elders' everyday function, and he collaborates on several other federally funded studies and centers at UF. Marsiske is also the Training Director of a NIA-funded predoctoral training program (T32) entitled "Physical, Cognitive and Mental Health in Social Context." Dr. Marsiske's research has four major foci:

- modifiability of older adults' cognitive performance due to training interventions and practice
- understanding short-term variability and fluctuation in elders' cognition, and its relationship to cognitive status and other time-varying predictors
- older adults' everyday problem solving abilities and their relationship to basic cognitive and intellectual performance
- understanding the inter-relationship of sensorimotor and cognitive function in later life, with a particular focus on balance and locomotion

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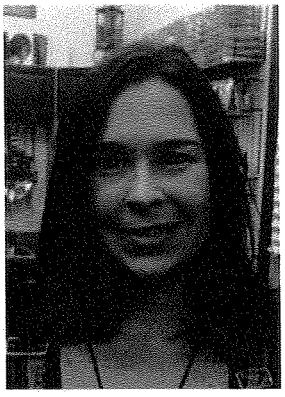

Stacy Merritt has a Master's Degree in Gerontology and has worked in various arenas related to the science of aging and quality of life for the aging population. She has focused on the serious mental health of Florida's nursing home residents, culturally competent care for the minority aged, preventing elder abuse, financial exploitation and neglect of seniors in community as well as institutional settings, and Alzheimer's Disease. (continued)

She was appointed to serve on the Governor appointed Select Advisory Panel on Adult Protective Services for Florida. She collaborates with the Florida Attorney General's office to train professionals and teaches legislatively mandated trainings to those who care for aging adults for the Alzheimer's Association. She currently works as a clinical research study coordinator for the Neurology Department at the McKnight Brain Institute and is involved in studying post-mortem brains that have deep brain stimulation implants.

Sandra Mitchell, M.A.
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Clinical & Health Psychology
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Sandra M. Mitchell is currently a Doctoral Candidate in the Neuropsychology Track in Clinical and Health Psychology at the University of Florida. Ms. Mitchell was recently awarded a T32 Predoctoral Research Training Fellowship sponsored by the National Institute on Aging. She will complete her clinical internship training at the Connecticut Veteran's Health Care System during the 2010-11 term. Ms. Mitchell received her Master's degree in Clinical Psychology at the University of Colorado. Her research has focused on the role of white matter changes in the brain as they related to cognitive functioning in healthy older adults and those with dementia. Her dissertation research examines processing speed and sustained performance in patients with idiopathic Parkinson's disease and age-matched controls.

Nicholas Muzyczka, Ph.D.
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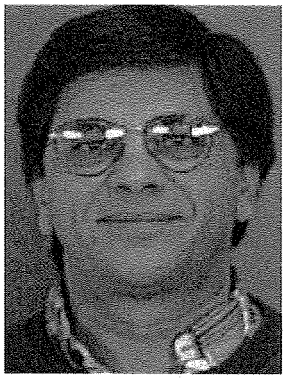

Nick Muzyczka was trained as a biochemist in DNA replication. As a postdoctoral fellow in Dan Nathans's laboratory, he developed the first SV40 vectors. When he moved to Florida, he developed the first AAV vectors. For most of his career he has studied the basic molecular biology and biochemistry of AAV and worked out many of the technical issues related to the use of AAV for gene therapy. One of the technical problems that was solved was the modification of the coding sequence of the green fluorescent protein (GFP) gene so that it could be used in higher eukaryotes. This is now widely used by many laboratories. Muzyczka's lab also developed most of the production, purification and quantitation protocols currently in use today for AAV vectors. In addition, Muzyczka's lab mapped the transcriptional signals of AAV, created the first genetic map of AAV, identified the components of the AAV origin for DNA replication, characterized the biochemical activities of the AAV non-structural Rep proteins, completely reconstructed AAV DNA replication in vitro

(continued)

with purified cellular components, and most recently, helped to crystallize and characterize mutants in the AAV capsid proteins. He is currently working on AAV capsid assembly and trafficking and trying to develop vectors that are specifically targeted to particular tissues or organs. Muzyczka has also collaborated with a number of investigators to bring rAAV vectors to clinical trials including the current trial for alpha-1-antitrypsin deficiency (a genetic pulmonary disorder) and the current trial for rpe65 deficiency (a form of congenital blindness). As part of a collaboration with Ron Mandel, Muzyczka's lab has begun studying the function of alpha-synuclein, the major protein in Lewy bodies. His lab recently published work showing that the non-phosphorylated form of alpha-synuclein is non-toxic suggesting that Lewy bodies protect against Parkinson degeneration rather than promote it. In the learning and memory area, Muzyczka's lab developed rAAV vectors that could quantitatively transduce the hippocampus. He then used a learning paradigm and microarrays to identify a number of genes in the hippocampal CA1 and dentate region that were likely to be involved in learning and memory. Most recently, he has tested three of the CA1 genes in the rat hippocampus by using rAAV vector gene transfer to overexpress these genes. All three genes (cycD1, pctk1, and tcf12) produced significant learning deficits in the radial arm water maze paradigm.

Lucia Notterpek, Ph.D.
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Dr. Notterpek investigates how the loss of glial insulation around axons, called myelin, contributes to the pathogenesis of neural disorders. Diseases that are specifically linked with defects in myelin include peripheral neuropathies, such as Charcot-Marie-Tooth diseases and multiple sclerosis. Recent studies also suggest an involvement of myelin damage in underlying the painful symptoms of trigeminal neuralgia. Current research is focused on understanding the subcellular changes within neural cells that underlie the progressive nature of these disorders and to identify approaches to restore myelin and neural function. The laboratory is equipped with models and reagents, including small molecule therapeutics and genetic modifications to attain these goals. Other areas of active investigation include the role of gene regulatory mechanisms in peripheral nerve development, and the effects of aging on neuromuscular function.

Dr. Notterpek received a B.A. in Anatomy-Physiology from the University of California at Berkeley. She obtained her Ph.D. in Neuroscience at the University of California at Los Angeles working with Dr. Leonard H. Rome. Her postdoctoral training was under the guidance of Dr. Eric Shooter at Stanford University. Currently, Dr. Notterpek is Professor and Chair in the Department of Neuroscience at the McKnight Brain Institute of the University of Florida. She is recipient of the 2004 Jordi Folch-Pi Memorial Award, from the American Society of Neurochemistry, to a young scientist for research excellence. She has authored and coauthored over forty peer-reviewed publications. Her research efforts are being supported by the NIH, the National Muscular Dystrophy Association and the National Multiple Sclerosis Society.

William O. Ogle, Ph.D
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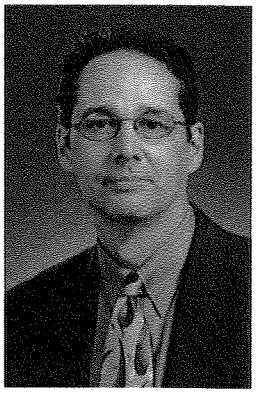

Dr. Ogle's area of research is how stress hormones impact memory. We know that these hormones (glucocorticoids) can inhibit memory formation and recall. We also know that these hormones can inhibit neurogenesis and increase neuronal vulnerability in the presence of disease or injury. There is also significant evidence indicating that chronic stress and neuronal vulnerability are interrelated events contributing to age-related pathologies and cognitive decline. We have been investigating the ability of the pharmacologically active component of tumeric, curcumin, to impact the negative effects of stress within the hippocampus. Curcumin has been shown to have extensive therapeutic properties (anti-inflammatory and neuroprotective activities). We have shown that curcumin can reverse impaired hippocampal neurogenesis due to chronic stress and can improve spatial memory and neuronal plasticity. We believe that this compound directly inhibits the glucocorticoid stress response and is similar in structure and activity to the phytoalexin resveratrol. Both of these compounds may act by directly inhibiting the cellular stress response pathway, accounting for their broad range of activities. In addition to our neuropharmacological work we are also using engineered nuclear hormone receptors and their analogous g-protein coupled receptors to decipher the dynamic regulatory interactions between these receptors and perform molecular level computational modeling of their interactive effects on gene expression and signal transduction.

Brandi K. Ormerod, Ph.D.
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Dr. Ormerod received her Bachelor of Science (honors) in Psychology from Queen's University in Kingston, Ontario, Canada where she studied the contribution of forebrain cholinergic activity in working and reference memory across behavioral tasks in adult rats. She then obtained her doctorate in Neuroscience at the University of British Columbia, Canada, holding both Killam and National Sciences and Engineering Research Council of Canada (NSERC) pre-doctoral fellowships for her work describing the role of steroid and stress hormones in regulating adult hippocampal neurogenesis and spatial cognition in adult rats and meadow voles. (continued)

Dr. Ormerod then conducted NSERC- and Michael J. Fox Foundation- sponsored post-doctoral work at Stanford University, where she investigated the impact of neuroinflammation on both adult hippocampal neurogenesis and cognition in adult rats and mice and explored the mechanisms directing human and rodent stem/progenitor cell behavior in using *in vitro* preparations. Currently, Dr. Ormerod is an Assistant Professor in the J. Crayton Pruitt Family Department of Biomedical Engineering and focuses her research upon understanding how neural plasticity, including neurogenesis, contributes to learning and memory and how disruption of neural plasticity during the ageing process or with disease contributes to cognitive impairment. In particular, Dr. Ormerod's research emphasizes the impact of neuroinflammation, hormone regulation, and stress on biomarkers of successful and unsuccessful aging. Dr. Ormerod is the recipient of a Broad Foundation Biomedical Research Grant to explore the impact of neuroinflammatory molecules on adult neurogenesis in mice. Her work has been published in many outstanding scientific journals including *Neuroscience*, *Philosophical Transactions of the Royal Society* and *Endocrinology*.

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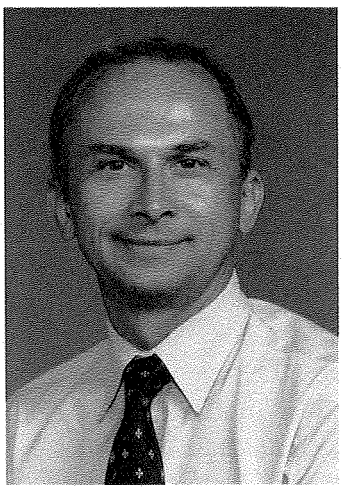

Marco Pahor, M.D., is a tenured Professor and Chair of the Department of Aging and Geriatric Research within the College of Medicine; and Director, University of Florida Institute on Aging since 2005. He is also Director of the University of Florida Claude Pepper Older Americans Independence Center, which is sponsored by the National Institute on Aging. He was previously in Winston Salem, NC, at Wake Forest University School of Medicine, as Chief of the Division of Gerontology and Geriatric Medicine, and Director of the Sticht Center on Aging and Rehabilitation.

Dr. Pahor is a nationally and internationally known expert in the areas of aging, disability and cardiovascular disease in population-based studies. He has demonstrated long-term academic excellence, productivity and commitment to multidisciplinary clinical research, education and patient care. Dr. Pahor received a Baccalaureate in Biological Sciences at Lycee Chateaubriand in Rome, Italy, in 1974. He then received his MD at the Catholic University, Rome, Italy, in 1980. He completed a Specialty Thesis in Geriatrics and Gerontology with honors and became board certified in 1984, and completed a Specialty Thesis in Internal Medicine with board certification in 1990 with honors. Dr. Pahor is an experienced geriatrician, epidemiologist and clinical trialist, and he has an excellent record of publications, leadership and administrative skills. He has authored and co-authored over 260 publications in leading peer-reviewed journals, and has an extensive track record of grants from the National Institutes of Health and other agencies focused on prevention of disabilities and the promotion of independence in older Americans.

Catherine Price, Ph.D.
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Dr. Catherine Price is an Assistant Professor with a joint appointment between Clinical and Health Psychology in the College of Public Health and Health Professions and the Department of Anesthesiology in the College of Medicine. Dr. Price received her Ph.D. from Drexel University (Philadelphia, PA) in 2002 (neuropsychology specialty). Her graduate research and clinical training was completed at the University of Pennsylvania and Thomas Jefferson University, with her internship in clinical neuropsychology conducted at UF. (continued) She has completed a NIH post-doctoral fellowship training grant investigating cognitive and neuroanatomical predictors of post-operative cognitive dysfunction in older adults following total knee replacement surgery. Dr. Price is currently PI of an investigation studying the role of white matter integrity and subcortical structure volume on cognition in older adults and those with Parkinson's disease (NINDS K-23), and how these factors may place individuals with Parkinson's disease at risk for post-operative cognitive dysfunction (National Parkinson's Foundation awaard). Her research has been published in *Anesthesiology*, *Neurology*, *Stroke*, *Neuropsychologia*, and *The Clinical Neuropsychologist.*

Sunitha Rangaraju
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Ms.Sunitha Rangaraju received her undergraduate degree in Industrial Biotechnology from Anna University, Chennai, India 2005 (with first class with distinction) and currently pursuing her Ph.D. from University of Florida in the Department of Neuroscience at the McKnight Brain Institute. Her PhD mentor is Dr.Lucia Notterpek who is the Chair and Professor of the Department of Neuroscience. During her doctoral training, she has won several awards for her poster and platform presentations at the university and national level. Most notably, she has received the Young Investigator Educational Enhancement Award from American Society for Neurochemistry in 2009, Gold medal award for the Medical Guild Graduate Student Research Competition in 2009, and Outstanding International Student Award from the University of Florida International Center in 2009. She has authored three-peer reviewed publications as first author in leading scientific journals. (continued)

Ms.Rangaraju's current research topic is "Quality Control Pathways in the Peripheral Nerve with Disease and Aging". She is interested in the molecular pathogenesis of peripheral neuropathies associated with protein misexpression of a myelin gene. As the neuropathies manifest during mid-life and are progressive with age, she is immensely interested in the age-related changes that take place in key quality control mechanisms in the peripheral nervous system that contribute to the disease pathogenesis. Understanding these mechanisms would lead to successful therapeutic interventions for such age-related neurodegenerative diseases. She will be graduating with a PhD degree in Spring 2010.

Asha Rani
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I've been working in Dr. Foster's lab over the past six years and using various molecular techniques and biochemical assays such as Genotyping, PCR, Immunochemistry, and Western blotting to localize expression patterns of estrogen receptor/protein/mRNA in brain tissues of estrogen receptor alpha and beta knockout mice, and rats. In addition, I use different behavior techniques, especially Morris water maze, Passive Avoidance, Grid Walk, Fear Conditioning, and Object Recognition tasks to characterize learning and memory function of rats and mice over the course of aging. I also conduct experiments including environmental enrichment, Grip strength, Wheel running and exercise experiments to determine the effects of lifelong exercise on cognitive function and oxidative damage associated with aging.

Gila Z. Reckess, M.S.
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Gila Z. Reckess is a fifth-year graduate student in the Neuropsychology Track of the University of Florida's Doctoral Program in Clinical Psychology. She will be completing her clinical internship training through the Boston Consortium in Clinical Psychology during the 2010-2011 academic year. Ms. Reckess earned an MSc in Neuroscience from the University of Oxford in 1999 and subsequently worked as a medical writer at Washington University School of Medicine in St. Louis. Her current research interests include sulcal morphology, early diagnosis of memory disorders, and the functional neuroanatomy of the medial temporal lobe memory system.

Matthew R. Sarkisian, Ph.D.
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My lab is interested in the development of the cerebral cortex, a highly orchestrated process whose failure sets the stage for numerous neurological and cognitive disorders such as autism, mental retardation, neurodegenerative diseases, and learning and memory deficits. We study this in animal models by introducing new or mutated genes into neural progenitors in the embryonic cerebral cortex which enables us to examine subsequent neuroanatomical, physiological and behavioral changes. Detailed examination of the developing or aging brains of animals carrying theses mutations will allow us to identify the specific developmental events affected by these mutations, information that could lead to development of therapeutic strategies for these devastating neural diseases. Current projects are aimed at understanding how neuronal cilia contribute to the growth and function of the cerebral cortex as well as the effects of aging on neuronal cilia biology. In addition, because neurodegeneration observed in the aging brain is often viewed as 'development in reverse', we are experimenting with new genetic tools that will allow us're-activate' genes normally required for growth and plasticity during early brain development in the aging brain.

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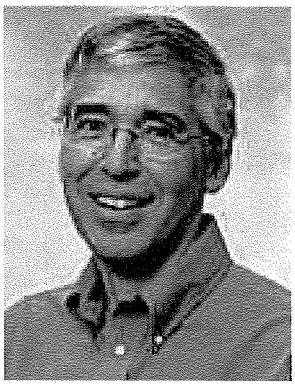

The long-term goal of this research program is to understand the underlying mechanism of obesity including both diet-induced and age-related obesity. Increased body weight is an important public health problem because it is associated with type II diabetes, hypertension and hyperlipidemia. Current research is focused on the mechanism of action of leptin and the role of leptin resistance in obesity. Leptin, synthesized by white adipose tissue (WAT), is an afferent signal molecule that interacts with the appetite and satiety centers in the brain to regulate body weight, and this hormone contributes to the regulation of both food intake and energy expenditure. Our approach uses both pharmacological and gene delivery techniques. We are investigating the mechanism of action of leptin in young-lean animal compared with diet-induced obese rats and compared to aged-obese rats. Studies focus on leptin signal transduction in the hypothalamus and identifying downstream components of the leptin signal transduction cascade both in the brain and in peripheral tissues. In addition, we are examining the site of leptin resistance with age or obesity by sequentially stimulating downstream elements of the leptin signal transduction cascade. Third, we are attempting to reverse or prevent the development of obesity with diet or age with gene delivery techniques aimed at both circumventing the leptin resistance and independently activating energy expenditure mechanisms.

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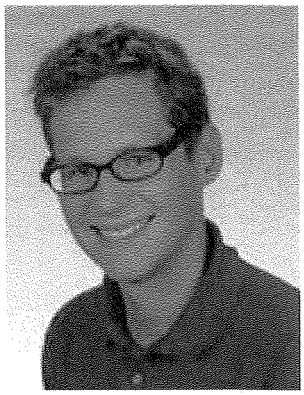

The main focus of Dr. Siebzehnrubls research is neurodegenerative disorders of the striatum, i.e. Parkinson's and Huntingtons disease. A main goal is the development of an experimental, adult stem cell-based therapy for Parkinson's disease. Employing genetically modified adult human neuroprogenitors that release GDNF, this therapy is aimed at preserving and restoring dopaminergic innervation of the striatum. This program involves stem cell grafting in rodent models of Parkinson's disease, as well as behavioral testing and basic neuroscience research techniques.

Another area of interest targets adult subventricular zone stem cells in Huntington's disease. Functional anomalies of stem cell migration and differentiation are analyzed in a rat model of Huntington's disease. Using organotypic slice cultures as a platform for time-lapse imaging as well as fate mapping, this work aims to provide a basis for the search of stem cell-targeting therapeutic compounds.

Daniel J Silver, B.S.
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Mr Silver's doctoral research centers on the invasive brain cancer glioblastoma multiforme (GBM) – the most prevalent and lethal of all adult human brain cancers. Mr Silver is especially interested in identifying and characterizing the cellular subpopulation(s) within a GBM responsible for diffuse infiltration. One major research focus examines the hypothesis that, like the progeny of neural stem cells (NSCs), the progeny of cancer stem cells (CSCs) might share an aptitude for migration. Thus, this study explores the possibility that the progeny of CSCs may represent the subpopulation within a GBM at the root of diffuse, long-distance tumor invasion and attempts to clarify the mechanisms by which this invasion is achieved.

A second avenue of research explores the connection between the extracellular matrix (ECM) and glioma invasion. This work tests the hypothesis that invasive brain cancers suppress and/or evade the brains potently inhibitory defenses born of reactive astroglia and their associated ECM. This work aims to provide a basis for reactive astrogliosis and ECM boundaries as a novel therapeutic intervention for glioma.

Dennis A. Steindler, Ph.D.
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Evelyn F. and William L. McKnight Brain Institute
Joseph J. Bagnor/Shands Professor of Medical Research
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Dr. Steindler received his BA degree with honors in Zoology from the University of Wisconsin, Madison, his doctorate in Anatomy and Neurosciences from the University of California, San Francisco. After postdoctoral studies at the Max-Planck-Institute for Biophysical Chemistry in Germany, Dr. Steindler began his studies of brain development and injury as an Assistant Professor of Anatomy at Michigan State University. He is currently the Executive Director of the McKnight Brain Institute of the University of Florida, and the Joseph J. Bagnor/Shands Professor of Medical Research, a member of the Program in Adult Stem Cell Biology and Regenerative Medicine of the University of Florida College of Medicine, and an advisor to the California Institute of Regenerative Medicine (CIRM). He also serves on the scientific advisory board for the Michael J. Fox Foundation for Parkinson's Research. Besides directing a large developmental neurobiology group, and teaching medical school neuroscience, Dr. Steindler has been studying the growth and transplantation of brain and stem cells for over 25 years. He is also responsible for reviewing manuscripts and grants for a variety of journals and funding agencies, including formerly chairing a brain repair and stem cell-related review panel at the National Institute of Neurological Diseases and Stroke in the National Institutes of Health, and he retains a position on the editorial boards of the following journals: *The Journal of Neuroscience, GLIA, Experimental Neurology,* and *Brain Research.* His recent papers in the international journals of medicine and science, *The Lancet,* and *Proceedings of the National Academy of Sciences*, set forth plans for the use of stem cells and regenerative medicine for a variety of neurological diseases, including Parkinson's Disease and cancer. In addition to his academic duties, Dr. Steindler is the founder or co-founder of regenerative medicine biotechnology companies involved in developing and commercializing cell and molecular therapies for neurological and blood-related disorders, and cancer.

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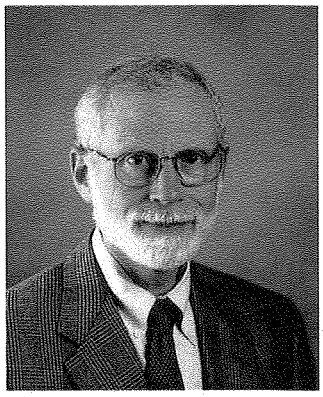

Dr. Valenstein earned his B.A. in 1963 from Harvard College (cum laude); his M.D. in 1967 from Albert Einstein College of Medicine; and his internship in Internal Medicine at Lincoln Hospital, Bronx, New York. His residence in Neurology took place at Boston City Hospital, Boston, Massachusetts. Dr. Valenstein is certified by the American Board of Psychiatry and Neurology (in Neurology) (1976); American Board of Psychiatry and Neurology (with Added Qualifications in Clinical Neurophysiology) 1996, re-certified 2006. He currently serves as Professor, Neurology and Clinical and Health Psychology University of Florida College of Medicine, Gainesville, FL

Clinical, Teaching and Administrative Responsibilities:

- 1992-2006 Director, Neurology Residency Program
- 2000-2001 Interim Chair, Department of Neurology, September,
- 2002-present Director, Clinical Neurophysiology Residency Program
- 2002-2008 Chair, Department of Neurology

Recent publications include:

Heilman KM, Valenstein E, Gonzalez Rothi LJ, Watson RT. (2008) Upper limb action-intentional and cognitive apraxic motor disturbances. In Neurology in Clinical Practice, 5th edition. Bradley WG, Daroff RB, Fenichel GM, Jankovic J, Eds. Butterworth Heinemann Elsevier, Philadelphia, pp 121-132.

Bauer R, Reckess GZ, Kumar A, Valenstein E. (In Press) Amnesic Disorders. In Heilman KM and Valenstein E (Eds), Clinical Neuropsychology (5th Edition). New York: Oxford University Press.

Heilman KM, Blonder LX, Bowers D, Valenstein E. (In Press). Emotional disorders associated with neurological diseases. In Heilman KM and Valenstein E (Eds), Clinical Neuropsychology (5th Edition). New York: Oxford University Press.

Rabbani O, Bowen LE, Watson RT, Valenstein E, Okun MS. Alien limb syndrome and moya-moya disease. Movement Disorders 19:1317-1320, 2004.

Stickler DE, Valenstein E, Neiberger RE, Perkins LA, Carney PR, Shuster JJ, Theriaque DW, Stacpoole PW. (2006) Peripheral neuropathy in genetic mitochondrial diseases. Pediatric Neurology 34*(2)*:127-131.

Stacpoole PW,.Kerr DS, Barnes C, Bunch ST, Carney PR, Fennell EM,.Felitsyn NM, Gilmore, RL, Greer M, Henderson GM, Hutson AD, Neiberger RE,.O'Brien RG, Perkins LA,.Quisling RG, Shroads AL, Shuster HH, Silverstein HH, Theriaque DW and Valenstein E. Controlled Clinical Trial of Dichloroacetate for Treatment of Congenital Lactic Acidosis in Children. Pediatrics 2006;117;1519-1531.

FitzGerald DB, Crucian GP, Mielke JB, Shenal BV, Burks D, Womack KB, Ghacibeh G, Drago V, Foster PS, Valenstein E, Heilman KM. Effects of donepezil on verbal memory after semantic processing in healthy older adults. Cogn. Behav. Neurol. 2008 (2); 57-64

Stacpoole PW, Gilbert LR, Neiberger RE, Carney PR, Valenstein E, Theriaque DW, Shuster JJ. Evaluation of long-term treatment of children with congenital lactic acidosis with dichloroacetate. Pediatrics 2008, 121:e1223-8.

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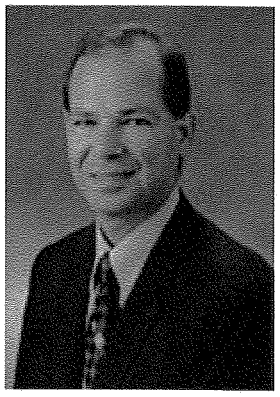

Michael F. Waters, M.D., Ph.D. is Director of the Stroke Program in the Department of Neurology at the University of Florida & Shands Hospital. He directs the acute stroke team helping to ensure that Shands remains at the forefront of acute stroke care. With other members of the stroke team, he directs the implementation of the American Stroke Association's *Get with the Guidelines* national stroke database and quality assurance program and serves as site principal investigator for clinical trials designed to improve clinical outcomes in stroke.

Dr. Waters received a master's degree in genetics from Penn State University. He attended medical school at the University of Florida, where he also earned his Ph.D. in biochemistry and molecular biology. He received formal neurological training at David Geffen School of Medicine at the University of California, Los Angeles (UCLA) and completed a fellowship in neurogenetics with Dr. Stefan Pulst. Prior to coming to the University of Florida, Dr. Waters served as the director of the Stroke Program at Cedars Sinai Medical Center and Assistant Professor of Medicine at UCLA.

Dr. Waters' research interests include genetic mechanisms of stroke, including cerebral cavernous malformations, CADASIL, and sickle cell anemia. In addition, he has active research in gene discovery and the pathophysiology of dominant cerebellar ataxias. Dr. Waters is a member of the American Academy of Neurology and the American Society of Human Genetics.

Robin West
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Dr. Robin West, Professor of Psychology, conducts research on memory and aging, with an emphasis on factors that enhance memory ability in the later years. Dr. West completed her M.A. and Ph.D. at Vanderbilt University and postdoctoral work at the Aging and Development Program at Washington University in St. Louis. Dr. West has been in the Department of Psychology at the University of Florida (UF) since 1987 and is currently the department Graduate Coordinator. Formerly, she served as director of the Center for Gerontological Studies and associate director of the Institute on Aging at UF.
(continued)

Dr. West is the author of over 60 academic papers, and two popular memory books: MEMORY FITNESS OVER 40, published in four countries, and the EVERYDAY MEMORY CLINIC WORKBOOK. She has an extensive record of university leadership and public service and has dedicated herself to the important task of explaining key scientific findings to older lay audiences. Dr. West has won numerous awards, including a Fulbright Fellowship, teaching and mentoring awards (local and national), and a MindAlert award from the American Society on Aging for her Everyday Memory Clinic training program. As part of the MindAlert Trainer's Bureau, Dr. West has toured the country conducting train-the-trainer workshops to encourage others to offer memory training programs for seniors. She has served on the editorial boards of three national research journals, including Psychology and Aging. Dr. West's research on everyday memory and aging and memory self-regulation has been funded by the National Institute of Health, the Brookdale Foundation, and The Retirement Research Foundation.

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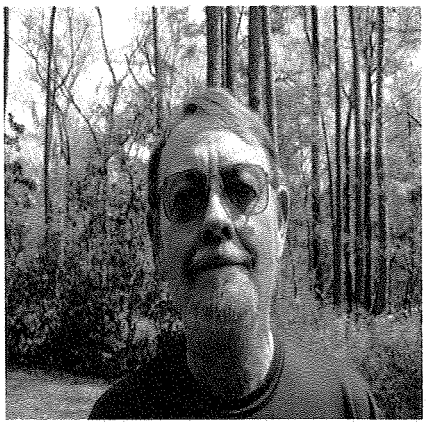

Keith White obtained his undergraduate degree (B.A. in Psychology magna cum laude) from Florida State University, Tallahassee, FL, in 1971. He earned graduate degrees from Brown University, Providence, RI (Sc.M., 1974; Ph.D., 1976) in Experimental Psychology, specializing in visual psychophysics, with the support of a National Science Foundation Graduate Fellowship.

Dr. White joined the University of Florida faculty in 1976. He currently holds faculty appointments in the departments of four different colleges at UF. He is also appointed as a Research Scientist in the North Florida/South Georgia Veterans' Affairs Health System. He has previously served as a visiting faculty member in the Kenneth Craik Laboratory of Experimental Psychology and Physiology at Cambridge University, UK, in the Neurologische Universitats-Klinik at the University of Freiburg, Germany, and in the Department of Psychology at the University of Uppsala, Sweden. He was a NASA consultant for several years during development of the Space Shuttle, contributing to instrument panel design. In 1985 he received the Troland Research Award from the US National Academy of Sciences. Since that time he has been inventor or co-inventor on patents (awarded or pending) in the US, Canada, Australia, and internationally.

Dr. White has strong interests in cognitive neuroscience and magnetic resonance imaging, interests which began serendipitously when he was an undergraduate although neither field existed then. He is working to evolve new ways to apply cognitive neuroscience and imaging technology so as to better understand the brain bases of Parkinson's disease and other brain disorders, and to leverage that knowledge for better treatments.

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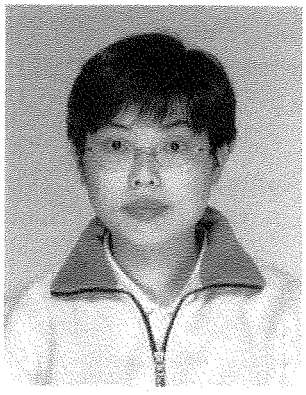

Guilian Xu, Ph.D. is an Assistant Research Scientist in the Department of Neuroscience at the University of Florida.

Dr. Xu received a bachelor degree in biochemistry from China. She attended graduate school at the University of Hong Kong Medical School and got extensive experience on making transgenic mouse models there. She spent the last 2 years of her thesis research in Johns Hopkins Medical School, under the direction of Dr. David Borchelt. She earned her Ph.D. in physiology. Later, she received formal training as a research fellow in Dr. Borchelt's lab and informal neuropathology training at Neuropathology Lab directed by Dr. Donald Price in Johns Hopkins School of Medicine. Prior to coming to the University of Florida, Dr. Xu served as a research scientist in Molecular Neurobiology Research Branch in Institute on National Drug Abuse (NIDA), NIH. In 2005, Dr. Xu moved to Florida as Dr. Borchelt's close research assistant to set up the Alzheimer's Disease Research Center.

Dr. Xu's research interests include molecular mechanisms of Alzheimer's disease, ALS and Huntington disease using transgenic mice and cultured cells as study models. Dr. Xu is also interested in systemic biology on proteomics and bioinformatics. Dr. Xu is planning to initial a graduate level course with lab on rodent surgeries.

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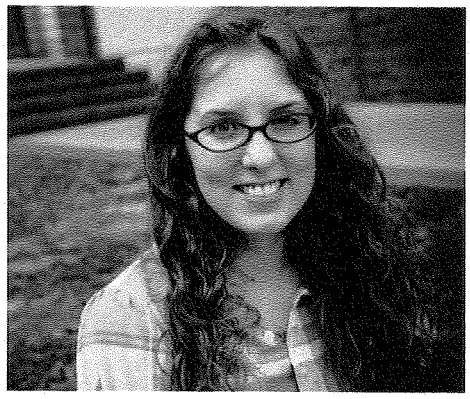

Laura Zahodne received her B.S. in Biopsychology and Cognitive Science from the University of Michigan, where she managed a research laboratory studying cognitive aging using behavioral and functional neuroimaging paradigms. As a Neuropsychology graduate student in the Department of Clinical & Health Psychology at the University of Florida, her research interests focus on non-motor features of Parkinson's disease. Her master's research classified individual cognitive declines following Deep Brain Stimulation surgery, and her dissertation research employs cognitive neuroscience methods to examine Parkinson's disease depression.

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Dr. Zhang's research mainly focuses on age-related obesity from the perspectives of leptin resistance and the association between leptin resistance and obesity. The ultimate goal of this line of research is to understand how humans gain weight with age and to develop innovative strategies that will not only produce weight loss but also help maintain the weight reduction in the long run. The major means of intervention are gene therapy combined with traditional pharmacological drug administration. In collaboration with Philip J. Scarpace, Ph.D., of the Department of Pharmacology at the University of Florida and the former Research Director of the VA Geriatric Research, Education and Clinical Center (GRECC) and VA research career scientist, Dr. Zhang and colleagues have determined that increasing level of serum leptin in obese animals is both a consequence and contributor to obesity. In fact, high leptin concentrations in the brain exacerbate diet-induced obesity. Dr. Zhang is currently investigating the brain's melanocortin pathway that mediates leptin's action in the central nerve system and affects the long-term regulation of whole-body energy balance. The new findings include (1) certain small synthetic melanocortins work effectively in aged-obese rats to trim fat and shed pounds and (2) the recombinant adeno-associated, viral-mediated melanocortin gene delivery into the brain improves glucose metabolism and lessens obesity in fat rats. Dr. Zhang and colleagues are currently investigating the mechanisms underlying the fat and weight trimming effects of melanocortin gene therapy and attempt to link physiological and metabolic outcomes to potential activation of specific set(s) of neurons in defined areas of the brain. Her future plan is to develop new strategies to sustain and enhance the efficiency of melanocortin gene therapy for long-term weight control.

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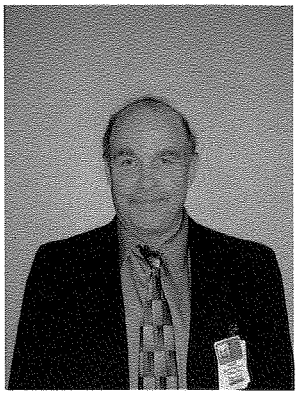

Noam Alperin came to the University of Miami in May 2009 from the University of Illinois at Chicago. He obtained his Graduate Degree from the University of Chicago's Medical Physics program. Dr. Alperin's work is supported by the National Institute of Health. Dr. Alperin's research focuses on the interplay between blood and CSF flow dynamics using flow sensitive MRI techniques. A primary aim of the research is to provide noninvasively, important physiologic parameters among which are cerebral blood perfusion and intracranial pressure. These parameters play impotent role in a wide range of neurological problems, including hydrocephalous and stroke. Since joining the University of Miami, Dr. Alperin' Advance Image Processing laboratory is working closely with the Evelyn F. McKnight Center for Age Related Memory Loss, using different MRI modalities to characterize and quantify morphologic and physiologic changes in the brain associated with aging.

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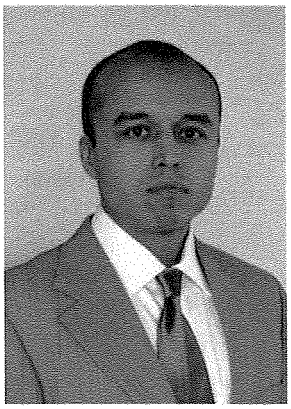

Murat Bagci joined the Department of Radiology at the University of Miami in May 2009. He received his graduate degree in 2008 from the Electrical and Computer Engineering Department at the University of Illinois at Chicago. Dr. Bagci's area of research is signal and image processing, development of algorithms and methods for segmentation of medical images. He is currently working as a member of Dr. Alperin's Advanced Image Processing Laboratory investigating morphological changes in brain due to aging using different MRI modalities. He is working closely with the Evelyn F. McKnight Center for Age-Related Memory

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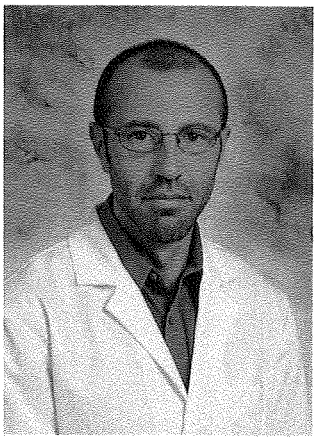

Dr. Barrientos is interested in the basic processes underlying the biogenesis of the mitochondrial respiratory chain (MRC) and how they bear on human neuromuscular and neurodegenerative disorders. Yeast and mammalian cell culture models are used for his research. Two of the research lines in the lab involve:

1- We intend to delineate the assembly process of the enzymes composing the MRC, with special emphasis in Cytochrome *c* oxidase (COX). COX deficiency is the most frequent cause of mitochondrial neuromyopathies in humans. Patients afflicted with these diseases present heterogeneous clinical phenotypes, including Leigh syndrome, muscle weakness and encephalomyopathy. A complete understanding of COX biogenesis is essential for elucidating the molecular basis underlying this group of diseases. The main objective of my research is to investigate COX assembly in wild type cells and in cells with mutations in evolutionary conserved assembly factors using the yeast *Saccharomyces cerevisiae and cell lines from patients* as models.

2- We are interested in the creation of yeast and neuronal models of human neurodegenerative disorders (including Huntington's disease and Parkinson's disease). This will help us study the alterations in mitochondrial physiology that could be essential for the pathogenic mechanism of such disorders.

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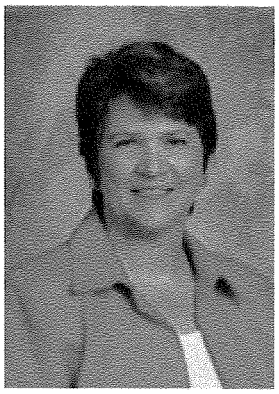

Dr. Blanton's primary research has focused on the mapping of Mendelian and complex diseases. Stroke and the underlying genetics of risk factors, deafness, retinal diseases, skeletal dysplasias, cleft lip/palate, and club foot are among the diseases which she currently studies. She has also been involved in developing and implementing genetic education materials for Federal and appellate level judges and science writers in an ELSI sponsored project. Her current research also involves determining the level of genetic knowledge and attitudes towards genetic testing among the deaf as well as developing methods for integrating genetics into the private practice setting. Dr. Blanton is Associate Director of Communications and Compliance at the MIHG, Associate Professor of the Dr. John T. Macdonald Foundation Department of Human Genetics, and Chief of the Division of Genomic Medicine.

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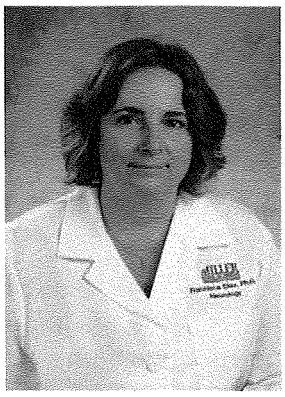

Dr. Francisca Diaz joined the faculty at the University of Miami, Department of Neurology in 2008. She is a member of the Basic Science Division and has extensive training in Biochemistry and Molecular Biology. Dr. Diaz research focuses on the study of mitochondria and how its bioenergetics and functions relate to neurodegenerative diseases. She has created several genetically modified knockout mice with defects in the mitochondrial oxidative phosphorylation system. These mice are been used as models of human mitochondrial myopathies, encephalopathies and hepatopathies and utilized to test new therapies. Dr. Diaz current research interest also includes the study of adaptive mechanisms of neuronal survival in the absence of mitochondrial respiration. Results of these studies could lead to the discovery of new therapeutic targets for neurodegenerative disorders, stroke and aging. Her research is currently funded by the Florida Health Department. Dr. Diaz is part of the Molecular Bioenergetics Group and is actively involved in the training and supervision of graduate students and postdoctoral fellows in Dr. Carlos Moraes' laboratory.

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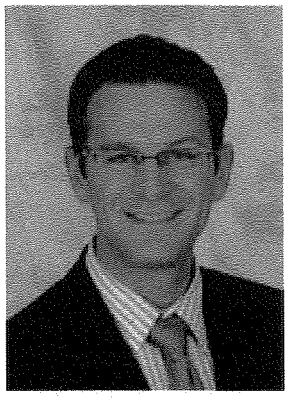

A graduate of the accelerated 6-year B.A./M.D. program at the University of Missouri at Kansas City School of Medicine, Dr. Isaacson currently serves as the Associate Chair for Education and Director of the Neurology Residency Program in the Department of Neurology at the University of Miami Miller School of Medicine. He completed his residency in Neurology at Beth Israel Deaconess Medical Center/Harvard Medical School, and his medical internship at Mount Sinai Medical Center in Miami Beach, FL. Prior to joining the University of Miami, he served as Director of the Research Unit in Medical Education and Associate Medical Director of the Wien Center for Alzheimer's disease and Memory Disorders at Mount Sinai. Dr. Isaacson chairs the American Academy of Neurology (AAN) Undergraduate Education Subcommittee working group in dementia, which is responsible for making recommendations of what is taught to medical students around the country. He is the recipient of the AAN Education Research Grant for his project "Evaluating the effectiveness of *Continuum*: Dementia as a teaching tool for medical students" which was selected for the "Scientific Highlights" session of the 2009 AAN Annual Meeting (Top 30 Abstracts of Program). (continued)

He has recently completed a study on "Evaluating the effectiveness of a Cognitive Aging curriculum for medical students, Internal Medicine and Neurology residents" and is funded by National Institutes of Health Clinical Research LRP for his education research on Neurology using the EMR and Health IT. He is the author of numerous abstracts and publications, his research in neurology and medical education has been presented at scientific meetings nationally and internationally, and he was recently awarded the 2009 AAN A.B. Baker Teacher Recognition Award, a national award, for his contributions to improving neurologic education.

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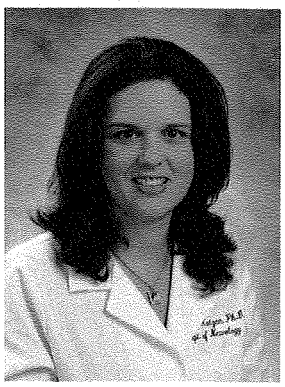

Dr. Heather Katzen is a neuropsychologist and a member of both the McKnight Center and the Schoninger Neuropsychology Program in the Department of Neurology at the University of Miami Leonard M. Miller School of Medicine. She joined the UM faculty in 2006 as an Assistant Research Professor and also has an adjunct appointment at Weill Cornell Medical College in New York. Dr. Katzen's research interests are focused on the cognitive and behavioral manifestations of dementia and other age related disorders. She has an NIH-NINDS funded Mentored Patient-Oriented Research Career Development Award (K23) to study cognitive recovery in Normal Pressure Hydrocephalus. In addition, Dr. Katzen is actively engaged in ongoing projects in the areas of Parkinson's disease, Huntington's disease, and Essential Tremor. Dr. Katzen is also involved in training and has served as a mentor for several undergraduate, doctoral and medical student research projects.

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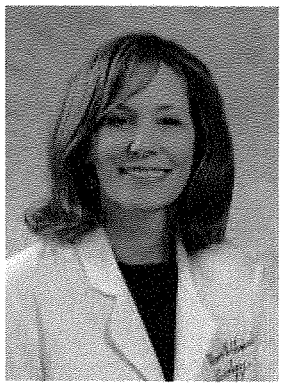

Dr. Levin is a neuropsychologist whose research examines neurocognitive and affective changes associated with neurodegenerative disease and the normative again process. Her work examines the inter-relationship between behavioral and motor symptoms in Parkinson's disease and the neural circuitry underlying memory and age-related cognitive decline. Her current work is aimed to advance our understanding of frontal striatal circuit function in cognition and to generate data that will improve our knowledge of key clinical parameters associated with differential rates of cognitive decline. (continued)

Current projects include: imaging and clinical correlates of white matter changes associated with the aging process and structural and metabolic markers underlying different symptom profiles in neurodegenerative disease. Dr. Levin is an Associate Professor of Neurology and Psychology and is the Director of the Division of Neuropsychology within the Department of Neurology at the University of Miami Miller School of Medicine.

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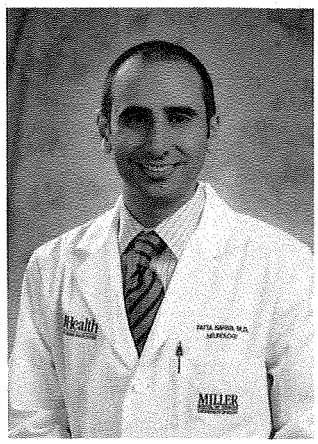

The main focus of Dr. Nahab's research focuses on the development of novel functional neuroimaging methodologies to characterize the neural correlates of tremor disorders such as Parkinson disease (PD) and Essential tremor (ET). Dr. Nahab has also conducted phase I/II clinical trials of novel agents to treat ET, for which he was awarded co-inventor status on two patents. Dr. Nahab joined the department of Neurology at the University of Miami in 2008 to help expand functional neuroimaging, both within the department and across the institution. Ongoing research continues to explore the neural mechanisms underlying tremors. In addition, Dr. Nahab maintains a weekly clinical schedule at the University of Miami Parkinson's Disease Center of Excellence.

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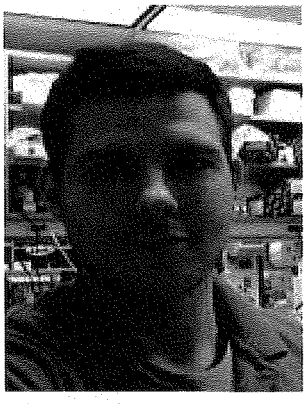

Working as a post-doctoral associate investigating late-onset Alzheimer Disease (LOAD) with Margaret Pericak-Vance at the John P. Hussman Institute for Human Genomics, the main focus of Dr. Naj's research is to identify genetic risk factors for LOAD and characterize their roles in disease development. This involves the use of statistical approaches in genetic analyses including genome-wide association studies (GWAS) of LOAD cases and cognitive controls, and examining next-generation high-throughput genome sequencing data for novel variants that may contribute to LOAD risk. His current work include performing a GWAS of LOAD and related endophenotypes and replicating findings in multiple publicly-available GWAS datasets. He is also participating in the design and analysis of multiple genetic epidemiological case-control studies of LOAD within the Alzheimer Disease Genetics Consortium, which is in the process of combining thousands of cases and controls from multiple datasets into a single GWAS in order to improve statistical power to detect important genetic contributors to LOAD which modestly increases risk. (continued)

He is also participating in the preparation of large-scale resequencing studies of genomic regions with colleagues in the Institute in order to identify rare variants which may also contribute to LOAD risk.

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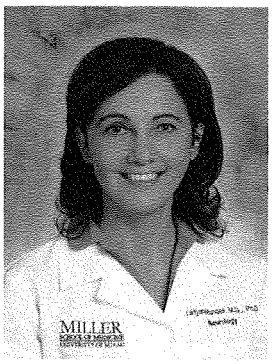

Dr. Tatjana Rundek is an Associate Professor Neurology and Director of Clinical Translational Research Division in the Department of Neurology of the Miller School of Medicine of the University of Miami. Dr. Rundek graduated from the University of Zagreb in Croatia where she received her medical degree. She received a Ph.D. degree in neuroscience, and trained in neurology at the Grossharden Spital in Munich, Germany. She received research fellowship training in epidemiology and stroke at Columbia University in the City of New York. She was an Assistant Professor of Neurology in the Department of Neurology at Columbia University, in New York City, until she relocated to the University of Miami in 2007. She is a principal investigator of the NIH funded R01 *Genetic determinants of carotid atherosclerosis* study and K24 *Genetic Determinants of Subclinical Atherosclerosis*. She is a co-investigator of several NIH-funded R01 grants including the *Northern Manhattan Study*, the *Family Study of Carotid Atherosclerosis*, *Oral infection and risk of stroke*, *Vascular manifestation of primary hyperparathyroidism*, and *Aortic arch and risk of stroke,* all collaborative projects with the Departments of Medicine and Epidemiology at Columbia University, in New York City.

Dr. Rundek was a Fulbright Scholar and the recipient of research awards from the Hazel K. Goddess Fund to study the relationship between vascular risk factors, subclinical atherosclerosis and stroke in women, and the Dr. Gilbert Baum Fund and the American Institute in Ultrasound in Medicine for best clinical application of ultrasound. Dr. Rundek is a principal investigator of industry-sponsored pilot ultrasound clinical trials of lipid-lowering, and anti-platelet therapy, using surrogate ultrasound endpoints of vascular diseases. She was a clinical coordinator of the Glycine Antagonist in Neuroprotection Trial, the largest international acute stroke neuroprotection trial. Dr. Rundek has lectured and published numerous research papers on ultrasound markers of atherosclerosis, risk factors, and genetics of atherosclerosis and stroke outcome. Her research work is directed toward the genetic and environmental determinants of atherosclerosis and the use of ultrasound for early detection, intervention and prevention of functional and structural changes of the arterial wall in inflammation. Dr. Rundek is also dedicated to promoting the clinical utility and standards of neurovascular ultrasound. She is a member of the American Heart Association, American Academy of Neurology, and American Institute of Ultrasound in Medicine. Dr. Rundek serves on the editorial boards of several professional journals including *Neurology*, *Stroke, Therapy* and the *Journal of CardioMetabolic Syndrome.* She is a president elect of the Neurosonology Community Practice of the American Institute of Ultrasound in Medicine.

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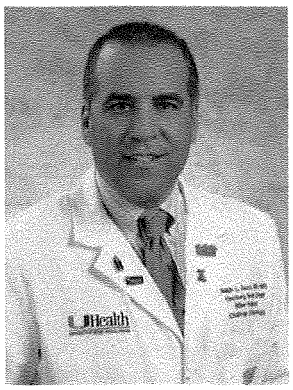

Ralph L. Sacco, MD, MS, is the Chairman of Neurology, Olemberg Family Chair in Neurological Disorders, Miller Professor of Neurology, Epidemiology, and Human Genetics at the Miller School of Medicine, University of Miami and Chief of the Neurology Service at Jackson Memorial Hospital. He is the former Professor of Neurology and Director of the Stroke and Critical Care Division at the Neurological Institute of Columbia University College of Physicians and Surgeons, the Mailman School of Public Health, and the Sergievsky Center. Dr. Sacco graduated from Cornell University with distinction, received his medical degree cum laude from Boston University School of Medicine in Massachusetts, and a master's degree in epidemiology from Columbia University, School of Public Health. Dr. Sacco completed a residency in neurology at Presbyterian Hospital of the City of New York. He completed his postdoctoral training in stroke and Epidemiology at Columbia under a NINDS-funded neuroepidemiology training grant.

Dr. Sacco's clinical research activities began in 1980 when he participated in the Framingham Heart Study. Since 1990, he has been the Principal Investigator of the Northern Manhattan Study an NIH-funded community-based, epidemiologic study designed to determine stroke incidence, risk factors, and prognosis in an elderly, multi-ethnic, urban population living in northern Manhattan in New York City. This study now includes a separate NINDS-funded project, the Northern Manhattan Family Study, to evaluate potential genetic determinants of stroke risk factors. Dr. Sacco was also the founding principal investigator of the NY Columbia Collaborative Specialized Program in Translational Research in Acute Stroke. He is also co-investigator of six other NINDS grants. He has been involved in the design and conduct of multiple randomized trials including the co-principal investigator of the Warfarin Aspirin Recurrent Stroke Study, the principal investigator of the Glycine Antagonist in Neuroprotection Trial, and the current co-chair of the international PRoFESS Study (Prevention Regimen for Effectively avoiding Second Strokes). He serves on the Data Safety and Monitoring Boards of a number of NIH and pharmaceutical-sponsored clinical trials. In addition, Dr. Sacco is on the editorial board of *Stroke, Neuroepidemiology*, and *Nature Clinical Practice Neurology*. He has published extensively in the areas of stroke prevention, treatment, risk factors and stroke recurrence, with more than 475 original articles, case reports, book chapters, abstracts and communications to his credit. He has been a principal author on numerous evidence-based guidelines from the AHA and ACCP. He has helped train numerous fellows in stroke and epidemiology. He has been awarded the 2006 Feinberg Award for Excellence in Clinical Stroke and the 2007 Chairman's Award from the American Heart Association. In 2008, he received the Javits Award in Neuroscience and was inducted into the American Association of Physicians.
(continued)

Dr. Sacco is a fellow of the Stroke and Epidemiology Councils of the American Heart Association, a Fellow of the American Academy of Neurology, a member of the American Neurological Association, past chair of the Clinical Research Committee of the American Academy of Neurology, and on the Medical Advisory Board of the Hazel K. Goddess Fund for Stroke Research in Women. He is a past member of the Epidemiology and Disease Control-3 NIH Study Section, NINDS Neuroscience Training Review Committee, and FDA Advisory Panel for Central and Peripheral Nervous System Drugs. He is a former member of the Board of Directors for the American Heart Association, and a current member of the Board for the American Academy of Neurology and past president of the New York City AHA Board. He is a past member of the Stroke Prevention Advisory Panel of the National Stroke Association and past chair of the Stroke Advisory Committee of the American Stroke Association. Most recently, and not yet formally announced, Dr. Sacco has been accepted the nomination to serve as President-elect of the American Heart Association for the 2009-2010 term that begins in June, and will serve as President of the American Heart Association for the 2010-2011term.

William K. Scott, Ph.D.
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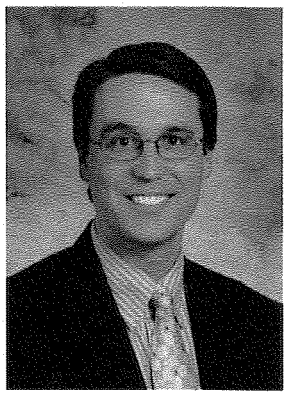

Dr. Scott's primary research focuses on the identification of gene and environment interactions that increase risk for diseases such as Parkinson disease, age-related macular degeneration and tuberculosis. For example, Dr. Scott recently led efforts that identified gene-environment interactions between variations in the inducible nitric oxide synthase gene and cigarette smoking in both Parkinson disease and age-related macular degeneration. In addition, Dr. Scott is well known for his work with the Amish communities of Indiana and Ohio, as he seeks to identify genetic and environmental factors that lead to successful aging (preservation of cognition, physical function, and social engagement in the oldest old) among this unique population. A recently completed study suggested that areas of chromosomes 6, 7 and 14 are likely locations for genes promoting successful aging in Amish living past age 80. In addition to maintaining an active research program, Dr. Scott serves as the Director of the Interdepartmental PhD program in Human Genetics and Genomics, and Vice-Chair for Education and Training in the Dr. John T. Macdonald Department of Human Genetics.

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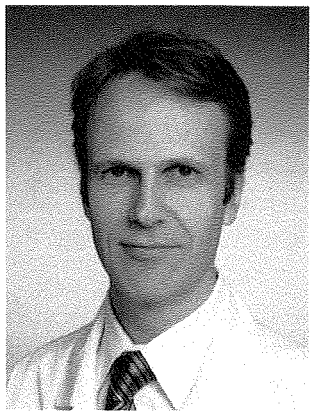
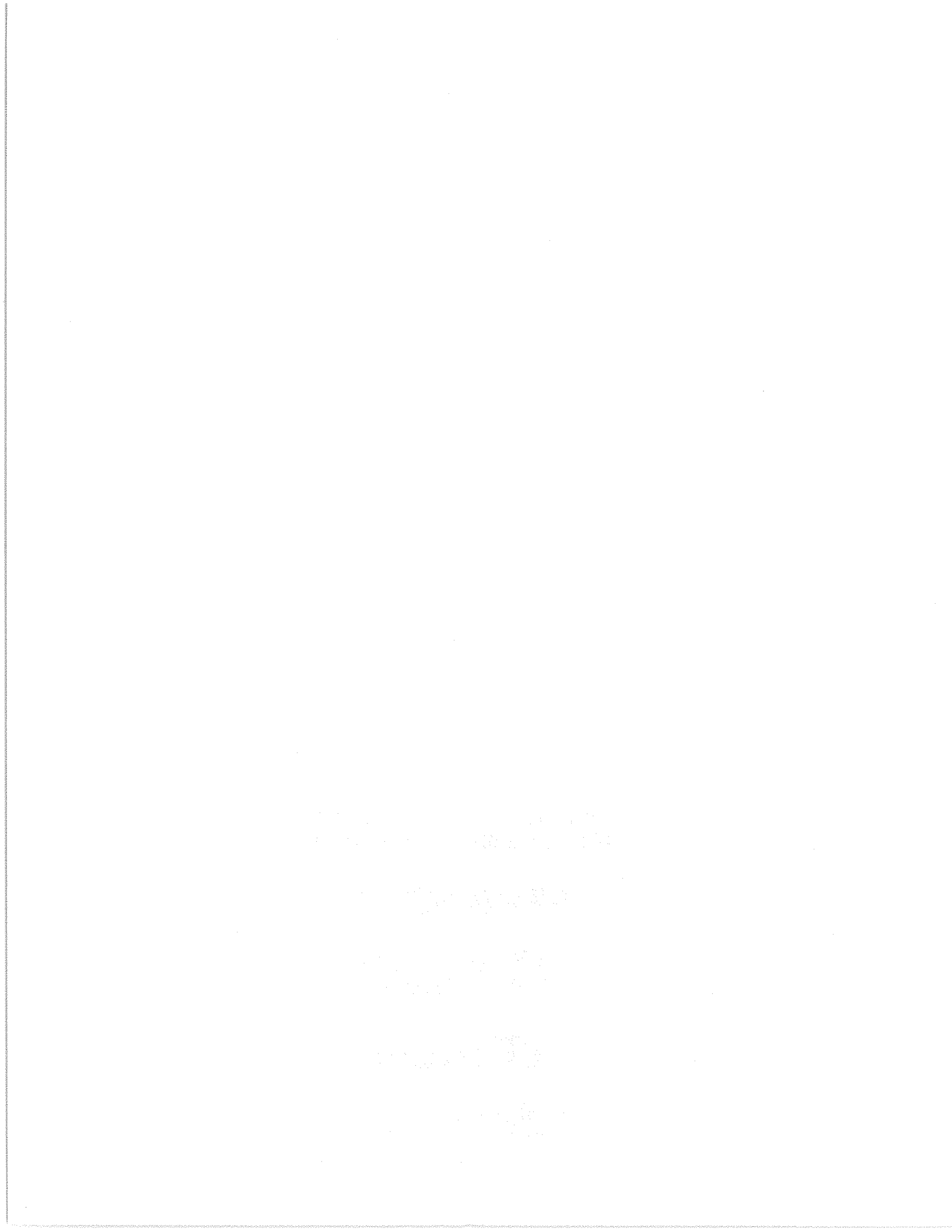


Dr. Wright came to the Miller School of Medicine at the University of Miami in July 2008 from the College of Physicians and Surgeons of Columbia University. As Scientific Director of the Evelyn F. McKnight Center for Age Related Memory Loss, Dr. Wright is developing a translational research program that examines normal cognitive aging and its distinction from pathological states, with a special emphasis on the role of subclinical cerebrovascular disease. Dr. Wright is directing the Division of Cognitive Disorders and establishing a clinical arm to enhance these efforts.

Dr. Wright graduated from George Washington with honors in psychology, and received his medical degree from the College of Physicians and Surgeons of Columbia University. He completed residency training in neurology at the Neurological Institute of New York and the Columbia University Medical Center. Following residency, Dr. Wright completed a vascular neurology fellowship as well as a Master of Science degree in epidemiology from the Mailman School of Public Health under an NINDS-funded neuroepidemiology training grant.

Dr. Wright's is currently funded by the American Heart Association and the National Institutes of Neurological Disorders and Stroke to examine race-ethnic disparities and the effects of vascular risk factors on brain structure and function, with an emphasis on early cognitive changes. He is Chair of the Neuroimaging and Cognitive studies within the Northern Manhattan Study, an urban multi-ethnic population-based cohort study in New York. Recent studies include the determinants of subclinical cerebral infarction as measured by magnetic resonance imaging and the effects of ischemic white matter damage as well as subclinical infarction on cognitive functions such as psychomotor speed and cognitive flexibility. As part of the Columbia University Specialized Programs On Translational Research In Acute Stroke (SPOTRIAS) program, Dr. Wright developed a cognitive assessment battery that has been administered to several hundred stroke patients to examine the acute effects of stroke on cognition and consequences for getting appropriate medical care at the time of second stroke.



McKnight Brain Research Foundation

THIRD INTER-INSTITUTIONAL MEETING