THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM

January 17, 2020

McKnight Brain Research Foundation
c/o Ms. Melanie Cianciotto
Vice President for Foundations and Endowments
SunTrust Bank
333 Garland Avenue
15th Floor
Orlando, Florida 32801

Dear McKnight Brain Research Foundation Trustees,

I am honored to provide you with an update regarding the impact and advancement of The Evelyn F. McKnight Brain Institute (EMBI) at UAB. The Foundation's willingness to lead the way in support of this important work and research has had an incredible effect on the UAB professionals who devote themselves to age-related memory disorders research every day. Philanthropy plays a significant role in the University's ability to not only accelerate the pace of discovery in our pursuit of groundbreaking research but also improve the quality of life of many people, and I would like to personally thank you for your continued belief in UAB and the vital work we are doing.

As you know, Dr. Junghee Lee will be appointed as the inaugural holder of the Geropsychiatry Research Chair within the McKnight Brain Institute, in April. Dr. Lee, who will be joining us from UCLA is recognized as a renowned researcher focusing on aging, dementia, social cognition, and mental illness. She has published 65 peer-reviewed papers since 2007 in a broad range of highly regarded venues, including Trends in Neuroscience, Cerebral Cortex, P LOS One, Schizophrenia Bulletin, Human Brain Mapping, demonstrating her broad impact across multiple fields.

I would also like to inform you that Jeremy H. Herskowitz, Ph.D., was appointed as the new holder of the Patsy W. and Charles A. Collat Endowed Professorship in Neuroscience, on November 8, 2019. The previous holder, Dr. Erik Roberson, has been appointed to the Rebecca Gale Endowed Professorship, a new professorship in the Department of Neurology. Dr. Herskowtitz joined UAB in 2014 as an assistant professor of neurology and neurobiology and as a researcher, his primary focus has been the neurobiology of Alzheimer's disease. We are very proud to have Dr. Herskowitz serve in this role, and his work on cognitive resilience is very much in line with the Foundation's interests.

If you have any questions or need any additional information, please do not hesitate to contact me or Melanie A. Armstrong, Director of Donor Relations and Engagement, at (205) 996-5600, or by email to melaniek@uab.edu. We cannot thank you enough for your support.

Sincerely,

Tom Brannan

Tom Brannan
Vice President for Advancement

OFFICE OF ADVANCEMENT

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The Evelyn F. McKnight Brain Institute

Preserving Memory, Enhancing Life

Annual Report

2019

Ronald M. Lazar, PhD, FAHA, FAAN
Professor of Neurology and Neurobiology
Evelyn F. McKnight Endowed Chair of Learning and Memory in Aging
Director, UAB Evelyn F. McKnight Brain Institute
Director, Division of Neuropsychology (Neurology)
Department of Neurology

Erik D. Roberson, MD, PhD
Rebecca Gale Endowed Professor
Associate Director, Evelyn F. McKnight Brain Institute
Director, Center for Neurodegeneration and Experimental Therapeutics
Director, Alzheimer's Disease Center
Department of Neurology

The University of Alabama at Birmingham
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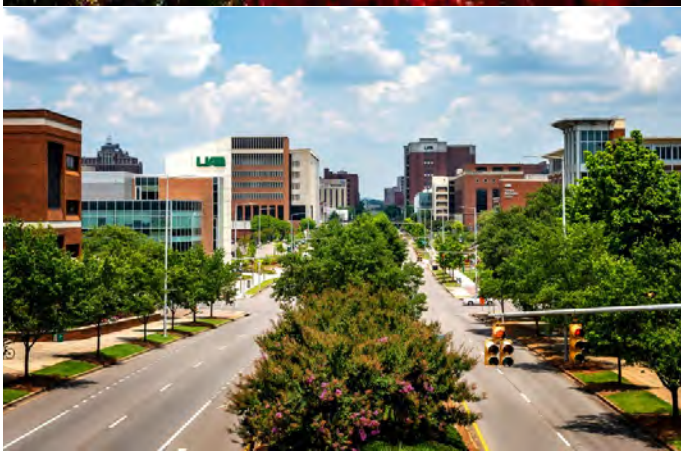

THE EVELYN F. McKNIGHT BRAIN INSTITUTE
UNIVERSITY OF ALABAMA AT BIRMINGHAM
Preserving memory, enhancing life

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INSTITUTE DIRECTOR'S OVERALL REPORT

Institute Director's Overall Report

The University of Alabama at Birmingham (UAB) Evelyn F. McKnight Brain Institute (EMBI) has completed its second reporting year under the leadership of Ronald M. Lazar, PhD, Evelyn F. McKnight Endowed Chair in Learning and Memory in Aging and Director of the UAB EMBI. The faculty continues to expand across schools, departments and disciplines, and includes representation from: Neuropsychology, Movement Disorders, Memory Disorders (Neurology); Behavioral Neuroscience, Medical Psychology (Psychology); Molecular Imaging & Therapeutics, Advanced Medical Imaging Research (Radiology); Biostatistics; Gerontology/Geriatrics, Cardiovascular Medicine, Pulmonology, Infectious Disease (Medicine); Ophthalmology and Behavioral Neurobiology (Psychiatry). In all, the total faculty membership over Dr. Lazar's initial two years of leadership consists of 55 investigators.

We are indeed proud that we successfully recruited Junghee Lee, PhD, who will fill the Geropsychiatry Research Chair in the Department of Psychiatry, beginning March 2020. She comes to UAB as an Associate Research Psychologist in the Department of Psychiatry and Behavioral Sciences, and the Semel Institute of Neuroscience and Behavior at UCLA. She received her PhD in clinical neuroscience at Vanderbilt and was a post-doctoral fellow at the Semel Institute, before joining the faculty in 2007. A major aim of the UAB McKnight enterprise is the translation of basic neuroscience principles to the understanding of memory and cognition as we age. The scientists representing this mission need to be able to negotiate the divide between basic and clinic research, and to integrate a broad range of disciplines in deriving innovative models of human brain science. Dr. Lee has been able to meet this challenge with remarkable ease. Working initially in aging and dementia, she transitioned to developing paradigms targeted toward the complex area of social cognition and mental illness. To proceed on this path, she has brought together the fields of psychology, psychiatry, social science, human brain imaging, neurochemistry, and vision science that has received international recognition. She has been funded continuously since joining the UCLA faculty, serving as PI on R01 's and R21 's, and as Co-I on other grants from NIMH, and as co-investigator on VA awards, private foundation grants, and industry trials. She has published 65 peer-reviewed papers since 2007 in a broad range of highly regarded venues, including Trends in Neuroscience, Cerebral Cortex, Plos One, Schizophrenia Bulletin, Human Brain Mapping, among many others, demonstrating her broad impact across multiple fields. Her approach to her research is entirely consistent with UAB's unique collective spirit, and we see her reaching across our schools and departments to form new collaborations via the McKnight enterprise that will only enhance our growing reputation as academic institution.

National recognition of UAB's cognitive-aging initiative was the appointment of Dr. Lazar to the newly formed Brain Health Science Subcommittee of the American Heart Association. Dr. Lazar will be leading two planned endeavors in the coming year that are focused on integrating brain (cognitive) health into primary care. First, he will chair a major symposium at the February 2020 meeting of the International Stroke Conference in Los Angeles, entitled, "Screening for Cognition and Factors Related to Brain Health." Second, he will serve as the lead in the first of two AHA scientific statements related to the relevance of brain health in the primary care setting.

The Eleventh McKnight Inter-Institutional Meeting took place on April 10-12, 2019 and was hosted by the University of Florida. The UAB McKnight faculty was well represented among the featured speakers:

- Kristina M. Visscher, PhD: "Relationship of Brain Functional Connections to Behavior in the Oldest Old."
- Cristy Carter, PhD: "The gut microbiome in age-related inflammation and cognitive frailty."
- Cynthia Brown, MD: "Hospital associated disability."
- Richard Kennedy, MD, PhD: "Delirium in older adults: Improving recognition and treatment."
- Mark Bolding, PhD: Neuromodulation by non-invasive delivery of drugs and other agents."
- Michael Saag, MD: "Aging and HIV: What's different? What's new?"
- Daniel Marson, JD, PhD: Measuring financial cognition in older adults – The Financial Capacity instrument - Short Form."

To help foster McKnight MBI inter-institutional relationships, Dr. Lazar also continued to have important conversations during the Inter-Institutional Meeting with Drs. Lee Ryan and Meredith Hay from the University of Arizona about a joint NIH/NIA application for a late Early Phase 2 randomized controlled trial. Using a re-designed methodology to examine safety and early efficacy of an experimental drug to mitigate

neuroinflammation related to the angiotensin-renin-aldosterone system in patients with heart failure, UAB and UA submitted an R01 proposal in October 2019 for review in early 2020.

In another inter-institutional initiative, UAB received a grant from the National Institute of Neurological Disorders and Stroke as a supplement to the University of Miami's NIH-funded" The Family Study of Stroke Risk and Carotid Atherosclerosis," led by the Evelyn F. McKnight Endowed Chair Tanjana Rundek, MD, PhD. The goal of the parent project is to study how genetic and non-genetic factors affect vascular precursor phenotypes of stroke with deep phenotyping, extensive behavioral and clinical assessments, and the rich genetic data from previous grant cycles. The UAB substudy will investigate genetic, epigenetic and vascular risk of cognitive function and cognitive decline among high-vascular risk Dominican families.

The UAB McKnight Brain Institute and the UAB Alzheimer's Disease Center, the UAB Comprehensive Center for Healthy Aging and the UAB Nathan Shock Center jointly sponsored a major symposium, "From Chromosomes to Communities: Integrating Aging Research," held on October 9 and 10, 2019 (Appendix B). With more than 300 participants from all over the country, the programs's featured speaker was Richard J. Hodes, MD, Director of the National Institutes of Aging. Other panel speakers included the NIA Division Directors of Behavioral and Social Research, Geriatrics and Clinical Gerontology, Neuroscience, and Aging Biology. Additioanl keynote speakers were Darren Baker, PhD (Mayo Clinic), Peggye Dilworth-Anderson, PhD (University of North Carolina), Luigi Ferrucci, PhD (NIA) and Costantino Iadecola, MD (Weill Cornell Medicine).

On December 5, 2019, we held our third McKnight Scientific Dialogues, featuring three UAB McKnight faculty speakers addressing both basic and clinical neuroscience issues associated with cognitive aging:

- Adam Gerstenecker, Ph.D., Assistant Professor, Department of Neurology: "Advantages of Analyzing Hippocampal Subfields Instead of the Whole Hippocampus."
- Christy S. Carter, Ph.D., Associate Professor Translational Exercise, Aging, and Microbiome Laboratory, Department of Medicine: Division of Gerontology, Geriatrics, and Palliative Care: "Targeting the Gut Microbiome to Prevent Symptoms of Cognitive Frailty":
- Roy C. Martin, Ph.D., Associate Professor, Department of Neurology: "Presurgery Cognitive Status as a Predictor of Post-Operative Delirium in Older Adults Undergoing Elective Surgery"

The scientific productivity of UAB faculty continued to flourish, with more than 300 peer- reviewed publications in high-impact journals, many of which are listed below.

The McKnight Brain Aging Registry (MBAR) study is well underway. Recruitment and the data acquisition are in progress. The tremendous investment in organization across sites to harmonize data acquisition of neuropsychological data, computerized behavioral data, tissue from blood draws, and seven different kinds of MRI data has yielded harmonized data from four different sites, permitting integration into a single data set as well as inter-institutional comparisons. The protocol involves two visits at which behavioral testing (neuropsychological testing and other behavioral tests including the NIH toolbox) are performed. During one of these visits, blood is acquired from the participants. On the third visit, the participants also undergo an extensive MRI battery. The study has an extensive number of moving parts, including timely availability of study neurologists, blood draws, recruiting potential participants, performing MRI scans, and quality checking all the data. This machinery, which took great care to build, is running smoothly. For recruitment, along with other standard recruitment methods, we regularly visit local senior centers and have another large postcard recruitment campaign scheduled after the holidays. The four sites continue to have weekly telephone calls during which we discuss ongoing quality assurance issues and compatibility across sites. UAB has had a very strong role in all aspects of the project. UAB's MBAR coordinator is Sara Sims, who is the go-to person for all MBAR questions from the other coordinators. She was the driver in the creation of the Manual of Procedures (though it was a collaborative effort), and she has been instrumental in setting up and maintaining both the RedCap and Supercomputer (Hipergator) databases. She and Dr. Virginia Wadley, now Professor Emerita, developed the online training protocols that we use to train new staff across sites. UAB has collected almost all of its target 50 datasets. As part of the planned analyses, UAB is leading the effort to examine the manner in which functional connectivity networks differ among the oldest old as a result of their cognitive status.

Preliminary data continue to be collected on grants funded by the UAB Evelyn F. McKnight Brain Institute. The intent of the award was to create teams of basic and applied neuroscientists whose research goals are to generate and test novel, integrative hypotheses. The award is creating data that will support more permanent funding through Federal agencies and/or non-profit entities. Recipients of the awards were:

- "Exercise related effects on memory function and neural circuitry – a parallel clinical and preclinical investigation"

Jane B. Allendorfer, Ph.D., Assistant Professor, Department of Neurology Farah Lubin Ph.D., Associate Professor, Department of Neurobiology

- "Cardiorespiratory fitness, cognition, neuroimaging, and aging in persons with secondary progressive multiple sclerosis"
  Brian Sandroff, PhD, Assistant Professor, Department of Physical Therapy
- "Status Update - Effects of cardiovascular disease in a mouse model of HIV-associated neurological damage"
  John Shacka, PhD, Assistant Professor, Department of Pharmacology & Toxicology

Drs. Lubin and Allendorfer were able to use data from their McKnight pilot as preliminary evidence for their successfully funded R21 grant, received over the past year.

Erik Roberson, MD, PhD continues in his role as associate director of the UAB McKnight Brain Institute, director of the Alzheimer's Disease Center and director of the Center for Neurodegeneration and Experimental Therapeutics. In September 2019, Dr. Roberson was named the Rebecca Gale Endowed Professor.

The Roberson lab studies the neurobiology of age-related cognitive changes, especially Alzheimer's disease and frontotemporal dementia (FTD), using mouse models to understand the cellular and molecular mechanisms of these disorders and to identify new therapeutic strategies. Dr. Roberson is active in clinical research, patient care, leading clinical trials, and caring for patients with memory disorders and dementia.

- Dr. Linda Wadiche has been named a Reviewing Editor for the *Journal of Neuroscience*. She will serve a three-year term. The Journal of Neuroscience is the largest weekly journal dedicated to neuroscience research and the official journal of the Society for Neuroscience, an international organization of over 40,000 members.

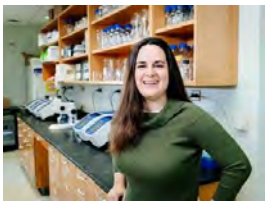
- Jeremy Herskowitz, PhD was recently named the Patsy W. and Charles A. Collat Endowed Professor of Neuroscience, succeeding Dr. Roberson in this prestigious appointment. Dr. Herskowitz's research team has optimized highly innovative methods to study dendritic spine structural remodeling in Alzheimer's disease patients. These studies provided the first cellular evidence for cognitive resilience against Alzheimer's disease pathology and addressed how cognitively normal older individuals with Alzheimer's disease pathology withstand the development of dementia. Dr. Herskowitz's research continues to understand the cellular mechanisms of resilience and how these pathways can be exploited for therapeutics to delay or prevent dementia in Alzheimer's disease patients.

- Dr. Craig Powell is working on a new translational research core that will create opportunities for every family and child with neurodevelopmental challenges to participate in patient-centered research. He will provide care now and hopefully in the future for these children and their families. These efforts will ultimately provide an opportunity to sequence the DNA of every child who participates, providing critical information that will lead to improved Personalized Medicine. This approach to partient care makes possible new therapies based on their genetic makeup, honing in on the specific cause and specific biological pathways driving their neurodevelopmental condition. All of the data derived from these efforts will be fed back into the database and provide "big data" that can be analyzed with the latest, cutting edge machine learning and artificial intelligence approaches to identify patterns that no single human scientist could detect. The hope is that these efforts will lead directly to novel therapeutic strategies, particularly with advancements in our ability to use gene therapy.

- In October, Dr. Farah Lubin was interviewed by The New York Times on reasons behind persistent racial disparities in NIH grant funding. The article suggests black scientists are held back by perceptions of their priorities, and new research suggests "hard/lab science" is valued over "patient-focused science" in awarding research grants.

- Dr. Lubin has also received attention for her work with minorities and her desire to mentor and help students achieve their goals. As a mentor, she feels that words and deeds can save science careers.
https://www.uab.edu/medicine/neurobiology/images/Lubin_12102019.pdf

- Dr. Summer Thyme was recruited to UAB from Harvard and has now joined the Department of Neurobiology and the McKnight Brain Institute. Her team is working on behavior boxes which she will use to study human genes in zebrafish. She designed a black box with an opening at the top for a high-speed camera. The camera records the surprisingly complex behavior of zebrafish. She studies brain development and how it can go wrong in the face of genetic causes.



- The Civitan International Neuroimaging Laboratory (CINL) is a 5,000 square foot laboratory located at UAB Highlands Hospital. It houses a Siemens Prisma 3T whole body scanner for structural and functional brain and body imaging. It is operated as a University core facility and is of great value to McKnight investigators. It provides a state-of-the-art imaging facility to study human brain function and its relationship to memory and aging. It serves these roles in the MBAR project.

- The Neurodevelopmental Bioinformatics Initiative (NBI) has established the dedicated expertise and infrastructure necessary for the application of genomic/epigenomic techniques to studies related to neurodevelopmental disorders, cognitive impairment and aging. The NBI continues to expand the number of next-generation sequencing applications, with support available to the UAB EMBI faculty, postdocs and students.

- The annual McKnight Brain Foundation Poster Reception was held in Chicago on October 20, 2019. Guests from across the nation attended the event. Seventy posters were presented by researchers from the four McKnight Brain Institutes. Six posters were selected to receive cash awards and certificates. Yuliya Voskobiynyk, from the lab of Dr. Erik Robinson, won first place honors for her poster titled "The Alzheimer's Disease Risk Gene BIN1 Regulates Neuronal Hyperexcitability." Depicted in this photo, Ms. Voskobiynyk accepted the award from McKnight Brain Research Foundation Trustees, Dr. Gene Ryerson (left), Dr. Michael Dockery (second from right), and Dr. Robert Wah (right).

1. Summary of Scientific Achievements since Last Report

Individual McKnight Investigators' scientific accomplishments are noted in a separate section. The next few paragraphs highlight a few of the principal discoveries from the Institute this year.

- For patients with asymptomatic high-grade carotid stenosis, clinical investigations have focused on preventing cerebral infarction, yet stenosis that reduces cerebral blood flow may independently impair cognition. Dr. Lazar and his team studied pre-revascularization cognitive function in the first 1,000 patients randomized in the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial (CREST-2). At a moderated poster session at the European Stroke Organization Conference (ESOC) in May 2019, we described that cognition was assessed at 123 nation-wide medical centers via a centralized, telephone-administered test battery. We found that these CREST-2 participants had significantly lower baseline cognitive scores than the general population, even in the absence of frank stroke. The presentation won the award as the best poster at the ESOC conference.

- In the Standaert lab discoveries related to the role of the immune system in Parkinson disease continue to advance the field towards new therapies.

2. Publications in Peer Reviewed Journals

Researchers at the UAB Evelyn F. McKnight Brain Institute continue their publication success with investigators publishing a total of 340 research papers, reviews, and commentaries in peer- reviewed journals.

3. Publications (Other)

Successful research was documented in two books and four book chapters.

4. Presentations at Scientific Meetings (Also Includes Invited Research Seminars)

Investigators presented their research at various institutions and also at national meetings. Over 170 presentations were given by key faculty representing the Evelyn F. McKnight Institute at the University of Alabama at Birmingham.

5. Presentations at Public (Non-Scientific) Meetings or Events

Community service continues with McKnight key representatives speaking at over 40 meetings.

6. Awards and Honors

- Dr. Steven Austed was awarded the George C. Williams Prize for most significant paper published in Oxford University Press' Evolutionary Medicine and Public Health in the previous year. The prize for that paper (Is antagonistic pleiotropy ubiquitous in aging biology?) was shared with his postdoc, Jessica M. Hoffman. It was presented at the International Society for Evolutionary Medicine and Public Health Conference in Zurich, Switzerland.

- Dr. Erik Roberson was installed as the Rebecca Gale Endowed Professor in the Department of Neurology.

- Dr. Jeremy Herskowitz was named the Patsy W. and Charles A. Collat Endowed Professor of Neuroscience in the Department of Neurology.

- The Michael J. Fox Foundation for Parkinson's Research announced David G. Standaert, M.D., Ph.D., John N. Whitaker Professor and chairman of neurology at the University of Alabama at Birmingham, and Antonio Pisani, M.D., Ph.D., associate professor of neurology at the University of Rome Tor Vergata in Italy, as the recipients of the fifth annual Bachmann-Strauss Prize for Excellence in Dystonia Research.The prize honors dystonia researchers for key scientific discoveries and provides incentive

for the next generation of investigators to continue forging paths toward cures.

- Dr. Adrienne Lahti, the F. Cleveland Kinney Endowed Chair Professor in the Department of Psychiatry and Behavioral Neurobiology was selected as the next director of the UAB Comprehensive Neuroscience Center, beginning January 1, 2020.

- Dr. Lazar and his colleagues' presentation, "Baseline cognitive function among participants in the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial" won the prize for the "Best Poster" at the 2019 European Stroke Organization meeting, Milan, Italy.

- Kristina Visscher, Ph.D., was the recipient of the 2019-2020 McNulty Award. Dr. Visscher's research includes studying human behavior and brain activity using precise behavioral measurements (including psychophysics and tracking of eye movements), functional magnetic resonance imaging (fMRI), and electroencephalography (EEG). She is particularly interested in how the human brain's cortex can functionally reorganize in response to changes in sensory inputs, so-called "human brain plasticity".

7. Faculty

For faculty bios, see Appendix D.

8. Trainees

Training the future generation of researchers continues to be a priority as indicated with the number of students receiving ongoing guidance from the faculty.

A. Post-doctoral, residents
47

B. Pre-doctoral students
82

C. Other students
44

Leland Fleming (right) with his research mentor, neurobiology assistant professor Kristina Visscher

9. Clinical/Translational Programs

A. New Programs

Dr. Craig Powell is working to improve diagnostic procedures which will allow the ability to diagnose more patients earlier in life when behavioral therapy can have the most positive impact. Teams of clinical and research leaders have been assembled to brainstorm novel approaches that will further increase the impact. Dr. Powell continues to make groundbreaking progress in brain disorders from Autism to Alzheimer's and many more.

Dr. David Geldmacher is conducting qualitative analyses on the effects of telemedicine caregiver coaching in people with behavioral and psychiatric symptoms of dementia and differences between caregiver needs related to behavioral symptoms in Alzheimer's disease vs. Traumatic Brain Injury survivors.

Additional new programs are noted in the Chair Report below.

B. Update on Existing Clinical Studies

Dr. Erik Roberson continues his work in the Alzheimer's Disease Center with enrollment underway and seeking ~50% African-American patients.

Dr. Geldmacher completed data collection for the DOD Award Number W81XWH-16-1-0527 *Improving Family Quality of Life Through Training to Reduce Care-Resistant Behaviors by People with Alzheimer Dementia and Traumatic Brain Injury.*

Additional clinical studies are noted in the Chair Report.

10. Technology transfer

A. Patent Applications
Bolding, Mark
MRI-DETECTABLE MULTILAYER MICROCAPSULES FOR ULTRASOUND- TRIGGERED DELIVERY OF PHARMACOLOGICALLY ACTIVE AGENTS With Eugenia Kharlampieva in Chemistry and Jason Warram in Otolaryngology

B. Revenue Generated from Technology

Not applicable

11. Budget Update

A full financial report is included in the Finance Section.

12. Educational Programs Focusing on Age-Related Memory Loss

A. Scientific

On February 12, 2019, Kristine Yaffe, MD, spoke to a crowded auditorium on the topic of "The Role of Modifiable Risk Factors." Dr. Yaffe is very well-known in her field and is the Roy and Marie Scola Endowed Chair at the Weill Institute for Neurosciences at the University of California, San Francisco. (Appendix A)

On October 9 and 10, 2019, the UAB Evelyn F. McKnight Institute co-hosted a major symposium, "From Chromosomes to Communities: Integrating Aging Research." (Appendix B). With more than 300 participants from all over the country, the program's featured speaker was Richard J. Hodes, MD, Director of the National Institutes of Aging, among other prominent speakers from NIA and other institutions.

Scientific Dialogues were held on December 5, 2019. Featured speakers included Dr. Adam Gerstenecker (Neurology), Dr. Christy Carter (Translational Exercise, Aging, and Microbiome Laboratory), and Dr. Roy Martin (Neurology). They discussed ongoing research being conducted as part of the UAB McKnight Brain Institute. (Appendix C)

B. Public

Throughout the year, faculty members represented the Evelyn F. McKnight Brain Institute by participating in speaking engagements to various civic groups at Neuroscience Café events and Civitan Club meetings.

13. Collaborative Programs with other McKnight Institutes, Institutions and Research Programs

- In addition to the Collaborative Programs mentioned in the Chair Report below, collaborative work continues on the McKnight Brain Aging Registry. This is a collaborative project in many ways, but UAB has had a very strong role in all aspects of the project. Sara Sims been instrumental in setting up and maintaining both the RedCap and Supercomputer (Hipergator) databases.

- As a result of a discussion during the Annual McKnight Inter-Institutional Meeting, Dr. Lazar and Drs. Lee Ryan and Meredith Hay from the Univ of Arizona EMBI submitted an R01 proposal in October

2019 for review in early 2020, using a re-designed methodology to examine safety and early efficacy of an experimental drug to mitigate neuroinflammation related to the angiotensin-renin-aldosterone system in patients with heart failure.

- UAB received a grant from the National Institute of Neurological Disorders and Stroke as a supplement to the University of Miami's NIH-funded" The Family Study of Stroke Risk and Carotid Atherosclerosis," led by the Evelyn F. McKnight Endowed Chair Tanjana Rundek, MD, PhD. The goal of the parent project is to study how genetic and non-genetic factors affect vascular precursor phenotypes of stroke with deep phenotyping, extensive behavioral and clinical assessments, and the rich genetic data from previous grant cycles. The UAB substudy will investigate genetic, epigenetic and vascular risk of cognitive function and cognitive decline among high-vascular risk Dominican families.

- Collaborative Programs with Non McKnight Institutes, Institutions and Research Programs

  Investigators have identified inter and intra institutional collaborations locally, nationally, and internally. Additional programs are noted in the Chair Report Below.

14. Briefly describe plans for future research and/or clinical initiatives.

See Chair Report Below.

15. If applicable, please provide endowment investments results for the report period.

See Finance report.

16. Were any funds used for a Prohibited Purpose during the report period?

No

17. Do you recommend any modification to the Purpose or mandates in the Gift Agreement?

No

18. Did all activities during the report period further the Purpose?

Yes

19. Please describe any negative events (loss of personnel, space, budget, etc.) that occurred during the report period and the possible impact on carrying out the Gift Agreement.

No negative events to report.

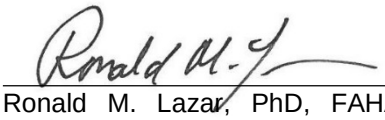
20. Please provide any general comments or thoughts not covered elsewhere – a response is not required. Please respond only if you would like to add something not covered elsewhere.

21. What do you consider your most important scientific achievement this year?

Dr. Erik Roberson's research team and HudsonAlpha Institute for Biotechnology in Huntsville, AL, have learned new information about genetic risk factors that may contribute to dementia, potentially pushing the medical field closer to early detection. The study looked at 32 patients, whose symptoms started at age 54 on average. More than 85% had some family history of dementia, and half have a strong family history. Diagnoses ranged from Alzheimer disease to frontotemporal dementia. The team at HudsonAlpha, led by Nick Cochran, Ph.D., had previously found instances of known, significant risk factors. They also found cases, however, in which multiple moderate risk factors appeared to combine to contribute to further

heightened risk. The present study found many of the patients carried risk variants in relevant genes. Dr. Roberson's group was able to demonstrate where some of their familial risk was coming from, which matters to both the patients and their caregivers.

22. Signature, date, and title of person submitting report



Date: 1/15/2020

Ronald M. Lazar, PhD, FAHA, FAAN
Professor of Neurology

Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging Director, UAB Evelyn F. McKnight Brain Institute
Director, Division of Neuropsychology (Neurology) Department of Neurology

Date: 1/15/2020

Erik D. Roberson, MD, PhD

Rebecca Gale Endowed Professor
Departments of Neurology and Neurobiology
Associate Director, UAB Evelyn F. McKnight Brain Institute
Director, Center for Neurodegeneration and Experimental Therapeutics
Director, Alzheimer's Disease Center

FINANCE

Finance

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

All Endowments benefitting the Evelyn F. McKnight Brain Institute

Summary for 12 months ended 09/30/2019

A.	Beginning Balance on	10/1/2018	$	13,762,473
B.	Investment Growth		$	1,208,038
C.	Distributions		$	(581,536)
D.	Additional Contribution		$	0
E.	Ending Balance on	09/30/2019	$	14,388,975

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Evelyn F. McKnight Brain Institute Endowed Support Fund

Summary for 12 months ended 09/30/2019

B.	Beginning Balance on	10/1/2018	$	5,444,472
B.	Investment Growth		$	74,881
C.	Distributions		$	(239,051)
D.	Additional Contribution		$	0
E.	Ending Balance on	09/30/2019	$	5,280,302

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging

Summary for 12 months ended 09/30/2019

C.	Beginning Balance on 10/1/2018	$	1,546,850
B.	Investment Growth	$	21,749
C.	Distributions	$	(60,647)
D.	Additional Contribution	$	0
E.	Ending Balance on 09/30/2019	$	1,507,952

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Geropsychiatry Research Chair

Summary for 12 months ended 09/30/2019

D.	Beginning Balance on 10/1/2018	$	2,015,756
B.	Investment Growth	$	27,724
C.	Distributions	$	(88,506)
D.	Additional Contribution	$	0
E.	Ending Balance on 09/30/2019	$	1,954,974

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: F. Cleveland Kinney Endowed Chair in Geriatric Psychiatry

Summary for 12 months ended 09/30/2019

E.	Beginning Balance on 10/1/2018	$	1,483,138
B.	Investment Growth	$	21,405
C.	Distributions	$	(24,822)*
D.	Additional Contribution	$	0
E.	Ending Balance on 09/30/2019	$	1,479,721

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

*When market value is less than principal, a portion of the endowment's earnings will be reinvested, thereby purchasing additional units of the pooled endowment fund and assisting the fund recover to a healthy position. Endowment performance is evaluated on a quarterly basis

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Warren Family Endowed Chair in Neurology

Summary for 12 months ended 09/30/2019

F.	Beginning Balance on 10/01/2018	$	1,640,896
B.	Investment Growth	$	22,568
C.	Distributions	$	(72,047)
D.	Additional Contribution	$	0
E.	Ending Balance on 09/30/2019	$	1,591,417

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Patsy W. and Charles A. Collat Endowed Professorship in Neuroscience

Summary for 12 months ended 09/30/2019

G.	Beginning Balance on	10/1/2018	$	521,560
B.	Investment Growth		$	7,334
C.	Distributions		$	(20,449)
D.	Additional Contribution		$	0
E.	Ending Balance on	09/30/2019	$	508,445

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Jarman F. Lowder Endowed Professorship in Neuroscience

Summary for 12 months ended 09/30/2019

H.	Beginning Balance on	10/1/2018	$	573,716
B.	Investment Growth		$	7,891
C.	Distributions		$	(25,190)
D.	Additional Contribution		$	0
E.	Ending Balance on	09/30/2019	$	556,417

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

McKnight Brain Research Foundation

Financial Summary Format:

(Institute) and/or (Endowed Chair)

Account Name: Virginia B. Spencer Endowed Professorship in Neuroscience

Summary for 12 months ended 09/30/2019

I.	Beginning Balance on	10/1/2018	$	536,085
B.	Investment Growth		$	1,024,486
C.	Distributions		$	(50,824)
D.	Additional Contribution		$	0
E.	Ending Balance on	09/30/2019	$	1,509,747

DEFINITIONS

DISTRIBUTION is the money transferred from the account to the spendable/operating account for the designated use.

BALANCE is the market value of the account as of the first or last day of the reporting year.

ADDITIONAL CONTRIBUTION is additional contribution by MBRF, the reporting institution, match etc.

INVESTMENT GROWTH (Loss) is the total undistributed interest, dividends, and realized and unrealized gains and losses.

BALANCE is the value of the account's corpus including all contributions, and applicable state match monies as of the date indicated.

MCKNIGHT BRAIN INSTITUTE AT UAB
2019 ANNUAL REPORT
FINANCIAL SUPPLEMENT

In compliance with Section 6.3 of the gift agreement between the Evelyn F. McKnight Brain Research Foundation (MBRF) and UAB, this income and distributions report is provided as a supplement to the annual report on the McKnight Brain Institute (MBI) at UAB.

In compliance with Sections 9.2.1.2 and 10.3 of said gift agreement, UAB ensures that the contributions from the MBRF and the distributions from the endowed chair have been used solely for the purpose of promoting research and investigation of the brain in the fundamental mechanisms that underlie the neurobiology of memory with a clinical relevance to the problems of age-related memory loss.

In compliance with Sections 7, and 9.1.5.3, of said gift agreement, UAB ensures that no portion of the contributions received from the MBRF or distributions from the endowed chair were used directly or indirectly to construct, purchase, improve, or maintain real property; to pay overhead or indirect costs; or for anything other than direct expenditures in furtherance of the purpose of the fund.

Fiscal Year	Item	MBRF Funds Expended	Matching Funds Expended	MBRF Chair, Gift and Endowment Distributions	Matching Endowment Distributions
2019	**MBRF Agreement**				
	R. Lazar Salary	$58,524			
	A. Solomon Salary	$11,862			
	V. Hixon Salary	$29,959			
	T. Myers Salary	$10,953			
	H. Freeman Salary	$ 3,129			
	R. Lazar Cell Phone	$ 975			
	Travel Expenses	$ 7,614			
	Guest Lecturer	$ 1,316			
	Business Meals & Refreshments	$ 2,615			
	Photocopying & Shipping	$ 317			
	Subject payments	$ 250			
	Membership dues	$ 114			
	Pagers	$ 32			
	Behavior Core Salaries	$17,226			
	Behavior Core Supplies & Services	$ 1,190			
	Physiology Core Salaries				
	Physiology Core Supplies & Services	$ 297			
	Pilot Project Salaries	$9,688			
	Pilot Project Supplies and Services	$3,062			
	F. Cleveland Kinney Endowed Chair				$24,822
	Geropsychiatry Research Chair				$88,506
	Warren Family Endowed Chair				$72,047
	Jarman F. Lowder Endowed Professorship				$25,190
	Virginia B. Spencer Endowed Professorship				$50,824
	Patsy W. and Charles A. Collat Endowed Professorship				$20,449
	MBRF Chair Spendable Earnings			$60,647	
	MBRF Institute Spendable Earnings			$239,051	
FY TOTAL		$159,121	$	$299,697	$281,838

Evelyn F. McKnight Brain Institute FY2020 Budget

Category	McKnight Institute	McKnight Chair	McKnight Behavior Core	McKnight Physiology Core*	Matching Endowment Spendable Earnings	Totals
Salary and Benefits	$ 60,000	$ 59,000	$ 17,000			$ 136,000
Dr. Lazar Phone		$ 1,000				$ 1,000
Travel & Meetings	$ 12,000					$ 12,000
Supplies & Non-Capital Equipment			$ 7,000			$ 7,000
Laundry Services			$ 1,000			$ 1,000
Pilot Projects	$ 15,000					$ 15,000
F. Cleveland Kinney Chair					$ 24,822	$ 24,822
Geropsychiatry Research Chair					$ 88,506	$ 88,506
Warren Chair					$ 72,047	$ 72,047
Lowder Professorship					$ 25,190	$ 25,190
Collat Professorship					$ 20,449	$ 20,449
Spencer Professorship					$ 50,824	$ 50,824
TOTAL	**$ 72,000**	**$ 60,000**	**$ 25,000**	**$**	**$ 281,838**	**$ 453,838**

*McKnight Physiology Core will be supported by matching funds.

Financial Schedule for the Evelyn F. McKnight Brain Institute at UAB

	MBRF CONTRIBUTION		UAB MATCH		
Fiscal Year	Endowment	Operations	Endowment	Operations	Endowment Distribution
FY 2010	$ 1,000,000	$ 500,000	$ 2,722,946	$ 2,170,000	$ 316,041
FY2011	$ 1,000,000	$ 500,000	$ -	$ 365,000	$ 341,804
FY 2012	$ 1,000,000		$ 500,000	$ 100,000	$ 480,918
FY 2013	$ 1,000,000		$ 2,005,519	$ 68,062	$ 581,128
FY 2014	$ 1,000,000			$ 1,029,500	$ 646,699
FY 2015				$ 3,301,000	$ 661,299
FY 2016				$ 1,000,000	$ 671,688
Total	$ 5,000,000	$ 1,000,000	$ 5,228,465	$ 8,033,562	$ 3,699,577

INVESTMENT REPORT

Investment Report

Evelyn F. McKnight Brain Institute Extramural Funding Summary

The Evelyn F. McKnight Brain Institute currently has active extramural funding of $20,809,093 in direct costs and $27,616,181 in total costs broken down as follows:

Federal	16,296,505
Foundations	208,538
Industry	3,303,078
Institutions	874,880
NP Agency/Associations	126,092
Total Direct	20,809,093

A detailed report of grant awards is attached.

Evelyn F. McKnight Brain Institute Active Extramural Funding

PI Name	Project Title	Primary Sponsor	Sponsor Type	Sponsor Award Number	Awarded Start Date	Awarded End Date	Currently Active Total Direct Dollars	Currently Active Total Indirect Dollars	Currently Active Total Dollars	Total Direct Dollars Awarded to Date	Total Indirect Dollars Awarded to	Total Dollars Awarded to Date
Amara, Amy Willis	Systemic Synuclein Sampling Study (S4)	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy		11/17/2015	12/31/2018	-	-	-	161,200	40,300	201,500
Amara, Amy Willis	A Phase 2, Double-Blind, Randomized, Placebo-Controlled Study of Nelotanserin versus Placebo	AXOVANT SCIENCES, INC. - NEW	Industry		10/18/2016	10/17/2020	27,242	8,172	35,414	108,970	32,691	141,661
Amara, Amy Willis	Clinician-input Study: How the Fox Wearable Companion Mobile Application can Influence Treatment	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy	12763	11/01/2017	10/31/2018	-	-	-	46,640	11,660	58,300
Amara, Amy Willis	An Open Label Study of Nelotanserin in Patients with Lewy Body Dementia who have frequent visual	AXOVANT SCIENCES, INC. - NEW	Industry		12/18/2017	12/17/2021	33,158	9,947	43,105	99,477	29,844	129,321
Amara, Amy Willis	A 4-Week, Double-blind, Placebo-Controlled, Randomized, Multicenter, Crossover Study of the Safety,	JAZZ PHARMACEUTICALS, INC.	Industry		03/21/2018	03/20/2022	33,756	10,126	43,882	67,514	20,255	87,769
Amara, Amy Willis	Development of T Cell-Based Biomarkers for Autoimmunity in Parkinson's Disease	LA JOLLA INSTITUTE FOR ALLERGY AND IMMUNOLOGY	NP Agency/Assoc	11117-37-381	02/14/2018	12/31/2019	-	-	-	30,882	11,118	42,000
Amara, Amy Willis	Effect of LY3154207 on Cognition in Mild to Moderate Parkinson's Disease Dementia (PDD) (The Presence	LILLY USA, LLC	Industry		07/19/2018	07/18/2022	36,116	10,835	46,951	71,359	21,411	92,770
Benveniste, Etty	Targeting the JAK/STAT-3 Pathway Signaling Axis in Glioma	National Cancer Institute/NIH/DHHS	Federal	R01CA158534	03/01/2012	02/28/2018	-	-	-	1,018,825	473,756	1,492,581
Benveniste, Etty	Training Program in Brain Tumor Biology	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	T32NS048039	07/01/2013	06/30/2019	-	-	-	871,277	61,487	932,764
Benveniste, Etty	Therapeutic Intervention of the JAK/STAT Pathway for Neuroinflammation	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS057563	09/15/2013	08/31/2020	-	-	-	1,091,562	512,944	1,604,506
Benveniste, Etty	HSF-GEF Research Acceleration Award - Benveniste	UNIVERSITY OF ALABAMA HEALTH SERVICES FOUNDATION	Foundations Philanthropy		09/01/2014	08/31/2022	-	-	-	500,000	-	500,000
Benveniste, Etty	The Role of CK2 in Glioblastoma Development	National Cancer Institute/NIH/DHHS	Federal	R01CA194414	12/01/2015	11/30/2020	221,887	104,287	326,174	925,970	423,541	1,349,511
Benveniste, Etty	Innate and Adaptive Immunity in Parkinson Disease - Project 2: Validating the JAK/STAT Pathway as	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	P50NS108675	09/30/2018	07/31/2023	241,858	117,301	359,159	499,696	242,352	742,048
Bradley, Virginia Grissom	Processing Speed Training to Preserve Driving and Functional Competencies in MCI	National Institute on Aging/NIH/DHHS	Federal	R01AG045154	08/15/2014	04/30/2019	-	-	-	1,767,136	659,456	2,426,592
Buford, Thomas	ACE2 as a Novel Therapeutic to Preserve Physical Function in Late Life	National Institute on Aging/NIH/DHHS	Federal	R01AG054538	08/01/2017	05/31/2022	390,487	183,917	574,404	863,987	382,767	1,246,754
Buford, Thomas	Resveratrol and Exercise to Treat Functional Limitations in Late Life	National Institute on Aging/NIH/DHHS	Federal	R21AG049974	02/15/2018	03/31/2020	-	-	-	139,618	67,714	207,332
Buford, Thomas	ACES-ACE Inhibitors Combined with Exercise for Hypertensive Seniors	National Institute on Aging/NIH/DHHS	Federal	R01AG056769	09/15/2017	05/31/2022	432,065	143,520	575,585	1,364,056	375,462	1,739,518
Buford, Thomas	Wearable Technology to Reduce Sedentary Behavior and CVD Risk in Older Adults	American Heart Association	NP Agency/Assoc	16IRG27250237	07/01/2017	12/31/2018	-	-	-	64,511	6,092	70,603

PI Name	Project Title	Primary Sponsor	Sponsor Type	Sponsor Award Number	Awarded Start Date	Awarded End Date	Currently Active Total Direct Dollars	Currently Active Total Indirect Dollars	Currently Active Total Dollars	Total Direct Dollars Awarded to Date	Total Indirect Dollars Awarded to	Total Dollars Awarded to Date
Day, Jeremy J.	Epigenetic Regulation of Cocaine- Induced Neuroadaptions	National Institute on Drug Abuse/NIH/DHHS	Federal	R00DA034681	07/15/2013	06/30/2019	-	-	-	605,371	244,962	850,333
Day, Jeremy J.	Epigenetic Control of Brain Reward Systems	National Institute on Drug Abuse/NIH/DHHS	Federal	DP1DA039650	07/01/2015	06/30/2020	300,000	141,000	441,000	1,562,000	734,140	2,296,140
Day, Jeremy J.	Behavioral Epigenetics of Developmental Methylmercury Exposure	AUBURN UNIVERSITY	Institutions	15-CLA-201289-UAB	08/01/2015	07/31/2018	-	-	-	91,614	43,058	134,672
Day, Jeremy J.	Striatial Modulation of Epigenetic DNA Demethylation in Reward Learning	National Institute on Drug Abuse/NIH/DHHS	Federal	F32DA041778	07/01/2016	07/02/2018	-	-	-	115,837	-	115,837
Day, Jeremy J.	CRISPR/dCas9-targeted Manipulation of bdnf Transcription in Synaptic Plasticity and Contextual	National Institute of Mental Health/NIH/DHHS	Federal	F32MH112304	09/15/2016	01/02/2020	61,174	-	61,174	174,426	-	174,426
Day, Jeremy J.	Enhancer RNA Regulation of Experience-dependent Neuroepigenetic Processes	National Institute of Mental Health/NIH/DHHS	Federal	R01MH114990	07/01/2018	03/31/2023	286,028	133,241	419,269	779,216	277,445	1,056,661
Day, Jeremy J.	NBI_Thomas_Foster_UF_01	University of Florida	Institutions		11/28/2018	11/27/2019	1,260	189	1,449	1,260	189	1,449
Dobrunz, Lynn	Interneuron Dysfunction Alters the Dynamics of the Inhibition-Excitation Balance	National Institute of Mental Health/NIH/DHHS	Federal	R01MH098534	07/01/2012	02/28/2019	-	-	-	1,240,000	576,600	1,816,600
Dobrunz, Lynn	Effects of NPY on Hippocampal Circuit Function	National Institute of Mental Health/NIH/DHHS	Federal	R01MH108342	09/01/2015	05/31/2020	450,000	214,500	664,500	1,450,000	684,500	2,134,500
Gamble, Karen Lynnette	Circadian Dysfunction and GSK3 in Neurodegenerative Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS082413	04/01/2018	03/31/2023	407,292	195,122	602,414	901,915	340,746	1,242,661
Gamble, Karen Lynnette	The Nigral Molecular Clock and Vulnerability to Neurodegeneration	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS108713	07/15/2018	04/30/2023	366,313	68,221	434,534	779,086	136,137	915,223
Gamlin, Paul D	Motor Unit Diversity in Horizontal Eye Movement Control	National Eye Institute/NIH/DHHS	Federal	R01EY022290	08/01/2012	07/31/2018	-	-	-	2,030,609	648,301	2,678,910
Gamlin, Paul D	Developing Efficient AAV Vectors for Photoreceptor Targeting via the Vitreous	University of Florida	Institutions	UFDSP00010866	06/01/2015	05/31/2020	-	-	-	304,986	145,214	450,200
Gamlin, Paul D	Research to Prevent Blindness Disney Award for Amblyopia Research	Research to Prevent Blindness	NP Agency/Assoc		06/13/2014	06/12/2019	-	-	-	100,000	-	100,000
Gamlin, Paul D	Midbrain Circuitry for Neuronal Control of Gaze	UNIVERSITY OF MISSISSIPPI MEDICAL CENTER	Institutions	66663150316UAB	04/01/2015	03/31/2020	-	-	-	687,826	323,277	1,011,103
Gamlin, Paul D	UAB CSA: Melanopsin Photosensitivity and Psychopathology	University of Pittsburgh	Institutions	0042833(125330)	09/14/2014	05/31/2019	-	-	-	29,412	10,588	40,000
Gamlin, Paul D	Intrinsically Photosensitive Retinal Ganglion Cells and their Central Projections	National Eye Institute/NIH/DHHS	Federal	R01EY025555	12/01/2015	11/30/2020	556,393	102,085	658,478	3,220,317	582,400	3,802,717
Gamlin, Paul D	Gene Editing using the CRISPR/Cas9 System in Primate Retina	EDITAS	Industry		02/26/2016	05/31/2018	-	-	-	330,345	144,756	475,101

PI Name	Project Title	Primary Sponsor	Sponsor Type	Sponsor Award Number	Awarded Start Date	Awarded End Date	Currently Active Total Direct Dollars	Currently Active Total Indirect Dollars	Currently Active Total Dollars	Total Direct Dollars Awarded to Date	Total Indirect Dollars Awarded to	Total Dollars Awarded to Date
Gamlin, Paul D	RII Track-2 FEC Bridging Cognitive Science and Neuroscience Using Innovative Imaging Technologies	Medical University of South Carolina	Institutions	MUSC16-075-8B357	08/01/2016	07/31/2019	-	-	-	822,796	307,191	1,129,987
Gamlin, Paul D	Optimizing AAV Vectors for Central Nervous System Transduction	University of Florida	Institutions	UFDSP00011993	08/01/2017	05/31/2022	115,827	56,176	172,003	255,325	123,833	379,158
Gamlin, Paul D	Preclinical Toxicology and Biodistribution Study of Adeno-Associated Virus Mediated Gene	University of Florida	Institutions	UFDSP00011855	07/01/2017	12/31/2019	-	-	-	279,467	-	279,467
Gamlin, Paul D	Lacerta-Pfizer joint project to identify Optimum AAV Variants for CNS Gene Therapy	LACERTA THERAPEUTICS, INC.	Industry		11/01/2017	07/31/2019	-	-	-	305,047	147,948	452,995
Gamlin, Paul D	Shared Instrumentation for Pre-, Post-, and Intra-Operative Ocular Imaging	NIH - OFFICE OF THE DIRECTOR	Federal	S10OD026752	08/21/2019	08/20/2020	548,280	-	548,280	548,280	-	548,280
Gamlin, Paul D	Development of AAV-CRISPR/CAS9-Based Therapies for Cone Rod Dystrophy	University of Florida	Institutions	SUB00001831	06/01/2019	05/31/2023	176,891	85,792	262,683	176,891	85,792	262,683
Geldmacher, David	A Placebo-controlled, Double-blind, Parallel-group, Bayesian Adaptive Randomization Design and Dose	EISAI, INC.	Industry		06/18/2013	06/17/2020	410,091	106,624	516,715	1,305,085	339,321	1,644,406
Geldmacher, David	A Phase 3 Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the	BIOGEN, INC.	Industry		01/25/2016	01/24/2020	217,863	56,645	274,508	948,343	246,569	1,194,912
Geldmacher, David	Improving Family Quality of Life through training to reduce care-resistant behavios by people with	DOD - ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY	Federal	W81XWH-16-1-0527	09/01/2016	08/31/2020	-	-	-	499,969	234,986	734,955
Geldmacher, David	A Multicenter, Open-Label, Long-Term Treatment Study of Intravenously Administered BMS-	BRISTOL MYERS SQUIBB PHARMACEUTICAL	Industry		04/05/2016	04/04/2020	65,980	17,154	83,134	263,920	68,619	332,539
Geldmacher, David	Alzheimer's Disease Neuroimaging Initiative 3 (ADNI3)	University of Southern California	Institutions	79634774	09/15/2016	07/31/2020	15,178	7,133	22,311	797,977	375,274	1,173,251
Geldmacher, David	A Randomized, Double-Blind, Placebo-Controlled Multiple Dose Study to Assess Efficacy, Safety,	ABBVIE INC	Industry		04/12/2017	04/11/2022	64,981	19,494	84,475	194,947	58,485	253,432
Geldmacher, David	Randomized, Double-blind, Parallel-Group, Placebo-Controlled, Dose Ranging Study of Piromelatine in	NEURIM PHARMACEUTICALS	Industry		05/04/2017	05/03/2021	29,184	8,755	37,939	87,552	26,265	113,817
Geldmacher, David	An Extension Study of ABBV-8E12 in Progressive Supranuclear Palsy (PSP)	ABBVIE INC	Industry		06/14/2018	06/13/2022	1,107,803	332,341	1,440,144	2,215,610	664,683	2,880,293
Geldmacher, David	A Multicenter, Open-Label, Long- Term Treatment Study of Intravenously Administered BIIB092	BIOGEN, INC.	Industry		06/04/2018	04/04/2020	212,323	63,696	276,019	389,089	116,726	505,815
Geldmacher, David	Integrating Health Information Technology into Clinical Care to Improve Shared Decision Making and	UNIVERSITY OF ALABAMA (TUSCALOOSA)	Institutions	A18-0505-S002	09/30/2018	09/29/2020	9,355	4,537	13,892	19,084	9,256	28,340
Geldmacher, David	Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Assess the Safety, Tolerability, and	BIOGEN MA INC	Industry		08/01/2018	07/31/2022	221,845	66,554	288,399	311,072	93,323	404,395
Geldmacher, David	A Phase II, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Efficacy, and Safety	Genentech	Industry		08/17/2018	08/16/2022	200,700	60,210	260,910	401,405	120,422	521,827

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Gerstenecker, Adam	Investigating the Impact of Cognition on Capacity in Multiple Sclerosis	National Institute of Child Health and Human Development/NIH/DHHS	Federal	K23HD091849	09/12/2018	08/31/2023	116,829	9,346	126,175	233,658	18,692	252,350
Gerstenecker, Kristen Triebel	Decisional Capacity Evaluation in Metastatic Brain Cancer	American Cancer Society, Inc.	NP Agency/Assoc	MRSG-14-204-01-PCSM	01/01/2015	12/31/2019	-	-	-	674,074	53,926	728,000
Goldberg, Matthew S	LRRK2 Consortium Memorandum of Understanding	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy		01/12/2015	01/31/2020	-	-	-			
Goldberg, Matthew S	Analysis of Parkin Activity in W403A Parkin Knockin Mice	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy	11947	10/18/2016	07/31/2018	-	-	-	161,469	40,367	201,836
Goldberg, Matthew S	Advancing PINK1 KO Rat Animal Models of PD	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy	11380.01	10/01/2017	04/01/2019	-	-	-	160,000	40,000	200,000
Goldberg, Matthew S	Role of Alpha-synuclein in PINK1-linked Parkinson's Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F99NS108458	07/01/2018	06/30/2020	37,235	-	37,235	73,767	-	73,767
Goldberg, Matthew S	Characterization of The In Vivo Effects of A-Synuclein Preformed Fibrils on Mouse Brain Mitochondria	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy	15984	06/06/2018	12/06/2019	-	-	-	192,217	48,054	240,271
Gray, Michelle	Exploring the Contribution of Astrocytes to Huntington Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS089750	08/01/2015	07/31/2020	267,739	119,758	387,497	1,265,600	554,851	1,820,451
Hablitz, John Joseph	Acquired HCN Channelopathies in Cortical Dysplasia	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS090041	09/15/2014	07/31/2019	-	-	-	875,000	411,252	1,286,252
Hablitz, John Joseph	UAB Neuroscience Core Center - Core D: Administrative Core	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	P30NS047466	08/01/2016	05/31/2020	65,192	30,640	95,832	260,768	122,560	383,328
Hablitz, John Joseph	Training Program in the Neurobiology of Cognition and Cognitive Disorders	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	T32NS061788	07/01/2016	06/30/2018	-	-	-	390,145	23,147	413,292
Hablitz, John Joseph	Training Program in the Neurobiology of Cognition and Cognitive Disorders	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	T32NS061788	07/01/2018	06/30/2023	231,096	14,168	245,264	459,940	28,156	488,096
Hablitz, John Joseph	Cellular Mechanism of Synchrony Impairments in Schizophrenia	SOUTHERN RESEARCH INSTITUTE	Institutions	S18-100	05/01/2018	04/30/2020	9,739	4,723	14,462	19,478	9,446	28,924
Herskowitz, Jeremy H	Investigating the RhoA/ROCK Pathway for the Treatment of Alzheimer's Disease	National Institute on Aging/NIH/DHHS	Federal	R00AG043552	08/01/2014	03/31/2018	-	-	-	534,705	232,126	766,831
Herskowitz, Jeremy H	Targeting Rho Kinases for Alzheimer's Disease Therapeutics	National Institute on Aging/NIH/DHHS	Federal	R01AG054719	07/15/2017	05/31/2022	253,919	117,331	371,250	753,919	359,831	1,113,750
Herskowitz, Jeremy H	Identifying Therapeutic Targets That Confer Synaptic Resilience to Alzheimer's Disease	National Institute on Aging/NIH/DHHS	Federal	R01AG061800	09/30/2018	04/30/2023	930,898	106,778	1,037,676	1,921,064	235,866	2,156,930
Kennedy, Richard E.	In Silico Screening of Medications for Slowing Alzheimer's Disease Progression	National Institute on Aging/NIH/DHHS	Federal	R01AG057684	09/15/2017	03/31/2022	484,046	161,932	645,978	1,449,620	500,439	1,950,059
Kennedy, Richard E.	Speed of Processing Training for Cognitive Deficits After Delirium in Older Adults	National Institute on Aging/NIH/DHHS	Federal	R21AG057982	09/15/2017	05/31/2019	-	-	-	275,002	133,375	408,377

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Kennedy, Richard E.	Automating Delirium Identification and Risk Prediction in Electronic Health Records	National Institute on Aging/NIH/DHHS	Federal	R01AG060993	02/15/2019	12/31/2022	-	-	-	302,993	129,976	432,969
Lahti, Adrienne C.	Glutamate, Brain Connectivity and Duration of Untreated Psychosis	National Institute of Mental Health/NIH/DHHS	Federal	R01MH102951	04/01/2014	01/31/2020	-	-	-	2,069,790	799,429	2,869,219
Lahti, Adrienne C.	Trajectories of Treatment Response as Window into the Heterogeneity of Psychosis: a Longitudinal Multimodal	National Institute of Mental Health/NIH/DHHS	Federal	R01MH113800	04/10/2018	12/31/2022	734,706	-	734,706	1,730,513	482,968	2,213,481
Lazar, Ronald M	Cerebral Hemodynamics And Neurocognition In Severe Acrtic Valve Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R21NS096972	08/01/2017	07/31/2019	-	-	-	173,402	84,100	257,502
Lazar, Ronald M	Carotid Revascularization And Medical Management For Asymptomatic Carotid Stenosis Trial-	Columbia University	Institutions	5(GG012011-01)	05/15/2017	04/30/2022	29,055	14,092	43,147	87,462	41,979	129,441
Lazar, Ronald M	Genetic Contribution to Brain Arterial Dilatation and its Role in Cognition and Dementia	Columbia University	Institutions	3(GG014803-01)	08/15/2018	04/30/2023	7,304	3,542	10,846	14,608	7,084	21,692
Lazar, Ronald M	Arcadia CSI (Cognition and Silent Infarcts)	Stanford University	Institutions	62171253-136511	07/01/2019	06/30/2024	213,110	103,359	316,469	213,110	103,359	316,469
Lubin, Farah D	Epigenetic Mechanisms in Epilepsy-Related Memory Formation	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R21NS090250	07/01/2015	06/30/2018	-	-	-	275,000	129,250	404,250
Lubin, Farah D	NF-kB Methyl-Lysine Signaling in the Epigenetic Regulation of Memory	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F30NS100340	01/01/2017	12/31/2020	44,845	-	44,845	115,013	-	115,013
Lubin, Farah D	Chromatin Remodeling Mechanism of Gene Transcription in Memory	National Institute of Mental Health/NIH/DHHS	Federal	R56MH097909	08/21/2018	08/20/2020	-	-	-	345,632	156,040	501,672
McMahon Wakefield, Lori L	UAB Neuroscience Roadmap Scholars Program	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R25NS089463	09/30/2014	07/31/2019	75,000	6,000	81,000	1,244,044	99,526	1,343,570
McMahon Wakefield, Lori L	Interactions of 17beta Estradiol and Ketamine on Depression-Like Behavior, Hippocampal Synaptic	National Institute of Mental Health/NIH/DHHS	Federal	R56MH107190	08/01/2016	07/31/2018	-	-	-	244,767	101,058	345,825
McMahon Wakefield, Lori L	Impact of Estrogen Loss and Replacement on GLuN2B containing NMDAR's, Synaptic Plasticity, and	National Institute on Aging/NIH/DHHS	Federal	R21AG053067	04/01/2016	03/31/2019	-	-	-	275,000	129,250	404,250
McMahon Wakefield, Lori L	RII Track-2 FEC: The Creation of Next Generation Tools for Neuroscience - Noninvasive	Clemson University	Institutions	1877-206-2011576	09/01/2016	07/31/2020	-	-	-	984,320	396,361	1,380,681
McMahon Wakefield, Lori L	17-Beta-Estradiol Rescues Synaptic GluN2B-Mediated NMDAR Current in Hippocampus in The TgF344-AD Rat	National Institute on Aging/NIH/DHHS	Federal	F31AG054087	03/01/2017	02/28/2019	-	-	-	69,712	-	69,712
McMahon Wakefield, Lori L	Rapid modulation of hippocampal GABAergic Inhibition by O-GlcNAcylation	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R21NS111945	04/01/2019	03/31/2021	150,000	72,750	222,750	150,000	72,750	222,750
Parpura, Vladimir	Connexin 43 Modulates Regulated Exocytosis	National Institute of General Medical Sciences/NIH/DHHS	Federal	R01GM123971	09/01/2019	05/31/2023	225,000	109,125	334,125	225,000	109,125	334,125
Powell, Craig M.	Novel Genetic Models of Autism	National Institute of Child Health and Human Development/NIH/DHHS	Federal	R01HD069560	09/01/2018	05/31/2021	387,218	187,801	575,019	812,431	394,030	1,206,461

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Pozzo-Miller, Lucas D	REU Site: Summer Program in Neuroscience	NSF - National Science Foundation	Federal	DBI-1658965	03/01/2017	02/28/2020	118,173	1,946	120,119	346,961	5,388	352,349
Pozzo-Miller, Lucas D	Cortical Spread of Hippocampal Hyperactivity in Rett Syndrome	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R56NS103089	04/01/2018	03/31/2019	-	-	-	350,000	107,549	457,549
Pozzo-Miller, Lucas D	Exploring Nonsense Suppression as a Treatment for Rett Syndrome	RETTSYNDROME.ORG	Foundations Philanthropy		06/01/2018	05/31/2020	74,364	636	75,000	143,192	6,808	150,000
Pozzo-Miller, Lucas D	Role of The Hippocampal-mPFC Pathway in Social Memory Deficits in Autism	National Institute of Mental Health/NIH/DHHS	Federal	R01MH118563	04/01/2019	01/31/2023	268,106	125,497	393,603	268,106	125,497	393,603
Prabhu, Sumanth D	Splenic Marginal Zone Macrophages in Chronic Ischemic Heart Failure	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	R01HL125735	03/10/2015	01/31/2019	-	-	-	1,000,000	470,000	1,470,000
Prabhu, Sumanth D	Genomic Analysis of Enhanced Response to Heart Failure Therapy in African Americans' Grant# 1	University of Pittsburgh	Institutions	0041119 (124864-7)	05/01/2015	02/28/2020	(13,584)	(6,384)	(19,968)	7,845	3,687	11,532
Prabhu, Sumanth D	A Double-blind, Randomized, Sham–procedure–controlled, Parallel- group Efficacy and Safety Study of	TEVA BRANDED PHARMACEUTICAL PRODUCTS R&D	Industry		11/11/2015	11/10/2023	34,153	8,878	43,031	154,747	40,240	194,987
Prabhu, Sumanth D	Basic and Translational Science in Heart Failure	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	T32HL129948	04/01/2017	03/31/2022	286,272	21,462	307,734	712,901	53,431	766,332
Prabhu, Sumanth D	6th Annual Comprehensive Cardiovascular Center (CCVC) Symposium: Focus on	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	R13HL138967	08/01/2017	07/31/2018	-	-	-	10,000	-	10,000
Prabhu, Sumanth D	2018 Abbott CCVC Symposium Grant	ABBOTT LABORATORIES	Industry		08/06/2018	10/07/2018	-	-	-	1,364	136	1,500
Prabhu, Sumanth D	Macrophage Circadian Clock Disruption and Inflammation in Heart Failure	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	R01HL147549	04/01/2019	03/31/2020	392,375	190,302	582,677	392,375	190,302	582,677
Roberson, Erik	A Phase II/III Randomized, Double-Blind, Placebo-Controlled Multi- Center Study of 2 Potential Disease	Washington University	Institutions		11/22/2013	11/21/2020	111,541	29,000	140,541	1,147,541	298,359	1,445,900
Roberson, Erik	Development of Inhibitors of the Tau-Fyn Interaction For the Treatment of Alzheimer's Disease	BRIGHT FOCUS FOUNDATION	NP Agency/Assoc	A2015693S	07/01/2015	06/30/2018	-	-	-	250,000	-	250,000
Roberson, Erik	Preclinical Testing of a Progranulin-Raising Therapeutic	ALECTOR, INC.	Industry		03/16/2016	06/30/2018	-	-	-	86,506	40,658	127,164
Roberson, Erik	Abnormal Late Endosomal Trafficking in Frontotemporal Dementia due to Progranulin Mutations	National Institute on Aging/NIH/DHHS	Federal	K99AG056597	07/15/2017	06/30/2019	-	-	-	250,634	20,050	270,684
Roberson, Erik	The Frontotemporal Lobar Degeneration Clinical Research Consortium	University of California, San Francisco	Institutions	9740sc	08/01/2016	07/31/2019	-	-	-	64,375	31,222	95,597
Roberson, Erik	A Study to Model Rates of Change on Neuropsychological Test Measures in Subjects Diagnosed With Behavioral	BIOGEN IDEC, INC.	Industry		07/24/2017	07/23/2021	11,164	4,019	15,183	33,495	12,058	45,553
Roberson, Erik	BIN1, Interneuron Activity, and Network Dysfunction in Alzheimer Disease	National Institute on Aging/NIH/DHHS	Federal	RF1AG059405	06/15/2018	03/31/2023	282,098	136,818	418,916	913,093	436,837	1,349,930

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Roberson, Erik	Consortium For Frontotemporal Dementia Research	THE BLUEFIELD PROJECT TO CURE FRONTOTEMPORAL	NP Agency/Assoc		10/01/2017	12/31/2019	-	-	-	327,272	32,728	360,000
Roberson, Erik	Circadian Changes in Network Excitability and Alzheimer Disease Pathogenesis	National Institute on Aging/NIH/DHHS	Federal	R56AG061785	09/01/2019	08/31/2020	500,571	202,176	702,747	500,571	202,176	702,747
Roberson, Erik	Toward Therapeutic Approaches to TREM2-R47H in Alzheimer's Disease	Alzheimer's Drug Discovery Foundation	Foundations Philanthropy	GC-201804-2015209	04/01/2019	04/01/2022	-	-	-	110,000	-	110,000
Saag, Michael S	Developing Research at the Interface of HIV and Aging	WAKE FOREST UNIVERSITY	Institutions	WFUHS 110918	09/01/2013	05/31/2019	-	-	-	81,082	38,199	119,281
Saag, Michael S	A Phase IIb, Dose Ranging Study of Oral GSK1265744 in Combination with Nucleoside Reverse	GlaxoSmithKline	Industry		09/07/2012	05/31/2019	-	-	-	203,289	52,855	256,144
Saag, Michael S	UAB Center for AIDS Research - Administrative Core	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2014	05/31/2019	-	-	-	3,160,467	1,489,346	4,649,813
Saag, Michael S	UAB Center for AIDS Research - The Role of HIV-Infection and Antiretroviral Therapy Related	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2014	05/31/2019	-	-	-	100,000	47,000	147,000
Saag, Michael S	UAB Center for AIDS Research - UAB CFAR- Administrative Supplement-Clinical Core Equipment	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2014	05/31/2019	-	-	-	21,007	3,114	24,121
Saag, Michael S	UAB Center for AIDS Research - UAB CFAR- Administrative Supplement CFAR HIV in Women	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2014	05/31/2019	-	-	-	32,971	15,496	48,467
Saag, Michael S	UAB Center for AIDS Research - UAB CFAR-UAB CFAR - Administrative Supplement	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2014	05/31/2019	-	-	-	52,113	1,309	53,422
Saag, Michael S	Unsolicited R24 CFAR Network of Integrated Clinical Systems (CNICS)	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	R24AI067039	09/30/2016	08/31/2021	3,370,079	1,471,331	4,841,410	14,689,567	3,579,176	18,268,743
Saag, Michael S	GS-US-380-1489, "A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of	Gilead Sciences	Industry		01/20/2016	01/19/2020	404,429	145,593	550,022	700,229	252,082	952,311
Saag, Michael S	Epidemiology of HIV-Related Atrial Fibrillation and Associations with Substance Abuse	UNIVERSITY OF WASHINGTON	Institutions	UWSC10100	09/30/2017	08/31/2019	-	-	-	36,053	17,486	53,539
Saag, Michael S	CNICS 141-Prevalence and Nature of Heavily Treatment Experienced Patients in a Large Clinical Cohort	GlaxoSmithKline	Industry		04/26/2018	04/25/2020	119,646	43,072	162,718	239,293	86,145	325,438
Saag, Michael S	Evaluation of Wirelessly Observed Therapy to Optimize Adherence in Patients with Hepatitis C and	PROTEUS DIGITAL HEALTH, INC.	Industry		08/15/2017	08/14/2022	7,539	2,261	9,800	22,620	6,788	29,408
Saag, Michael S	Comprehensive Ascertainment of Hospitalization for Cardiovascular Disease Ascertainment	ALBERT EINSTEIN COLLEGE OF MEDICINE	Institutions	310429	04/10/2017	12/31/2018	-	-	-	2,337	1,099	3,436
Saag, Michael S	CNICS 141-Prevalance and Nature of Heavily Treatment Experienced Patients in a Large Clinical Cohort	GlaxoSmithKline	Industry		10/13/2017	10/12/2018	-	-	-	96,837	34,861	131,698
Saag, Michael S	GSK 209025	GlaxoSmithKline	Industry		06/19/2018	06/18/2019	-	-	-	29,024	4,353	33,377

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Saag, Michael S	GSK 209025 CNICS Weight Gain Study	GlaxoSmithKline	Industry		02/14/2019	02/13/2020	48,189	17,348	65,537	48,189	17,348	65,537
Saag, Michael S	UAB Center for AIDS Research - Administrative Core	National Institute of Allergy and Infectious Diseases/NIH/DHHS	Federal	P30AI027767	06/01/2019	05/31/2024	171,344	83,102	254,446	171,344	83,102	254,446
Saag, Michael S	A Phase 3b, Multicenter, Open-Label Study to Evaluate Switching From a Regimen of Two Nucleos(t)ide	Gilead Sciences	Industry		09/27/2018	09/26/2022	16,916	5,074	21,990	33,724	10,119	43,843
Standaert, David George	APDA Advanced Center for Parkinson Disease Research at UAB	American Parkinson Disease Association	NP Agency/Assoc		09/01/2008	08/31/2020	126,092	8,558	134,650	1,609,747	8,558	1,618,305
Standaert, David George	The Parkinson's Progression Markers Initiative (PPMI)	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy		07/27/2010	12/31/2023	40,174	10,044	50,218	1,662,617	416,737	2,079,354
Standaert, David George	A Phase 1/2 Trial Assessing the Safety and Efficacy of Bilateral Intraputaminal and Intranigral	SANGAMO BIOSCIENCES, INC.	Industry		06/03/2013	06/02/2016	-	-	-	170,368	44,295	214,663
Standaert, David George	Molecular Etiology of Early Onset Torsion Dystonia	MASSACHUSETTS GENERAL HOSPITAL	Institutions	226500	07/01/2015	06/30/2020	186,735	87,765	274,500	936,503	440,155	1,376,658
Standaert, David George	Role of HLA/MHCII in Parkinson's Disease Pathogenesis	Emory University	Institutions	T520555	09/30/2015	06/30/2020	-	-	-	32,132	15,101	47,233
Standaert, David George	UAB Cannabidiol Program	ALABAMA DEPARTMENT OF COMMERCE	State		04/01/2014	06/30/2022	-	-	-	5,000,000	-	5,000,000
Standaert, David George	BTK Inhibitors and Their Potential Role in Inhibiting the Pro- Inflammatory Microenvironment	ACERTA PHARMA B.V.	Industry		12/05/2014	12/05/2016	-	-	-	100,679	47,319	147,998
Standaert, David George	The Edmond J. Safra Fellowship in Movement Disorders	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy	10790	07/01/2016	06/20/2019	-	-	-	180,000	-	180,000
Standaert, David George	UAB Neuroscience Core Center - Core B: Molecular Detection and Stereology Core	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	P30NS047466	08/01/2016	05/31/2020	107,420	50,487	157,907	429,680	201,948	631,628
Standaert, David George	DUOdopa/Duopa in Patients with Advanced Parkinson's Disease (PD) – A Global Observational Study	ABBVIE INC	Industry		02/08/2016	02/07/2021	-	-	-	67,000	17,420	84,420
Standaert, David George	UAB Research and Education Program in Neuroscience	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R25NS079188	08/01/2017	06/30/2022	202,112	15,174	217,286	275,878	21,075	296,953
Standaert, David George	UAB Training Program in Neurodegeneration	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	T32NS095775	07/01/2017	06/30/2022	144,704	9,445	154,149	358,548	23,356	381,904
Standaert, David George	MJFF Emerging Targets Committee Membership	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy		06/01/2016	06/30/2020	4,000	1,000	5,000	10,400	2,600	13,000
Standaert, David George	University of Alabama at Birmingham_The Edumond J. Safra Fellowship in Movement Disorders	Fox (Michael J.) Foundation for Parkinson's Research	Foundations Philanthropy		09/20/2017	06/30/2020	90,000	-	90,000	180,000	-	180,000
Standaert, David George	Interactions of Gut Microbiome, Genetic Susceptibility and Environmental Factors in Parkinson's	DOD - Department of Defense	Federal	W81XWH181050 9	09/01/2018	08/31/2022	102,690	49,805	152,495	212,380	103,005	315,385

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Standaert, David George	Contribution of the Interaction Between Synuclein and Tau in the Pathophysiology of Dementia with	National Institute on Aging/NIH/DHHS	Federal	F30AG058458	09/01/2018	08/31/2023	37,926	-	37,926	75,360	-	75,360
Standaert, David George	Innate and Adaptive Immunity in Parkinson Disease - Core A: Administrative Core	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	P50NS108675	09/30/2018	07/31/2023	78,004	37,832	115,836	160,504	77,845	238,349
Standaert, David George	Innate and Adaptive Immunity in Parkinson Disease - Project 1: Role of Innate Immune Cells in Human	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	P50NS108675	09/30/2018	07/31/2023	191,409	92,833	284,242	392,860	190,537	583,397
Standaert, David George	The Edmond J. Safra Visiting Nurse Faculty Program at the Parkinson Disease Foundation	National Parkinson Foundation, Inc.	Foundations Philanthropy		10/03/2017	10/02/2019	-	-	-	25,909	2,591	28,500
Standaert, David George	Border-Associated Macrophages in an Alpha-Synuclein Overabundance Model of Parkinson Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F31NS106722	09/30/2018	09/29/2021	36,235	-	36,235	71,767	-	71,767
Standaert, David George	Role of T cells in an Alpha-Synuclein Mediated Mouse Model of Parkinson Disease	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F31NS106820	09/30/2018	09/29/2021	36,235	-	36,235	71,767	-	71,767
Thannickal, Victor John	Rheumatic Diseases Research Core Centers - P&F 8: Development of Monoclonal Antibodies Against NOX4	National Institute of Arthritis & Musculoskeletal & Skin	Federal	P30AR048311	09/01/2012	08/31/2019	-	-	-	20,000	9,300	29,300
Thannickal, Victor John	Myofibroblast Senescence in Pulmonary Fibrosis	National Institute on Aging/NIH/DHHS	Federal	R01AG046210	09/01/2014	05/31/2019	-	-	-	1,118,250	525,577	1,643,827
Thannickal, Victor John	Training Program in Lung Biology and Translational Medicine	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	T32HL105346	09/01/2015	08/31/2020	299,820	21,826	321,646	1,728,434	131,036	1,859,470
Thannickal, Victor John	Study of Nfr2 Activation in Lung Fibrosis	BIOGEN IDEC, INC.	Industry		09/15/2014	09/14/2016	-	-	-	218,681	102,780	321,461
Thannickal, Victor John	Protein o, o'-Dityrosine Cross-Linking in Lung Injury and Wound Healing	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	F30HL136195	02/01/2017	01/31/2021	44,845	-	44,845	115,013	-	115,013
Thannickal, Victor John	Therapeutic Targeting of the Myofibroblast in Fibrotic Lung Disease - Core A: Administrative and	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	P01HL114470	08/01/2018	07/31/2023	74,498	36,131	110,629	145,071	70,359	215,430
Thannickal, Victor John	Therapeutic Targeting of the Myofibroblast in Fibrotic Lung Disease - Project Two: Redox	National Heart, Lung, and Blood Institute/NIH/DHHS	Federal	P01HL114470	08/01/2018	07/31/2023	275,000	133,375	408,375	522,000	253,170	775,170
Ubogu, Eroboghene E.	An Open-Label, Continuation Protocol for Amifampridine Phosphate (3,4-Diaminopyridine	CATALYST PHARMACEUTICAL PARTNERS, INC.	Industry		01/06/2016	01/05/2019	-	-	-	19,250	5,004	24,254
Ubogu, Eroboghene E.	Teriflunomide as a Disease Modifying Anti-Inflammatory Therapy for a Severe Animal Model of Chronic	Genzyme Corporation	Industry		06/23/2017	12/22/2019	-	-	-	379,378	178,307	557,685
Ubogu, Eroboghene E.	A Phase ll of Rituximab in Myasthenia Gravis (NN 103)	MASSACHUSETTS GENERAL HOSPITAL	Institutions	NN 103	04/21/2015	06/30/2023	-	-	-	11,249	5,287	16,536
Ubogu, Eroboghene E.	UAB MDA CARE CENTER	Muscular Dystrophy Association	NP Agency/Assoc	492451	01/01/2017	12/31/2019	-	-	-	60,000	-	60,000
Ubogu, Eroboghene E.	Topiramate as a Disease Altering Therapy for Cryptogenic Sensory Peripheral Neuropalhy (CSPN)	MASSACHUSETTS GENERAL HOSPITAL	Institutions		09/01/2017	06/30/2023	-	-	-	104,042	50,460	154,502

PI Name	Project Title	Primary Sponsor	Sponsor Type	Sponsor Award Number	Awarded Start Date	Awarded End Date	Currently Active Total Direct Dollars	Currently Active Total Indirect Dollars	Currently Active Total Dollars	Total Direct Dollars Awarded to Date	Total Indirect Dollars Awarded to	Total Dollars Awarded to Date
Visscher, Kristina M	Changes in Visual Cortical Connectivity Following Central Visual Field loss	National Eye Institute/NIH/DHHS	Federal	U01EY025858	05/01/2016	04/30/2020	281,598	121,317	402,915	1,430,652	640,020	2,070,672
Visscher, Kristina M	Elucidating The Necessary Components and Mechanisms of Cognitive Training	Pennsylvania State University	Institutions	6082-UAB-DHHS-2370	09/30/2018	05/31/2020	12,469	6,047	18,516	27,649	13,409	41,058
Wadiche, Jacques I.	Timing of Neurotransmitter Release	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS065920	06/01/2014	05/31/2019	-	-	-	1,093,750	514,065	1,607,815
Wadiche, Jacques I.	Subcellular Localization of Glutamate Spillover on to Inhibitory Interneurons in the Cerebellar Cortex	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F32NS110154	12/01/2018	11/30/2020	58,654	-	58,654	58,654	-	58,654
Wadiche, Linda S.	Newborn Neurons in the Adult Hippocampal Network	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS064025	04/01/2015	02/28/2019	-	-	-	1,034,865	486,387	1,521,252
Wadiche, Linda S.	GABAergic Signaling to Adult-born Neurons from Parvalbumin-expressiing Interneurons	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	F31NS098553	08/01/2016	07/31/2018	-	-	-	72,420	-	72,420
Wadiche, Linda S.	Inhibitory Neural Circuits in Dentate Function	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS105438	06/15/2018	04/30/2023	279,707	131,257	410,964	559,414	262,514	821,928
Wadiche, Linda S.	Newborn Neurons In The Adult Hippocampal Network	National Institute of Neurological Disorders and Stroke/NIH/DHHS	Federal	R01NS064025	03/01/2019	02/29/2024	391,130	123,142	514,272	391,130	123,142	514,272
						TOTAL	**20,809,093**	**6,807,088**	**27,616,181**	**100,877,107**	**30,132,592**	**131,009,699**

MCKNIGHT BRAIN INSTITUTE AT UAB

Cumulative Endowment Total

Book Value at 9/30/2019: $13,235,683
Market Value at 9/30/2019: $14,388,975
Actual Spendable Earnings for FY 2018/19: $581,536

Evelyn F. McKnight Brain Institute Endowed Support Fund

Date Approved: 2/4/2011

Book Value at 9/30/2019: $5,000,000
Market Value at 9/30/2019: $5,280,302
Actual Spendable Earnings for FY 2018/19: $239,051

Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging

Date Approved: 10/1/2004

Current Occupant: Ronald M. Lazar, Ph.D.
Occupant Date: 9/15/2017

Book Value at 9/30/2019: $1,500,000
Market Value at 9/30/2019: $1,507,952
Actual Spendable Earnings for FY 2018/19: $60,647

Geropsychiatry Research Chair

Date Approved: 6/28/1993

Designated Occupant: Junghee Lee, Ph.D.
Occupant Date: 3/1/2020

Book Value at 9/30/2019: $1,222,896
Market Value at 9/30/2019: $1,954,974
Actual Spendable Earnings for FY 2018/19: $88,506

F. Cleveland Kinney Endowed Chair in Geriatric Psychiatry

Date Approved: 6/15/2007

Current Occupant: Adrienne C. Lahti, M.D.
Occupant Date: 4/6/2018

Book Value at 9/30/2019: $1,500,550
Market Value at 9/30/2019: $1,479,721
Actual Spendable Earnings for FY 2018/19: $24,822*

Warren Family Endowed Chair in Neurology

Date Approved: 6/15/2012

Current Occupant: David S. Gelmacher, M.D., FACP
Occupant Date: 11/4/2016

Book Value at 9/30/2019: $1,506,618
Market Value at 9/30/2019: $1,591,417
Actual Spendable Earnings for FY 2018/19: $72,047

*When market value is less than principal, a portion of the endowment's earnings will be reinvested, thereby purchasing additional units of the pooled endowment fund and assisting the fund recover to a healthy position. Endowment performance is evaluated on a quarterly basis

Patsy W. and Charles A. Collat Endowed Professorship in Neuroscience

Date Approved: 4/4/2014

Current Occupant: Jeremy H. Herskowitz, Ph.D.
Occupant Date: 11/8/2019

Book Value at 9/30/2019: $500,000
Market Value at 9/30/2019: $508,445
Actual Spendable Earnings for FY 2018/19: $20,449

Jarman F. Lowder Endowed Professorship in Neuroscience

Date Approved: 6/15/2012

Current Occupant: Lori L. McMahon, Ph.D.
Occupant Date: 6/15/2012

Book Value at 9/30/2019: $505,619
Market Value at 9/30/2019: $556,417
Actual Spendable Earnings for FY 2018/19: $25,190

Virginia B. Spencer Endowed Professorship in Neuroscience

Date Approved: 9/14/2012

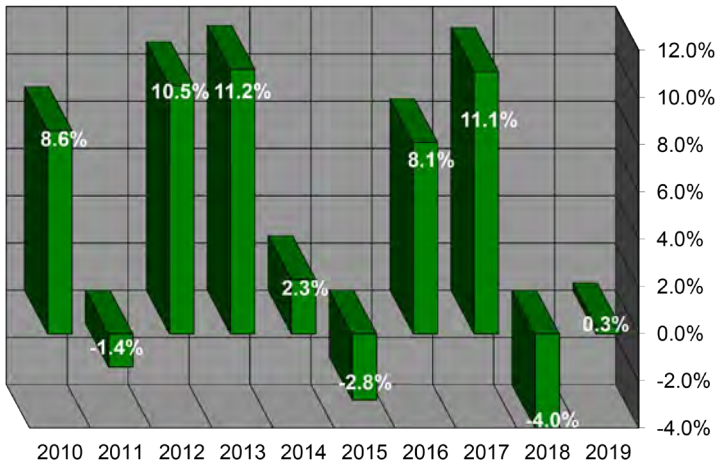
Current Occupant: Craig Matlow Powell, M.D., Ph.D.
Occupant Date: 6/8/2018

Book Value at 9/30/2019: $1,500,000
Market Value at 9/30/2019: $1,509,747
Actual Spendable Earnings for FY 2018/19: $50,824

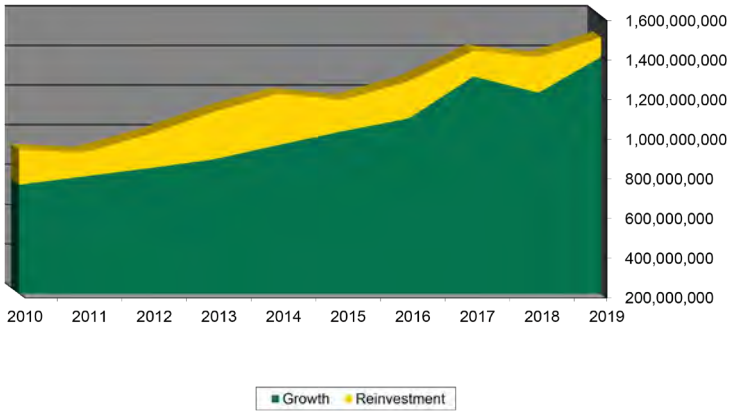
Investment Report

- Created in 1978, the University of Alabama Pooled Endowment Fund (UAPEF) is managed by the Chancellor's Office and is overseen by the Investment Committee of the Board of Trustees.
- As of September 30, 2019, the market value of the UAPEF was $1.49 billion. Of this amount, 36%, or $538 million, is attributable to UAB and the hospital.
- The UAPEF had a ten-year annualized investment return of 7% for the period ending September 30, 2019, compared to a return of 4.3% for the custom index.*
- The Investment Committee oversees investment activities, monitors performance of professional money managers, and ensures the prudent control of the investment of funds.
- Participants include all three campuses of the University of Alabama System along with related foundations.
- The board seeks superior investment returns through professional money management. Assets of the UAPEF are managed by a variety of professional investment firms.
- The UAPEF also utilizes an investment consultant, Fund Evaluation Group, with expertise in investment policy development, spending policy analysis, manager evaluation and selection, and performance evaluation.

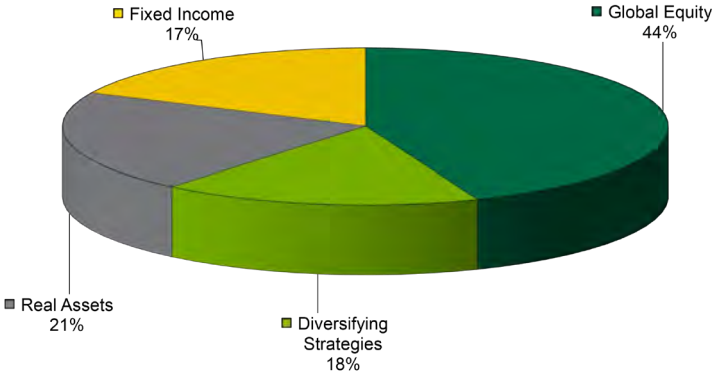
UAPEF Rates of Return
December 31, 2010 - September 30, 2019



UAPEF Growth in Endowment Funds
December 31, 2010 - September 30, 2019



Asset Allocation
as of September 30, 2019



*The custom index is a blend of indices that closely represents the actual UAPEF portfolio and is used as a benchmark for comparison, both in terms of return and risk.

MCKNIGHT CHAIR'S REPORT

McKnight Chair's Report

1. Summary of scientific achievements since last report

- For patients with asymptomatic high-grade carotid stenosis, clinical investigations have focused on preventing cerebral infarction, yet stenosis that reduces cerebral blood flow may independently impair cognition. We studied baseline cognitive function in the first 1,000 patients randomized in the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial (CREST-2). Cognition at 123 nation-wide medical centers was assessed via a centralized, telephone-administered test battery. We found that these CREST-2 participants had significantly lower baseline cognitive scores than the general population, even in the absence of frank stroke. (Lazar, R.M., Wadley, V.G., Marshall, R.S., Howard, G., Howard V., Voeks, J.H., Yuan, Y., Lal, B.K., Meschia, J., Brott, T.. Baseline cognitive function among participants in the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial. European Stroke Journal, 4;Issue 1_suppl, pp 109-110.

- Aortic stenosis (AS) , a disease of the elderly, is increasingly treated with transcatheter aortic valve replacement (TAVR).TAVR is associated with frank stroke and silent brain infarction, but there has been no direct measurement of the impact of baseline AS on intracerebral hemodynamic. We wanted to determine the extent to which there is impaired cerebral hemodynamics with Doppler ultrasonography among elderly patients who have severe AS, and the degree to which there is corresponding vascular cognitive impairment. We found that among 31 patients with a mean age of 78 years, mean flow velocity in the middle cerebral artery was largely in the average range, and that cognition on comprehensive neuropsychological assessment was also in the average. Thus, contrary to widely held but untested assumptions, there is less impact of AS on cerebral blood flow than previously assumed, and we found no correlation between impaired blood flow and cognition in these patients (Lazar, R.M., Myers, T., Gropen, T., 1, Leesar, M., Davies, J., Gerstenecker, A., Norling, A., Pavol, M., Marshall, R., Kodali, S. Severe aortic stenosis is not associated with impairment of cerebral blood flow affecting neurocognition. European Stroke Journal, 4;Issue 1_suppl, p 286.

- There are cognitive changes in primary hyperparathyroidism (PHPT) that improve with parathyroidectomy, but the mechanism of cognitive dysfunction has not been delineated. We assessed if cerebrovascular function is impaired in PHPT, improves post-parathyroidectomy and is associated with PTH level and cognitive dysfunction. We conducted an observational study of 43 patients with mild hypercalcemic or normocalcemic PHPT or goiter. At baseline, cerebrovascular function (dynamic cerebral autoregulation and vasomotor reactivity) by transcranial Doppler and neuropsychological function were compared between all three groups. A subset underwent parathyroidectomy or thyroidectomy, and was compared 6 months post-operatively. Mean cerebrovascular and neuropsychological function was normal and no worse in PHPT compared to controls preoperatively. Higher PTH was associated with worse intracerebral autoregulation ($r = -0.43$, $p = 0.02$) and worse cognitive performance on some tests. Post-parathyroidectomy, mood improved significantly, but changes did not differ compared to those having thyroidectomy ($p = 0.84$). There was no consistent improvement in cognition or change in vascular function in either surgical group. Thus, higher PTH was associated with worse intracerebral autoregulation, cerebrovascular function, cognition and mood were normal in mild PHPT. PTX did not improve vascular or cognitive function. (Liu M, Sum M, Cong E, Colon I, Bucovsky M, Williams J, Kepley A, Kuo J, Lee JA, Lazar RM, Marshall R, Silverberg S, Walker MD. Cognition and cerebrovascular function in primary hyperparathyroidism before and after parathyroidectomy. J Endocrinol Invest. 2019 Oct 16. [Epub ahead of print]. PMID: 31621051)

2. Publications in peer reviewed journals

- Norling, A.M., Marshall, R.S., Pavol, M.A., Howard, H., Howard, V., Liebeskind, D., Lazar,

R.M. Is Hemispheric Hypoperfusion a Treatable Cause of Cognitive Impairment? Current Cardiology Reports, 2019, Jan 19;21(1):41089-9. PMID:30661122

- Gerstenecker, A., Lazar, R.M. Language recovery following stroke. 2019 Jan 30:1-20. doi: PMID: 30698070.

- Pavol, M.A., Sundheim, K.M., Festa, J.R., Lazar, R.M., Marshall, R.S. Cognition and quality of life in symptomatic carotid occlusion. Journal of Stroke and Cerebrovascular Disease, 2019 Jun 3. pii: S1052-3057 PMID: 31171458

- Liu M, Sum M, Cong E, Colon I, Bucovsky M, Williams J, Kepley A, Kuo J, Lee JA, Lazar RM, Marshall R, Silverberg S, Walker MD. Cognition and cerebrovascular function in primary hyperparathyroidism before and after parathyroidectomy. J Endocrinol Invest. 2019 Oct 16. doi: 10.1007/s40618-019-01128-0. [Epub ahead of print]. PMID: 31621051

- Norling, A.M., Gerstenecker, A.T., Buford, T.W., Khan, B., Oparil, S., Lazar, R.M. The Role of IGF-1 Deficiencies in Microvascular Rarefaction and Hypertension. GeroScience, in press, 2019.

- Yaghi, S., Cotsonis, G., de Havenon, A.,Prahbakaran, S., Romano, J.G., Lazar, R.M., Marshall, R.S., Feldmann, E., David Liebeskind, D. Post Stroke Montreal Cognitive Assessment and Recurrent Stroke in Patients with Symptomatic Intracranial Atherosclerosis, in revision.

- Mutsaerts, H.J., Petr, J., Bokkers, R., Lazar, R.M., Marshall, R.S., Asllani, I. Spatial Coefficient of Variation of Arterial Spin Labeling MRI as a Marker of Vascular Sufficiency in Carotid Occlusion, submitted for publication, 2019.

- Lin, C., Lee, J., Lazar, R.M., Arevalo, Y.A., Mansour, M.A.A., Corado, C., Harvey, R.L., Prabhakaran, S. Gait function after ischemic stroke predicts 3-month disability and quality of life, submitted for publication, 2019

3. Publications (other)

Lazar, R.M., Pavol, M., Browndyke, J. (Eds.) Neurovascular Neuropsychology, 2nd Edition, New York: Springer, in press.

4. Presentations at scientific meetings

- Palmer, M.E., Marshall, R.S., Chen, Q., Slane, K.J., Lazar, R.M. Cognitive profile in patients with hemodynamic failure due to severe carotid stenosis. International Stroke Conference, 2019.

- Meschia JF, Lal BK, Howard G, Roubin G, Brown RD Jr, Barrett KM, Chaturvedi S, Chimowitz M, Demaerschalk BM, Howard VJ, Huston III J, Lazar R, Moore W, Moy C, Turan T, Voeks J, Brott TG, for the CREST-2 Investigators. Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis: CREST-2 Update. International Stroke Conference, 2019.

- Chaturvedi, S., Turan, T., Gordon, N.F., Voeks, J.H., Chimowitz, M.I., Howard, V.J., Howard, G., Barrett, K.M., Brown, R.D., Lazar, R., Moore. W.S., Moy, C.S., Roubin, G.S., Demaerschalk, B.M., Forster, M., Wechsler, L., Lal, B.K., Meschia, J.F., Brott, T.J. Baseline physical activity profiles in CREST-2 participants. International Stroke Conference, 2019.

- Meschia JF, Lal BK, Howard G, Roubin G, Brown RD Jr, Barrett KM, Chaturvedi S, Chimowitz M, Demaerschalk BM, Howard VJ, Huston III J, Lazar R, Moore W, Moy C, Turan T, Voeks J, Brott TG, for the CREST-2 Investigators. Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis: CREST-2 Update. 5th European Stroke Organization Conference, 2019.

- Lazar, R.M., Wadley, V.G., Marshall, R.S., Howard, G., Howard V., Voeks, J.H., Yuan, Y., Lal, B.K., Meschia, J., Brott, T.. Baseline cognitive function among participants in the Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial. European Stroke Journal, 4; Issue 1_suppl, pp 109-
- Lazar, R.M., Myers, T., Gropen, T., 1, Leesar, M., Davies, J., Gerstenecker, A., Norling, A., Pavol, M., Marshall, R., Kodali, S. Severe aortic stenosis is not associateith impairment of cerebral blood flow affecting neurocognition. European Stroke Journal, 4; Issue 1_suppl, p 286.

- 30th Vascular Biology and Hypertension Symposium. Vascular Cognitive Impairment, Birmingham, AL (2019).

- 2019 UAB Comprehensive Neuroscience Center Retreat. Cognition and Cognitive Disorders.
  Birmingham, AL

- Ninth Annual Arizona Stroke Conference 2018. Post-Stroke Cognitive Decline: A new area of concern. Tucson, AZ (2019).

- Ninth Annual Arizona Stroke Conference 2018. Ninth Annual Arizona Stroke Conference. Post-Stroke Cognitive Decline: A new area of concern. Tucson, AZ (2019).

- 9th Annual Intracranial Conference on Intracranial Atherosclerosis. Cognition and Asymptomatic Carotid Artery Disease. UCLA, Los Angeles, CA (2019).

- 2019 Symposium on Molecular Imaging. Cardiac reperfusion, neuroinflammation, and human cognition. Birmingham, AL (2019).

5. Presentations at public (non-scientific) meetings or events

6. Awards (other)

7. CV

See Appendix D

8. Trainees

Post doctoral
None

Pre-doctoral
Amani Norling, MA
Alexandra Jacob, BA

Other
Adam Gerstenecker, PhD
Lin Chen, MD
Ekaterina Bakradze, MD
Andrew MacDonald, MD
Donna Murdaugh, PsyD

9. Clinical/translational programs

- New programs

NIH/NINDS ARCADIA CSI (Cognition and Silent Infarcts)
This ancillary study to the ARCADIA trial will determine whether aspirin or apixaban reduces the number of silent brain infarcts in patients with atrial cardiomyopathy, with the effect of mitigating cognitive decline.

3R01NS040807-15S1 (Lazar, Site PI)NIH/NINDS Family Study of Atherosclerosis and Vascular Cognitive Dysfunction.
NIH/NINDS The parent study, Family Study of Dominicans, investigates how the genetic and non-genetic factors affect vascular precursor phenotypes of stroke with its deep phenotyping, extensive behavioral and clinical assessments, and the rich genetic data from previous grant cycles. The supplement studies genetic, epigenetic and vascular risk of cognitive function and cognitive decline in the high-vascular risk Dominican families.

- Update on existing clinical studies

1 U01 NS080168-01A1 (PI: Brott; Cognitive Core PI: Lazar) NIH/NINDS CREST-2 Clinical Coordinating Center.
The goal of this project is to assess if contemporary medical therapy is not inferior to contemporary revascularization (carotid endarterectomy or carotid angioplasty/stenting) plus best medical therapy in patients with ≥ 70% asymptomatic carotid stenosis. The cognitive substudy is to assess whether medical therapy alone is non-inferior to revascularization to maintain the level of cognitive function at 4 years of follow-up. We reported at the 2018 meeting of the American Academic of Neurology the cognitive profile of the first 200 randomized patients, demonstrating cognitive decline in the absence of stroke. Collaboration is among UAB, Columbia, Mayo Clinic and UMaryland.

R01NS097876 (Lazar, Marshall, Liebeskind, Connolly)
NIH/NINDS Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial - Hemodynamics
The purpose of this project is to determine whether there is a subset of patients with carotid stenosis who have MRI-detected cerebral hemodynamic compromise and associated cognitive decline, and whether revascularization will be associated with improved hemodynamics and improved cognition. This new grant was funded just as Dr. Lazar arrived at UAB, and clinical site training has taken place for 150 investigators and coordinators across the US. The first enrollment took place in January 2018, and we now have enrolled 126 patients. (Collaboration is among UAB, Columbia and UCLA).

Neuroinflammation after Myocardial Infarction
UAB Impact Funds. The association between cardiovascular disease and cognitive impairment has been known since the 1970's, leading to the search for the underlying cause for brain dysfunction. We and others have shown that coronary artery bypass grafting (CABG), congestive heart failure and associated heart transplant and mechanical device support, abnormal heart rhythms, valve disease and repair/replacement, and carotid artery blockage and corrective surgery affect cognition, especially among older patients. Recent animal models have shown that a temporary blockage of a coronary artery and removing the blockage causes inflammation in the brain in specific regions, with alterations on memory tasks. It is now possible to measure brain inflammation in patients using novel methods of brain imaging. The purpose of this study is to determine whether patients who recently experienced a heart attack and treated with a stent have aninflammatory response in their brains, which affects their cognitive function, and whether the inflammatory effects last over time. We received FDA approval in November 2019, and we have recruited 5 patients.

Cognitive and Surgical Predictors of Post-Surgical Delirium in the Elderly
UAB McKnight Funds. Elderly patients are uniquely susceptible to post-surgical delirium detected during post-procedural care. Moreover, the cognitive changes appearing during hospitalization often persist for months and sometimes never resolve, and appear unrelated to any underlying dementia. In this unique collaboration among specialists from Neuropsychology; Gerontology, Geriatrics and Palliative Care; Anesthesiology; Orthopedic Surgery; and Nursing, we have just begun designing a protocol to examine the relationships between pre-surgical cognition and other medical and demographic factors, with the long-term goals of establishing a delirium risk model and formulating preventive strategies. To date we have recruited 15 patients, with the goal of 100 over the next year.

10. Technology transfer

a. Patents applications - None
b. Revenue generated from technology – N/A

11. Budget update

A full financial report is included in the Finance Section.

12. Educational programs focusing on age related memory loss

a. Scientific

- Representatives from the UAB Evelyn F. McKnight Brain Institute attended the McKnight Inter-institutional Meeting in Gainesville, Florida on April 10 – 12, 2019.
- The "Scientific Diaglogues" seminar was held on December 5, 2019 with presentations by McKnight investigators Drs. Adam Gerstenecker, Christy Carter, and Roy Martin. The event gave researchers from across the UAB campus an opportunity to see the work currently being done at the UAB Evelyn F. McKnight Brain Institute. (Appendix C)

b. Public - None

13. Collaborative programs with other McKnight Institutes, institutions and research programs

- As a result of a discussion during the Eleventh Annual McKnight Institutional Meeting, Dr. Lazar and Drs. Lee Ryan and Meredith Hay from the Univ of Arizona EMBI submitted an NIH grant application to the National Institutes of Aging, entitled "Safety and Efficacy of Angiotensin -(1-7) on Cognitive Impairment in Heart Failure Patients At-Risk for Alzheimer's Disease." This project is a late Phase 1/Early Phase 2 randomized controlled trial to determine if a novel drug developed in Dr. Hay's laboratory is safe and has an early indication of efficacy in the protection against neuroinflammatory- related changes in cognition among heart-failure patients with reduced ejection fraction. This application, submitted in October 2019, will be reviewed in February 2020.

- UAB received a grant from the National Institute of Neurological Disorders and Stroke as a supplement to the University of Miami's NIH-funded "The Family Study of Stroke Risk and Carotid Atherosclerosis." led by the Evelyn F. McKnight Endowed Chair Tanjana Rundek, MD, PhD. The goal of the parent project is to rigorously study how the genetic and non-genetic factors affect vascular precursor phenotypes of stroke with its deep phenotyping, extensive behavioral and clinical assessments, and the rich genetic data from previous grant cycles. The UAB substudy will investigate genetic, epigenetic and vascular risk of cognitive function and cognitive decline in the high-vascular risk Dominican families.

14. Collaborative program with non-McKnight Institutes, institutions and research programs

- Dr. Lazar and Dr. Maarten Lansberg from the Stanford University School of Medicine submitted a Multi-PI NIH grant application in June 2018 that is an ancillary study to the ARCADIA trial, which is determining whether aspirin or apixaban (a novel anticoagulant) is superior in secondary stroke prevention among patients with atrial cardiopathy. The purpose of this ancillary is to ascertain whether aspirin or apixaban reduces the number of silent brain infarcts in this patient cohort, with the concomitant effect of mitigating cognitive decline. Five-hundred patients will be studied across 100 hospital in the US. This application underwent Study Section review on 11/5/2018 and received an excellent impact score, and was approved by NINDS Council in January 2019. The study began

enrollment November 2019.

- Grants/Contracts (2019 - present)

U24NS107223 (Gropen, Lazar, Harrigan) 09/01/2018 – 08/31/2023
NIH/NINDS StrokeBelt StrokeNet
The goal of the StrokeBelt StrokeNet is to establish a Regional Coordinating Center to facilitate Stroke research in the Southeastern States of Alabama and Mississippi. This infrastructure will provide research opportunities in acute stroke treatment, primary and secondary prevention, and post-stroke rehabilitation for an underserved, high-risk stroke population.

1 U01 NS080168-01A1 (Brott) 1/1/2014 – 12/31/2021
NIH/NINDS CREST-2 Clinical Coordinating Center.
The goal of this project is to assess if contemporary medical therapy is not inferior to contemporary revascularization (carotid endarterectomy or carotid angioplasty/stenting) plus best medical therapy in patients with ≥ 70% asymptomatic carotid stenosis. The cognitive aim is to assess whether medical therapy alone is non-inferior to revascularization to maintain the level of cognitive function at 4 years of follow-up.
Role: Co-I and Cognitive Core Leader.

Co-Investigator (PI: G. Howard) 3/15/14 – 2/28/21
NIN/NINDS CREST-2 Statistical and Data Coordinating Center – (SDCC)
CREST-2 is a pair of randomized trials to assess potential stroke reduction: 1) carotid endarterectomy plus aggressive medical management versus medical management alone, and 2) carotid stenting plus aggressive medical management versus medical management alone. Each trial will have approximately 1,240 patients randomized and followed for up to 4 years for any stroke during a 44-day peri-procedural period plus ipsilateral stroke over a follow-up period extending 4 years. The study is being performed in approximately 150 clinical centers in the US and Canada.
Role: Co-I.

R01NS097876 (Lazar, Marshall, Liebeskind, Connolly) 4/1/2017 – 3/31/2022
NIH/NINDS Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial - Hemodynamics
The purpose of this project is to determine whether there is a subset of patients with carotid stenosis who have MRI-detected cerebral hemodynamic compromise and associated cognitive decline, and whether revascularization will be associated with improved hemodynamics and improved cognition.

AMC21 Multi-PI Pilot Grant, UAB School of Medicine (MPI:C Brown, Corresponding PI; Lazar, Co-PI) Prevention of and Recovery from Hospital-Associated Disability. (1/20/2018
1/19/2020)
Pilot funding in preparation for 2019 submission for an NIA Claude D Pepper Older Americans Independence Center

1R21NS096972-01A1 (Lazar/Kodali) 8/1/2016 – 7/31/2019
NIH/NINDS Cerebral Hemodynamics and Neurocognition in Severe Aortic Valve Disease.
The goal of this project is to determine whether severe aortic stenosis is associated with impaired cerebral hemodynamics and, in turn, impaired cognition, and whether valve replacement is associated with improved cerebral hemodynamics and improved cognition.

R01 AG057709-01 (PI Gutierrez)
NIH/NINDS Genetic Contribution to Brain Arterial Dilatation and its Role in Cognition and
Dementia
The goal of this project is to study the role of gene regulation in the dilatation of intracerebral arteries in response to systemic cardiovascular risk factors.

Role: Co-I (neurocognitive outcomes).

1U01NS110728-01 (Lazar/Lansberg) 04/01/2019 - 03/31/2024
NIH/NINDS ARCADIA CSI (Cognition and Silent Infarcts)
This ancillary study to the ARCADIA trial will determine whether aspirin or apixaban reduces
the number of silent brain infarcts in patients with atrial cardiomyopathy, with the concomitant effect of mitigating cognitive decline.

3R01NS040807-15S1 (Supplement PI Lazar) (8/1/2019 – 7/31/2020)
NIH/NINDS. Family Study of Atherosclerosis and Vascular Cognitive Dysfunction.
The parent study, Family Study of Dominicans investigate how the genetic and non-genetic factors affect vascular precursor phenotypes of stroke with its deep phenotyping, extensive behavioral and clinical assessments, and the rich genetic data from previous grant cycles. The supplement studies genetic, epigenetic and vascular risk of cognitive function and cognitive decline in the high-vascular risk Dominican families.

15. Briefly describe plans for future research and/or clinical initiatives

The future of the Evelyn F. McKnight Brain Institute is bright as new focus has begun with innovative research projects and clinical initiatives. There's a pilot project planned to study a cohort of 35- to 50- year-old patients with refractory hypertension as a model of premature vascular aging and cognitive decline. A new collaboration has been established with the mechanical circulatory team in the Heart Failure Service in the Division of Cardiovascular Medicine to study the long-term cognitive effects of artificial pumps on the brain's vascular system.

LISTING OF INVESTIGATORS

Listing of Investigators

Professors

Ronald M. Lazar, PhD, FAHA, FAAN
Professor, Departments of Neurology and Neurobiology
Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging Director, UAB McKnight Brain Institute
Director, Division of Neuropsychology (Neurology)
Area of Interest: Cognitive Resilience and Recovery in Aging, Cerebral hemodynamics, Neurovascular Disease.

Erik D. Roberson, MD, PhD
Rebecca Gale Endowed Professor
Associate Director, Evelyn F. McKnight Brain Institute
Director, Center for Neurodegeneration and Experimental Therapeutics
Director, Alzheimer's Disease Center
Department of Neurology

Steve Austad, PhD
Professor and Chair, Department of Biology
Area of Interest: Molecular and organismal biology of aging

Karlene Ball, PhD
Professor, Department of Psychology
Area of Interest: Aging-related cognitive function

Etty (Tika) Benveniste, PhD
Senior Associate Dean for Research Administration, SOM Associate Vice President for Medicine and Basic Sciences Charlene A. Jones Endowed Chair in Neuroimmunology
Professor, Department of Cell, Developmental and Integrative Biology Co-Director, UAB Multiple Sclerosis Center
Associate Director, Basic Science Research • Comprehensive Cancer Center

Virginia Wadley Bradley, PhD
Professor Emerita, Division of Gerontology, Geriatrics, and Palliative Care
Area of Interest: Mild Cognitive Impairment, Alzheimer's disease, comorbid cerebrovascular disease

Michael Brenner, PhD
Professor Emeritus, Department of Neurobiology
Area of Interest: Glial cell biology, Alexander Disease

Cynthia J. Brown, MD, MSPH Professor
Director, Division of Gerontology, Geriatrics and Palliative Care Comprehensive Center for Healthy Aging
Area of Interest: quality of life for the aging through research, education and clinical care

Lynn Dobrunz, PhD
Professor, Department of Neurobiology
Area of Interest: Regulation of short-term synaptic plasticity in the hippocampus

Lloyd J. Edwards, PhD Professor and Chair
Department of Biostatistics, School of Public Health
Area of Interest: Conducting statistical research in linear and generalized linear mixed model methodology, longitudinal data analysis, health disparities, cardiovascular disease, neuroscience, and clinical trials design and analysis

Paul Gamlin, PhD
Professor, Department of Ophthalmology
Area of Interest: Cell biology and systems neuroscience of vision and visual disorders

David Geldmacher, MD
Professor, Collat Scholar, Department of Neurology
Area of Interest: Aging-related memory disorders and visual cognition in AD.

Richard E. Kennedy, MD, PhD, FAPM
Professor, Department of Gerontology, Geriatrics & Palliative Care
Area of Interest: Aging

David Knight, PhD
Professor, Department of Psychology
Area of Interest: Human imaging approached to investigating memory

Adrianne Lahti, MD
Patrick H. Linton Professor
Director, Division of Behavioral Neurobiology
Co-director, Alabama Advanced Imaging Consortium
Area of Interest: Neuroimaging

Seth Landefeld, MD
Professor and Chair Department of Medicine
Area of Interest: Geriatrics and Health Care Research

Robin Lester, PhD
Professor, Department of Neurobiology
Area of Interest: Nicotinic receptors in CNS function

Dan Marson, JD, PhD
Professor Emeritus,
Department of Neurology
Area of Interest: Neuropsychology

Lori McMahon, PhD
Professor and Dean, Graduate School Professor Department of Physiology/Biophysics Director UAB Comprehensive Neuroscience Center
Area of Interest: Hormonal control of synaptic plasticity in aging

James H. Meador-Woodruff, MD
Professor and Chair, Department of Psychiatry and Behavioral Neurobiology
Area of Interest: Cellular alterations of neural circuitry and molecular expression in psych

Vlad Parpura, MD, PhD
Professor, Department of Neurobiology
Area of Interest: Imaging approaches to investigating synaptic and glial cell function

Craig Powell, MD, PhD
Professor and Chair, Department of Neurobiology
Area of Interest: Autism

Lucas Pozzo-Miller, PhD
Professor, Department of Neurobiology
Area of Interest: Mechanisms controlling dendritic spine morphology

Sumanth D. Prabhu, MD
Mary G. Waters Chair of Cardiovascular Medicine
Professor of Medicine and Cell, Developmental, and Integrative Biology
Area of Interest: cardiovascular disease

Michael Saag, MD
Director, The William C. Gorgas Center for Geographic Medicine Director, Center for AIDS Research
Areas of Interest: Infectious Diseases, HIV/AIDS, Blood Equality, Hepatitis, Antiretroviral

David Standaert, MD, PhD
John N. Whitaker Professor and Chair of Neurology
Area of Interest: Aging, Neurodegeneration, and Translational Neuroscience

Victor J. Thannickal, MD
Professor and Chair of Medicine in Respiratory Disease, Div of Pulmonary, Critical Care
Area of Interest: Fibrotic lung diseases, acute lung injury

Anne Theibert, PhD
Professor, Department of Neurobiology
Director, UAB Undergraduate Neuroscience B.S. Program
Area of Interest: PI-3-Kinase signal transduction in neuronal cell biology

Erobo Ubogu, PhD
Professor, Department of Neurology
Director of the Neuromuscular Division of Neurology
Area of Interest: Inflammatory neuropathies

Linda Wadiche, PhD
Professor, Department of Neurobiology
Area of Interest: Adult neurogenesis in the dentate gyrus

Associate Professors

Amy Amara, MD, PhD
Associate Professor, Department of Neurology
Area of Interest: Sleep disorders, movement disorders

Mark Bolding, PhD
Associate Professor, Division of Advanced Medical Imaging Research
Area of Interest: Visual cognition, MRI, and neuroimaging

Thomas Buford, PhD, FACSM, FAHA
Associate Professor, Division of Gerontology, Geriatrics & Palliative Care
Area of Interest: Exercise medicine

Christy Carter, PhD
Associate Professor, Division of Gerontology, Geriatrics & Palliative Care
Area of Interest: Exercise medicine

Michael Crowe, PhD
Associate Professor, Department of Psychology
Area of Interest: Gerontology, Cognitive Aging and Dementia

Jeremy Day, PhD
Associate Professor, Department of Neurobiology
Area of Interest: Epigenetic mechanisms in memory formation

Karen Gamble, PhD
Associate Professor, Department of Psychiatry and Behavioral Neurobiology
Area of Interest: Environmental modulation of circadian clock function in mammalian sys

Matt Goldberg, PhD
Associate Professor, Neurology
Area of Interest: Mechanisms of neurodegeneration

Michelle Gray, PhD
Associate Professor, Dixon Scholar, Department of Neurology
Area of Interest: Neurogenetics, glial function, and Huntington's disease

Alecia Gross, PhD
Associate Professor, Department of Vision Sciences
Area of Interest: Signal transduction mechanisms in the CNS

Jeremy Herskowitz, PhD
Patsy W. and Charles A. Collat Endowed Professor of Neuroscience.
Associate Professor, Department of Neurology
Area of Interest: Amyloid beta effects on neurons.

Farah Lubin, PhD
Associate Professor, Department of Neurobiology
Area of Interest: Signal transduction mechanisms in memory and memory disorders

Roy C. Martin, PhD
Associate Professor, Department of Neurology
Area of Interest: Neuropsychology

Kazu Nakazawa, PhD
Associate Professor, Department of Psychiatry and Behavioral Neurobiology
Area of Interest: Epigenetics and cognition

Kristen Triebel, PsyD
Associate Professor, Department of Neurology
Area of Interest: Neuropsychology

Kristina Visscher, PhD
Associate Professor, Department of Neurobiology
Co-director, Civitan International Neuroimaging Laboratory
Area of Interest: Human imaging approaches to investigating memory

Jacques Wadiche, PhD
Associate Professor, Department of Neurobiology
Area of Interest: Synaptic plasticity and function in the cerebellum

Scott Wilson, PhD
Associate Professor, Department of Neurobiology
Area of Interest: The ubiquitin/proteasome system in neuronal function

Assistant Professors

Jane Allendorfer, PhD
Assistant Professor
Area of Interest: Epilepsy

Tanja Dudenbostel, MD
Assistant Professor, Department of Medicine, Cardiovascular Disease
Area of Interest: Cardiovascular disease

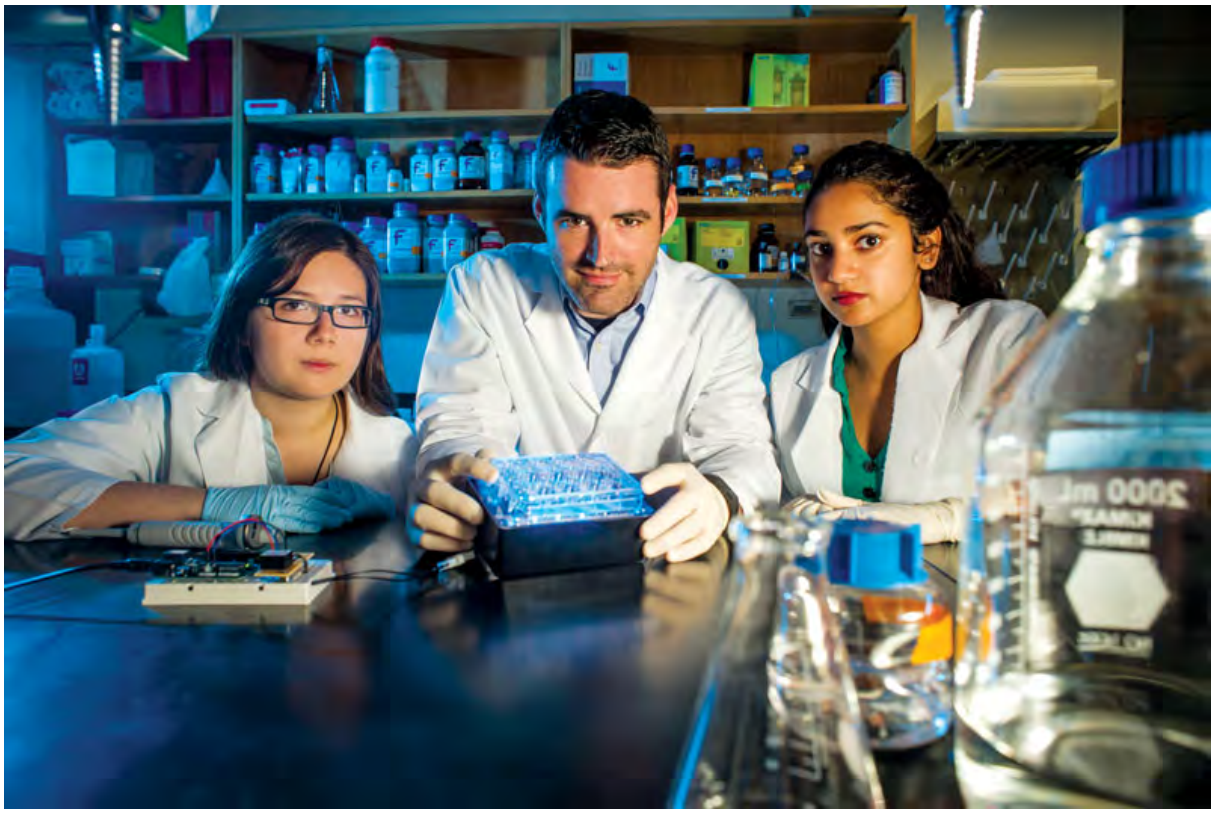
Cristin Gavin, PhD
Assistant Professor, Department of Neurobiology
Co-director, Undergraduate Neuroscience Program
Co-director, Post baccalaureate Research Education Program
Area of Interest: Cellular and molecular mechanisms of structural and functional plasticity

Adam Gerstenecker, PhD
Assistant Professor, Department of Neurology
Area of Interest: Functional activity, decisional capacity, and cognition in persons with cognitive impairment and dementia

Summer Thyme, PhD
Assistant Professor, Department of Neurobiology
Area of Interest: Neuropsychiatric disease

INDIVIDUAL INVESTIGATORS' REPORTS

Individual Investigators' Reports



Jeremy Day (center) and undergraduate students Guan-En Graham (left) and Jasmin Revanna (right) use CRISPR technology to illuminate the power and reach of epigenetic modifications in brain diseases.

1. Summary of Scientific Achievements

Allendorfer, Jane
Published numerous peer-reviewed papers including pilot study results of exercise for memory improvement in epilepsy, and submitted an NIH R01 application to study the efficacy of a 6-week supervised exercise program for treatment of memory deficits, and investigate its putative mechanism of action.

Amar, Amy

- Submission of R01: "Slow wave sleep as a biomarker of rehabilitation-induced cognitive improvement in Parkinson's disease"
- Established collaboration with Svjetlana Miocinovic for spectral analysis for sleep EEG (analysis in process) assessment of effects of slow wave sleep on cognition
- Co-leader of PPMI Gender Working Group
- Site investigator for PPMI 2.0
- Submission of manuscript "Randomized Controlled Trial of Exercise on Objective Sleep Outcomes in Parkinson's Disease" to Movement Disorders
- Receipt of HSF GEF award to establish infrastructure for Sleep and Circadian Research Core (co-director)

Austad, Steven
In 2019, I was awarded the George C. Williams Prize for most significant paper published in Oxford University Press' Evolutionary Medicine and Public Health in the previous year. I shared the prize for that paper (Is antagonistic pleiotropy ubiquitous in aging biology?) with my postdoc, Jessica M. Hoffman. It was presented at the International Society for Evolutionary Medicine and Public Health Conference in Zurich, Switzerland. I was also invited to be on the External Advisory Board of the NIH-supported Longevity Consortium based at the University of California San Francisco, and was invited to participate in a workshop on the Knockout Mouse Phenotyping Project. I also chaired two, and served on three, NIH study sections including the NIH Director's Early Independence Award Review Panel.

Ball, Karlene
Success with translational programs, ongoing grants and successes with technology transfer.

Benveniste, Tika
Continued work on the role of neuroinflammation in Parkinson's Disease (PD), Multiple Sclerosis (MS) and Brain Tumors. Assessing the role of T-cells, monocytes/microglia, B-cells and astrocytes in pre-clinical models of these diseases as well as evaluation of peripheral blood from patients.

Bolding, Mark
Identified a previously undiscovered behavioral response to low doses of x-rays in C. elegans and identified a receptor protein that is necessary for the response. Based on the C. elegans results we have done preliminary experiments in Drosophila that indicate this is a more general unreported physiological phenomena.

Buford, Tom
Three publications under review.

Carter, Christy
- I have been integral in submitting the UAB OAIC application submitted October 1, 2019 as Leader of the proposed PESC and co-Leader of the Research Education Core
- I have participated in submitting the renewal for the UAB Nathan Shock Center as Core Leader of the Research Development Core and co-Leader of the Comparative Organismal Energetics Core
- I have participated in submitted the renewal for the UAB REACT Center as co-Investigator on the Administration Oversight Core and Associate Director of the Pilot Studies Core.
- Both of these RO1 grants were submitted in October
    1. Microbiome and Alzheimer's Disease (MPI)
    2. Aging, the microbiome and resilience (Co-I)

Crowe, Michael
Had a successful year with grant funding in the areas of aging, cognitive trajectories, brain aging

Day, Jeremy
- Publication of CRISPR/dCas9 toolbox manuscript that demonstrates robust and modular regulation of gene expression profiles across brain regions and cell types of rodent model systems. We have used this system to alter levels of Brain-derived neurotrophic factor (BDNF), a key signaling protein linked to learning and memory.
- Comprehensive and cell-specific identification of mRNA transcripts modified by dopamine and drugs of abuse using single cell sequencing, as well as generation of a CRISPR-based gRNA library to modulate this gene program.
- Obtained new R21 funding to examine role of the immediate early gene Egr1 in dopamine-dependent learning
- Identification of mechanistic interactions that regulate enhancer function in the nervous system.

Dobrunz, Lynn
We continue to work on the differences in short-term plasticity at excitatory inputs onto

inhibitory interneurons and pyramidal cells in hippocampus during physiologically relevant stimulus patterns.

Edwards, Lloyd
Joined neuroscience dissertation committee for Sara Sims, Department of Psychology. Dissertation advisor is Kristina Visscher.

Gamlin, Paul
We further investigated the neural substrates for the control of eye movements in non-human primates.We investigated the roles of intrinsically-photosensitive retinal ganglion cells in pupillary and circadian responses.

Gavin, Cristin
The NIH R25 PREP Program identifies, recruits, and prepares up to 8 scholars a year from groups underrepresented in STEM research fields. The year-long program provides intensive research training and a series of academic experiences to prepare them for entry into high quality doctoral graduate programs in the U.S. UAB's success rate is currently higher than the average of PREP programs nationwide (~70%, ~63%, respectively). We have been renewed for another 5-year grant period.

Gerstenecker, Adam
Since last report, I have continued to recruit participants for my K23 Mentored Research Award. I have also continued as Co-Investigator on two other NIH-funded projects (i.e., Udall and BVAL. Finally, I have continued to submit and publish peer-reviewed articles.

Goldberg, Matthew
The Goldberg laboratory uses cultured cells and transgenic rodents to study mitochondrial dysfunction in aging and age-dependent neurodegenerative disease, particularly loss-of-function mutations in the mitochondrial kinase, PINK1, linked to early onset Parkinson's disease. Since the last report, we have identified a role for neuroinflammation in the age-dependent axon terminal degeneration in PINK1 deficient rats, identified age-dependent electrophysiological abnormalities in the striatum of PINK1 deficient rats, and identified mitochondrial dysfunction caused by alpha-synuclein protein inclusions in the brains of mice. We have published our analysis of alpha-synuclein pathology in PINK1 knockout rats and we have submitted for publication our finding that PINK1 knockout rats are more susceptible to alpha-synuclein-induced neurodegeneration. We have also published an important advance in understanding the function of PINK1, which we found to be predominantly active in non-neuronal brain cells (astrocytes) compared to neurons.

Gray, Michelle
Published work focused on astrocytes in mutant huntingtin expressing BACHD mice. Work accepted for publication on cardiac abnormalities in BACHD mice.

Gross, Alecia
We have published 2 papers, were awarded (as co-PI) a Foundation Fighting Blindness grant and submitted an R01 application to the National Eye Institute/NIH.

Herskowitz, Jeremy
This year was particularly productive in the area of publications with 5 papers either already published or in production.

Kennedy, Richard
Since the last report, we are continuing to expand our research on the identification and management of delirium occurring in hospitalized older adults. We are also continuing our research on novel clinical trial designs and biomarkers in Alzheimer's disease.

Knight, David
Greatest accomplishment this year was being promoted to full professor.

Lahti, Adrianne

- Invitated plenary speaker at the 2020 Schizophrenia International Research Society (SIRS) meeting
- Invited talk at SIRS, Society of Biological Psychiatry (SOBP) and World Federation of Biological Psychiatry
- Mentored Nina Kraguljac to successful transition to independent investigator
- Co-organized the Alabama Advanced Imaging Consortium (AAIC) 8th annual retreat
- CNC Associate Director

Landefeld, Seth

Dr. Seth Landefeld leads the Department of Medicine in growing high impact research at UAB. Accomplishments this year include the growth of Department of Medicine NIH funding from $84 million dollars to $87 million dollars and the publication of over ten high impact discoveries in the New England Journal of Medicine, Circulation, and Nature journals.

Lubin, Farah

- This year we held our Fifth annual NEURAL (National Enhancement of Underrepresented Academic Leaders) conference at UAB. We had ~40 non-UAB underrepresented minority (URM) neuroscience graduate students join us from across the country and ~75 UAB students including neuroscience graduate and undergraduate students, PREP students, and SPIN students. This year we included URM junior faculty (2) that were paired with our keynote speakers for the opportunity to be mentored by senior scientists.
- I continue to present my research both at national and international meetings.
- I continue to pursue additional research funding for my research program through submission of grant applications. This year I secured pilot funding from the Nathan Shock Center and a second year of McKnight Foundation grant funding for an exciting study on the effects of exercise on epilepsy. Additionally, I have submitted an NIH/NINDS R21 and R01 grant application based on these pilot funds.

Marson, Daniel

Consulted in the development of an electronic form of the FCI-SF financial cognition assessment measure for an NIA funded R01 project (eVAL Study – UCSF)

Martin, Roy

- McKnight BRF sponsored project entitled “Presurgery Cognitive Status as a Predictor of Post-Operative Delirium in Older Adults Undergoing Elective Surgery” started September 2019 with recruitment beginning October 2019.
- Participation on grant projects:
  1. NSF EPSCoR grant (UAB Site PI: Jerzy Szaflarski) RII Track-2 FEC: Probing and Understanding the Brain: Micro and Macro Dynamics of Seizure and Memory Networks,” awarded to Louisiana Tech University to the National Science Foundation EPSCoR’s Research Infrastructure Improvement Track-2 solicitation.
  2. NIH grant “noninvasive biomarkers to advance emerging DBS electrode technologies in Parkinson’s disease” (PI: Harrison Walker).
  3. NIA R01 AG059009 grant (M Weiner: PI; UAB Site PI: Erik Roberson) “Validation of Online Measures to Predict and Monitor Cognitive Decline”.
     NIA Administrative supplement “Building a Research Agenda on Alzheimer’s Disease Treatment Gaps in Older Adults” (UAB PI: Maria Pisu)
  4. NSF EPSCoR grant (UAB Site PI: Jerzy Szaflarski) RII Track-2 FEC: Probing and Understanding the Brain: Micro and Macro Dynamics of Seizure and Memory Networks,” awarded to Louisiana Tech University to the National Science Foundation EPSCoR’s Research Infrastructure Improvement Track-2 solicitation.
  5. NIH grant “noninvasive biomarkers to advance emerging DBS electrode technologies in Parkinson’s disease” (PI: Harrison Walker).
  6. NIA R01 AG059009 grant (M Weiner: PI; UAB Site PI: Erik Roberson) “Validation of Online Measures to Predict and Monitor Cognitive Decline”.
  7. NIA Administrative supplement “Building a Research Agenda on Alzheimer’s Disease Treatment Gaps in Older Adults” (UAB PI: Maria Pisu)

Meador-Woodruff, James
We continue our studies of molecular abnormalities in brain of elderly patients with schizophrenia as a model of early onset cognitive impairment

Parpura, Vladimir
Astrocytes play roles in health and disease. Since astrocytes release glutamate and can respond to stimulation by glutamate with Ca^{2+} increases, they may contribute to the pathology of Alzheimer's disease. We continue a collaborative effort with the Zorec laboratory to begin studying astrocytic contributions to this disease. We are making efforts related to various tissue organs pathologies/injuries by developing scaffolds and dispersible materials, most notably modified colloidal solutes and films of carbon nanotubes and exfoliate graphene. In a collaborative effort with the Milasin laboratory, graphene dispersion water- soluble single walled carbon nanotubes (ws-SWCNT) both had neuro-stimulatory effects of variable degree on stem cells from apical papilla, as judged by the production of neural marker.

Powell, Craig
The Powell Laboratory has examined a role for the post-synaptic scaffolding molecule, Shank3 in brain function and dysfunction in the brain. In particular, our research has demonstrated evidence that reversal of Shank3 mutations in the brain both early in development and later may reverse a subset of behavioral and electrophysiological outcome measures in mouse model systems.

Pozzo-Miller, Lucas
- Demonstration that homeostatic synaptic plasticity is impaired in Mecp2 knockout neurons due to lower levels of EEA1, an endosomal protein involved in synaptic AMPAR recycling. Increasing EEA1 levels in Mecp2 KO neurons restores homeostatic synaptic plasticity. Published in Journal of Physiology (London), with an accompanying Perspective commentary.
- Demonstration that a BDNF mimetic with partial agonist activity at TrkB receptors improves hippocampal-dependent spatial memory by rebalancing network activity and promoting synaptic plasticity at excitatory hippocampal synapses. Published in Disease Models & Mechanisms, with an accompanying press release.
- Demonstrating that the BDNF val-66-met polymorphism affects neuronal morphology and synaptic transmission in hippocampal neurons from Rett syndrome mice. Published in Frontiers in Neuroscience.
- Demonstration that hippocampal dysfunction in Mecp2 knockout mice spreads to the medial prefrontal cortex via a direct monosynaptic projection, altering network activity and social memory. Mary Phillips PhD dissertation; pre-print posted in bioRxiv.

Prabhu, Sumanth
Had a successful year with publications in various journals.

Roberson, Erik
We published 11 papers in 2019, with another 6 in press, 3 submitted, and 3 more to be submitted before the end of the year. We started new projects with new grants from the ADDF to study TREM2 in Alzheimer's disease, and from the NIH (R56 award) to study circadian changes in hyperexcitability in Alzheimer's disease models. In May, former postdoc Andrew Arrant completed his training and we were fortunate to recruit him to stay at UAB, where he has already competed successfully for his first grant (from the AFTD) and joined the McKnight This spring, I was elected to membership in the American Society for Clinical Investigation (ASCI).

Saag, Michael
Established a Pilot Program via the UAB CFAR (Center for AIDS Research) / McKnight BRF to support studies using novel imaging techniques to distinguish HIV Associated Neurocognitive Disorder (HAND) vs Alzheimer's Disease
Completed a study via the CNICS Network (https://www.uab.edu/cnics/) that adjudicated Stroke events among the 37,000 CNICS study subjects.

Standaert, David

We continue to be focused on the role of neuroinflammation in the pathogenesis of Parkinson disease. This is the basis for our recently awarded Morris K Udall Center of Excellence in Parkinson Disease Research (NIH Award P50NS108675). Under this 5-year award, we are pursuing investigations in a human cohort of early PD, as well as mechanistic studies in two coordinating basic science projects.

We have established an important new area of investigation exploring the relationship of the microbiome with PD. This is a joint project with Dr. Haydey Payami, and is funded by the Department of Defense (Award Nos. W81XWH1810508 & W81XWH1810509). In this study, Dr. Payami is investigating the gene-environment interactions which confer risk for PD (with the microbiome being the environment). My lab is coordinating with this study and will investigate the effects of defined microorganism populations in a rodent model of synucleinopathy. We are in the process of establishing the germ-free mouse colonies that are needed for this project.

Thannickal, Victor

We have continued to make progress in identifying molecular targets that are associated with age-related pulmonary fibrosis. Progress over the last year includes the initiation of a Phase II clinical trial in idiopathic pulmonary fibrosis (IPF), in addition to identification of other therapeutic agents including metformin, sirtuin-3, and related metabolic modulators.

Triebel Kristen

We published 6 papers examining cognitive decline associated with aging and neurodegenerative disorders. We submitted 5 grant proposals (Triebel PI), 8 total including 3 that Dr. Triebel was Co-I. Of these, 2 were funded and are going to begin early 2020. We are awaiting the decision on several other proposals.

Ubogu, Eroboghene

- Publication of the cytoplasmic and membrane proteome of human blood-nerve barrier induced by exogenous GDNF in vitro
- Publication of a project to more comprehensively characterize the normal human adult blood-nerve barrier in situ (guided by published transcriptome)
- Characterization of the molecular components of the human blood-nerve barrier in situ in normal and diseased peripheral nerves from patients with chronic neuropathic pain
- Identification of the importance of integrin-dependent leukocyte trafficking and molecular alterations of the blood-nerve barrier junctional complex in chronic neuropathic pain using murine models
- Development a conditional MHC Class II knockout mouse strain (C57BL/6-H2-Aa$^{tm1c(KOMP)WistUbee}$/ Mmmh) in the SJL background
- Development of a tamoxifen-inducible von Willebrand Factor Cre recombinase mouse strain in SJL background

Visscher, Kristina

- We developed a method for predicting the expected thickness of a given piece of cortex, based on factors including cortical folding and eccentricity of visual representation. This is important because we can identify how much larger or smaller than predicted a given group of participants' data are. This is relevant for aging research (identifying locations of relative atrophy) and plasticity research (identifying locations of increase or decrease relative to expected).
- We developed a method for characterizing how eye movements change with experience.
- We have collected almost all 50 datasets required for the McKnight Brain Aging Registry. Further, we have examined how functional connectivity networks in those healthy oldest old participants differ depending on cognitive performance.
- We developed a method to cleanly identify the regions on cortex associated with any retinal image (such as a retinal lesion, or a preferred retinal locus). This method takes into account the fact that cells have distributed receptive fields. This is important for work that attempts to identify changes in small sub-regions of cortex -- for example in our work with macular degeneration.

Wadiche, Jacques

- Working on a study that shows details the mechanisms regulating multivesicular release, a process that determines the quantity of vesicles released at single synapses. Interestingly, multivesicular release appears to be the common mode of transmission at cortical axon terminals in humans and is widespread in rodent CNS. Furthermore, we have identified synapsin as a key molecular target that confers multivesicular release independent of release probability.
- Continuing to uncover how AMPA receptors are regulated by synaptic or extrasynaptic glutamate concentration profiles. Experiments assaying AMPA receptor together with numerical simulations suggest that the receptor's biophysical signature and ion permeability differs with neurotransmitter concentration. We have setup and began gathering data with a 2P microscope so that we can better map AMPAR function with femtoliter resolution in an ex vivo preparation.

Wadiche, Linda

We are continuing to study the sequence and timing of GABA synaptic innervation of adult generated neurons, using cre/loxp systems to express channelrhodopsin in specific subtypes of hippocampal interneurons. As part of this project, we are testing the role of GABAB-mediated inhibition in the recruitment of dentate neurons. (manuscript in preparation)
While studying the role of constitutive and synaptic activation of GABAB receptors in dentate neuron excitability, we unexpectedly found that there is robust circadian control of GABAergic signaling (manuscript in preparation).

Wilson, Scott

Determined that endosomal signaling of ERBB2/3 receptors is required to induce myelination during development.
Determined that chronic ubiquitin overexpression can impair learning and memory, synaptic plasticity and reduce GRIA receptor expression

2. Publications in Peer Reviewed Journals

Allendorfer, Jane

1. Bolden L, Griffis JC, Nenert R, Allendorfer JB, and Szaflarski JP (2019). Cortical excitability affects mood state in patients with Idiopathic Generalized Epilepsies (IGEs). Epilepsy and Behavior. 90:84-89. PMID: 30517908
2. Allendorfer JB, Nenert R, Bebin EM, Gaston TE, Grayson LE, Hernando KA, Houston JT, Hansen B, and Szaflarski JP (2019). FMRI study of cannabidiol-induced changes in attention control in treatment-resistant epilepsy. Epilepsy and Behavior. 96:114-121. PMID: 31129526
3. Goodman AM, Allendorfer JB, Heyse H, Szaflarski BA, Eliassen JC, Nelson EB, Storrs JM, and Szaflarski JP (2019). Neural Response to Stress and Perceived Stress Differ in Patients with Left Temporal Lobe Epilepsy. Human Brain Mapping. 40(12):3415-3430. PMID: 31033120
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2. Dieni CV, Gonzalez JC, Overstreet-Wadiche L (2019) Multifaceted circuit functions of adult-born neurons. F1000 review. Pending.

3. Publications (Other)

Austad, Steve
Six “popular science” columns for Next Avenue, Public Broadcasting’s informational blog directed at readers over age 50.

Bolding, Mark
Two publications

Day, Jeremy
Savell, K.E.*, Zipperly, M.E.*, Tuscher, J.J.*, Duke, C.G.*, Phillips, R.A.*, Bauman, A.J., Thukral, S., Sultan, F.A., Goska, N.A., Ianov, L., & Day, J.J. (2019). A dopamine-induced gene expression signature regulates neuronal function and cocaine response. BioRxiv. DOI: https://doi.org/10.1101/781872. *These authors contributed equally.

Gavin, Cristin
I am currently editing the 3rd edition of “Mechanisms of Memory” with Elsevier. The textbook is aimed at advanced doctoral students and those wishing to familiarize themselves with the subdiscipline of mechanistic memory processes. Publication will be fall 2020.

Kennedy, Richard
Book: Jesse R. Fann, Richard Kennedy, Charles Bombardier. “Physical Medicine and

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Lubin, Farah
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2. M.C. Rich, J. Sherwood, A.F. Bartley, W. R. Willoughby, L.E. Dobrunz, F.D. Lubin, Y. Bao, M. Bolding. Localized delivery and uncaging of glutamate from MRI-visible albumin nanoclusters in the rat hippocampus using focused ultrasound. 2019 BioRxiv https://doi.org/10.1101/696237

Meador-Woodruff, James
Mueller TM, Mallepalli NR, and Meador-Woodruff JH: Altered protein expression of galactose and N-acetylgalactosamine transferases in schizophrenia superior temporal gyrus. bioRxiv 649996 (2019); doi: https://doi.org/10.1101/649996

Roberson, Erik
Publications as part of consortia
As of 12/12/2019, 119 additional publications as part of the Alzheimer's Disease Genetics Consortium (ADGC), Alzheimer's Disease Neuroimaging Initiative (ADNI), AL-108-231 Investigators group (PSP clinical research), and Advancing Research and Treatment in Frontotemporal Lobar Degeneration and Longitudinal Evaluation of Familial Frontotemporal Dementia Subjects (ARTFL/LEFFTDS) Consortium, available on PubMed at this link.

Book Chapter
E.D. Roberson. Alzheimer's Disease. In Mechanisms of Memory, Third Edition. J.D. Sweatt, E. Klann, eds. (London: Academic Press). In preparation.

Book
Amthor, F., E.D. Roberson, A.M. Theibert, and D.G. Standaert. (2019). Essentials of Modern Neuroscience. (New York: McGraw-Hill Companies, Inc.) In press.

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4. Chanda D, Thannickal VJ. Modeling Fibrosis in 3D Organoids Reveals New Epithelial Restraints on Fibroblasts. Am J Respir Cell Mol Biol 2019; May 15 [Epub ahead of print]. Editorial
5. Rangarajan S, Thannickal VJ. Remember Me? The Bone Marrow in Pulmonary Fibrosis. Am J Respir Crit Care Med 2019; Jun 17 [Epub ahead of print]. Editorial
6. Zhou Y, Thannickal VJ. "Adult Pulmonary Mesenchymal Progenitors" In: Encyclopedia of Tissue Engineering and Regenerative Medicine, Susan M. Majka, ed., Elsevier Ltd, 2019, pp. xx-xx. Book Chapter
7. Dsouza K, Pywell C, Thannickal VJ. "Late Noninfectious Pulmonary Complications in Hematopoietic Stem Cell Transplantation" In: Oncologic Critical Care, Joseph L. Nates and Kristen J. Price, eds., Springer, New York, NY, 2019, pp. xx-xx. Book Chapter

Triebel, Kristen
1. Triebel, K. L., Hollis, S., Novack, T. (in press). In J. Moye (Ed.), Chapter 10. Evaluating Capacities After Traumatic Brain Injury. Assessment of Older Adults with Diminished Capacity: A Casebook for Resolving Pragmatic and Ethical Challenges. Washington DC: American Psychological Association.
2. Gerstenecker, A., Triebel, K. L., & Marson, D. C. (in press). Medico-legal capacities in Mild Cognitive Impairment. In R. W. Parks, R. Zec, M. Bondi, & A. Jefferson (Eds.), Neuropsychology of Alzheimer's Disease and Other Dementias. New York, NY: Oxford University Press.

Ubogu, Eroboghene

Ubogu EE. Structural and Functional Characteristics of the Human Blood-Nerve Barrier with Translational Implications to Peripheral Nerve Autoimmune Disorders. In: Mitoma H., Manto M. (eds.) Neuroimmune Diseases - From Cells to the Living Brain, 2019; Contemporary Clinical Neuroscience, Springer, Cham, pp 235-302 (DOI: 10.1007/978-3-030-19515-1_8).

4. Presentations at Scientific Meetings

Allendorfer, Jane

1. Allendorfer JB, Bebin EM, Gaston T, Grayson LP, Hernando KA, Houston JT, and Szaflarski JP. Cannabidiol

induced changes in attention fMRI activation in treatment-resistant epilepsy. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

2. Gaston TE, Allendorfer JB, Bebin EM, Grayson LP, Houston JT, and Szaflarski JP. Effects of Highly Purified

Cannabidiol (CBD) on fMRI of Working Memory in Epilepsy. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

3. Nenert R, Allendorfer JB, Bebin EM, Gaston TE, Grayson LE, Houston JT, and Szaflarski JP. Cannabidiol

changes resting-state functional connectivity in treatment-resistant epilepsy. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

4. Goodman A, Allendorfer JB, Baird G, Blum A, Bolding M, Correia S, Ver Hoef L, Gaston T, Grayson L, Martin

A, Kraguljac N, Lahti A, Monroe W, Phillip N, Skidmore F, Tocco K, Vogel V, LaFrance WC, and Szaflarski JP. Axonal integrity and neurite morphology in psychogenic non-epileptic seizures following TBI. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

5. Goodman AM, Diggs DM, Balachandran N, Kakulamarri PS, Allendorfer JB, and Szaflarski JP. Neurobehavioral response to acute psychosocial stress is a valid measure for clinical interventions. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

6. Diggs MD, Goodman AM, Allendorfer JB, Byington CG, Nenert R, and Szaflarski JP. Repeatability of Facial

Emotion Processing in Healthy Controls for Time Points 13 Weeks Apart. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

7. Szaflarski JP, Allendorfer JB, Begnaud J, and Keith A. Imaging protocol and data processing stream for VNS

fMRI at 3T for stimulation parameter adjustments. Organization of Human Brain Mapping Annual Meeting, Rome, Italy. June 2019.

Amara, Amy

1. Amara, A.W., K.H. Wood, A. Joop, R. Memon, J. Pilkington, M. Bamman, and C. P. Hurt (2019) Relationship between Cognitive Performance and Mobility in Parkinson's Disease. International Congress of Parkinson's Disease and Movement Disorders, Nice, France.

2. Amara, A.W. "Sleep and Cognition in Neurodegenerative Disease". National Academy of Neuropsychology Webinar

3. Layman, A. J.B. Allendorfer, A. Joop, R. Nenert, R. Memon, J. Pilkington, A.M. Goodman, A. Gerstenecker, K. Triebel, M.M. Bamman, A.W. Amara, J.P. Szaflarski, and K.H. Wood (2019) Exercise, cognition, and neural substrates of attention in Parkinson's disease. Annual Meeting of the Alabama Advanced Imaging Consortium. Delta, AL.

4. Amara, A.W., A. Joop, R. Memon, J. Pilkington, K.H. Wood, and M.M. Bamman (2019) The Effects of High-Intensity Exercise on Sleep in Parkinson's Disease. 71st Annual meeting of the American Academy of Neurology, Philadelphia, PA

5. Parkinson's Progression Markers Initiative Annual Meeting: "Effect of Sex on Disease Progression in Parkinson's Disease" on behalf of the Gender Working Group, New York, New York

6. 5th Annual Virginia Regional Movement Disorders Symposium: Keynote Address: "Sleep Dysfunction in Parkinson's Disease"

Austad, Steve

1. Invited speaker. Distinguished Lecture in Aging, Tulane Center for Aging, Tulane University, New Orleans, LA

2. Invited speaker. Department of Medicine Grand Rounds. New York University School of Medicine. New York City, NY.

3. Invited speaker. University of Washington Healthy Aging and Longevity Research Institute.

University of Washington, Seattle, WA
4. Invited speaker, Research Centers Collaborative Network Workshop on Sex and Gender Differences in Aging. Los Angeles, CA
5. Invited faculty lecturer. National Institute on Aging's Butler-Williams Scholarship Program, Bethesda, MD.
6. Invited speaker. International Perspective on Geroscience Israel Conference. Weizmann Institute of Science, Rehovot, Israel.
7. Invited Keynote speaker. Postdoctoral Researchers Day. University of Connecticut Medical School. Farmington, CT
8. Invited Keynote speaker. 30th Annual Research Symposium: Chronic Disease and Aging: Virginia-Maryland College of Veterinary Medicine, Blacksburg, VA.

Ball, Karlene
1. Prouskas, S. E., Chiaravalloti, N. D., Kant, N., Ball, K. K., de Groot, V., Uitdehaag, B. M. J., Geurts, J. J. G., Kooij, E. A., and Hulst, H.E. (2019, May) Cognitive rehabilitation in patients with advanced progressive multiple sclerosis: possible within limits? Poster presented at the MS Research Days, Groningen, The Netherlands.
2. Felix, C., Du, S., Willis, S.L., Gross, A., Tzuang, M., Gallo, J.J., McCaskill, G., Thorpe, R.J., Clay, O.J., Taylor, B., Ross, L.A., Ball, K., Rotblatt, L., and Rebok, G. (2019, May) Depressive symptoms may hamper long-term maintenance of cognitive training gains and downstream functional benefits in older adults at-risk for dementia: ACTIVE 10-year follow-up study. Post presentation at the American Geriatrics Society 2019 Annual Meeting, Portland, Oregon.
3. Prouskas, S. E., Chiaravalloti, N. D., Kant, N., Ball, K. K., de Groot, V., Uitdehaag, B. M. J., Geurts, J. J. G., Kooij, E. A., and Hulst, H.E. (2019, June) Cognitive rehabilitation in patients with advanced progressive multiple sclerosis: possible within limits? Poster presented at the 8th Annual Meeting of the International MS Cognition Society, Amsterdam, The Netherlands.
4. Thomas, K. R., Cook, S. E., Bondi, M.W., Ball, K., Clay, O. J., Felix, C., Gross, A. L., McCaskill, G. M., Rebok, G. W., Ross, L., Unverzagt, F. W., Willis, S. L., & Marsiske, M. (2019, August) Cognitive Training Increases MCI-to-Normal Reversion Rate in the ACTIVE Study. Accepted for poster presentation at the 2019 American Psychological Association Convention, Chicago, IL.
5. Prouskas S.E., Chiaravalloti N.D., Kant N., Ball K.K., de Groot V., Uitdehaag B.M.J., Geurts J.J.G., Kooij E.A., Hulst, H.E. Cognitive rehabilitation in patients with advanced progressive multiple sclerosis: possible within limits? (2019, September) Oral presentation at: 35th Congress of the European Committee for Treatment and Research in Multiple Sclerosis and 24th Annual Conference of Rehabilitation in MS; Stockholm, Sweden.
6. Prouskas, S. E., Chiaravalloti, N. D., Kant, N., Ball, K. K., de Groot, V., Uitdehaag, B. M. J., Geurts, J. J. G., Kooij, E. A., and Hulst, H. E. (2019, October) Cognitive rehabilitation in patients with advanced progressive multiple sclerosis: possible within limits? Accepted for poster presentation at the 4th Annual Meeting of Amsterdam Neuroscience; Amsterdam, The Netherlands.

Bolding, Mark
Two scientific meeting presentations.

Brown, Cynthia
1. Invited Speaker, Implementation of Mobility Programs for Older Patients: Hospital Inpatient Admissions, January 31 – February 1, 2019, Workshop on Embedding/Sustaining a Focus on Function in Specialty Research and Care, National Institute on Aging U13 (AG04093BC) and the John A. Hartford Foundation, Washington, DC.
2. Keynote Speaker, Creating a Culture of Hospital Mobility, February 2019, 24th Annual Lefeber Winter Lecture Series on Aging, University of Texas Medical Branch (UTMB) Sealy Center on Aging, Galveston, Texas.
3. Keynote Speaker, Early Mobilization and Falls, February 2019, Minnesota Hospital Association (MHA) Falls and Pressure Injury Learning Day, Minneapolis, Minnesota.
4. Invited Speaker, Hospital Associated Disability, April 2019, Eleventh McKnight Inter-Institutional Meeting, Gainesville, Florida.
5. Keynote Speaker, Let's Get Moving: Improving Hospital Mobility through HELP, May 2019, Hospital Elder Life (HELP) preconference, American Geriatrics Society Meeting, Portland, Oregon.
6. Buys DR, Kennedy RE, Zhang Y, Locher J, Brown CJ. Nutritional Risk Predicts Health Services Utilization and Death over 1 Year: Results from the UAB Study of Aging II. Paper presentation, Gerontological Society of America, Austin, Texas, November 2019.
7. Buys DR, Evans MW, Kennedy RE, Locher J, Buys K, Brown CJ. Nutritional Risk is Associated

with Low Back Pain Among Older Adults: Results from the UAB Study of Aging. Poster presentation, Gerontological Society of America, Austin, Texas, November 2019.

Buford, Tom
1. Sun Y, Li Q, Verma A, Carter CS, Buford TW. “Angiotensin (1-7) expressing lactobacillus dose-dependently benefits the gut-brain axis in aged rats” Integrated Aging Symposium, UAB, Oct. 9-10 2019.
2. Chaired Symposium - Novel Targets for Treating Physical and Cognitive Symptoms of Frailty. International Conference on Frailty and Sarcopenia, Miami Beach, FL, Feb. 20-22, 2019.
3. The Gut Microbiome as a Target for Physical and Cognitive Frailty. International Conference on Frailty and Sarcopenia, Miami Beach, FL, Feb. 20-22, 2019.

Carter, Christy
1. Carter CS. McKnight Center Annual Meeting, Gainesville FL. April 16, 2019. Targeting the Gut Microbiome to Prevent Symptoms of Cognitive Frailty
2. Chair of a symposium at the Annual GSA meeting: The Microbiome and Aging.

Crowe, Michael
1. *Barba, C., Dávila-Roman, A.L., Andel, R., & Crowe, M. (February, 2019). Childhood infectious disease and adult health in a population based sample in Puerto Rico. Presented at the International Neuropsychological Society (INS) Conference, 47th Annual Meeting, New York, NY.
2. *Barba, C., Dávila-Roman, A.L., Andel, R., & Crowe, M. (February, 2019). Childhood infectious disease and adult health in a population based sample in Puerto Rico. Presented at the International Neuropsychological Society (INS) Conference, 47th Annual Meeting, New York, NY.
*Barba, C., Dávila-Roman, A.L., Andel, R., Markides, K.S., & Crowe, M. (November, 2018). The association between physical mobility and incident cognitive impairment in older Puerto Rican adults. Presented at the 71st annual meeting of the Gerontological Society of America, Boston, MA.

Day, Jeremy
1. Cold Spring Harbor Laboratory, Neuroscience
2. Mt. Sinai School of Medicine, Department of Neuroscience
3. University of California-Merced, Department of Neuroscience
4. Thomas Jefferson University, Department of Neuroscience
5. Speaker and Panel Chair, Winter Conference on Brain Research
6. Auburn University, Neuroscience Center
7. Invited Symposium Speaker, American Society for Gene and Cell Therapy Conference

Gamble, Karen
1. Gamble, K.L. (2019). “Circadian regulation of neurophysiology: Implications for neurodegenerative disease.” 9th Annual Circadian Biology Symposium Center, UC San Diego's Center for Circadian Biology (CCB), Sand Diego, CA.
2. Gamble, K.L. (2019). “Using Chrono-Therapy to Improve Brain Health.” Invited Keynote Speaker. Brain and Behavioral Annual Symposium, Georgia State University, Atlanta, GA.

Geldmacher, David
Updates in the care of the person with dementia. Presented at the “Alabama Conference of Social Work” Perdido Beach, AL, February 2019

Gerstenecker, Adam
Gerstenecker, A., Norling, A. M., Skidmore, F., VerHoef, L., Bashir, K., Lazar, R. M. (March, 2019). HAMMS: Hippocampal Atrophy, inflammation, and cognition in Multiple Sclerosis. Poster presented at the NIH National REACT Medical Rehabilitation Poster Session. Birmingham, AL.

Goldberg, Matthew
1. Creed, RB, Memon AA, Komaragiri SP, and Goldberg MS, Characterization of the in vivo effects of alpha-synuclein preformed fibrils on mouse brain mitochondria, Society for Neuroscience Annual meeting.
2. Memon AA, Creed, RB, Amara AW, Goldberg MS, Bamman M, and McMahon LL, Analysis of hippocampal synapses in the PINK1-deficient rats, Society for Neuroscience Annual meeting.
3. Creed, RB, Farmer CB, Roberts RC, McMahon LL, and Goldberg MS, Increased glutamatergic transmission at the corticostriatal synapse of PINK1 KO rats, Society for Neuroscience Annual meeting.

Gray, Michelle
Preclinical Models of Huntington Disease. International Parkinson and Movement Disorder 2019 Course. Chicago, IL.

Gross, Alicia
1. Paper presentation: “NudC regulates cytoskeleton network in photoreceptors,” Summer FASEB research conference, Steamboat Springs, CO. June 2019.
2. Poster presentation: “NudCis critical for outer segment disk size and hotoreceptor cell viability”, Annual Meeting for the Association for Research in Vision and Ophthalmology, Vancouver, CA. May 2019.
3. Paper presentation: “Congenital knock-out of transition zone protein BBS5 reveals cone-rod dystrophy with light-dependent protein mislocalization”, Annual Meeting for the Association for Research in Vision and Ophthalmology, Vancouver, CA. May 2019.
4. Invited seminar: “Protein trafficking and retinal degeneration.” National Eye Institute, National Institutes of Health, Bethesda, MD. July, 2019.

Herskowitz, Jeremy
1. Henderson BW, Greathouse KM, Bach SV, Walker CK, Day JJ, Seyfried NT, Herskowitz JH. Pharmacologic inhibition of LIM kinase provides dendritic spine resilience against amyloid-β. Alzheimer’s Association International Conference. Los Angeles, CA, 2019.
2. Walker CK, Boros BD, Greathouse KM, Poovey EH, Clearman KR, Mittal V, Herskowitz JH. Synaptic infiltration of phosphorylated tau links the PS19 tauopathy mouse model to patients with Alzheimer’s disease. Keystone Symposia Neurodegenerative Diseases: New Insights and Therapeutic Opportunities. Keystone, CO, 2019.
3. Herskowitz JH, Henderson BW, Greathouse KM, Ramdas R, Rao TC, Bach SV, Walker CK, Curtis KA, Day JJ, Mattheyses AL. LIM kinase inhibition provides dendritic spine resilience against amyloid-β. Society for Neuroscience. Chicago, IL, 2019.
4. Walker CK, Boros BD, Greathouse KM, Dammer EB, Curtis KA, Muhammad H, Ramdas R, Chaudhary I, Duong DM, Seyfried NT, Herskowitz JH. Synergistic analysis of dendritic spine morphology and the synaptic proteome in human entorhinal cortex uncovers mechanisms of synapse loss in Alzheimer’s disease. Society for Neuroscience. Chicago, IL, 2019.
5. Bach SV, Hosein D, Williams D, Ianov L, Carullo NV, Duke CG, Tuscher JJ, Henderson BW, Herskowitz JH, Day JJ. Distinct roles of Bdnf I and Bdnf IV transcript variant expression in hippocampal neurons. Society for Neuroscience. Chicago, IL, 2019.
6. Voskobiynyk Y, Roth J, Cochran N, Rush T, Greathouse KM, Carullo N, McMahon L, Herskowitz JH, Day JJ, Roberson ED. The Alzheimer’s disease risk gene BIN1 regulates neuronal hyperexcitability. Society for Neuroscience. Chicago, IL, 2019.

Kennedy, Richard
1. 1 oral and 1 poster presentation at the 2019 annual meeting of the Alzheimer’s Association International Conference,
2. 1 oral presentation at the 2019 annual meeting of the Clinical Trials in Alzheimer’s Disease,
3. 1 oral presentation and 2 poster presentations at the 2019 annual meeting of the Gerontological Society of America

Knight, David
1. Dark, H. E., Harnett, N. G., Knight, A. J., Knight, D. C. (2019). Hippocampal and amygdala volume vary with post-traumatic stress symptoms. International Neuropsychological Society annual meeting, NYC
2. Orihuela, C., Mrug, S., Davies, S., Elliott, M., Knight, D., Emery, S., Reisner, S., Schuster, M. (2019). Relationships between parental monitoring, parental nurturance and risky sexual behaviors and outcomes. SRCD Biennial Meeting, Baltimore, MD.
3. Zegarra, C.A., Dark, H.E., Harnett, N.G., Knight, A.J., Knight, D.C. (2019). Posttraumatic Stress and Grey Matter Volume of the Brain. Poster presented at the University of Alabama at Birmingham Ost Undergraduate Research Competition, Birmingham, AL.
4. Curiel, T. G., Dark, H. E., Purcell, J., Mrug, S., Knight, D. C. (2019). Grey Matter Volume of the Hippocampus and Thalamus vary with Proximity to Birmingham’s Superfund Site. Poster presented at the University of Alabama at Birmingham Ost Undergraduate Research Competition,

Birmingham, AL.
5.Freeman, H.B., Purcell, J.B., Mrug, S., Knight, D.C. (2019). Neural reactivity to stress varies with physical and sexual abuse. Poster presented at the University of Alabama at Birmingham Ost Undergraduate Research Competition, Birmingham, AL.
6.Zegarra, C.A., Dark, H.E., Harnett, N.G., Knight, A.J., Knight, D.C. (2019). Posttraumatic Stress and Grey Matter Volume of the Brain. Poster presented at the UAB Undergraduate Research Spring Expo. Birmingham, Alabama.
Curiel, T. G., Dark, H. E., Purcell, J., Mrug, S., Knight, D. C. (2019). Grey Matter Volume of the Hippocampus and Thalamus vary with Proximity to Birmingham's Superfund Site. Poster presented at the UAB Undergraduate Research Spring Expo. Birmingham, Alabama.
7.Freeman, H.B., Purcell, J.B., Mrug, S., Knight, D.C. (2019). Neural reactivity to stress varies with physical and sexual abuse. Poster presented at the UAB Undergraduate Research Spring Expo. Birmingham, Alabama.
Lipari, N. R., Dark, H. E., Harnett, N. G., Knight, A. J. & Knight, D. C. (2019). Relationships between White Matter Microstructure, Neurochemistry, and Conditioned Fear Responses in Posttraumatic Stress. Poster presentation at the University of Alabama Summer Expo, Birmingham, AL.
8.Freeman, H.B., Purcell, J.B., Mrug, S., Knight, D.C. (2019). Neural reactivity to stress varies with physical and sexual abuse. Poster session presented at the Society for Neuroscience Annual Conference, Chicago, IL.
Dark HE, Harnett NG, Knight AJ, Knight DC. (2019). Cortical and subcortical brain volume vary with acute posttraumatic stress symptoms after a medical trauma. Poster session presented at the Society for Neuroscience Annual Conference, Chicago, IL.
9.Davis, E. S. Goodman, A. M., Elliott, M. N., Schuster, M. A., Tortolero, S. R., Mrug, S., & Knight, D. C. (2019). Violence exposure contributes to sex differences in the neural response to stress. Presented at the Society for Neuroscience Annual Conference, Chicago, IL.
10. Lipari, N. R., Dark, H. E., Harnett, N. G., Knight, A. J. & Knight, D. C. (2019). Relationships between White Matter Microstructure, Neurochemistry, and Conditioned Fear Responses in Posttraumatic Stress. Poster presentation at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Anaheim, CA.

Lahti, Adrienne
1. Unraveling the heterogeneity of schizophrenia using multimodal brain imaging. Neurobiology of Mental Health. Mini-symposium Neuropsychiatric Research at NIMH and UAB. Birmingham, Alabama, March 2019
2. Relationship between cortical excitation and inhibition and task-induced BOLD response: A combined MR Spectroscopy and functional MRI study at 7T in first episode psychosis. SIRS meeting, Orlando, Florida, April 2019
Hippocampal Glutamate and Functional Connectivity as Biomarkers of Treatment Response to Antipsychotic Medication. Society of Biological Psychiatry annual meeting, Chicago, Illinois, May 2019
3. Oligodendrocyte-based impairment of brain connectivity as target for new treatment strategies in schizophrenia. World Federation of Biological Psychiatry, Vancouver, Canada, June 2019
4. A multimodal magnetoencephalography (MEG), 7T fMRI, and 7T MR spectroscopy (MRS) study in first episode psychosis. World Federation of Biological Psychiatry, Vancouver, Canada, June 2019
5. Hippocampus in schizophrenia. 8th Annual Alabama Advanced Imaging Consortium Retreat, Cheaha National Park, August 2019.

Lubin, Farah
1. 2019 F.D. Lubin. Panelist "Diversifying Neuroscience". BRAINS Conference. Islandwood, Bainbridge Island, Washington. Invited by Drs. Sheri Mizumori and Joyce Yen.
F.D. Lubin. Epigenetics and Gene Editing. Speaker. Winter Brain annual conference. Snowmass Colorado.
2. F.D. Lubin. The Epigenetic basis of memory and epilepsy-related memory dysfunction. the Developmental Neurosciences Grand Rounds at the Alberta Children's Hospital in Calgary, University of Calgary, Alberta Canada. Invited by Dr. Jong M. Rho.
3. 2019 F.D. Lubin. Epigenetics of memory and memory disorders with epilepsy. University of Colorado School of Medicine, Denver, CO. Invited by Dr. Manisha Patel.
4. F.D. Lubin. Chromatin remodeling mechanisms of gene transcription during memory formation. NIMH symposium, Birmingham, AL. Invited by Dr. Lucas Pozzo-Miller.
5. F.D. Lubin. "Now where did I leave my keys?" Epigenetic Basis of Memory Formation. Sigma Xi.

The Scientific Research Society, Birmingham, AL. Invited by Dr. Riddle.
6. STEM: Neuroscience. GirlSprings, Inc. STEM fair, Children's Hospital Bradley Lecture Center, Birmingham AL. Invited by GirlSpring Executive director Kristen Greenwood.

Marson, Daniel
1. Measuring financial cognition in aging: The Financial Capacity Instrument—Short Form. 11th McKnight Inter-Institutional Meeting, McKnight Brain Research Foundation, University of Florida, Gainesville, FL.
2. Declining financial capacity in cognitive aging and dementia. Presentation at the 2nd Annual Elder Financial Exploitation Intensive conference, University of Texas Consortium on Aging, University of Texas Health Sciences Center at Houston, Houston, TX.
3. The forensic psychologist in the probate court. Keynote full day seminar, 2019 Fall Forensic Conference, Wisconsin Psychological Association, Milwaukee, WI.
4. Marson, D. (November 14, 2019). Serving as a neuropsychological expert witness: some things to know. Workshop presentation at the 39th Annual Conference of the National Academy of Neuropsychology, San Diego, CA.

Martin, Roy
1. Diblasio CA, Mackenzie E, Fowler E, Flood K, Martin RC, Kennedy RE. How generalizable are clinical trials of delirium interventions? Annual Meeting of the Geriatrics Society of America (2019) Austin, TX.
2. Freeman H, Killen J, Martin RC, Mohamed IS. Validation of a new computational approach for presurgical language lateralization in patients with refractory epilepsy. Annual Meeting of the NSF EPSCoR sponsored Neuronal Networks in Epilepsy and Memory, Ruston, LA July 19-21 2019.
3. Howell T, Nosheny R, Mackin S, Truran D, Roberson E, Kennedy R, Martin R, et al. Challenges in the development of electronic instruments to predict and monitor cognitive decline. Annual Meeting of Clinical Trials on Alzheimer's Disease (2019) San Diego, CA.
4. McKnight Scientific Dialogues, December 2019

Powell, Craig
1. MIT Simons Center for the Social Brain, Cambridge, MA, 2019
2. UAB Department of Surgery, Birmingham, AL, 2019

Prabhu, Sumanth
1. Invited Speaker: "Macrophage Circadian Clock Disruption in Heart Failure", Diabetes and Obesity Center
University of Louisville, Louisville, KY
2. "Heart Failure and an Immune-Mediated Disease", Cardiology Grand Rounds, University of Alabama at
Birmingham, Birmingham, AL
3. Moderator: "Louis N. and Arnold M. Katz Basic Science Research Prize for Early Career Investigators Competition"
AHA Annual Scientific Sessions 2019, Philadelphia, PA
4. "Macrophages as Therapeutic Targets in Heart Failure", Comprehensive Cardiovascular Center Seminar Series
University of Alabama at Birmingham, Birmingham, AL
5. Invited Speaker: "Macrophage Circadian Clock Disruption in Heart Failure", AHA Annual Basic Cardiovascular Sciences (BCVS) Meeting, Session: Cardiac Inflammasome in Heart Failure, Boston, MA
6. Invited Speaker: "Immune Cell Activation in Heart Failure", Vascular Biology Seminar, Department of Clinical Pharmacology, Vanderbilt University School of Medicine, Nashville, TN
7. Invited Speaker: "Macrophages as Therapeutic Targets in Pressure-Overload Heart Failure", Association of University Cardiologists, 58th Annual Meeting, Miami, FL

Roberson, Erik
1. University of North Carolina Neurology Grand Rounds
2. University of North Carolina Neuroscience Seminar
3. Biogen Frontotemporal Dementia Workshop
4. Tau Consortium Investigators' Meeting 19 Plenary

5. University of North Texas Pharmacology & Neuroscience Seminar
6. American Epilepsy Society Investigators' Workshop, Baltimore, MD
7. UAB Health System Administrators Forum
8. UAB Geriatrics, Gerontology, and Palliative Care Grand Rounds
9. UAB Integrative Center for Aging Research Symposium
10. Jefferson County Medical Society Retired Physicians' Breakfast
11. UAB Molecular Imaging Symposium
12. UAB Health System Administrators Forum
13. UAB Geriatrics, Gerontology, and Palliative Care Grand Rounds
14. UAB Integrative Center for Aging Research Symposium
15. Jefferson County Medical Society Retired Physicians' Breakfast
16. UAB Molecular Imaging Symposium

Saag, Michael
"Aging Among HIV Patients: Consequences of Victory" at the McKnight Annual Research meeting, Gainesville, FL (April 12, 2019)

Standaert, David
1. Grand Rounds, Yale University, "Innate and Adaptive Immunity in Parkinson disease," January, 2019
2. Krembil Knowledge Gaps in Parkinson's Symposium, speaker, "Neuroinflammation and the Microbiome," Toronto, Canada, April, 2019
3. 3rd Movement Disorders Journal Conference, Closing lecture, "Therapeutic Possibilities" Hoboken, New Jersey, May, 2019
4. 5th World Parkinson Congress, Conference 2019, Host for "Round Table #10: Is Inflammation Important in PD?" Kyoto, Japan, June, 2019
5. 2019 International Congress of Parkinson's Disease and Movement Disorders, Panel Presentation, "How to Advance as a Young Researcher", Nice France, Sept. 2019
6. Speaker presentation at the Michigan State University, title: "Innate and Adaptive Immunity in Parkinson's Disease", Grand Rapids, MI, Oct. 2019

7. APDA Webinar, "Spotlight on Clinical Trials: Opening the door to new treatments." Oct 31, 2019
8. NINDS UDALL Center Meeting, Bethesda, MD, Oct. 2019
9. MDS Neuroscience of Movement Disorders Course, Co-Director, Chicago, IL, Oct. 2019
10. Speaker Presentation at the American Neurological Association Annual Meeting, title: "is K to R? National Reputation? What do you really need to do as a researcher?" St. Louis, MO, Oct. 2019
11. NINDS Board of Scientific Counselors Meeting, Bethesda, MD, Oct. 2019

Thannickal, Victor
1. Invited Speaker, "Metabolic Control of Cellular Plasticity in Lung Fibrosis" in Aging and Lung Fibrosis Session; Epithelial Mesenchymal Interactions in Lung Development and Fibrosis, Fusion Conferences, Nassau, Bahamas. February 2019
2. Invited Speaker, "From Redox Biochemistry to a Phase II Clinical Trial in IPF" in Scientific Symposium on "Using the Basic Biology of IPF to Design New Therapies", American Thoracic Society International Conference, Dallas, TX, May 2019
3. Invited Speaker and Discussant, "Targeting ROS-Generating NADPH Oxidases in Aging and Fibrosis"; 17th Annual Discovery on Target conference on "Targeting Fibrosis: Developing Medical Therapeutics for Fibrotic Diseases", Cambridge Healthtech Institute, Boston, MA, September 2019

Triebel, Kristen
1. Triebel, K. (August 16, 2019) Using Cognition to Predict Risk of Medical Decision-Making Impairment in Brain Cancer. Poster presented at the 2019 Society for Neuro-Oncology Conference on Brain Metastases. New York, NY.
2. Triebel, K. (August 16, 2019) The ability to make informed treatment decisions is compromised in adults with advanced stage cancer. Poster presented at the 2019 Society for Neuro-Oncology Conference on Brain Metastases. New York, NY.
3. Triebel, K. (November 22, 2019). Assessing medical decision making capacity in advanced cancer. Invited E-talk at the Society of Neuro-oncology Annual Conference. Phoenix, AZ.

Ubogu
Kazamel M, Lopez M and Ubogu EE. Autosomal dominant demyelinating Charcot Marie Tooth

disease due to paternally inherited Fibulin-5 mutation: First family in the western hemisphere. (To be presented at ANA2019, the 144th Annual Meeting of the American Neurological Association, October 2019 in St. Louis, MO).
Rinver, MH (for the LRP4-Agrin Myasthenia Gravis Study Group). Multicenter study of LRP4 and Agrin antibodies in myasthenia gravis. (To be presented as Data Blitz, Myasthenia Gravis Foundation of America Annual Scientific Session on Myasthenia Gravis, October 2019 in Austin, TX).

Visscher, Kristina
1. Visscher, KM, Sims, SA, Stewart, P, Bharadwaj, PK, Franchetti, MK, Rezai, RF, Merritt, S, Jessup, CJ, Porges, ES, Geldmacher, D, Hishaw, GA, Alperin, N, Trouard, TP, Raichlen, DA, Wadley, VG, Levin, BE, Woods, AJ, Rundek, T, Cohen, RA, Alexander, GE (2019) Functional connectivity in the healthy oldest old: Findings from the McKnight Brain Aging Registry. Society for Neuroscience Abstracts.
2. Raichlen, DA, Bharadwaj, PK, Franchetti, MK, Sims, SA, Rezaei, RF, Merritt, S, Jessup, CJ, Porges, EC, Geldmacher, D, Hishaw, GA, Alperin, N, Trouard, TP, Wadley, VG, Levin, BE, Woods, AJ, Rundek, T, Visscher, KM, Cohen, RA, Alexander, GE (2019), Relation of daily activity patterns to cortical gray matter maps in the healthy oldest old: Findings from the McKnight Brain Aging Registry. Society for Neuroscience Abstracts.
3. Porges, EG, Jensen, G, Bharadwaj, PK, Franchetti, M, Sims, SA, Rezaei, R, Forbes, M, Merritt, S, Jessup, C, Raichlen, DA, Geldmacher, D, Hishaw, G, Alperin, N, Trouard, T, Wadley, V, Levin, B, Woods, A, Rundek, T, Visscher, KM, Cohen, R, Alexander, GE, Foster, B, Puts, N (2019) Age related decreases in cortical GABA concentrations assessed over the lifespan abate in cognitively intact adults over 85 years of age. Society for Neuroscience Abstracts.
4. Demirayak, PB, Sims, SA, Pandey, U, Visscher, KM (2019) Primary visual cortex representing central, near peripheral, and far peripheral vision are differentially functionally connected, and these differences follow patterns of known brain networks. Society for Neuroscience Abstracts.
5. Sims, SA, Pandey, U, Cedotal, S, Robinson, JL, Visscher, KM (2019) Retinotopic patterns of structural connectivity between V1 and functional networks. Society for Neuroscience Abstracts.
6. Defenderfer, MK, Visscher, KM (2019) Predicting cortical thickness of primary visual cortex based on curvature and retinotopic eccentricity. Society for Neuroscience Abstracts.
7. Visscher, KM, Defenderfer, MK, Fleming LL, Biles, MK (2019) Examining plasticity of sensory cortex in older adults using macular degeneration as a model. Dallas Aging and Cognition Conference Abstracts
8. Demirayak, P, Defenderfer, M.K., Biles, M.K., DeCarlo, D.K. Visscher, K.M. (2019) Neural responses in primary visual cortex following deafferentation of retinal input. Organization for Human Brain Mapping annual meeting Abstracts.
9. Fleming LL, Burge, WK, DeCarlo, DK, Visscher, KM (2019) Peripherally representing portions of V1 are more efficient with long term use of peripheral vision. Organization for Human Brain Mapping annual meeting Abstracts.
10. Biles, MK, Fleming LL, Defenderfer, MK, Burge, WK, Visscher, KM (2019) On the plasticity of functional connections between sensory cortex and attention networks. Organization for Human Brain Mapping annual meeting Abstracts.

Wadiche, Linda
1. Neuro Day, GBS Neuroscience theme recruitment, UAB
2. 2nd International Fusion Neurogenesis Conference, Nassau
3. Cold Spring Harbor summer course on Ion Channels in Synaptic Physiology, NY
4. Gordon Research Conference Inhibition in the CNS, Maine

5. Presentations at public (non-scientific) meetings or events

Allendorfer, Jane
1. Allendorfer JB. Aerobic and strength training in epilepsy: A workout to remember. UAB Sigma Xi Chapter Meeting, Birmingham, AL. February 21, 2019.
2. Allendorfer JB. Cannabidiol is associated with changes in brain activity in treatment-resistant epilepsy. Birmingham SCI Cafe (joint project by McWane Science Center and the Civitan International Research Center), John's City Diner, Birmingham, AL. August 20, 2019.

Amara, Amy

1. Lunch & Learn: Women in Exercise Science and Medicine: “Exercise and Sleep in Parkinson’s disease”, Birmingham, AL
2. Tanner Foundation for Neurological Diseases Symposium: “Non-motor symptoms in Parkinson’s Disease., Birmingham, AL
3. Grand Rounds, University of Virginia: “Training the Brain: Non-Pharmacologic Interventions for Sleep and Cognition in Parkinson’s Disease”
4. UAB Family Medicine Grand Rounds: “Sleep Apnea: Impact, Diagnosis, and Treatment, Birmingham, AL
5. Rehabilitation Science Seminar Series: “Training the Brain: The Impact of Exercise on Sleep and Cognition in Parkinson’s Disease”, Birmingham, AL

Austad, Steve
Continued biweekly radio interviews (What’s New in Science?) for O Brother Radio show. Birmingham Mountain Radio (107.3 FM)

Ball, Karlene
1. Ball, K. (2019, March) Examining the FMCSA Vision Standard and Vision Waiver Program for Commercial Motor Vehicle Drivers. Presented to the Federal Motor Commercial Safety Administration, Bethesda, Maryland.
2. Ball, K. (2019, June) Examining the FMCSA Vision Standard and Vision Waiver Program for Commercial Motor Vehicle Drivers. Presented to the Federal Motor Commercial Safety Administration, Bethesda, Maryland.

Edwards, Lloyd
Eddy Kwessi, Lloyd Edwards, Kristina Vischer, Sheila Keilholz (June 2019). Complex, Chaotic Attractors and Applications. Visual Brain Core Seminar, Department of mathematics, Trinity University, San Antonio, Texas

Gavin, Cristin
2019 Summer Science Institute (CORD) – student recruiting; presented twice to high school students about student and faculty research in the Undergraduate Neuroscience Program

Knight, David
Weather Channel Interview: Severe Weather and Emotional Distress. April, 2019

Lubin, Farah
1. F.D. Lubin. “Now where did I leave my keys?” Epigenetic Basis of Memory Formation. Sigma Xi. The Scientific Research Society, Birmingham, AL. Invited by Dr. Riddle.
2. F.D. Lubin. STEM: Neuroscience. GirlSprings, Inc. STEM fair, Children’s Hospital Bradley Lecture Center, Birmingham AL. Invited by GirlSpring Executive director Kristen Greenwood.

Marson, Daniel
Declining financial skills in cognitive aging and cognitive disorders of aging. NeuroScience Café, UAB Comprehensive Neuroscience Center, Homewood Public Library, Birmingham, Alabama.

Standaert, David
Parkinson Association of Alabama Symposium, “Update on the Alabama Udall Center,” November 2019

Thannickal, Victor
Visiting Professor, Norton Thoracic Institute Seminar Series, “Idiopathic Pulmonary Fibrosis: Emerging Therapeutic Targets”, Creighton University School of Medicine, Phoenix Regional Campus, Phoenix, AZ, April 2019

Triebel, Kristen
1. Triebel, K. L. (January, 2019). Lecture and practicum mentor. Intro to Neuropsychological Testing. Clinical Evaluation of Cognitive Disorders. GBS 790.
2. Triebel, K. (August 10, 2019). Understanding the cognitive effects of cancer and cancer treatments. Invited lecture to the Oncology Nursing Society. Birmingham, AL.

Visscher, Kristina

1. Science on Screen, NSF sponsored discussion series of the science behind great movies. "Learning about Neuroscience Tools from Eternal Sunshine of the Spotless Mind." March 21, 2019.
2. Birmingham Taste of Science Festival April 22, 2019. "Vision, Plasticity, and the Adult Brain: a story of old dogs and new tricks"

6. Awards

Allendorfer, Jane
2019 UAB REACT Center Scholar Award, University of Alabama at Birmingham, AL, USA
Amara, Amy
HSF GEF Award

Bolding, Mark
Paige Hunter Morton Distinguished Speaker Seminar at Clemson University, Dec 6 2019

Carter, Christy
-Dr. Carter was awarded through the division $175,000 in DOM IMPACT funds to offset the cost of her recruitment
-Guest Editor of a special issue of the Journals of Gerontology: Biological Sciences: The Microbiome and Aging
-Lead author on an Invited Article: Bring Back the Rat! For the Journals of Gerontology: Biological Sciences. This is co-authored by two leaders of Nathan Shock Centers, Arlan Richardson and Steven Austad. This will be the featured article for the January addition, in the year of the Rat!

Day, Jeremy
UAB Medical School Dean's Award for Excellence in Research
UAB Graduate School Dean's Award for Excellence in Mentorship

Gavin, Cristin
UAB School of Medicine Dean's Award for Excellence in Teaching, Junior Faculty
Undergraduate Faculty Member Mental Health Champion of the Year

Gerstenecker, Adam
2019 National Academy of Neuropsychology Early Career Award

Gross, Alecia
UAB Graduate Dean's Award for Excellence in Mentorship

Herskowitz, Jeremy
Named the Patsy W. and Charles A. Collat Scholar in Neuroscience

Lubin, Farah
2019 Nominated for UAB School of Medicine Dean's Excellent Award for Diversity Enhancement

Parpura, Valdimir
Disability Support Services Outstanding Faculty Award
Elected to the International Society for Neurochemistry
Honorary Professor – University of Rijeka

Prabhu, Sumanth
Associate Editor: Circulation Research, 2019 – present
Scientific Committee, Sarnoff Cardiovascular Research Foundation, 2018-2021

Roberson, Erik
Patsy W. and Charles A. Collat Endowed Professor of Neuroscience, 2016–2019
American Society for Clinical Investigation, 2019
Rebecca Gale Endowed Professor, 2019–

Standaert, David
Recipient of the Bachmann-Strauss Prize for Excellence in Dystonia Research, November 2019
Best Doctors in America", 2007-2019 inclusive

Triebel, Kristen
Elected Fellow of the National Academy of Neuropsychology

Ubogu
Member, Global Medical Advisory Board of the Guillain-Barré syndrome/ Chronic Inflammatory Demyelinating Polyneuropathy Foundation International (March 2019)

Visscher, Kristina
McNulty Award
Girl Scouts – Woman of Distinction

7. Faculty

Abbreviated CV (Appendix D)

8. Trainees

a. Post doctoral

Amara, Amy
Juliana Coleman, MD; Adeel Memon, MD; Rabhishek Reddy, MD: Corina Catiul, MD, Raima Memon, MD

Austad, Steve
Katelynn Corder-Greer, Ashley Turner, Jessica Hoffman

Bolding, Mark
Ryan Willoughby

Brown, Cynthia
Christine Loyd, PhD

Buford, Tom
Four

Carter, Christy
Yi Sun, Katelynn Corder, Lisa Roberts

Day, Jeremy
Jen Tuscher, PhD, Svitlana Bach, PhD

Gamble, Karen
Jodi Paul, PhD, Bryan Becker, PhD, Paramita Pati, PhD

Gamlin, Paul
Kevin Schultz, Julie Quinet, Michael Savage

Goldberg, Matthew
Sandeep Kumar Barodia

Gross, Alicia
Meredith Hubbard

Lahti, Adrianne
Frederic Briend, PhD, J. Omar Maximo, PhD

Meador-Woodruff, James
3 post docs

Powell, Craig
Qiang-qiang Xia, PhD

Prabhu, Sumanth
3 post docs

Roberson, Erik
Astin Powers, M.D., Andrew Arrant, PhD,

Sagg, Michael
Ellen Eaton, MD, Ricardo Franco, MD, Amanda Willig, PhD

Standaert, David
Edward Griffith, PhD

Thannickal, Victor
Kevin Dsouza, MD, Bruno Pereira, MD, PhD

Visscher, Kristina
Marcello Maniglia, PhD, Pinar Demirayak, PhD

Wadiche, Linda
Jose Carlos Gonzalez, PhD

b. Pre-doctoral

Allendorfer, Jane
Brent Womble, Silvienne Sint Jago

Amara, Amy
Joseph Shaw, Katie Cederberg, Hemant Srivastava, Connor Reese, Roxanne Lockhart, Jared Miller

Austad, Steve
Jared Miller

Bolding, Mark
Megan Rich, Kelli Cannon

Crowe, Michael
Cheyanne Barba

Day, Jeremy
Katherine Savell, Nancy Carullo, Corey Duke, Morgan Zipperly, Robert Phillips, Samantha Black

Edwards, Lloyd
Steve Ampah, Tarrant McPherson

Gamble, Karen
Jennifer Davis, Lacy Goode, Allison Fusilier

Gamlin, Paul
Kevin Chang

Gerstenecker, Adam
Thomas Valentine, Stephen Aita, Kyler Mulhauser

Goldberg, Matthew
Rose B. Creed

Gray, Michelle
Annesha King

Gross, Alicia
Evan Boitet

Kennedy, Richard
Tyler Bull, Mackenzie Fowler, Christina Diblasio, Jasmine Vickers, Chad Murchison, Richard Taylor

Knight, David
Heather Dark, Juliann Purcell, Indonesia Jordan

Lahti, Adrianne
Eric Nelson, Raktima Datta

Lubin, Farah
Rebecca Hauser, Silvienne C. Sint Jago, Ashleigh Irving

Co-Mentored:
Megan Rich (2015-Present) co-mentored with Dr. Mark Bolding Neuroscience Program, UAB

Martin, Roy
Stephen Aita, Katie Hannah Fisher, Thomas Valentine, Heather Dark, Kayla Steward, Alexandra Jacob

Meador-Woodruff, James
Three

Powell, Craig
Rudhab Bahabry, Prathibha Sekar

Prabhu, Sumanth
One pre-doctoral student

Roberson, Erik
Jacob Mesina, Raksha Ramdas, Conner Campbell, Daniel Elston

Standaert, David
Greg Williams, Aubrey Schonhoff, Lindsay Stoyka

Thannickal, Victor
Samuel R Smith

Triebel, Kristen
Kyler Mulhauser, Stephen Aita, Mackenzie Fowler, Zach Tucker, Cary Pirtle, Abigail Snow,Sara Abolghasemi, Rebecca Pall, Gabrielle Willhelm, Helen Bae, Dario Marotta, Emily Heyward

Visscher, Kristina
Leland Fleming, Matthew Defenderfer, Mandy Biles, Sara Sims, Jason Vice

c. Other

Allendorfer, Jane
Johanna Popp, Dava Mackensie Terry, Christian Puzzo

Bolding, Mark
Taught 2 classes on neuroimaging as the course director. Developed and new course in neuroimaging for undergraduates at UAB

Carter, Christy
Amber Sanders, Anthony Knighton, Su Peramsetty

Gamlin, Paul
Cristina Dieni

Goldberg, Matthew
Reshu Chandra, Sindhu Komaragiri, Elijah Quinones, Azim Farishta, Erika Cork, Matt Zbell, Sugeeth Kandikattu, David Sylvester

Gray, Michelle
Amayrani Garcia, Lawela Rose Enfinger, Emily Payne, Emily Stephens, Vyshnavi Rallapalle

Knight, David
Hyun Freeman, Hayden Cook, Tasha Curiel, Alex Zegarra, Samantha McKenney, Sydney Nester
Lillie Ann Dawson, Carly Snidow

Martin, Roy
Steven Ampah

Prabhu, Sumanth
Five

Meador-Woodruff, James
Four

Thanickal, Victor
Kenneth P. Hough, Jacelyn Peabody

Visscher, Kristina
Vuga Parpura, Hannah Cowart, Saikrishna Sriraman

Wadiche, Linda
William Kennedy

9. Clinical/translational programs

a. New programs

Lubin, Farah
UAB McKnight Award – “Exercise-related effects on memory function and neuronal circuitry- a clinical and preclinical investigation”

Meador-Woodruff, James
No new programs but recruitment and expansion of clinical services in Department of Psychiatry for geriatric patients with admission of a new geriatric psychiatrist to the faculty this year.

Prabhu, Sumanth
Macrophage Circadian Clock Disruption and Inflammation in Hearth Failure

Triebel, Kristen
Starting a new research study that will be funded by UAB CFAR and UAB McKnight examining the microbiome and cognitive aging in older adults with and without HIV

b. Update on existing clinical studies

Carter, Christy
My major contribution to the field of aging has been in establishing rodent models/intervention strategies regarding physical and cognitive decline in aging. Of critical importance is that this

body of research directly led to my working closely with clinical researchers to develop small clinical trials in humans using a similar approach.

The grant listed here represents my collaboration with Dr. Thomas Buford whereby we translate finding in our rats to clinical trials: NIH Grant R01AG054538, 2 supplements, Ace2 As A Novel Therapeutic To Preserve Physical Function In Late Life. This grant is designed to assess the effects of components of the renin-angiotensin system in combination with exercise on physical function and metabolism in age rats.

Geldmacher, David
We have conducted qualitative analyses on the effects of telemedicine caregiver coaching in people with behavioral and psychiatric symptoms of dementia and differences between caregiver needs related to behavioral symptoms in Alzheimer's disease vs. Traumatic Brain Injury survivors

Kennedy, Richard

a. New programs

Received a 13th percentile from NIH/NIA for a new grant to develop new data mining methods for identifying delirium among hospitalized older adults

b. Update on existing clinical studies

Continued funding on R21/R33 grant from NIH/NIA to examine speed of processing training as an intervention to prevent cognitive decline among older adults after an episode of delirium; continued funding on R01 grant performing data mining among concomitant medications of older adults with Alzheimer's disease to identify potential novel therapeutic agents

Lahti, Andrienne

a. New programs

Trajectories of treatment response as window into the heterogeneity of psychosis: a longitudinal multimodal imaging study in medication-naïve first episode psychosis patients (NIMH R01MH113800)

b. Update on existing clinical studies

Glutamate, brain connectivity and duration of untreated psychosis (R01MH102951)

Lubin, Farah

UAB McKnight Award – "Exercise-related effects on memory function and neuronal circuitry-a clinical and preclinical investigation"

Powell, Craig
a. Currently laying the groundwork to bring UAB School of Medicine autism and neurodevelopmental disorders clinical entities together with central triage intake and increased access.
b. Update on existing clinical studies
Near completion of enrollment of clinical studies of autism patients with Shank3 deletions/mutations (so-called Phelan McDermid Syndrome) funded by NIH RDCRN
c. Near completion of enrollment of clinical studies of Phelan-McDermid Syndrome funded by Novartis for biomarker discovery
d. Completed sample acquisition and enrollment in Autism Speaks Foundation-funded microbiome study in autism and typical development.

Prabhu, Sumanth
Immune activation in acure decompensated heart failure

Roberson, Erik
We have a new grant from the Alzheimer's Drug Discovery Foundation to examine the role of TREM2 variants as risk factors for AD. (b) We are also continuing our NIH-funded work to develop and validate electronic version of the Financial Capacity Instrument. The instrument has been developed and IRB approval obtained to begin validation studies in early 2020.
10 none

Alzheimer's Disease Center. Enrollment underway, in mid-30s. ~50% African American.

Standaert, David
New programs - The Alabama Udall Center of Excellence in Parkinson's disease Research

Thannickal, Victor
New programs
A phase-II clinical study has been initiated with a NOX4 inhibitor (GKT831)
National Institutes of Health, NHLBI: P01 HL114470 "Targeting the Myofibroblast in Fibrotic Lung Disease"
Role: Principal Investigator; Project 1 Leader (25% effort); Administrative and Biostatistics Core (5% effort); Animal and Therapeutics Core (10% effort)

Triebel, Kristen
Finishing up on a 5 year study funded by the American Cancer Society examining medical decision making capacity in patients with advanced cancer.

Ubogu, Erobo
New programs:
Autonomic Testing Laboratory (Director: Mohamed Kazamel, M.D.).

Update on existing clinical studies:
Successful FDA audit for Phase 3 LMS- 002 Study (Catalyst Pharmaceuticals). Continued participation in the NIH-funded Agrin/LRP4 antibody positive myasthenia gravis study. Initiation and successful enrolment for the NN108 NeuroNext idiopathic polyneuropathy study

Visscher, Kristina
A graduate student in my lab, Mandy Biles, from the Psychology, Behavioral Neuroscience Graduate Program is leading a study on the basic science of the mechanisms behind training to use peripheral vision. This basic science study, using the human brain as a model, tests how training to use a specific part of the peripheral retina influences brain areas associated with that part of the retina. This is very relevant to understanding neural plasticity in older adults, as it is a direct model of Age-related Macular Degeneration – a real-world case in which older adults drastically change the way they use vision.

The McKnight Brain Aging Registry (MBAR) and its Neuroimaging and Cognitive Cores continues to make progress. This initiative has a primary goal of facilitating expanded cross-institute collaborations across the four McKnight Brain Institutes, while focusing on advancing the collective mission of enhancing our understanding of cognitive and brain aging to support the development of interventions for age-related cognitive decline. Despite experiencing a number of significant challenges during the initial start-up phases of the project, we have made considerable progress over this last reporting period, and have data collection fully underway.

10. Technology transfer

A. Patent applications
Bolding, Mark
MRI-DETECTABLE MULTILAYER MICROCAPSULES FOR ULTRASOUND-TRIGGERED DELIVERY OF PHARMACOLOGICALLY ACTIVE AGENTS
With Eugenia Kharlampieva in Chemistry and Jason Warram in Otolaryngology

B. Revenue generated from technology
None

11. Educational programs focusing on age-related memory loss

A. Scientific
Carter, Christy
I am in the process of reviewing the Gerontology Certificates on campus for

undergraduates and graduate students

Gavin, Cristin
Mechanisms of Memory course for graduate and undergraduate students (ongoing)
We continue to offer a graduate level elective, “Mechanisms of Memory” that educates graduate students and MD-PhD students on molecular mechanisms of memory storage in normal and aging brains.

Prabhu, Sumanth
Scientific: Cognitive function and brain inflammation following ST elevation MI (collaboration with Dr. Ron Lazar); Effects of cardiovascular disease in a mouse model of HIV-associated neurological damage (collaboration with Dr. John Shacka)

B. Public
Visscher, Kristina
Along with colleagues at the McWane Science Center, and through our Research Civitan Club, I run a monthly science outreach event called Sci Café at John’s City Diner downtown. We have speakers about various topics, and have recently had speakers focusing on aging.

12. Collaborative programs with other McKnight Institutes, institutions and research programs

Carter, Christy
Ketogeneic Diets and Age-Related Memory Loss: University of Florida

Day, Jeremy
-Dr. Jeremy Herskowitz (UAB) – Collaboration using multi-electrode array technology for electrophysiological recordings
-Dr. Erik Roberson (UAB) – Collaboration on enhancer elements associated with Alzheimer’s Disease risk

Dobrunz, Lynn
I collaborate with Dr. Lori McMahon from UAB, Dr. Mark Bolding from UAB, and Dr. Mark Bevensee from UAB.

Gamlin, Paul
I collaborate with a number of investigators working on retinal and CNS gene therpay at the University of Florida. These include Drs Shannon Boye, William Hauswirth, Ronald Mandel, Coy Heldermon, Sergei Zolotukhin, Barry Byrne, Manuela Corti.

Geldmacher, David
McKnight Brain Aging Registry. 23 subjects enrolled at UAB as of 11/15/18

Kennedy, Richard
With a colleague from the Department of Psychiatry, we are developing a curriculum for graduate students to teach reproducible research in neurosciences and other basic science fields.

Prabhu, Sumanth
-Effects of cardiovascular disease in a mouse model of HIV associagted neurological damage
-Brain inflammation and cognitive dysfunction after acute myocardial infarction

Standaert, David
We have a collaborative program with University of Florida addressing gene therapy for dystonia, funded partly by Tyler’s Hope.

Wadiche, Jacques

Linda Wadiche UAB Neurobiology, Synaptic properties of Adult Neurogenesis

Wadley, Virginia
McKnight Foundation Cognitive Intervention Core
McKnight Brain Aging Registry Cognitive Assessment Core

13. Collaborative programs with non-McKnight Institutes, institutions and research programs

Bolding, Mark
1. Working with Jason Weick at University of New Mexico to develop a technique for controlling neural activity with x-rays.
2. Working with Fraser Robb of GE Healthcare to build a transcranial focused ultrasound device for use in a PET/MRI scanner. They will provide the hardware needed and will assist in building custom coils and pulse sequences. This support may eventually include a graduate student stipend and tuition.
3. Working with Rajiv Chopra at FUS Instruments to secure an Investigator Sponsored Research Agreement for the development of a subcutaneous transcranial focused ultrasound transducer for drug delivery in the brain.
4. Working with Steve Foulger at Clemson University to develop a technique for controlling neural activity with x-rays.
5. Working with Thompson Mefford at Clemson University to develop MRI contrast agents that are sensitive to brain activity.
6. Working with Yuping Bao at the University of Alabama to develop new MRI contrast agents that are biocompatible and can remain in the brain safely for many years.

Carter, Christy
Gut Microbiome and Aging: University of Florida, Samford

Day, Jeremy
1. Dr. Christopher Newland (Auburn University) – Methylmercury neurotoxicity
2. Dr. Charles Gersbach (Duke University) – Gene editing tools
3. Dr. Rita Cowell (Southern Research) – Gene regulation in neurons
4. Dr. Keri Martinowich (Lieber Institute) – CRISPR gene regulation tools in human neurons
5. Dr. Ian Maze and Panos Roussos (Mt Sinai SOM) – Enhancers in opioid addiction

Dobrunz, Lynn
I collaborate with Dr. Yuping Bao from the University of Alabama, with Dr. Stephen Foulger from Clemson,
Dr. Jason Weick from the University of New Mexico, Dr. Rita Cowell from Southern Research Institute, and Dr. Kazu Nakazawa from Southern Research Institute.

Edwards, Lloyd
Continuing collaborative relationship with UAB McKnight Investigators.

Marson, Daniel
Measuring financial cognition in aging: The Financial Capacity Instrument—Short Form. 11th McKnight Inter-Institutional Meeting, McKnight Brain Research Foundation, University of Florida, Gainesville, FL.

McMahon, Lori
1. Collaboration with Erik Roberson to investigate the role of BIN1 in AD using transgenic mice
2. Collaboration with Karen Gamble to investigate the impact of circadian rhythms on synaptic circuits in hippocampus in WT and AD mouse models
3. Collaboration with Qin Wang to investigate noradrenergic mechanisms in hippocampus in AD mouse models

Parpura, Vladimir
The role of sodium-bicarbonate exchangers in astrocytes (M. Bevensee)

Outside the UAB system

1. Pools of glutamate for exocytotic glutamate release (H.S. Waagepetersen and A. Schousboe; Univ of Copenhagen, Danmark)
2. The role of connexin 43 in astrocytic exocytosis (E. Scemes and D.C Spray, Albert Einstein College of Medicine, NY)
3. SNARE complex proteins (R. Zorec, Univ of Ljubljana, Slovenia)
4. BDNF- and VGLUT-laden vesicle trafficking in astrocytes (R. Zorec, Univ of Ljubljana
5. The role of presenilins in vesicular trafficking in astrocytes (R. Zorec, Univ of Ljubljana, Slovenia)
6. Graphene in biological applications (V. Jokanović, Vinča Institute, Belgrade, Serbia)
7. Mechanisms underlying GFAP modulation of hyposmotic regulation of hypothalamic vasopressin neuron activity (Y-F. Wang, Harbin Medical University, P.R. China)
8. Exocytotic glutamate release from gliomas (H. Sontheimer, Virginia Tech University)

Pozzo-Miller, Lucas
Alan Percy (UAB), Jeff Neul (Vanderbilt), Maurizio Giustetto (Turin), Frank Longo (Stanford), Michelle Olsen (VA Tech)

Saag, Michael
CNICS (CFAR Network of Integrated Clinical Science)

Standaert, David
We have extensive collaborative relationships through basis and clinical programs. Key programs include the Udall Center, involving a collaboration with Duke University; the Fox Foundation PPMI study, an international multi-center effort, and our ongoing P01-funded work in dystonia involving Mass General Hospital and investigators at the University of Rome Tor Vergata.

Triebel, Kristen
CFAR, Comprehensive Cancer Center, American Cancer Society, University of California at Irvine, Breast Cancer Research Foundation, Norma Livingston Ovarian Cancer Research Foundation

Ubogu, Eroboghene
1. Molecular determinants and signaling mechanisms implicated in blood-nerve barrier junctional complex formation in health and disease
2. Molecular determinants and mechanisms of pathogenic leukocyte trafficking across the blood-nerve barrier in peripheral neuroinflammation and HIV disease
3. Molecular neuroimmune mediators of acute and chronic pain in peripheral neuropathies using murine models

Visscher, Kristina
1. Several collaborations, including with Dr. Aaron Seitz at University of California, Riverside, examining adult cortical plasticity in the context of cognitive training. The results of this work will be very relevant for our aging studies, as we are interested in identifying the mechanisms of adult cortical plasticity. Keeping the adult brain plastic is essential for maintaining healthy cognition throughout aging.
2. Collaboration with Dr. Lesley Ross at Penn State. We examine the effects of training in older adults. We recently had a U series grant funded with Lesley as PI. I am lead on the MRI portion of that grant.

Wadiche, Linda
Jacques Wadiche
Farah Lubin
Karen Gamble

Laura Volpicelli-Daley

15. Briefly describe plans for future research and/or clinical initiatives

Allendorfer, Jane
Submitted NIH R01 application (NICHD/NCMRR) in October 2019 entitled “Exercise for Memory Rehabilitation in Epilepsy.” If funded, this would support research to test the efficacy of a 6-week supervised exercise program for treatment of memory deficits, and investigate its putative mechanism of action.

Amara, Amy
I plan to investigate slow wave sleep as a biomarker of exercise-induced changes in cognition in Parkinson’s disease-mild cognitive impairment

Beveniste, Tika
Assessment of involvement of peripheral immune system in pre-clinical models of PD and MS, as well as peripheral blood from patients with PD and MS. Will determine relationship with cognitive decline in PD and clinical symptoms in MS.

Bolding, Mark
We intend to use our recently successful method for non-invasive delivery of drug loaded nanoparticles to the hippocampus (an area of the brain responsible for memory) to erase fearful memories in rats while preserving their memory of location or context in which the fearful memory was formed.

Buford, Thomas
Working on continuing our work on age-related physical decline with new integrations in cognitive decline as contributors to age-related loss of independence. New initiatives include animal studies evaluating interventions to improve late-life cognition as well as a mid-career development award (K02) submission from the NIH to facilitate learning theories and methods related to cognition and pain in aging. Also working with Dr. Lazar on a pilot study related to exercise and brain O2 extraction capabilities.

Carter, Christy
-If funded, take on more leadership role through ICAR if both Pepper and NSC are funded, especially with mentoring junior folks, post-docs, junior faculty
-Work towards developing a P30 around cognitive frailty and AD—first meeting is scheduled
-Continue to submit papers and grants centered around the research theme: Gut Microbiome and Aging
-Spend more time developing Education Programs and creating scholarship around it.
I would like to participate more in community outreach in the context of education perhaps through participation in developing “boot camps” for health care workers. This also bring me joy to educate individuals who have experienced the very difficult experience of either transitioning health-wise through aging themselves or watching their loved ones age.

Crowe, Michael
Continue research on modifiable risk factors for cognitive decline and dementia in diverse populations of older adults.

Day, Jeremy
The focus of my work in the coming years will be on understanding gene regulatory pathways in drug addiction and memory formation. This includes in vitro work designed to explore the mechanism by which these regulatory mechanisms influence gene expression programs that are critical to neuronal function and physiology, as well as pre-clinical work to manipulate genes in behaving animals to understand how genes contribute to addiction, learning, and memory.

Dobrunz, Lynn
I will continue my lab’s current research initiative studying the effect of Neuropeptide Y on hippocampal function and behavior. I will continue our ongoing collaborative effort to develop a new noninvasive technique for in vivo optogenetics using radioluminescent nanoparticles, and collaborative studies on the effects of sodium bicarbonate cotransporters on pH modulation of

hippocampal function.

Dudenbostel, Tanja
Investigation of mechanisms of premature cardiovascular disease including stroke in individuals younger than 50 years of age.

Edwards, Lloyd
Plans to try to work more closely with McKnight investigators to provide statistical support in design and analysis of studies.

Gamble, Karen
In 2019-2020, we plan to submit the following manuscripts and book chapters:

"Circadian disruption in hippocampus of early senescence mouse model" to Neurobiology of Aging

"Circadian dysregulation in the hippocampus of transgenic mice expressing low levels of human amyloid b-protein precursor mutations" to J of Alzheimer's Disease

"Chapter 23: Circadian Rhythms and Sleep". In: Amthor, F.R., ed. Essentials of Modern Neuroscience.

My research team will attend and make presentations at the Society for Research in Biological Rhythms and Society for Neuroscience meetings in 2020.

I plan to submit an MPI application (with Erik Roberson) to NIA in June 2020.

Gamlin, Paul
Using non-human primate models, we intend to continue our gene therapy FDA-enabling studies of Friedrich's ataxia. We are also examining treatment options for San Filioppo syndrome. We are interested in persuing gene therapeutic approaches for retinal and CNS diseases in general.

Geldmacher, David
2019 funding proposals for development of "Lay Navigators" for dementia caregivers, technology support for caregivers, and the role of Respite Ministries in supporting dementia caregivers.

Gerstenecker, Adam
-Research: Collect data for K23 project and continue to publish and review grants and manuscripts.
-Clinical: Exceed high-performance RVU goal.

Goldberg, Matthew
Over the next year, we plan to increase our research on the role of alpha-synuclein protein inclusions in age- related brain dysfunction.

Gray, Michelle
-Our lab primarily focuses on the contribution of astrocytes to Huntington's Disease pathogenesis. We use a human mutant huntingtin expressing mouse model for these studies. In the animals we perform behavioral studies to assess cognitive, psychiatric and motor impairments. We use baseline abnormalities of the mice to determine if modulating different aspects of astrocyte function contributes to the abnormalities observed in this model. We will continue these studies in the laboratory.
-We are continuing our observational study of HD patient cardiac function. We have already observed some changes in the HD patients already enrolled in our study. We expect to continue this study and include this preliminary data in an R01 submission in the coming year.

Gross, Alecia
We are resubmitting an A1 R01 application (different from the existing resubmit) on the molecular mechanisms of cone degeneration in ciliopathic mice.
Hablitz, John
We are starting animal studies on how hippocampal seizures alter memory functions in prefrontal

cortex.

Kennedy, Richard
We are continuing to expand our delirium research programs to include prevention studies, epidemiology of delirium in the hospital, and improved identification of delirium using electronic medical records.

Lahti, Andrienne
I have plans to submit a T32 to support graduate students in the Department of Psychiatry.

Landefeld, Seth
The UAB Department of Medicine seeks to invest and advance new research programs in age related memory loss in partnership with the McKnight Brain Research Foundation.

Lubin, Farah
UAB McKnight Award – "Exercise-related effects on memory function and neuronal circuitry- a clinical and preclinical investigation"

Marson, Daniel
Continue work as a consultant in a multi-site R01 AD research project recently funded by NIA—UAB is a site (E. Roberson, site PI)

-Continue as Director Emeritus of Alzheimer's Disease Center

Martin, Roy
Complete pilot McKnight sponsored UAB project (post-operative delirium project) and use findings as preliminary data to support NIH/NIA R01 grant application for submission early 2021.

McMahon, Lori
1. Investigations into the role of O-GlcNAcylation in modulating synaptic excitability and tau accumulation in a novel rat model of AD (TgF344-AD rat)
2. Investigations into the impact of locus coeruleus degeneration on hippocampus synaptic function and learning and memory in the novel TgF344-AD rat model of AD, and the role of estrogen loss in menopause

Meador-Woodruff, James
Important accomplishment of note this year is the recruitment to fill two endowed chairs in Psychiatry focused on cognition and aging. First was an internal candidate to fill the Department's Kinney endowed chair with Adrienne Lahti, M.D., a schizophrenia researcher/cognitive neuroscientist with an interest in cognitive abnormalities in these patients as a model system for early onset memory impairment. Second is the recruitment of Junghee Lee , PhD from UCLA to fill the Department's Geropsychiatry chair and will join the faculty in March 2020. She is a cognitive neuroscientist interested in social cognition.

Powell, Craig
Continued research characterizing the role of Shank3, Cul3, Kctd13 and other genetic models of neurodevelopmental disorders.

Pozzo-Miller, Lucas
Test if a TrkB ligand improves social memory in Rett mice by normalizing the function of the vHIP-mPFC projection. Extend our studies of cognitive and social deficits in Rett mice to other mouse models of intellectual disability and autism.

Prabhu, Sumanth
-Continue current collaborative clinical projects with McKnight investigators Shacka and Lazar.
-Continue current clinical and translational studies in heart failure

Roberson, Erik
We will continue working on our basic research on Alzheimer's disease and frontotemporal, investigating both the mechanistic pathways contributing to these disorders and finding new therapeutic interventions. We will continue our clinical research including the Alzheimer's

Disease Center program enrolling particpants with age- related memory problems.

Saag, Michael
-Have initiated discussions and planning meetings to establish a research vector to study cognitive impairment among older HIV patients
-The focus is to characterize the nature, associated co-morbid conditions, and potential causes or enhancers of cognitive impairment among HIV patients and compare these findings to non-HIV infected, age-matched individuals
-Once characterized, interventions will be explored to arrest, or hopefully reverse, the cognitive dysfunction in older HIV infected patients

Thannickal, Victor
Work with McKnight Institute investigators on the link between chronic lung disease, aging and memory loss.

Triebel, Kristen
To determine the mechanisms of age-related cognitive decline and identify effective interventions to mitigate accelerated age-related cognitive decline.

Visscher, Kristina
Much of the research in my lab focuses on Age-related Macular Degeneration (AMD), one of the most common causes of vision loss (projected to affect almost 200 million people worldwide by 2020). This is an ecological example of perceptual learning in an older adult population with a positive clinical outcome. Our work (current work as well as work proposed) will shed light on what types of plasticity are possible in the aging population. We can use these insights in general to understand how the aging brain learns and can learn optimally.

I have recently submitted a multi-PI R01 to NIH which is specifically focused on understanding the cortical changes that occur after different types of training. Our overarching hypothesis is that an individual's specific pattern of behavioral outcomes from training track that individual's pattern of brain plasticity, and that these patterns are shaped through the four vision performance factors. This is addressed through 3 specific aims:
1) Determine relationships between training and behavioral change, 2) Determine relationships between behavioral change and brain plasticity, and 3) Determine how individual differences at baseline relate to training outcome. This work is significant as it will provide information about how different behavioral learning effects relate to different underlying brain changes.

I plan a single-PI application to NIH which focuses on differences in plasticity across ages in a similar model. This application will build on our observations that populations of people who acquired Macular degeneration due to Age-related forms of the disease, as opposed to forms which have onset in early adulthood show different patterns of neural plasticity.

The McKnight Brain Aging Registry group plans an NIH grant proposal to follow up to our current project in 2019. We will be examining some of these participants in a longitudinal follow up. This approach is very powerful, and is only possible following the generous support from McKnight.

Wadiche, Jacques
a) Explore how regulation of multivesicular release is a common to synapses and synaptic function.
b) Determine how neurotransmitter concentration affects AMPAR function affects and calcium permeability.
   Both of these mechanisms are fundamental to understanding brain function in normal and diseased states.

16. What do you consider your most important scientific achievement this year?

Allendorfer, Jane

We published our pilot study results of exercise for memory improvement in epilepsy in April 2019, which was the foundation for the submitted R01 grant application in October 2019.

Amara, Amy
Identification of association between slow wave sleep and cognition in patients with Parkinson's disease.

Beveniste, Tika
Eludication of the involvement of the protein kinase CK2 in regulating both innate and adaptive immunity, and its role in pre-clinical models of MS.

Bolding, Mark
Non-invasive delivery of viruses to hippocampus of the brain in a rat. The viruses were injected IV and localized delivery was induced with focused ultrasound. Delivery of viruses was confirmed by GFP (green fluorescent protein) expression. Succinctly stated, we made the brain cells in one location in the brain glow green by guiding the viruses with ultrasound. This means we can genetically alter specific cells in the brain without doing any surgery or relying on molecular targets. We only need an MRI image. If this technique can be translated to humans it could potentially be used to cure (not just treat) certain neurological disorders without brain surgery. Potential targets include temporal lobe epilepsy and Parkinson's.

Buford, Thomas
Work soon to be published indicating that a gut-delivered intervention reduces pre-frontal neuroinflammatory gene expression and modulates pre-frontal VMAT2 protein expression.

Day, Jeremy
Engineered gene editing tools that allow robust and modular regulation of gene expression profiles across brain regions and cell types of rodent model systems. We have used this system to alter levels of Brain-derived neurotrophic factor (Bdnf), a key signaling protein linked to learning and memory

Dobrunz, Lynn
Our discovery that differences in short-term plasticity at excitatory inputs onto inhibitory interneurons and pyramidal cells in hippocampus during physiologically relevant stimulus patterns contributes to dynamic regulation of the excitation/inhibition balance in hippocampus.

Dudenbostel, Tanja
Identification of a phenotype of young adults with premature hypertension and premature cardiovascular morbidity and mortality including stroke, coronary artery disease, heart failure and kidney disease. Early vascular aging in these individuals has been identified by my laboratory as main driver of premature cardiovascular disease.

Edwards, Lloyd
Plans to try to work more closely with McKnight investigators to provide statistical support in design and analysis of studies.

Gamlin, Paul
We were able to show somatic gene editing of guanylate cyclase 2D, retinal (GUCY2D) in macaque photorececeptors using subretinally-delivered AAV-CRISPR/Cas9 (Adeno-associated virus -Clustered Regularly Interspaced Short Palindromic Repeats/ CRISPR associated protein 9).

Gerstenecker, Adam
Being awarded a K23 by the NIH.

Goldberg, Matthew
We found that PINK1-deficient rats, but not wild-type rats, spontaneously develop age-dependent alpha- synuclein protein aggregates throughout the brain. This provides a unique research tool for further studies of the role of alpha-synuclein protein in normal brain function and the role of alpha-synuclein aggregates in dysfunction and degeneration.

Gross, Alecia

The successful defense of one of my PhD students, Dr. Katie Bales. Her project encompasses our BBS and
MKS projects. She has been offered outstanding postdoc positions across the country at Universities such as Georgia Tech/VA, UCLA, UCSD and UMass Medical School.

Hablitz, John
We demonstrated that synchronized inhibition can be proconvlusant.

Herskowitz, Jeremy
My group identified a cellular substrate for resilience to dementia.

Kennedy, Richard
Expanding our Virtual ACE program to include delirium assessments of all hospitalized older adults at UAB hospital, which will greatly facilitate future studies of delirium by multiple investigators.

Knight, David
Multiple publications on learning, memory, and emotion topics and impact social processes have on these functions.

Lahti, Andrienne
Award of a second R01 to pursue resolving the heterogeneity of psychosis using multimodal imaging techniques.

Landefeld, Seth
Support the development of young investigators and the growth of high impact research in the Department of Medicine.

Lubin, Farah
Publishing and maintaining funding.

Marson, Daniel
Participation in developing an electronic internet based version of the FCI-SF

Martin, Roy
A multi-disciplinary team of UAB clinicians and researchers is currently developing a preoperative risk assessment model of post-operative delirium (POD) in adults undergoing non-cardiac surgery. The initial project phase will assess for potential preoperative cognitive markers predicting at-risk individuals. Recruitment referral will occur through initial identification from the UAB Anesthesiology Preoperative Surgery Clinic with follow-up contact from the UAB Neurology/ Neuropsychology Division. This prospective design will involve neuropsychological testing of adults prior to their hospitalization. The key study aim will investigate whether preoperative cognitive function predicts the occurrence of POD. This project will extend already existing in-patient clinical care protocols at UAB (i.e., Virtual Acute Care in Elders program) currently assessing for peri- operative delirium identification and in-hospital intervention. Our current research team members include Roy Martin, Ph.D. and Ronald Lazar, Ph.D. (UAB Department of Neurology), Kellie Flood, M.D. and Richard Kennedy, M.D., Ph.D. (UAB Department of Medicine/Division of Gerontology/Geriatrics/Comprehensive Center for Aging), Brent Ponce, M.D. (UAB Department of Orthopedic Surgery), and Jeffery Simmons, M.D.(UAB Department of Anesthesiology).

McMahon, Lori
-PNAS publication investigating the synaptic mechanisms underlying the rapid antidepressant effects of ketamine
-Journal of Neuroscience publication demonstrating the anti-epilpetic effects of increasing O-GlcNAcylation
-Neurobiology of Disease publication demonstrating early prodromal synaptic dysfunction in the novel TgF344-AD rat model of AD

Parpura, Vladimir
Demonstration that presenilin 1 mutation disrupts mobility of secretory organelles in rat

astrocytes.

Powell, Craig
Our publication indicating reversal of some outcome measures in a genetic model of Shank3 mutations with genetic rescue.

Pozzo-Miller, Lucas
Demonstration that hippocampal dysfunction in Mecp2 knockout mice spreads to the medial prefrontal cortex via a direct monosynaptic projection, altering network activity and social memory. Mary Phillips PhD dissertation; pre-print posted in bioRxiv.

Roberson, Erik
Preclinical efficacy of gene therapy for progranulin-deficient frontotemporal dementia

Standaert, David
Our discoveries related to the role of the immune system in Parkinson disease continue to advance the field towards new therapies.

Thannickal, Victor
Identification of AMPK activators (Metformin) as a drug to treat aged-related lung fibrosis.

Triebel, Kristen
We have submitted 6 papers, 1 which is published, examining medical decision-making ability in patients with and without metastatic cancer. The lab was founded and includes over 10 members. We submitted 5 grant applications (Triebel PI) of which 2 were successfully funded.

Ubogu, Eroboghene
Elucidation of the cytoplasmic and membrane proteome of human blood-nerve barrier induced by exogenous GDNF in vitro (2nd revision of submitted manuscript under review) and
Development a conditional MHC Class II knockout mouse strain C57BL/6-H2-Aa

Visscher, Kristina
We have ramped up our capability to run participants through our extensive behavioral and neural pipleline as part of our NIH connectomes in human diseases grant. This is a huge undertaking – participants come in 6 times, for about 3 hours per session. The participants are happy. The lab is able to sustain the very heavy participant load. I'm really proud of the work that the lab has put forward to make that happen.

Wadiche, Jacques
Organized and obtained funds for a day long symposium before 2017 SfN meeting to celebrate the scientific accomplishments of Craig E Jahr, PhD, my postdoctoral advisor. Over 50 attendees listened to speakers that included Roger Nicoll PhD, Bruce Bean PhD, and Gary Westbrook MD. (http://jahrsymposium.org)

Wadiche, Linda
We have identified the mechanism underlying the hallmark hyperpolarized resting membrane potential of mature dentate neurons that differentiate them from other hippocampal principal cells and adult-born neurons

APPENDICES

Appendices

Appendix A

Appendix B

SAVE THE DATE!! — OCTOBER 9 and 10, 2019

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

ALZEIMER'S DISEASE CENTER | COMPREHENSIVE CENTER FOR HEALTHY AGING | EVELYN F. MCKNIGHT BRAIN INSTITUTE | NATHAN SHOCK CENTER

From Chromosomes to Communities: Integrating Aging Research

Plenary Speaker

Richard J. Hodes, MD
Director
National Institute on Aging

Keynote Speakers

Darren Baker, Ph.D. — Mayo Clinic
Peggye Dilworth-Anderson, Ph.D. — University of North Carolina
Luigi Ferrucci, MD., Ph.D. — National Institute on Aging
Costantino Iadecola, M.D. — Weill Cornell Medicine

Panel Invited Speakers -NIH/NIA Division Directors

John Haaga, Ph.D. — Behavioral and Social Research
Evan Hadley, M.D. — Geriatrics and Clinical Gerontology
Eliezer Masliah, M.D., Ph.D. — Neuroscience
Felipe Sierra, Ph.D. — Aging Biology

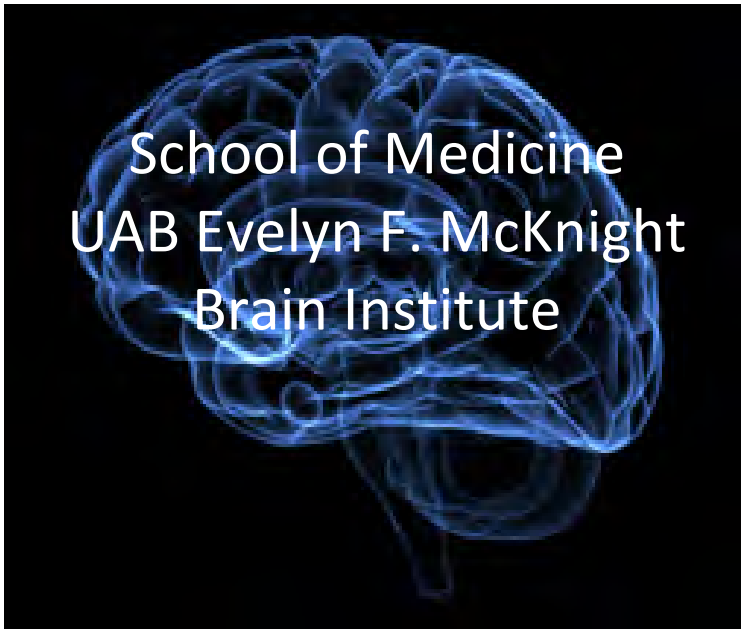
UAB Invited Speakers

Cynthia J. Brown, M.D., M.S.P.H. — Division of Gerontology, Geriatrics and Palliative Care, School of Medicine
Thomas W. Buford, Ph.D. —Division of Gerontology, Geriatrics and Palliative Care, School of Medicine
Melissa L. Harris Ph.D. — Department of Biology, College of Arts and Sciences
Jeremy H. Herskowitz, Ph.D. — Department of Neurology, School of Medicine
Virginia Howard, Ph.D. — Department of Epidemiology, School of Public Health
Mona Fouad, M.D., M.P.H. – Division of Preventive Medicine
Carlos Orihuela, Ph.D. — Department of Microbiology, School of Medicine
Victor J. Thannickal, M.D. — Division of Pulmonary, Allergy & Critical Care, School of Medicine

Trainee Participation —Poster Session and Selected Data Blitz talks

https://www.uab.edu/medicine/aging/symposium

Appendix C



Scientific Dialogues
Featured Speakers
“Advantages of Analyzing Hippocampal Subfields
Instead of the Whole Hippocampus”
Adam Gerstenecker, Ph.D., Assistant Professor, Department of Neurology

"Targeting the Gut Microbiome to
Prevent Symptoms of Cognitive Frailty"
Christy S. Carter, Ph.D., Associate Professor
Translational Exercise, Aging, and Microbiome Laboratory
Department of Medicine: Division of Gerontology, Geriatrics, and Palliative Care

“Presurgery Cognitive Status as a Predictor of Post-Operative Delirium in
Older Adults Undergoing Elective Surgery”
Roy C. Martin, Ph.D., Associate Professor, Department of Neurology

THURSDAY, DECEMBER 5, 2019
LUNCH: 11:30 AM
PROGRAM: 12:00 NOON
SHELBY INTERDISCIPLINARY RESEARCH BUILDING
1825 UNIVERSITY BLVD
ROOM 1015

To register visit:
Registration

For more information contact:
Vicki Hixon – vhixon@uab.edu

Appendix D
Biographical Sketches

NAME Ronald M. Lazar, PhD, FAAN, FAHA		POSITION TITLE Evelyn F. McKnight Endowed Chair in Learning and Memory in Aging	
EDUCATION/TRAINING			
New York University, University Heights, NY	BA	06/71	Psychology
Northeastern University, Boston, MA	MA	06/73	Psychology
Northeastern University, Boston, MA	PhD	05/77	Psychology
Georgetown University, Washington, DC	Post-Doc	08/78	Psychology
Eunice K. Shriver Ctr, Waltham, MA	Post-Doc	01/80	Behavioral Sci
Memorial Sloan-Kettering Cancer Center	Fellow	06/83	Neuropsychology

Position

1980-1984 Graduate Faculty, Neuropsychology and Learning Processes Programs, CUNY, NY 1980-1984 Asst Professor of Psychology, Dept of Psychology, Queens College of CUNY, NY 1981-1983 Adj Attending Psychol, Dept of Neurol, Memorial Sloan-Kettering Cancer Ctr, NY 1983-1984 Assistant Attending Psychologist, Dept of Psychiatry, New York Hospital, NY

1983-1984 Adj Asst Prof of Psychology (Psychiat), Cornell Univ Medical College, NY

1983-1984 Asst Attending Psychol, Dept of Neurol, Memorial Sloan-Kettering Cancer Ctr, NY 1984-1993 Chief Psychologist and Director of Neuropsychological Services, Dept of Psychology, Kings County Hospital Center, Brooklyn, NY

1984-1993 Director, Neuropsychol Service, Dept of Neurol, State Univ Hospital of Brooklyn, NY

1984-1993 Asst Prof of Neurology and Psychiatry, SUNY/Health Science Ctr at Brooklyn, NY 1993-1994 Asst Prof of Clinical Neuropsychol, Dept of Neurology, Columbia Univ College of Physicians & Surgeons, NY

1994-1996 Assoc Professor of Clinical Neuropsychol, Dept of Neurology, Columbia Univ Coll of Physicians & Surgeons, NY

2003-2013 Professor of Clinical Neuropsychology, Depts of Neurology and Neurological Surgery (Tenured), College of Physicians & Surgeons, Columbia University, NY

1994-2017 Professional Neuropsychologist, Dept of Neurology, NY Presbyterian Hospital, NY 1994-2017 Director, Levine Cerebral Localization Laboratory, Stroke Division, Dept of Neurol, NY Neurological Institute, Columbia Univ Medical Center, New York, NY

2013-Pres Prof of Neuropsychology in Neurol and Neurological Surgery at the Columbia University Medical Center, NY

2017-Pres Evelyn F. McKnight Endowed Chair. Dept of Neurology, Univ of Alabama at Birmingham, Birmingham AL

2017-Pres Professor of Neurology (with Tenure), Dept of Neurology, Univ of Alabama at Birmingham, AL

2017-Pres Director, UAB McKnight Brain Institute, Dept of Neurology, Univ of Alabama at Birmingham, AL

2017-Pres Director, Neuropsychology Division, Dept of Neurology, Univ of Alabama at Birmingham, AL

2017-Pres Senior Scientist, UAB Center for Exercise Medicine, Univ of Alabama at Birmingham

2017-Pres Senior Scientist, UAB Comprehensive Neuroscience Center, Univ of Alabama at Birmingham

2017-Pres Senior Scientist, Center for Neurodegeneration and Experimental Therapeutics at UAB

2018-Pres Professor of Neurology and Neuroscience, Dept of Neurol, Univ of Alabama at Birmingham, AL

Honors, Awards, and Advisory Committees

Honors:

Psi Chi / Robert Formica Memorial Award, Department of Psychology, New York Univ, 1971 Andrew W Mellon Fellow, Dept of Neurology, Memorial Sloan-Kettering Cancer Ctr, 1982- 1983
Sigma Xi, 1980
Fellow, American Psychological Association, 2000
Fellow, American Heart Association, 2005
Fellow, American Academy of Neurology, 2011
Fellow, American Neurological Association, 2012
Evelyn K. McKnight Endowed Chair in Learning and Memory in Aging, 2017

Federal Government Advisory Committees

2016 - Pres Fogarty Global Brain Disorders Study Section ZRG1 BDCN-N (55) R, CSR, NIH 2013 – 2015 Agency for Healthcare Quality and Research (AHRQ) US Dept of Health and Human Services
Evidence-based Practice Center Program, Evidence-based Practice Center Program
2009 – 2015 Chartered Member, Acute Neural Injury and Epilepsy (ANIE) Study Section, Center for Scientific Review (CSR), NIH
2002 – 2010 Permanent Member, Circulatory System Devices Advisory Panel, Medical Devices Advisory Committee, Center for Devices and Radiological Health, US FDA
2009 – 2010 ZRG1 BDCN-L (95) S Competitive Revisions; Clinical Neuroscience and Disease, NIH.
1996 Select Committee on Aging. US House of Representatives
Alzheimer's Disease and Related Disorders: The Government's Response. Ninety-Ninth Congress, Second Session (Cold Spring Harbor, New York)
2019 - Pres NINDS Advisory Committee for Common Data Elements 2.0 for Stroke Outcomes

Other Advisory Committees

1995 – 1997 Division 40 (Society for Clinical Neuropsychology), American Psychological Assn National Co-Chair, Hospital Staff Membership Task Force Practice Advisory Committee
2014 – 2016 National Institutes of Neurological Disorders and Stroke, NIH StrokeNet Recovery Working Group
2019 – Pres. Brain Health Science Subcommittee, American Heart Assn/American Stroke Assn

Peer-Review Panels

2011 – Pres Editorial Review Board, Stroke
1993 - Pres Ad Hoc Reviewer: New England Journal of Medicine, Anesthesiology, Cancer, Journal of Applied Behavioral Analysis, Annals of Neurology, Epilepsia, Neuropsychologia, Neuropsychology, Circulation, Neuroscience Letters, Journal of the International Neuropsychological Society, Neurology, Stroke, Journal of Neurology, Neurosurgery, & Psychiatry, Cerebrovascular diseases, American Journal of Physical Medicine and Rehabilitation, Resuscitation, Neurosurgery, Brain, Neuropsychology Review, Journal of
Neurological Sciences, American Journal of Medicine, Journal of Clinical Anesthesia, Journal of Alzheimer's Disease, Frontiers of Neurology, Cardovascular Therapy, Annals of Internal Medicine, Neurorehabilitation and Neural Repair, Aphasiology,

Publications (2019 Peer-Review only)

1. Norling, A.M., Marshall, R.S., Pavol, M.A., Howard, H., Howard, V., Liebeskind, D., Lazar, R.M. Is Hemispheric Hypoperfusion a Treatable Cause of Cognitive Impairment? Current Cardiology Reports, 2019, Jan 19;21(1):41089-9. PMID:30661122

2. Gerstenecker, A., Lazar, R.M. Language recovery following stroke. 2019 Jan 30:1-20. doi: PMID: 30698070.

3. Pavol, M.A., Sundheim, K.M., Festa, J.R., Lazar, R.M., Marshall, R.S. Cognition and quality of life in symptomatic carotid occlusion. Journal of Stroke and Cerebrovascular Disease, 2019 Jun 3. pii: S1052-3057 PMID: 31171458

4. Liu M, Sum M, Cong E, Colon I, Bucovsky M, Williams J, Kepley A, Kuo J, Lee JA, Lazar RM, Marshall R, Silverberg S, Walker MD. Cognition and cerebrovascular function in primary hyperparathyroidism before and after parathyroidectomy. J Endocrinol Invest. 2019 Oct 16. doi: 10.1007/s40618-019-01128-0. [Epub ahead of print]. PMID: 31621051

5. Norling, A.M., Gerstenecker, A.T., Buford, T.W., Khan, B., Oparil, S., Lazar, R.M. The Role of IGF-1 Deficiencies in Microvascular Rarefaction and Hypertension. GeroScience, in press, 2019.

6. Yaghi, S., Cotsonis, G., de Havenon, A.,Prahbakaran, S., Romano, J.G., Lazar, R.M., Marshall, R.S., Feldmann, E., David Liebeskind, D. Post Stroke Montreal Cognitive Assessment and Recurrent Stroke in Patients with Symptomatic Intracranial Atherosclerosis, in revision.

7. Mutsaerts, H.J., Petr, J., Bokkers, R., Lazar, R.M., Marshall, R.S., Asllani, I.Spatial Coefficient of Variation of Arterial Spin Labeling MRI as a Marker of Vascular Sufficiency in Carotid Occlusion, submitted for publication, 2019.

8. Lin, C., Lee, J., Lazar, R.M., Arevalo, Y.A., Mansour, M.A.A., Corado, C., Harvey, R.L., Prabhakaran, S. Gait function after ischemic stroke predicts 3-month disability and quality of life, submitted for publication, 2019

.

Grants/Contracts (2018-present)

U24NS107223 (Gropen, Lazar, Harrigan) 09/01/2018 – 08/31/2023
NIH/NINDS StrokeBelt StrokeNet
The goal of the StrokeBelt StrokeNet is to establish a Regional Coordinating Center to facilitate Stroke research in the Southeastern States of Alabama and Mississippi. This infrastructure will provide research opportunities in acute stroke treatment, primary and secondary prevention, and post-stroke rehabilitation for an underserved, high-risk stroke population.

1 U01 NS080168-01A1 (Brott) 1/1/2014 – 12/31/2021
NIH/NINDS CREST-2 Clinical Coordinating Center.
The goal of this project is to assess if contemporary medical therapy is not inferior to contemporary revascularization (carotid endarterectomy or carotid angioplasty/stenting) plus best medical therapy in patients with ≥ 70% asymptomatic carotid stenosis. The cognitive aim is to assess whether medical therapy alone is non-inferior to revascularization to maintain the level of cognitive function at 4 years of follow-up.
Role: Co-I and Cognitive Core Leader.

R01NS097876 (Lazar, Marshall, Liebeskind, Connolly) 4/1/2017 – 3/31/2022
NIH/NINDS Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial - Hemodynamics
The purpose of this project is to determine whether there is a subset of patients with carotid stenosis who have MRI-detected cerebral hemodynamic compromise and associated cognitive decline, and whether revascularization will be associated with improved hemodynamics and improved cognition.

AMC21 Multi-PI Pilot Grant, UAB Schl of Med (MPI:C Brown, Corresponding PI; Lazar, Co- PI) Prevention of and Recovery from Hospital-Associated Disability. (1/20/2018 – 1/19/2020) Pilot funding in preparation for 2019 submission for an NIA Claude D Pepper Older Americans Independence Center

1R21NS096972-01A1 (Lazar/Kodali) 8/1/2016 – 3/31/2018
NIH/NINDS Cerebral Hemodynamics and Neurocognition in Severe Aortic Valve Disease.
The goal of this project is to determine whether severe aortic stenosis is associated with impaired cerebral hemodynamics and, in turn, impaired cognition, and whether valve replacement is associated with improved cerebral hemodynamics and improved cognition.

R01 AG057709-01 (PI: Gutierrez) 7/1/2018 - 6/30/2023
NIH/NINDS Genetic Contribution to Brain Arterial Dilatation and its Role in Cognition and Dementia
The goal of this project is to study the role of gene regulation in the dilatation of intracerebral arteries in response to systemic cardiovascular risk factors.

Role: Co-I (neurocognitive outcomes).

NAME Jane Allendorfer		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Uni of CA, Davis, CA	BS	06/2000	Psychology
CA State Uni, Hayward, CA		09/2004	Biological Science
Uni of Cincinnati, Cincinnati, OH	PhD	09/2009	Neuroscience
Uni of Cincinnati, Cincinnati, OH	Postdoc	08/2012	Neuroscience

HOSPITAL AND OTHER (NON ACADEMIC) APPOINTMENTS:

Positions and Honors

Positions

2003-2004 Graduate Student Researcher, Department of Biology, California State University East Bay, Hayward, CA

2004-2005 Graduate Student Research Rotations, University of Cincinnati, Cincinnati, OH

2006-2009 Graduate Student Research Assistant, Department of Psychiatry/Center for Imaging Research (Mentor: James C. Eliassen, PhD), University of Cincinnati, Cincinnati, OH

2009-2011 Postdoctoral Fellow, Department of Neurology, University of Cincinnati, Cincinnati, OH

2011-2012 Research Scientist, Department of Neurology, University of Cincinnati, Cincinnati, OH

2012-2013 Instructor, Department of Neurology, University of Alabama at Birmingham, Birmingham, AL

2014- Assistant Professor (Tenure Track), Department of Neurology, University of Alabama at Birmingham, Birmingham, AL

2017- Associate Director, Civitan International Neuroimaging Laboratory, University of Alabama at Birmingham, Birmingham, AL

PUBLICATIONS:

1. Gaston TE, Nair S, Allendorfer JB, Martin RC, Beattie JF, Szaflarski JP (2019). Memory response and neuroimaging correlates of a novel cognitive rehabilitation program for memory problems in epilepsy: A pilot study. Restorative Neurology and Neuroscience. In press. PMID: 31282442
2. Allendorfer JB, Brokamp GA, Nenert R, Szaflarski JP, Morgan CJ, Tuggle SC, Ver Hoef L, Martin RC, Szaflarski BA, Kaur M, Lahti AC, and Bamman MM (2019). A pilot study of combined endurance and resistance exercise rehabilitation for verbal memory and functional connectivity improvement in epilepsy. Epilepsy and Behavior. 96:44-56. PMID: 31078935
3. Allendorfer JB, Nenert R, Bebin EM, Gaston TE, Grayson LE, Hernando KA, Houston JT, Hansen B, Szaflarski JP (2019). fMRI study of cannabidiol-induced changes in attention control in treatment-resistant epilepsy. Epilepsy and Behavior. 96:114-121. PMID: 31129526
4. Espay AJ, Ries S, Maloney T, Vannest J, Neefus E, Dived AK, Allendorfer JB, Wilson LR, LaFrance WC, Lang AE, and Szaflarski JP (2019). Clinical and neural responses to cognitive behavioral therapy for functional tremor. Neurology. 93(19): e1787-e1798. PMID: 31586023

NAME Amy Willis Amara		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Agnes Scott College, Atlanta, GA	B.A.	1998	Medicine
Medical College of Georgia, GA	Ph.D.	2003	Medicine
Medical College of Georgia, GA	M.D.	2005	Medicine

HOSPITAL AND OTHER (NON ACADEMIC) APPOINTMENTS:
Hospital Privileges:
Birmingham Veterans Affairs Medical Center 2011-2012
Children's Hospital of Alabama 2010-present
University of Alabama Hospital 2009-present University of Alabama at Birmingham Highlands Hospital 2009-present Cooper Green Hospital 2009-present
Investigator, Evelyn F. McKnight Brain Institute 2018-present

2019 PUBLICATIONS:
1. Cederberg, K.L.J., N. Belotserkovskya, E.L. Birchall, R.A, Memon, R. Motl, and A.W. Amara (2019) Does restless legs syndrome impact cognitive function via sleep quality in adults with Parkinson's disease? The International Journal of Neuroscience. 18:1. PMID: 31625438
2. Luo, L., Andrews, H., Alcalay, R.N., Poyraz, F.C., Boehme, A.K., Goldman, J.G., Xie, T., Tuite, P. Henchcliffe, C., Hogarth, P., Amara, A.W., Frank, S., Sutherland, M., Kopil, C., Naito, A., Kang, U.J. (2019) Motor phenotype classification in moderate to advanced PD in BioFIND study. Parkinsonism and Related Disorders. 65:178. PMID: 31255537
3. Elm, J.J, Daeschler, M., Bataille, L., Schneider, R., Amara, A.W., Espay, A.J., Afek, M., Admati, C., Teklehaimanot, A., Simuni, T., M (2019) Feasibility and Clinical Utility of a Clinician Dashboard from Wearable and Mobile Application data for Parkinson's disease: The Clinician Input Study. NPJ Digital Medicine. 2:95. PMID: 31583283. PMCID: PMC6761168
4. Lindestam Arlehamn, C.S., Pham, J., Alcalay, R.N., Frazier, A.; Shorr E., Carpenter, C., Sidney, J., Dhanwani, R.; Agin-Liebes, J., Garretti, F., Amara, A.W., Standaert, D.G., Phillips, E.J., Mallal, S.A.,, Peters, B., Sulzerm D., and Sette, A. (2019). Widespread Tau-specific CD4 T-cell Reactivity in the General Population. J. of Immunology. 203:84. PMID: 31085590, PMCID: PMC6581570
5. Chahine, L.M., A. Iranzo, A. Fernandez-Arcos, T. Simuni, N. Seedorff, C. Capsell-Garcia, A.W. Amara, C. Comella, B. Hogl, J. Hamilton, K. Marek, G. Mayer, B. Mollenhauer, R. Postuma, E. Tolosa, C. Trenkwalder, A. Videnovic, W. Oertel, and the PPMI Sleep Working Group. (2019) Basic clinical features do not predict dopamine transporter binding in idiopathic REM behavior disorder. NPJ Parkinson's disease. 5:2. PMID: 30701189. PMC6351563
6. Amara, A.W., L. Chahine, N. Seedorff, C.J. Caspell-Garcia, C. Coffey, and T. Simuni and the Parkinson's Progression Markers Initiative. (2019) Self-reported Physical Activity Levels and Clinical Progression in Early Parkinson's Disease. Parkinsonism and Related Disorders. 61:118. PMID: 30554993

MAJOR RESEARCH INTERESTS:
My major research interests include investigation of the impact of exercise on sleep, cognition, motor outcomes, and functional connectivity in patients with Parkinson's disease. I have also investigated the influence of deep brain stimulation and other therapies on sleep in these patients.
My lab also studies the effects of cognitive training (speed of processing training) on pedestrian safety, cognition, and visual processing in patients with Parkinson's disease and healthy older adults. In addition, I am site investigator for multi-site studies evaluating biomarkers and investigational therapies in patients with Parkinson's disease and dementia with Lewy bodies.

NAME Steven N. Austad		POSITION TITLE Professor and Chair	
EDUCATION/TRAINING			
INSTITUTION/LOCATION Uni of CA, Los Angeles CA State Uni, Norhtridge Purdue University	DEGREE B.A. B.A. PhD	YEAR(S) 1969 1976 1981	FIELD OF STUDY English Literature Biology Biological Sciences

Positions

2014 – present: Distinguished Professor & Chair, Department of Biology, University of Alabama at Birmingham (UAB), Birmingham, AL

- Director. UAB Nathan Shock Center of Excellence in the Basic Biology of Aging.
- Associate Director. UAB Comprehensive Center for Healthy Aging.
- Senior Scientist. UAB Nutrition Obesity Research Center.
- Senior Scientist. UAB Center for Exercise Medicine.
- Senior Scientist. UAB Diabetes Research Center
- Steering Committee Member. UAB Mentored Experiences in Research, Instruction, and Teaching (MERIT) Program.
- Scientist. UAB Alzheimer's Disease Center.
- Executive Committee Member. UAB Comprehensive Neuroscience Center.
- Investigator, Evelyn F. McKnight Brain Institute
- Scientific Director, American Federation for Aging Research, New York City, NY
- Co-Director, Nathan Shock Centers Coordinating Center.

Honors and Awards

2018 Outstanding Teacher Award. UAB University Honors Program.

Publications

1. Hoffman JM, Kiklevich JV, Austad M, Tran V, Jones DP, Royal A, Henry C, Austad SN. (2019). Tryptophan metabolism is differently regulated between large and small dogs. Geroscience. Nov 29. Doi:10.1007/s11357-019-00114-x. (Epub ahead of print).

2. Van Skike CE, Lin A-L, Burbank RR, Halloran JJ, Hernandez SF, Cuvillier J, Soto VY, Hussong SA, Jahrling JB, Javors MA, Hart MJ, Fischer KE, Austad SN, Galvan V. (2019) mTOR drives cerebrovascular, synaptic, and cognitive dysfunction in normative aging. Aging Cell, Nov 6:e13057. doi: 10.1111/acel.13057 (Epub ahead of print)

3. Newman JC, Sokoloski JL, Robbins PD, Niedernhofer LJ, Reed MJ, Wei J, Austad SN, Barzilai N, Cohen HJ, Kuchel GA, Kirkland JL, Pignolo RJ (2019) Creating the Next Generation of Translational Geroscientists. Journal of the American Geriatric Society. 67(9):1934-1939 doi: 10.1111/jgs.16055.

4. Austad SN, Wood MA, Villeda SA, Voss JL, Sahay A, Albert M. (2019). Innovative approaches in cognitive aging. Neurobiology of Aging 83, 150-154. doi: 10.1016/j.neurobiolaging.2019.04.013.

5. Austad SN. (2019). Sex differences in health and aging: a dialogue between brain and gonad? Geroscience 41(3):267-273. doi: 10.1007/s11357-019-00081-3.

6. Brown CJ, Mtui D, Oswald BP, van Leuven JT, Vallenderd EJ, Schultz-Darken N, Ross CN, Tardif SD, Austad SN, Forney LJ. (2019). Comparative genomics of Bifidobacterium species isolated from marmosets and humans. American Journal of Primatology. 81(10-11):e983. doi: 10.1002/dneu.22676. (Epub 2019 May 6)

7. Tomczyk S, Buzgariu W, Perruchoud C, Fisher K, Austad S, Galliot B. (2019). Loss of neurogenesis in aging Hydra. Developmental Neurobiology79 (5), 479-496. doi: 10.1002/dneu.22676.

8. Parambeth JC, Ross CN, Miller AD, Austad SN, Lidbury JA, Suchodolski S, Steiner JM. (2019). Serum cobalamin and folate concentrations in common marmosets (Callithrix jacchus) with chronic lymphocytic enteritis. Comparative Medicine 69(2), 135-143. doi: 10.30802/AALAS-CM-18-000045.

9. Austad SN, Hoffman JM (2019). Response to genes that improved fitness also cost modern humans: evidence for genes with antagonistic effects on longevity and disease. Evolutionary Medicine and Public Health. 23, 7-8. doi: 10.1093/emph/eoz003.

NAME Karlene Ball		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Indiana University	B.A.	1974	Psychology
Northwestern University	M.S.	1977	Psychology
Northwestern University	Ph.D.	1979	Psychology
Northwestern University	Post-doc	1979-1984	Psychology

Positions
Director, UAB Edward R. Roybal Center for Research on Applied Gerontology Associate
Director, Comprehensive Center for Healthy Aging
Investigator, Evelyn F. McKnight Brain Institute

Accomplishments
Submission of the Roybal Center competing renewal. The UAB Roybal Center Theme is Translational Research on Aging and Mobility. This theme was selected due to the prevalence of mobility problems among older adults, and the impact that mobility problems have on everyday function. The theme has expanded and broadened over time and now includes additional areas
of research in which mobility can be threatened (e.g., pain and obesity), as well as other factors which can impact adherence to behavioral interventions.

Publications
1. Fazeli, P. L., Woods, A. J., Pope, C. N., Vance, D. E., and Ball, K. K. (2019) Effect of transcranial direct current stimulation combined with cognitive training on cognitive functioning in older adults with HIV: A pilot study. Applied Neuropsychology Adult, 26(1), 36-47.
PMCID: PMC5661972 [Available on 2020-01-01]
2. Belchior, P., Yam, A., Thomas, K. R., Bavelier, D., Ball, K. K., Mann, W. C., & Marsiske, M. (2019) Computer and Videogame Interventions for Older Adults' Cognitive and Everyday Functioning. Journal of Games Health, 8(2), 129-143. (Epub 2018 Sep 29)
PMCID: PMC6482895
3. Green, C.S., Bavelier, D., Kramer, A. F., Vinogradov, S., Ansorge, U., Ball, K.K., Bingel, U., Chein, J.M., Colzato, L.S., Edwards, J.D., Facoetti, A., Gazzaley, A., Gathercole, S.E., Ghisletta, P., Gori, S., Granic, I., Hillman, C.H., Hommel, B., Jaeggi, S.M., Kanske, P., Karbach, J., Kingstone, A., Kliegel, M., Klingberg, T., Kühn, S., Levi, D.M., Mayer, R.E., McLaughlin, A.C., McNamara, D.S., Morris, M.C., Nahum, M., Newcombe, N.S., Panizzutti, R., Prakash, R.S., Rizzo, A., Schubert, T., Seitz, A.R., Short, S.J., Singh, I., Slotta, J.D., Strobach, T., Thomas, M.S.C., Tipton, E., Tong, X., Vlach, H.A., Wetherell, J.L., Wexler, A., and Witt, C.M. (2019).). Improving Methodological Standards in Behavioral Interventions for Cognitive Enhancement. Journal of Cognitive Enhancement, Published On-line. DOI: 10.1007/s41465-018-0115-y
4. McCaskill, G.M., Clay, O.J., Motl, R. W., and Ball, K. K. (2019). Older Veterans EmpoweRed To Use Regular Exercise (OVERTURE) II: Design and methods of a randomized controlled trial among older veterans with chronic health conditions. Contemporary Clinical Trials Communications, 15,100395. PMCID: PMC6626999
5. McCormick, M., Reyana, V. F., Ball, K., Katz, Jeffrey S., and Deshpande, Gopikrishna. (2019) Neural Underpinnings of Financial Decision Bias in Older Adults: Putative Theoretical Models and a Way to Reconcile Them. Frontiers in Neuroscience, 13, 184. PMCID: PMC6427068
6. Bell, T. R., Fazeli, P., Pope, C. N., Crowe, M., and Ball, K. K. (2019). Lower back pain affects mobility-related injuries in older adults. Alzheimer's & Dementia: The Journal of the Alzheimer's Association, 15(7), P1441.DOI: 10.1093/geroni/igz038.1071
7. Pope, C.N., Fazeli, P.L., Bell, T.R., Gaini, M.S., Mrug, S., and Ball, K.K. (2019, November) Falls and motor vehicle collisions: A longitudinal investigation of older drivers. Innovation in Aging, 3(S7), PS290. DOI: 10.1093/geroni/igz038.1069

NAME Etty (Tika) Benveniste		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
CA State Uni, Chico, CA	B.A.	1978	Biological Sciences
Univ of CA, Los Angeles, CA	PhD	1983	Immunology
Univ of CA, Los Angeles, CA	Post-doc	1986	Neuroimmunology

Positions
2015 – present Co-Director, UAB Multiple Sclerosis Center, UAB
2015 – present Senior Associate Dean for Research Administration, UAB 2016 – present Charlene A. Jones Endowed Chair in Neuroimmunology, UAB 2017 – present Senior Vice President for Basic Sciences
2017 – present, Investigator, Evelyn F. McKnight Brain Institute

Honors, Awards, and Advisory Committees
Chair: SOM Executive Risk Oversight Committee, 2015- Chair:
SOM Master Space Planning Committee, 2016-
Member: Science and Technology Honors Program Leadership Council, 2016-
Co-Chair: Search Committee, Director of the Comprehensive Cancer Center, 2016-2017 Member: Search Committee, Vice President for Research, 2016
Chair: Internal Advisory Board, UAB Women's Reproductive Health Research (WRHR) Program, 2016-
Member: Search Committee, Chair of Neurobiology, 2017
Member: Internal Advisory Board, Institute for Cancer Outcomes and Survivorship, 2017

Professional Societies
Past-President, American Society of Neurochemistry, 2015- 2017
Member: Council of Faculty and Academic Societies, Association of American Medical Colleges, 2013-
Member: Council of Faculty and Academic Societies, Administrative Council, 2013- Member: AAMC Distinguished Research Award Selection Committee, 2014, 2015
Member: Americas Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Program Committee Advisory Board, 2017-

NAME Mark Bolding		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION Clemson University University of Alabama at Birmingham	DEGREE B.S. Ph.D.	YEAR(S) 1997 2012	FIELD OF STUDY Mathematics Vision Science/Philosophy

Current Positions:
2017 – Present: Associate Professor, Radiology, UAB Associate Professor
Division of Advanced Medical Imaging Department of Radiology
Director, Civitan International Neuroimaging Laboratory Investigator, Evelyn F. McKnight Brain Institute mbolding@uabmc.edu
205-975-4060

Areas of interest:
Vision - visual behavior and visual cognition; psychiatry – schizophrenia; imaging - MRI and neuroimaging

NAME Michael Brenner		POSITION TITLE Emeritus Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Harvard College, Cambridge, MA	A.B.	1965	Biochemical Sciences
Churchill College, Cambridge, UK		1966	
Uni CA Berkeley, CA	PhD	1970	Biochemistry

Positions

2015-present Emeritus Professor, Department of Neurobiology, UAB 2007-2015 Professor Department of Neurobiology, UAB

2006 – present Investigator, Evelyn F. McKnight Brain Institute

1999-2007 Associate Professor, Department of Neurobiology, UAB

1992-1998 Research Scientist, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD, Laboratory of Dr. John Hallenbeck ("Special Expert")

1987-92 Research Scientist, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD., Laboratory of Dr. Ernst Freese ("Special Expert")

1985-87 Research Scientist, National Institute of Diabetes, Digestive and Kidney Diseases, NIH, Bethesda, MD, Laboratory of Dr. Jun-ichi Tomizawa 1980-84 ("Expert")
Associate Professor, Temple Univ. Medical School, Philadelphia, PA

1979-80 Visiting Assistant Professor, Boston College, Chestnut Hill, MA 1979-80
Research Associate, Harvard University, Cambridge, MA

1976-79 Associate Professor, Harvard University, Cambridge, MA

1972-76 Assistant Professor, Harvard University, Cambridge, MA, Department of Biology

Patent:

United States Patent Number 5,627,047, "Astrocyte-Specific Transcription of Human Genes." granted 6 May 1997, covers the use of the human GFAP regulatory sequences for targeting expression of genes to astrocytes in culture or in transgenic animals. Licensing agreements have been executed with several biotechnology companies.

NAME Cynthia J. Brown		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
East Carolina Uni, Greenville, NC	B.S.	1982	Physical Therapy
North Carolina St, Raleigh, NC		1991	
Univ of North Carolina, Chapel Hill	MD	1996	
UAB	M.S.	2006	Public Health

Positions

2003 – present Investigator, Birmingham/Atlanta VA Geriatric Research, Education and Clinical Center (GRECC)

2003 – present Medical Director, Birmingham/Atlanta GRECC Fall Prevention and Mobility Clinic

2003 – present Staff Physician, UAB Hospital, UAB Highlands and the Veterans Affairs Medical Center, Birmingham, Alabama

2008 – 2013 Quality Improvement Director, Acute Care for Elders (ACE) Unit, UAB Highlands, Birmingham, Alabama

2017 – present Investigator, Evelyn F. McKnight Brain Institute

Publications

1. Dermody G, Sawyer P, Kennedy R, Brown CJ. ED Utilization and Self-Reported Symptoms in Community Dwelling Older Adults. J Emerg Nurs. 2017 Jan;43(1):57-69. PMID: 28131350.

2. Kennedy RE, Sawyer P, Williams CP, Lo AX, Ritchie CS, Roth DL, Allman RM, Brown CJ. Life-Space Mobility
Change Predicts 6-Month Mortality. J Amer Geriatr Soc. 2017; 65(4):833-838. PMID: 28152168.

3. Clay OJ, Perkins M, Wallace G, Crowe M, Sawyer P, Brown CJ. Associations of Multimorbid Medical Conditions and Health-related Quality of Life among Older African American men. J Gerontol B Psychol Sci Soc Sci. 2017 Jun 27. [Epub ahead of print] PMID: 28658936.

4. Balentine CJ, Leverson G, Vanness D, Knight S, Turan J, Brown CJ, Kennedy G, Chen H, Bhatia S. Selecting Post-Acute Care Settings After Abdominal Surgery: Are We Getting It Right? Am J Surg. 2017 Sep 20. [Epub ahead of print] PMID: 28951065.

5. Stec MJ, Thalaker-Mercer A, Mayhew DL, Kelly NA, Tuggle C, Merritt EK, Brown CJ, Windham ST, Dell'Italia LJ, Bickel CS, Roberts BM, Vaughn KM, Isakova-Donahue I, Many G, Bamman MM. Randomized, Four-Arm, Dose-Response Clinical Trial to Optimize Resistance Exercise Training for Older Adults with Age-Related Muscle Atrophy. Exp Gerontol. 2017;99:98-109. PMID: 28964826.

Manuscripts in preparation

Kennedy RE, Williams CP, Sawyer P, Lo AX, Connelly K, Nassel A, Brown CJ. Life-space Predicts Healthcare Utilization in Community-Dwelling Older Adults (Journal of Aging and Health)

NAME Thomas Buford		POSITION TITLE Associate Professor and Endowed Scholar Department of Medicine, Gerontology, Geriatrics and Palliative Care	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Baylor University	PhD	2009	Exercise Physiology
Oklahoma State University	MS	2006	Kinesiology and Exercise Science
Oklahoma Baptist University	BS	2004	Mathematics

Positions
Associate Professor (P), Medicine - Gerontology, Geriatrics, and Palliative Care , Department of Medicine 2017 -
Scientist (C), Center for Exercise Medicine , Cell, Developmental and Integrative Biology (CDIB) 2017 -
Associate Director, Center for Exercise Medicine , Cell, Developmental and Integrative Biology (CDIB) 2017 -
Scientist (C), Evelyn F. McKnight Brain Institute , Neurology 2017 -
Scientist (C), Comprehensive Center for Healthy Aging , School of Medicine 2018 -
Scientist (C), Comprehensive Diabetes Center , School of Medicine 2019 -
Scientist (C), Nutrition Obesity Res Center (NORC) , Nutrition Sciences Research 2019 -

Thomas Buford, PhD, FACSM, FAHA, joined the UAB School of Medicine's Division of Gerontology, Geriatrics & Palliative Care as an associate professor, and as associate director of the UAB Center for Exercise Medicine (UCEM). He helps lead the NIH National Rehabilitation Research Resource for Clinical Trials (REACT) and the Coordinating Center for the NIH National Medical Rehabilitation Research Resource Network, both based at the UCEM.

1. AA Wanigatunga, TM Manini, DR Cook, JA Katula, RA Fielding, AF Kramer, J Verghese, SR Rapp, KM Sink, AC King, TW Buford, SD Anton, N Nadkarni, JJ Jennings, KF Reid, MA Espeland, TM Gill, M Pahor, JR Nocera. Community-based activity and sedentary patterns associated with cognitive performance in mobility-limited older adults. Frontiers Aging Neurosci. 10: 341. 2018.
2. AM Norling, AT Gerstenecker, TW Buford, B Khan, S Oparil, RM Lazar. The Role of Exercise in the Reversal of IGF-1 Deficiencies in Microvascular Rarefaction and Hypertension. Geroscience
3. Y Sun, LC Baptista, LM Roberts, P Jumbo-Lucioni, LL McMahon, TW Buford, CS Carter. The gut microbiome as a therapeutic target for cognitive impairment. J Gerontol Biol Sci. (in review)
4. LC Baptista, Y Sun, CS Carter, TW Buford. Crosstalk between gut microbiome and bioactive lipids: therapeutic targets in cognitive frailty. Frontiers in Nutrition. (in review)

NAME Michael Crowe		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Southern CA, Los Angeles, CA	PHD	1998-2004	Psychology
University of Illinois, Urbana, Illinois	BS	1994-1998	Psychology

ACADEMIC POSITIONS

2016-present Associate Director, Comprehensive Center for Healthy Aging, University of Alabama at Birmingham.
2013-present Associate Professor, Department of Psychology, University of Alabama at Birmingham.
2013-present Director, Undergraduate Honors Program in Psychology, University of Alabama at Birmingham.
2007-present Assistant Director, Roybal Center for Research in Applied Gerontology, UAB
2007-present Associate Scientist, Minority Health & Health Disparities Research Center (MHRC), UAB
2007-present Associate Scientist, Alzheimer's Disease Research Center, University of Alabama at Birmingham.
2007-2013 Assistant Professor, Department of Psychology, University of Alabama at Birmingham.
2006-present Scientist, Comprehensive Center for Healthy Aging, University of Alabama at Birmingham.
2006-2007 Assistant Professor, Department of Medicine, Division of Gerontology & Geriatric Medicine, UAB
2004-2006 National Institute on Aging Postdoctoral Trainee, Clinical and Behavioral Training in Gerontology Program, University of Alabama at Birmingham.
2003-2004 Predoctoral Intern, APA-accredited predoctoral clinical psychology internship, University of Alabama at Birmingham Psychology Training Consortium (Birmingham VA Medical Center).

Publications 2019

1. Nasrallah, I., Pajewski, N., Auchus, A., Chelune, A., Cheung, A., Cleveland, M., Coker, L., Crowe, M.,Bryan, C. (2019). Association of intensive vs. standard blood pressure control with cerebral white matter lesions. *JAMA, 322,* 524-534.
2. Passler, J., Kennedy, R., Clay, O., Crowe, M., Howard, V., Cushman, M., Unverzagt, F., & Wadley, V. (2019). The relationship of longitudinal cognitive change to self-reported IADL in a general population. *Aging, Neuropsychology, and Cognition.* Advance online publication. doi: 10.1080/13825585.2019.1597008.
3. Williamson, J., Pajewski, N., Auchus, A., Bryan, N., Chelune, G., Cheung, A., Cleveland, M., Coker, L., Crowe, M., Wright, C. (2019). Effect of intensive vs standard blood pressure control on probable dementia: a randomized clinical trial. *JAMA*, *321,* 553-561.
4. Landrigan, J., Bell, T., Crowe, M., Clay, O., & Mirman, D. (2019). Lifting cognition: a meta-analysis of effects of resistance exercise on cognition. *Psychological Research.* Advance online publication. doi: 10.1007/s00426-019-01145-x.
5. Marceaux, J. C., Prosje, M. A., McClure, L. A., Kana, B., Crowe, M., Kissela, B., Manly, J., Howard, G., Tam, J., Unverzagt, F., & Wadley, V. G. (2019). Verbal fluency in a national sample: telephone administration methods. *International Journal of Geriatric Psychiatry, 34,* 578-587.
6. Andel, R., Dávila, A., Grotz, C., Small, B., Markides, K., & Crowe, M. (2019). Complexity of work and incident cognitive impairment in Puerto Rican older adults. *Journal of Gerontology: Psychological Sciences, 74,* 785-795.
7. Cody, S. L., Fazeli, P. L., Crowe, M., Kempf, M. C., Moneyham, L., Stavrinos, D., Vance, D., & Heaton, K. (2019). Effects of speed of processing training and transcranial direct current stimulation on global sleep quality and speed of processing in older adults with and without HIV: A pilot study. *Applied Neuropsychology: Adult*. Advance online publication. doi: 10.1080/23279095.2018.1534736

NAME Christy Carter		POSITION TITLE Research Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Univ of Colorado	B.A.	1991	Psychology
Univ of North Carolina	Ph.D.	1998	Psychology

Positions
06/18 – present Investigator, Evelyn F. McKnight Brain Institute
01/16-present Program Director, Education Programs, Department of Aging & Geriatric Research, College of Medicine, University of Florida
07/12-present Research Assistant Professor, Department of Aging & Geriatric Research, College of Medicine, University of Florida (Multi-mission track, non-tenure accruing) 04/05-07/12 Assistant Professor, Department of Aging & Geriatric Research, College of Medicine, University of Florida, (tenure accruing)
2007-2008 North Florida South Georgia VAMC, Associate Director for Research, Geriatric Research, Education & Clinical Center, (non- tenure accruing,)
09/04-03/05 Assistant Professor, Wake Forest University, Department of Internal Medicine, Section on Geriatrics & Gerontology, School of Medicine, (tenure accruing)
07/01-08/04 Instructor, Department of Internal Medicine, Section on Geriatrics & Gerontology, Wake Forest University, (non-tenure accruing)
09/99-06/01 Research Associate, Department of Internal Medicine, Section on Geriatrics & Gerontology, Wake Forest University, (non-tenure accruing)

Honors, Awards, and Advisory Committees
2016 UF COM Teaching Incentive Award
2016 Online Education Excellence Award in the category of Graduate Course 2014 Fellow, Gerontological Society of America
2010 Online Education Excellence Award in the category of Graduate Course 2008 Outstanding Rating, US Department of Veterans Affairs
2003 Young Investigator Award, American Geriatrics Society
2001 Bloch Post-Doctoral Fellow Award, American Geriatrics Society
2001 "Physical Ability in Aged and Dwarf (dw/dw) Rats: Isolating Growth Hormone Effects", American Federation for Aging Research (AFAR)/Pfizer
1996 Travel Award to Annual Meeting, Neurobehavioral Teratology Society
1995 National Research Service Fellowship Award (NRSA) (#MH11262 F31) at University of North Carolina, Chapel Hill, The National Institute of Mental Health (NIMH)

Publications
1. Solberg, L.B., Carter, C.S., Solberg, L.M., 2019. Geriatric Care Boot Camp Series: Interprofessional education for a new training paradigm. Geriatr. Nurs. doi:10.1016/j.gerinurse.2019.05.010
2. Baptista, L.C., Jaeger, B.C., Anton, S.D., Bavry, A.A., Handberg, E.M., Gardner, A.K., Harper, S.A., Roberts, L.M., Sandesara, B., Carter, C.S., Buford, T.W., 2019. Multimodal intervention to improve functional status in hypertensive older adults: A pilot randomized controlled trial. J Clin Med 8. doi:10.3390/jcm8020196
3. Bruce, E.B., Sakarya, Y., Kirichenko, N., Toklu, H.Z., Sumners, C., Morgan, D., Tümer, N., Scarpace, P.J., Carter, C.S., 2018. ACE2 activator diminazene aceturate reduces adiposity but preserves lean mass in young and old rats. Exp. Gerontol. 111, 133–140. doi:10.1016/j.exger.2018.07.008
4. Carter, C.S., Justice, J.N., Thompson, L., 2019. Lipotoxicity, aging, and muscle contractility: does fiber type matter? Geroscience 41, 297–308. doi:10.1007/s11357-019-00077-z

NAME Jeremy J. Day		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Auburn University	BA	2000-2003	Psychology
University of North Carolina Chapel Hill	MA	2004-2006	Psychology
University of North Carolina Chapel Hill	PhD	2006-2009	Psychology
University of Alabama at Birmingham		2009-2014	Neurobiology

Positions

2019-present	Associate Professor	UAB
2016-2019	Scientist, Alzheimer's Disease Center	UAB
2015-present	Associate Scientist, Civitan International Research Center	UAB
2014-present	Graduate Faculty	UAB
2014-present	Assistant Professor, Dept. of Neurobiology (Primary)	UAB
2014-present	Assistant Professor, Dept. of Genetics (Secondary)	UAB
2014-present	Assistant Professor, Dept. of CDIB (Secondary)	UAB
2014-present	Assistant Professor, Dept. of Psychology (Secondary)	UAB
2014-present	Investigator, Evelyn F. McKnight Brain Institute	UAB

Publications

1. Carullo, N.V.N. & Day, J.J. (2019). Genomic enhancers in brain health and disease. Genes 10(1),43; https://doi.org/10.3390/genes10010043.
2. Savell, K.E., Bach, S.V., Zipperly, M.E., Revanna, J.S., Goska, N.A., Tuscher, J.J., Duke, C.G., Sultan, F.A., Burke, J.N., Williams, D.M., Ianov, L., & Day, J.J. (2019). A neuron-optimized CRISPR/dCas9 activation system for robust and specific gene regulation. eNeuro DOI: 10.1523/ENEURO.0495-18.2019.
3. Henderson, B.W., Greathouse, K.M., Ramdas, R., Walker, C.K., Rao, T.C., Bach, S.V., Curtis, K.A., Day, J.J., Mattheyses, A.L., Herskowitz, J.H. (2019). Pharmacologic inhibition of LIMK1 provides dendritic spine resilience against amyloid-β. Science Signaling, 12(587), eaaw9318.
4. Tuscher, J.J., & Day, J.J. (2019). Multigenerational Epigenetic Inheritance: One Step Forward, Two Generations Back. Neurobiology of Disease, 132(104591).
5. Savell, K.E., Sultan, F.A., & Day, J.J. (2019). A dual lentiviral CRISPR-based transcriptional activation system for gene expression regulation in neurons. Bio-Protocols, 9(17): e3348.
6. Duke, C.G., Savell, K.E., Phillips, R.A., & Day, J.J. (In press). Blue light-induced gene expression alterations in cultured neurons are the result of phototoxic interactions with neuronal culture media. eNeuro.

NAME Lynn Dobrunz		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Harvard University, Cambridge, MA	B.S.	1988	Engineering Science
Johns Hopkins, Baltimore, MD	PhD	1994	Biomedical Engineering
Salk Institute, La Jolla, CA	Postdoc	1999	Molecular Neurobiology

Positions

2014-present	Associate Director, UAB Comprehensive Neurosciences Center
2008-present	Associate Professor, Department of Neurobiology, University of Alabama at Birmingham, Birmingham, AL.
2012-present	Secondary appointment, UAB Department of Cell, Developmental and Integrative Biology
2006-present	Member, UAB Civitan International Research Center 2006-
present	Member, UAB Comprehensive Neurosciences Center 2006-
present	Investigator, Evelyn F. McKnight Brain Institute 2005-present
	Member, UAB Center for Aging
2002-2012	Secondary appointment, UAB Department of Physiology and Biophysics 1999-2008
	Assistant Professor, Department of Neurobiology, University of Alabama at Birmingham

Honors, Awards, and Advisory Committees

1988	Magna Cum Laude, Harvard University
1988	Phi Beta Kappa
1988-1989	National Science Foundation Award for Creativity in Engineering 1988-1989
	Able Wolman Fellowship, The Johns Hopkins School of Medicine 1999-2000
	Howard Hughes Medical Institute Career Development Award 2010-2014
	Member, NIH MNPS Study Section
2014	Member, NIH Committee of Visitors
2014-2017	Member, NIH BRAIN Initiative Review Panel 2015
	Member, NIH Conte Center Review Panel

NAME Lloyd J. Edwards		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Morehouse College, Atlanta, GA	B.A.	1980	Mathematics
Univ of Maryland, College Park, MA	M.A.	1982	Mathematical Statistics
Univ of NC, Chapel Hill, NC	PhD	1990	Biostatistics

Positions

August 2017 Present, Professor and Chair - Department of Biostatistics, UAB

2017-present Investigator, Evelyn F. McKnight Brain Institute

2000 – 2017 Associate Professor - Department of Biostatistics University of North Carolina, Chapel Hill Chapel Hill, North Carolina

1998 - 2000 - Associate Professor - Department of Community and Family Medicine / Division of Biometry Head of Department of Medicine Biostatistics Unit Duke University Medical Center Durham, North Carolina

1998 Associate Professor, Dept Biostatistics, Uni of NC, Chapel Hill, NC

1991 – 1998 Assistant Professor - Department of Biostatistics, University of North Carolina - Chapel Hill, Chapel Hill, North Carolina

1990 – 1991 Visiting Assistant Professor - Department of Biostatistics, University of North Carolina - Chapel Hill, Chapel Hill, North Carolina

1986 – 1990 Graduate Research Assistant, University of North Carolina - Chapel Hill, Chapel Hill, North Carolina

1983 – 1986 Software Engineer/Statistician, TRW Defense Systems Group, McLean, Virginia

Organizations/Honors

Member, UNC IRB Scientific Review Committee (August 2012 - May 2017)

Member of Clinical Research Committee of the Cystic Fibrosis Foundation (Oct 2011 - June 2017)

Publications 2019

1.Jaeger, BC, Booth, JN, Butler, M, Edwards, LJ, Lewis, CE, Lloyd-Jones, DM, Sakhuja, S, Schwartz, JE, Shikany, JM, Shimbo, D, Yano, Y, Muntner, P (2020). Development of Predictive Equations for Nocturnal Hypertension and Non-dipping Systolic Blood Pressure. In press, Journal of the American Heart Association.

2.Lin, V., Kaza, N., Birket, S., Kim, H., Edwards, L., LaFontaine, J., Liu, L., Mazur, M., Byzek, S., Hanes, J., Tearney, G., Raju, S.V., Rowe, S. (2019). Excess mucus viscosity and airway dehydration impact COPD airway clearance. In press, European Respiratory Journal.

3. Jaeger, B.C., Edwards, L.J., Gurka, M.J. (2019). An R statistic for covariance model selection in the linear mixed model. Journal of Applied Statistics, 46(1):164-184.

4. Siddiqui, M., Judd, E.K., Jaeger, B.C., Bhatt, H., Dudenbostel, T., Zhang, B., Edwards, L.J., Oparil, S. Calhoun, D.A. (2019). Out-of-clinic sympathetic activity is increased in patients with masked uncontrolled hypertension. Hypertension, 73:132–141.

NAME Karen Gamble		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Georgia State University	PhD	2004	Neuroscience
Georgia State University	MA	2001	Psychology
King College	BA	1996	Psychology

Positions
Scientist, Evelyn F. McKnight Brain Institute
Associate Scientist, Comprehensive Neuroscience Center
Associate Scientist, Center for Neurodegeneration and Experimental Therapeutics
Member, Alzheimer's Disease Center
Member, Civitan International Research Center
Member, Nutrition & Obesity Research Center
Member, Center for Clinical and Translational Science
Member, Vision Science Research Center
Member, Graduate Program in Neuroscience
Member, Graduate Program in Genetics
Member, Graduate Program in Cell, Molecular and Developmental Biology

Honors, Awards, and Advisory Committees
1996 Graduated from King College Summa cum Laude in Psychology
2003 Bailey M. Wade Award, GSU
2003 Kirschstein National Research Service Award, Individual Predoctoral Fellow
2004 Postdoctoral Research Fellowship, Vanderbilt Kennedy Center for Research on Human Development
2004 Richard Morrell Outstanding Graduate Student Fellowship Award, GSU
2005 Neurogenomics Postdoctoral Training Program Fellowship, Vanderbilt University
2006 Society for Research in Biological Rhythms Travel Award
2006 Kirschstein National Research Service Award, Individual Postdoctoral Fellow
2009 Gordon Research Conference on Chronobiology Hot Topics Selected Speaker and Travel Award
2012 Clinical and Translational Science program (6 months), certification
2013 Young Investigator, William C. Dement Sleep and Chronobiology Apprenticeship, Brown University.
2014 Innovative Teaching Award, UAB Department of Psychiatry
2014 Outstanding New Senator Award, UAB Faculty Senate
2014 Faculty of 1000 Prime, Associate Member
2016 Tate Jordan Thomas Professorship in Psychiatric Medicine

MAJOR RESEARCH INTERESTS: (2-3 Sentences)
The primary goal of my research program is to discover how 24-h biological rhythms are orchestrated by the endogenous circadian clock and synchronized to the environment (physiology). In addition, we are actively seeking to understand the health consequences of aberrant circadian regulation and internal and external dyssynchrony (pathology). The laboratory is addressing this scientific problem through pre-clinical basic research utilizing transgenic animal models as well as translational research in shift work nurses and collaborative efforts to investigate attentional impairment in patient populations such as smokers, adult patients diagnosed with ADHD, and children with sleep disorders.

Publications in peer reviewed journals
1. Molzof, H.E., Prapanjaroensin, A., Patel, V.H., Mokashi, M.V., and Gamble, K.L.* and Patricia, P.A.* (2019). Misaligned core body temperature rhythms impact cognitive performance of hospital shift work nurses. Neurobiology of Learning and Memory, 160:151-159. *Co-Corresponding Authors
2. Resuehr, D., Johnson, R.L., Wu, G., Young, M.E., Hogenesch, J.B., and Gamble, K.L. (2019). Shift work disrupts circadian regulation of the human transcriptome in hospital nurses. J Biol Rhythms, 34(2):167-177.
3. Paul JR, Davis, J.A., Goode, L.K., Becker, B.K., Fusilier, A., Meador-Woodruff, A., and Gamble K.L. (2020). Circadian Regulation of Membrane Physiology in Neural Oscillators Throughout the Brain. Eur J Neurosci, in press.
4. Gamble, K.L., Silver, R. (2020). Circadian rhythmicity and the community of clockworkers. Eur J Neurosci, in

press.

NAME Gamlin, Paul Douglas Roger		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Cambridge, England	B.A.	1978	Zoology
State Uni of New York, Stony Brook, NY	PhD	1984	Neurobiology

Positions

2013 - present Professor, Department of Ophthalmology, University of Alabama at Birmingham 2013- present Investigator, Evelyn F. McKnight Brain Institute

1997 – present Professor, Departments of Biomedical Engineering, Psychology, and Neurobiology, University of Alabama at Birmingham

1996 - 2013 Professor, Department of Vision Sciences, University of Alabama at Birmingham 2003 - 2013 Director, UAB Center for the Development of Functional Imaging

2004 - 2012 Chairman, Department of Vision Sciences

2001 - 2006 Director, UAB Neuroscience Graduate Program

2002 - 2003 Associate Director, UAB Center for the Development of Functional Imaging

1995 - 1999 Director, UAB Vision Science Research Center

1995 - 1996 Scientist, Neurobiology Research Center, University of Alabama at Birmingham 1992 - 1996 Associate Professor, Departments of Physiological Optics and Psychology; Scientist, Vision Science Research Center, University of Alabama at Birmingham

1989 - 1992 Assistant Professor, Departments of Physiological Optics and Psychology; Associate Scientist, Vision Science Research Center, UAB

1989 Research Assistant Professor, Department of Physiological Optics, School of Optometry, University of Alabama at Birmingham

1984 - 1986 Research Associate, Neurosciences Program, UAB

Honors, Awards, and Advisory Committees

1984 Sigma Xi Award for Achievement in Research

1993 American Optometric Student Asso Award for Excellence in Basic Science Teaching

1997 UAB President's Award for Excellence in Teaching

2009 Irene E. Loewenfeld Lecturer

2014 RPB Walt and Lilly Disney Award for Amblyopia Research

Publications 2019

1. Taghian T, Marosfoi MG, Puri AS, Cataltepe OI, King RM, Diffie EB, Maguire AS, Martin DR, Fernau D, Batista AR, Kuchel T, Christou C, Perumal R, Chandra S, Gamlin PD, Bertrand SG, Flotte TR, McKenna-Yasek D, Tai PWL, Aronin N, Gounis MJ, Sena-Esteves M, Gray-Edwards HL. A Safe and Reliable Technique for CNS Delivery of AAV Vectors in the Cisterna Magna. Mol Ther. 2019 Nov 16. pii: S1525-0016(19)30508-8.

2. Kelbsch C, Strasser T, Chen Y, Feigl B, Gamlin PD, Kardon R, Peters T, Roecklein KA, Steinhauer SR, Szabadi E, Zele AJ, Wilhelm H, Wilhelm BJ. Standards in Pupillography. Front Neurol. 2019 Feb 22;10:129.

3. May PJ, Billig I, Gamlin PD, Quinet J. Central mesencephalic reticular formation control of the near response: lens accommodation circuits. J Neurophysiol. 2019 May 1;121(5):1692-1703. doi: 10.1152/jn.00846.2018. Epub 2019 Mar 6.

4. Gamlin PD, Alexander JJ, Boye SL, Witherspoon CD, Boye SE. SubILM Injection of AAV for Gene Delivery to the Retina. Methods Mol Biol. 2019;1950:249-262.

NAME Cristin F. Gavin		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Birmingham-Southern College Birmingham-Southern College University of Alabama at Birmingham	 BS, Biology BA, Philosophy PhD, Neuroscience	 2006 2006 2012	 Biology Philosophy Neuroscience

Positions
-Assistant Professor, Primary, Department of Neurobiology, Secondary, Department of Psychology, UAB
-Co-Director, Undergraduate Neuroscience Program
-Co-Director, Post-baccalaureate Research Education Program
-Investigator, Evelyn F. McKnight Brain Institute

Honors, Awards, and Advisory Committees Awards and Honors
2017-present Science and Technology Honors Program Leadership Council, Neuroscience representative
2017-present CLSS Process & Policy Advisory Group, Joint Health Sciences Programs Representative
2016-present Honors College Faculty Fellow

Manuscripts submitted but not yet accepted
Genome-wide transcription and DNA methylation profiling in an APP mouse model of Alzheimer's Disease Guzman-Karlsson MC, Fleming LL, Brown JA, Sesay F, Lewis JW, Hawkins KE, Kordasiewicz HB, Motley T, Swayze EE, Ecker DJ, Michael TP, Gavin CF, Kennedy, AJ, Day JJ, Roberson ED, Sweatt JD (under review at Nature Communications)

Manuscripts in preparation
Actin-myosin dynamics regulate structural plasticity in single spines.
Cristin F. Gavin, Maria Rubio, Erica Young, Courtney Miller and Gavin Rumbaugh. Department of Neuroscience, The Scripps Research Institute, Jupiter, FL

NAME David S. Geldmacher		POSITION TITLE Patsy and Charles Collat Endowed Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Rochester	B.A.	1978	Biology and Psychology
SUNY Health Science Center, NY	M.D	1986	Medicine

Positions
2011 – present Professor of Neurology (tenured)
Professof of Neurobiology
2014 – present Patsy can Charles Collat Endowed Professor in Neuroscience UAB
2014 – present Investigator, Evelyn F. McKnight Brain Institute , UAB

Publications
1. Tsai RM, Miller Z, Koestler M, Rojas JC, Ljubenkov PA, Rosen HJ, Rabinovici GD, Fagan AM, Cobigo Y, Brown JA, Jung JI, Hare E, Geldmacher DS, Natelson-Love M, McKinley EC, Luong PN, Chuu EL, Powers R, Mumford P, Wolf A, Wang P, Shamloo M, Miller BL, Roberson ED, Boxer AL. Reactions to Multiple Ascending Doses of the Microtubule Stabilizer TPI-287 in Patients With Alzheimer Disease, Progressive Supranuclear Palsy, and Corticobasal Syndrome: A Randomized Clinical Trial. JAMA Neurol. 2019 Nov 11;. doi: 10.1001/jamaneurol.2019.3812. [Epub ahead of print] PubMed PMID: 31710340.
2. Boxer AL, Qureshi I, Ahlijanian M, Grundman M, Golbe LI, Litvan I, Honig LS, Tuite P, McFarland NR, O'Suilleabhain P, Xie T, Tirucherai GS, Bechtold C, Bordelon Y, Geldmacher DS, Grossman M, Isaacson S, Zesiewicz T, Olsson T, Muralidharan KK, Graham DL, O'Gorman J, Haeberlein SB, Dam T. Safety of the tau-directed monoclonal antibody BIIB092 in progressive supranuclear palsy: a randomised, placebo-controlled, multiple ascending dose phase 1b trial. Lancet Neurol. 2019 Jun;18(6):549-558. doi: 10.1016/S1474-4422(19)30139-5. PubMed PMID: 31122495.
3. Ruggiano N, Brown EL, Shaw S, Geldmacher D, Clarke P, Hristidis V, Bertram J. The Potential of Information Technology to Navigate Caregiving Systems: Perspectives from Dementia Caregivers. J Gerontol Soc Work. 2019 May-Jun;62(4):432-450. doi: 10.1080/01634372.2018.1546786. Epub 2018 Nov 13. PubMed PMID: 30422754.
4. Love MCN, Pilonieta G, Geldmacher DS. Alabama Brief Cognitive Screener: Utility of a New Cognitive Screening Instrument in a Memory Disorders Clinic. Prim Care Companion CNS Disord. 2019 Mar 14;21(2). doi: 10.4088/PCC.18m02336. PubMed PMID: 30896091.
5. Jablonski RA, Winstead V, Geldmacher DS. Description of Process and Content of Online Dementia Coaching for Family Caregivers of Persons with Dementia. Healthcare (Basel). 2019 Jan 19;7(1). doi: 10.3390/healthcare7010013. PubMed PMID: 30669444; PubMed Central PMCID: PMC6473308
[NOTE: “Team Science” author attributions, specifically from ADNI, are not included]

NAME Adam Gerstenecker		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION So Illinois Univ at Carbondale Murray State University University of Louisville	DEGREE B.A. M.S. PhD	YEAR(S) 2001 2007 2014	FIELD OF STUDY

Positions

2016 – present	Assistant Professor	UAB, Department of Neurology
03/16 – present	Faculty Member, UAB Multiple Sclerosis Center	
09/16 – present	Faculty Research Member, UAB Alzheimer's Disease Center	
2017 – present	Investigator, Evelyn F. McKnight Brain Institute	

Publications

1.Gerstenecker, A., Gammon, M., Marotta, D., Fiveash, J., Nabors, B., Mulhauser, K., & Triebel, K. (epub ahead of print). Using cognition to predict the ability to understand medical treatment in brain and metastatic cancer. Psychooncology.

2. Gerstenecker, A., Grimsley, L., Otruba, B., Cowden, L., Marson, D. C., Triebel Gerstenecker, K., Martin, R. C., & Roberson, E. D. (2019) Medical Decision-Making in progressive supranuclear palsy: A Comparison to other Neurodegenerative Disorders. Parkinsonism and Related Disorders, 61, 77-81. https://doi.org/10.1016/j.parkreldis.2018.11.022

3. Gerstenecker, A., Martin, R., Triebel, K., & Marson, D. (2019). Anosognosia of Financial Ability in Mild Cognitive Impairment. International Journal of Geriatric Psychiatry, 34 (8), 1200-1207.

4. Norling, A. M., Gerstenecker, A., Buford, T. W., Khan, B., Oparil, S., & Lazard, R. M. (epub ahead of print). The role of exercise in the reversal of IGF-1 deficiencies in microvascular rarefaction and hypertension. GeroScience: Official Journal of the American Aging Association (AGE).

5. Faust-Socher A., Duff-Canning, S., Grabovsky, A., Armstrong, M.J., Rothberg, B., Eslinger, P. J., Meaney, C.A., Schneider, R.B., Tang Wai, D.F., Fox, S.H., Zadikoff, C., Kennedy, N., Chou, K.L., Persad, C., Litvan, I., Mast, B.T., Gerstenecker, A., Weintraub, S., Reginold, W., & Marras, C. (2019). Responsiveness to Change of the Montreal Cognitive Assessment, Mini-Mental State Examination, and SCOPA-Cog in Non-Demented Patients with Parkinson's Disease. Dementia and Geriatric Cognitive Disorders, 47, 187-197.

6. Gerstenecker, A. & Lazar, R. M. (2019). Language Recovery Following Stroke. The Clinical Neuropsychologist, 33(5), 928-947. doi: 10.1080/13854046.2018.1562093.

7. Martin, R. C., Gerstenecker, A., Triebel, K. L., Falola, M., McPherson, T., Cutter, G., & Marson, D. C. (2019). Declining Financial Capacity in Patients with Mild Cognitive Impairment: A Six Year Longitudinal Study. Archives of Clinical Neuropsychology, 34(2), 152-161.

NAME Matthew S. Goldberg		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Michigan	B.S.	1990	Physics
Yale University	PhD	1998	Mol Biophysics
Harvard Medical School	Postdoc	1997- 2003	
Brigham and Women's Hospital	Postdoc	1997 - 2003	

Positions

Year	Rank/Title	Institution
2014-present	Associate Professor	University of Alabama Birmingham
2014-present	Investigator, Evelyn F. McKnight Brain Institute UAB	

Honors, Awards, and Advisory Committees
Grant reviewer March 2017: French Federation for Brain Research (FRC)
Grant reviewer April 2017: Michael J. Fox Foundation for Parkinson's Research
Ad-hoc reviewer Feb 5-7, 2017 Reston, VA: US Army Medical Research and Materiel Command CDMRP Parkinson's Research Program

Publications 2019

1. Creed, RB and Goldberg MS* Analysis of alpha-Synuclein Pathology in PINK1 Knockout Rat Brains. Frontiers in Neuroscience. 2019 12: 1034. doi: 10.3389/fnins.2018.01034 *corresponding author
2. Creed, RB and Goldberg MS* Basal and Evoked Neurotransmitter Levels in Parkin, DJ-1, PINK1 and LRRK2 Knockout Rat Striatum. Neuroscience. 2019 409: 169-179. doi: 10.1016/j.neuroscience.2019.04.033 *corresponding author
3. Ernst P, Xu N, Qu J, Chen H, Goldberg MS, Darley-Usmar V, Zhang JJ, O'Rourke B, Liu X, Zhou L, Precisely Control Mitochondria with Light to Manipulate Cell Fate Decision. Biophys J. 2019 117: 631-645. doi: 10.1016/j.bpj.2019.06.038.
4. Barodia SK, McMeekin LM, Creed RB, Quinones EK, Cowell RM, and Goldberg MS*, PINK1 phosphorylates ubiquitin predominantly in astrocytes, NPJ Parkinson's Disease, in press. *corresponding author
5. Creed, RB and Goldberg MS* Enhanced susceptibility of PINK1 knockout rats to alpha-synuclein fibrils. Submitted. *corresponding author

NAME Michelle Gray		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Alabama State University, Montgomery, AL	B.S.	1997	Biology
Ohio State University, Columbus, OH	PhD	2003	Molecular, Cellular, and Developmental Biology
University of California, Los Angeles, Los Angeles, CA	Post doc	2008	Neurogenetics/mouse genetics

Positions
2010 - present Assistant Professor, Dixon Scholar in Neuroscience, Department of Neurology, Center for Neurodegeneration and Experimental Therapeutics, University of Alabama at Birmingham
2010 – present Investigator, Evelyn F. McKnight Brain Institute

Publications
1. Wood TE, Barry J, Yang Z, Cepeda C, Levine MS, Gray M. Mutant huntingtin reduction in astrocytes slows disease progression in the BACHD conditional Huntington's disease mouse model. Hum Mol Genet. 2019 Feb 1;28(3):487-500. doi: 10.1093/hmg/ddy363.
2. Gray M. Astrocytes in Huntington's Disease.
Adv Exp Med Biol. 2019;1175:355-381. doi: 10.1007/978-981-13-9913-8_14. Review
3. Zhu Y, Shamblin I, Rodriquez E, Salzer GE, Araysi L, Margolies KA, Halade G, Litovsky SH, Pogwizd S, Gray M, Huke S.
Progressive cardiac arrhythmias and ECG abnormalities in the Huntington's disease BACHD mouse model.
Hum Mol Genet. 2019 Dec 9. pii: ddz295. doi: 10.1093/hmg/ddz295. [Epub ahead of print]

NAME Alecia K. Gross		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Univ of New Hampshire	B.S.	1993	Biochemistry
Brandeis University	PhD	2002	Biochemistry
Baylor College of Medicine	Postdoc	2006	

Positions

Year	Rank/Title	Institution
2006 – 2011	Assistant Professor	UAB Department of Vision Sciences
2006 – present	Secondary Appointment	UAB Department of Cell, Developmental and Integrative Biology
2007 – present	Secondary Appointment	UAB Department of Neurobiology
2008 – present	Secondary Appointment	UAB Department of Biochemistry and Molecular Genetics
2006 – present	Scientist	UAB Comprehensive Neuroscience Center
2006 – present	Scientist	UAB Vision Science Research Center
2006 – present	Scientist	UAB Civitan International Research Center
2006 – present	Scientist	UAB Evelyn F. McKnight Brain Institute
2011 – present	Project Leader	UAB Intellectual and Developmental Disabilities Research Center 2011 – present Associate Professor (with tenure) UAB Department of Vision Sciences

Honors, Awards, and Advisory Committees

2016-present Director, Cell, Molecular and Developmental Biology Graduate Program

Publications 2019

1. Lewis WR*, Bales KL*, Revell DZ, Croyle MJ, Engle SE, Song CJ, Malarkey EB, Uytingco CR, Shan D, Antonellis PJ, Nagy TR, Kesterson RA, Mrug MM, Martens JR, Berbari NF, Gross AK* and Yoder BK*. Mks6 mutations reveal tissue and cell type specific roles for the cilia transition zone. FASEB J 2019 33(1): 1440-1455. PMCID: PMC6355093.

2. Boitet ER, Reish NJ, Hubbard MG, Gross AK. NudC regulates photoreceptor disk morphogenesis and rhodopsin localization. FASEB J 2019 in press, 33(8). Doi: 10.1096/fj.201801740RR. PMCID in preparation.

NAME Jeremy H. Herskowitz		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of North Carolina Chapel Hill, NC	B.S.	2001	Chemistry
Emory University Atlanta, GA	Ph.D.	2007	Microbiology and Molecular Genetics

Positions

2014- Assistant Professor, Departments of Neurology and Neurobiology, University of Alabama at Birmingham

2014 - Investigator, McKnight Brain Institute

Publications 2019

1. Publications in peer reviewed journals20. Boros BD, Greathouse KM, Gearing M, Herskowitz JH. Dendritic spine remodeling accompanies Alzheimer's disease pathology and genetic susceptibility in cognitively normal aging. Neurobiology of Aging. 73: 92-103, 2019. PMID: 30339964. PMCID: PMC6251733.
2. Vo HT, Phillips ML, Herskowitz JH, King GD. Klotho deficiency promotes neuronal spine remodeling and network synchronization. Molecular and Cellular Neuroscience. 98: 1-11, 2019. PMID: 30991103. PMCID: PMC6613977.
3. Henderson BW, Greathouse KM, Ramdas R, Walker CK, Rao TC, Bach SV, Curtis KA, Day JJ, Mattheyses AL, Herskowitz JH. Pharmacologic inhibition of LIMK1 provides dendritic spine resilience against β-amyloid. Science Signaling. 12 (587). 2019. PMID: 31239325. PMCID: forthcoming. Article highlighted by Cover Graphic.
4. Webb WM, Pepin ME, Henderson BW, Huang V, Butler AA, Herskowitz JH, Wende AR, Cash AE, Lubin F. The SETD6 Methyltransferase Plays an Essential Role in Hippocampus-Dependent Memory Formation. In press Biological Psychiatry.
5. Greathouse KM, Henderson BW, Gentry EG, Herskowitz JH. Fasudil or genetic depletion of ROCK1 or ROCK2 induces anxiety-like behaviors. Behavioural Brain Research. 373. 2019. PMID: 31302146. PMCID: forthcoming. *Corresponding author.

Presentations at Scientific Meetings

1. Henderson BW, Greathouse KM, Bach SV, Walker CK, Day JJ, Seyfried NT, Herskowitz JH. Pharmacologic inhibition of LIM kinase provides dendritic spine resilience against amyloid-β. Alzheimer's Association International Conference. Los Angeles, CA, 2019.
2. Walker CK, Boros BD, Greathouse KM, Poovey EH, Clearman KR, Mittal V, Herskowitz JH. Synaptic infiltration of phosphorylated tau links the PS19 tauopathy mouse model to patients with Alzheimer's disease. Keystone Symposia Neurodegenerative Diseases: New Insights and Therapeutic Opportunities. Keystone, CO, 2019.
3. Herskowitz JH, Henderson BW, Greathouse KM, Ramdas R, Rao TC, Bach SV, Walker CK, Curtis KA, Day JJ, Mattheyses AL. LIM kinase inhibition provides dendritic spine resilience against amyloid-β. Society for Neuroscience. Chicago, IL, 2019.
4. Walker CK, Boros BD, Greathouse KM, Dammer EB, Curtis KA, Muhammad H, Ramdas R, Chaudhary I, Duong DM, Seyfried NT, Herskowitz JH. Synergistic analysis of dendritic spine morphology and the synaptic proteome in human entorhinal cortex uncovers mechanisms of synapse loss in Alzheimer's disease. Society for Neuroscience. Chicago, IL, 2019.
5. Bach SV, Hosein D, Williams D, Ianov L, Carullo NV, Duke CG, Tuscher JJ, Henderson BW, Herskowitz JH, Day JJ. Distinct roles of Bdnf I and Bdnf IV transcript variant expression in hippocampal neurons. Society for Neuroscience. Chicago, IL, 2019.
6. Voskobiynyk Y, Roth J, Cochran N, Rush T, Greathouse KM, Carullo N, McMahon L, Herskowitz JH, Day JJ, Roberson ED. The Alzheimer's disease risk gene BIN1 regulates neuronal hyperexcitability. Society for Neuroscience. Chicago, IL, 2019.

NAME Richard Kennedy		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of MS, Oxford, MS	B.A.	1976-1990	Computer Science
University of MS, Jackson MS	PhD	1990-1994	Doctorate
Virginia Commonwealth University		2002-2008	Biostatistics

Positions
Hospital and other (nonacademic) appointments
1997-1998 Chief resident, Arkansas State Hospital, Little Rock, Arkansas
1996-1998 Consulting physician, Arkansas State Hospital, Little Rock, Arkansas
1992 Laboratory assistant, University of Mississippi Medical Center, De- partment of Parasitology
1991-1992 Laboratory assistant, University of Mississippi Medical Center, Department of Anatomy, Neuroanatomy
1986 Computer Programmer, University of Mississippi, Department of Chemistry

Publications
11 manuscripts published or in press, 2 first author

Presentations
One oral and one poster presentation at the 2019 annual meeting of the Z=Alzheimer's Association International Conference. One presentation at the 2019 annual meeting of the Clinical Trials in Alzheimer's Disease, and one oral presentation and 2 poster presentations at the 2019 annual meeting of the Gerontological Society of America.

NAME David C. Knight		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Truman State University, Kirksville MO	B.S.	1994	Psychology
University of Wisconsin, Milwaukee WI	M.S.	1999	Clinical Psychology
West Virginia Uni, Morgantown WV	Intern	2002	Neuropsychology
University of Wisconsin, Milwaukee WI	PhD	2002	Clinical Psychology
National Institute of Mental Health, Bethesda MD	Postdoc	2007	Cognitive Neuro

Positions

2013-Present Associate Professor, Department of Psychology and Neurobiology, UAB 2014-Present Co-Director, Undergraduate Neuroscience Program, UAB
2014-present Investigator, Evelyn F. McKnight Brain Institute
2017 – Present Director, Graduate Behavioral neuroscience Program, UAB

Other Experience and Professional Memberships

1995-Present Society for Neuroscience
1996-Present Organization for Human Brain Mapping 2004-Present Pavlovian Society
2016-Present Council on Undergraduate Research 2016-Present Faculty for Undergraduate Neuroscience
2007-Present Editorial Board: The Open Neuroimaging Journal 2016
Associate Editor: The Open Neuroimaging Journal
2017-Present Editor-in-Chief: The Open Neuroimaging Journal

Publications

Manuscripts under review

1. Grant, M. M., *Wood, K. H., White, D., *Wheelock, M. D., & Knight, D. C. (Submitted). Influence of early life stress on fear conditioning in subregions of the human amygdala.
2. Guo, J., Mrug, S., & Knight, D. C. (Submitted). Emotion Socialization and Internalizing Problems in Late Adolescence and Emerging Adulthood: Coping Styles as Mediators.
3. Grant, M. M., Black, S., *Wood, K., White, D., *Wheelock, M. D., Hollon, S. D. & Knight, D. C. (Submitted). Stressor Controllability Rapidly Mitigates Deleterious Effects of MDD on Medial and Lateral PFC.
4. *Harnett, N. G., Goodman, A. M., and Knight, D. C. (Submitted). PTSD-related neuroimaging abnormalities in brain function, structure, and biochemistry.
5. *Orem, T. R., *Wheelock, M. D., *Goodman, A. M., *Harnett, N. G., *Wood, K. H., *Gossett, E. W., Granger, D. A., Mrug, S. & Knight, D. C. (Submitted). Amygdala and prefrontal cortex activity varies with individual differences in the emotional response to psychosocial stress.
6. Zhang, Y. Taub, E., Purvis, J., Uswatte, G., Mark V. W., Knight, D. C. (Submitted). Neurometabolic changes in adult ischemic stroke evaluated by proton magnetic resonance spectroscopy (1H-MRS).

* Indicates a trainee; t Indicates a co-mentored trainee; IF = Impact Factor

NAME Adrienne C. Lahti		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Universite de Liege, Liege, Belgium	MD	1978	
Universite de Liege, Liege, Belgium	Resident	1983	
University of Maryland, Baltimore, MD	Research	1989	
University of Michigan, Ann Arbor, MI	Fellow		
	Resident	1992	

Positions

2017-Present	Investigator, Evelyn F. McKnight Brain Institute
9/2014-Present	Patrick H. Linton Professor of Psychiatry
9/2012- Present	Professor with Tenure
1/2012-Present	Professor, Secondary Appointment, Psychology, UAB
2011-Present	Professor, Biomedical Engineering, Secondary Appointment, UAB 10/2010-Present
	Professor, of Psychiatry and Behavioral Neurobiology, UAB

Publications

1. Jose O. Maximo, Eric A. Nelson, William P. Armstrong, Nina V. Kraguljac, & Adrienne C. Lahti. Duration of Untreated Psychosis Correlates with Brain Connectivity and Morphology in Medication-Naïve Patients with First Episode Psychosis. Biological Psychiatry: CNNI, in press

Froelich MA, White DM, Kraguljac NV, Lahti AC. Brain network connectivity prospectively predicts memory impairment following midazolam in older adults, Anesthesia & Analgesia, in press

2. James Edward Bryant, Michael Frölich, Steve Tran, Meredith Amanda Reid, Adrienne Carol Lahti, Nina Vanessa Kraguljac. Ketamine Induced Changes in regional Cerebral Blood Flow, Interregional Connectivity Patterns, and Glutamate Metabolism. Journal of Psychiatric Research, in press

3. Kristin K Lottman, Ph.D.; Timothy J Gawne, Ph.D.; Nina V Kraguljac, MD; Jeffrey F Killen; Meredith A Reid, Ph.D.; Adrienne C Lahti, MD. Examining Resting-State Functional Connectivity in First-Episode Schizophrenia with 7T fMRI and MEG. NeuroImage:Clinical, 24:101959, 2019.

4. Allendorfer JB, Brokamp GA, Nenert R, Szaflarski JP, Morgan CJ, Tuggle SC, Ver Hoef L, Martin RC, Szaflarski BA, Kaur M, Lahti AC, Bamman MM. A pilot study of combined endurance and resistance exercise rehabilitation for verbal memory and functional connectivity improvement in epilepsy. Epilepsy Behavior, 96: 44-56, 2019.

5. Nina Kraguljac, Thomas Anthony, William Monroe, Frank Skidmore, Charity Morgan, David White, Neel Patel, and Adrienne Lahti. A Longitudinal Neurite and Free Water Imaging Study in Patients with a Schizophrenia Spectrum Disorder. Neuropsychopharmacology,44: 1932-1939, 2019.

6. Nina Vanessa Kraguljac, Thomas Anthony, Frank Michael Skidmore, Jon Marstrander, Charity Johanna Morgan, Meredith Amanda Reid, David Matthew White, Ripu Daman Jindal, Nicholas Harry Melas Skefos, Adrienne Carol Lahti. Micro- and Macrostructural White Matter Integrity in Never-treated and Currently Unmedicated Patients with Schizophrenia and Effects of Short Term Antipsychotic Treatment. Biological Psychiatry: CNNI, 4(5): 462-471, 2019

7. Nina V. Kraguljac, Charity J. Morgan, Meredith A. Reid, David M. White, Ripu D. Jindal, Soumya Sivaraman, Bridgette K. Martinak, Adrienne C. Lahti. A Longitudinal Magnetic Resonance Spectroscopy Study Investigating Effects of Risperidone in the Anterior Cingulate Cortex and Hippocampus in Schizophrenia. Schizophrenia Research, 210:239-244, 2019.

8. Gregory Overbeek, Timothy J. Gawne, Meredith A. Reid, Nouha Salibi, Nina V. Kraguljac, David M. White, Adrienne C. Lahti. Relationship between cortical excitation and inhibition and task-induced activation and deactivation: A combined MR Spectroscopy and functional MRI study at 7T in first episode psychosis. Biological Psychiatry: CNNI, 4(2): 121-130, 2019.

NAME Charles Seth Landefeld		POSITION TITLE Professor and Chair	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Harvard University			
Oxford University	B.A.	1974	History and Science
Yale University	B.A.	1978	Philosophy/Theology
UCSF	MD	1979	Medicine
UCSF	Intern	1980	Medicine
Harvard University	Resident	1982	Medicine
Weatherhead, Case Western Uni	Fellow	1985	Internal Medicine
Academic Alliance for Internal		1991	Academic Mgmt
Medicine		2007	Executive Leadership

Positions
University of Alabama at Birmingham
2012-present Professor and Chair, Department of Medicine, University of Alabama at Birmingham
2012-present Board of Directors, University of Alabama Health Services Foundation 2012-present Executive Committee, University of Alabama Health Services Foundation 2012-present Board of Directors, University of Alabama at Birmingham Health System (including Audit and Finance Committees)
2017-present Investigator, Evelyn F. McKnight Brain Institute

Biographical Sketch
Seth Landefeld is Chair, Department of Medicine and the Spencer Chair in Medical Science Leadership.

Dr. Landefeld's work has aimed to transform and personalize health care to meet the needs of older Americans and their families in this Aging Century, a century that will be dominated by the medical and social issues of the aging global population. His research has improved outcomes of older persons with serious illness. In landmark studies of acutely ill hospitalized elders, Landefeld and his colleagues invented the Acute Care for Elders (ACE) Unit, a novel method for improving patients' functional outcomes. This model has been adapted at medical centers nationwide. In incremental studies of anticoagulant therapy, he developed the first valid, reliable measure of hemorrhagic complications, designed and validated risk assessment indices for anticoagulant-related bleeding, developed interventions to prevent major bleeding, and demonstrated their efficacy in clinical trials.

Publications
1. US Preventive Services Task Force, Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, Doubeni CA, Epling JW Jr, Kemper AR, Kubik M, Landefeld CS, Mangione CM, Silverstein M, Simon MA, Tseng CW, Wong JB. Ocular Prophylaxis for Gonococcal Ophthalmia Neonatorum: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2019 Jan 29;321(4):394-398. doi: 10.1001/jama.2018.21367. PMID: 30694327
2. US Preventive Services Task Force, Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, Doubeni CA, Epling JW Jr, Grossman DC, Kemper AR, Kubik M, Landefeld CS, Mangione CM, Silverstein M, Simon MA, Tseng CW, Wong JB. Interventions to Prevent Perinatal Depression: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2019 Feb 12;321(6):580-587. doi: 10.1001/jama.2019.0007. PMID: 30747971
3. US Preventive Services Task Force, Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, Doubeni CA, Epling JW Jr, Grossman DC, Kemper AR, Kubik M, Landefeld CS, Mangione CM, Silverstein M, Simon MA, Tseng CW, Wong JB. Screening for Elevated Blood Levels in Children and Pregnant Women: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2019 Apr 16;321(15):1502-1509. doi: 10.1001/jama.2019.3326. PMID: 30747971
4. Iyer AS, Goodrich CA, Dransfield MT, Alam SS, Brown CJ, Landefeld CS, Bakitas MA, Brown JR. End-of-Life Spending and Healthcare Utilization Among Older Adults with Chronic Obstructive Pulmonary Disease. *The American Journal of Medicine* 2019; in press.

NAME Robin Lester		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Bristol, U.K.	B.Sc.	1984	
University of Bristol, U.K.	PhD	1988	
Vollum Institute, Portland, OR	Post-doc	1991	

Positions
1992-1993 Research Assistant Professor / Baylor College of Medicine
1993-1995 Assistant Professor / Neuroscience / Baylor College of Medicine 1995-1996 Associate Scientist / NRC, University of Alabama at Birmingham
1996-2001 Assistant Professor / Neurobiology, University of Alabama at Birmingham 2006-present, Investigator, Evelyn F. McKnight Brain Institute
2001-2011 Associate Professor / Neurobiology, University of Alabama at Birmingham
2011-present Professor / Neurobiology, University of Alabama at Birmingham

Research
N/A

Teaching
I now teach full-time.

NAME Farah Lubin		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION AL State Univ, Montgomery, AL SUNY, Binghamton, NY	DEGREE B.S. PhD	YEAR(S) 1996 2001	FIELD OF STUDY Cell/Moleular Bio Biology

Appointments

2015-Present Associate Professor with Tenure, Dept. of Neurobiology, Dept. of Cell, Developmental and Integrative Biology, and Genetics Dept., University of Alabama at Birmingham, Birmingham, AL

2015-Present Director, Comprehensive Neuroscience Center EEG core

2014-Present Director, NINDS Neuroscience Roadmap Scholar Program; Co-Director: Lori L. McMahon, PhDat University of Alabama at Birmingham, Birmingham, AL

2009-Present Investigator, Evelyn F. McKnight Brain Institute, University of Alabama at Birmingham, Birmingham, AL

Publications 2019

1. V. Huang, A.A. Butler, and F.D. Lubin. Telencephalon transcriptome analysis of chronically stressed adult zebrafish. 2019. Nature Scientific Reports. Feb 4;9(1):1379.

2. R.G. Sanchez, R.R. Parrish, M. Rich, W.M. Webb, R.M. Lockhart, K. Nakao, L. Ianov, S.C. Buckingham, D.R. Broadwater, A. Jenkins, N.C de Lanerolle, M. Cunningham, T. Eid, K. Riley, and F.D. Lubin. Human and rodent Temporal Lobe Epilepsy is characterized by changes in O-GlcNAc homeostasis. 2019. Neurobiology of Disease. Apr;124:531-543.

3. N.H. Boyd, K. Walker, A. Ayokanmbi, E. Gordon, J. Whetsel, C.M. Smith, R.G. Sanchez, F.D. Lubin, A. Chakraborty, Anh Nhat Tran, C. Herting, D. Hambardzumyan, G.Y. Gillespie, J.R. Hackney, S.J. Cooper, K. Jiao, A.B. Hjelmeland. Chromodomain Helicase DNA-Binding Protein 7 Is Suppressed in the Perinecrotic/Ischemic Microenvironment and Is a Novel Regulator of Glioblastoma Angiogenesis. 2019. Stem Cells. Apr;37(4):453-462.

4. W.M. Webb , M.E Pepin , B.W. Henderson, V. Huang, A.A. Butler, J.H. Herskowitz, A.R. Wende, A.E. Cash, and F.D. Lubin. Methylation of NF-κB by the SETD6 Methyltransferase Plays an Essential Role in Hippocampus-Dependent Memory Formation. 2019. Biol. Psychiatry. Jun 12.

5. A.A. Butler, S. D. Johnston, S. Kaur, and F.D. Lubin. lncRNA Neat1 drives neuronal histone methylation and age-related memory impairments. 2019. Science Signaling. Jul 2;12(588).

6. Butler A.A., Jarome T., Sanchez R.G., Webb W.M., and Lubin F.D. O-GlcNAc signaling and EZH2-mediated epigenetic regulation of gene expression during consolidation of fear memories. 2019 Learning and Memory. Aug 15;26(9):373-379.

NAME	POSITION TITLE
Daniel Marson	Director, Emeritus, Alzheimer's Disease Center

Appointments:
Professor Emeritus, Department of Neurology
Professor Emeritus, Evelyn F. McKnight Brain Institute

Daniel Marson, JD, PhD is a clinical neuropsychologist, licensed attorney, and Emeritus Professor in the Department of Neurology at the University of Alabama at Birmingham (UAB). He directed the Department's Division of Neuropsychology from 1995 to 2016 and the UAB Alzheimer's Disease Center from 2005 to 2015. Dr. Marson graduated magna cum laude and Phi Beta Kappa from Carleton College in Northfield, Minnesota (1976), and earned his JD at the University of Chicago Law School (1981) and his PhD in clinical psychology (specializations in geropsychology and neuropsychology) at Northwestern University Medical School (1990). Dr. Marson has lectured nationally regarding competency and other medical-legal and ethical issues in dementia and other neurocognitive disorders. He has published over 100 papers, handbooks, and book chapters on these topics. He has been principal investigator on multiple National Institute of Health (NIH) funded studies of decisional and functional capacity in Alzheimer's disease, mild cognitive impairment, and traumatic brain injury. His work on financial capacity in older adults has been featured in the New York Times, USA Today, BBC, Kiplinger Report, and NPR. At the national level, Dr. Marson is the past president and a fellow of the National Academy of Neuropsychology (NAN). He is a member and former chair of the Internal Ethics Committee of the Alzheimer's Disease Cooperative Study, an NIH funded clinical trials group. He has served as a chartered reviewer at the NIH Center for Scientific Review. Dr. Marson previously served on the Committee on Human Research of the American Psychological Association and chaired the committee in 2012. Dr. Marson often testifies as an expert witness in civil and criminal forensic matters. On a personal note, Dr. Marson has played the diatonic harmonica for many years and is a lover of blues and jazz. He has published in the jazz magazine Downbeat.

NAME Roy C. Martin		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION Augusta College, Augusta, GA Louisiana State University West Virginia University	DEGREE BS PhD Postdoctoral Fellowship	YEAR(S) 1984 1990-1995 1995	FIELD OF STUDY Psychology Clinical Psychology Neuropsychology

Positions
Associate Professor, Department of Neurology
Investigator, Evelyn F. McKnight Brain Institute

Publications
1. Allendorfer JB, Brokamp GA, Nenert R, Szaflarski JP, Morgan CP, S. Tuggle C, Ver Hoef L, Martin RC, Szaflarski BA, Kaur M, Lahti AC, and Bamman MM. A pilot study of combined endurance and resistance exercise rehabilitation for verbal memory and functional connectivity improvement in epilepsy. Epilepsy & Behavior 2019; 96: 44-56.
2. Allendorfer JB, Nenert R, Hernando KA, DeWolfe JL, Pati S, Thomas AE, Billeaud N, Martin RC, Szaflarski fMRI response to acute psychological stress differentiates patients with psychogenic nonepileptic seizures form healthy controls – A biochemical and neuroimaging biomarker study. NeuroImage: Clinical 2019; 24: 101967.
3. Gaston TE, Nair S, Allendorfer J, Martin RC, Beattie JF, Szaflarski JP. Memory response and neuroimaging correlates of a novel cognitive rehabilitation program for memory problems in epilepsy: A pilot study. Restorative Neurology and Neuroscience (In Press).
4. Gerstenecker A, Grimsley L, Otruba B, Cowden L, Marson DC, Gerstenecker-Triebel K, Martin RC, Roberson ED. Medical decision making in progressive supranuclear palsy: a comparison to other neurodegenerative disorders. Parkinsonism & Related Disorders 2019; 61: 71-81.
5. Gerstenecker A, Martin RC, Triebel KL, Marson DC. Anosognosia of financial ability in mild cognitive impairment. International Journal of Geriatric Psychiatry 2019; 34:1200-1207.
6. Martin RC, Gaston TE, Thompson M, Ampah SE, Cutter G, Bebin EM, Szaflarski JP. Cognitive functioning following long-term Cannabidiol use in adults with treatment resistant epilepsy. Epilepsy & Behavior 2019; 97: 105-110.
7. Martin RC, Gerstenecker A, Triebel KL, Falola M, McPherson T, Cutter G, Marson DC. Declining financial capacity in mild cognitive impairment: A six-year longitudinal study. Archives of Clinical Neuropsychology 2019; 34 (2): 141-151.
8. Pisu M, Richman J, Szaflarski JP, Funkhouser E, Dai C, Juarez L, Faught E, Martin RC. High health care costs in minority groups of older US Medicare beneficiaries with epilepsy. Epilepsia 2019; 60: 1462-1471.

NAME Lori McMahon		POSITION TITLE Professor Dean, Graduate School	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
-Southern Illinois University, Edwardsville, IL	B.A.	1987	Biology/Chemistry
-St. Louis Health Science Ctr, St. Louis, MO	PhD	1993	Neuropharmacology
-Duke University, Durham, NC	Postdoc	1998	Neurophysiology

Positions
1998 Primary Appointment – Department of Physiology and Biophysics Cell, Developmental & Integrative Biology
Secondary Appointments: Neurobiology Other Appointments:
Evelyn F. McKnight Brain Institute , Neurology, Civitan International Research Center, comprehensive Ctr for healthy Aging, General Clinical Research Center, Electrical & Computer Engineering, Medicine,

Professional Experience

2012-pres	Scientist, Center for Exercise is Medicine
2012-pres	Professor, UAB Dept of Cell, Developmental, and Integrative Biology
2012-pres	Jarman F Lowder Endowed Professor of Neuroscience
2012-pres	Director, Comprehensive Neuroscience Center
2012-pres	Member, UAB SOM Dean's Executive Committee
2012-2015	Associate Director, Comprehensive Center for Healthy Aging
2013-2016	Associate Director, UAB Evelyn F. McKnight Brain Institute
2015-pres	Dean, UAB Graduate School

Complete List of Published Work:
https://www.ncbi.nlm.nih.gov/pubmed/?term=mcmahon+LL

NAME James H. Meador-Woodruff, MD	POSITION TITLE Heman E. Drummond Professor and Chairman Department of Psychiatry

EDUCATION/TRAINING

EDUCATION

09/73-06/76 Manchester High School, Richmond, Virginia
09/76-05/80 University of Richmond, Richmond, Virginia; B.S. in Chemistry, minor subject Mathematics (summa cum laude)
08/80-05/84 Medical College of Virginia Commonwealth University, Richmond, Virginia; M.D.

POSTDOCTORAL TRAINING

06/84-06/85 Intern, Department of Psychiatry, University of Michigan
07/85-06/89 Resident, Department of Psychiatry, University of Michigan (Graduation with Distinction) 07/85-12/89 Postdoctoral Fellow, Mental Health Research Institute

INSTITUTION AND LOCATION	DEGR	YEAR(S)	FIELD OF STUDY
Department of Psychiatry and Behavioral Neurobiology University of Alabama at Birmingham SC 560C	EE M.D.	1984	Psychiatry

Positions

04/06-present Heman E. Drummond Professor, Department of Psychiatry and Behavioral Neurobiology, University of Alabama at Birmingham
04/06-present Professor of Neurobiology, University of Alabama at Birmingham
04/06-present Senior Scientist, Civitan International Research Center, University of Alabama at Birmingham
04/06-present Investigator, Evelyn F. McKnight Brain Institute
8/06-present Senior Scientist, Center for Glial Biology in Medicine, University of Alabama at Birmingham
10/06-present Senior Scientist, Comprehensive Neuroscience Center, University of Alabama at Birmingham
07/07-present Senior Scientist, Center for Neurodegeneration and Experimental Therapeutics, University of Alabama at Birmingham
01/09-present Senior Scientist, Evelyn F. McKnight Brain Institute, University of Alabama at Birmingham
04/09-present Senior Scientist, Alzheimer's Disease Research Center (ADRC), University of Alabama at Birmingham

Publications 2019

1. Mueller TM, Kim P, Meador-Woodruff JH: Fractionation of Subcellular Compartments from Human Brain Tissue. In Burger C and Velardo MJ (editors): Glutamate Receptors. A volume in the series Methods in Molecular Biology. New York: Humana Press/Springer Publishing Group. 1941: 201-223, 2019.
2. Kim P, Scott MR, and Meador-Woodruff JH: Abnormal ER Quality Control of Neural GPI-Anchored Proteins via Dysfunction in ER Export Processing in Frontal Cortex of Elderly Subjects with Schizophrenia. Translational Psychiatry. 2019 Jan 16;9(1):6. doi: 10.1038/s41398-018-0359-4.
3. Scott MR and Meador-Woodruff JH: Intracellular Compartment-Specific Proteasome Dysfunction in Postmortem Cortex in Schizophrenia Subjects. Molecular Psychiatry. In press.
4. Bentea E, Depasquale EAK, O'Donovan SM, Sullivan CR, Simmons M, Meador-Woodruff JH, Zhou Y, Xu C, Bai B, Peng J, Song H, Ming GL, Meller J, Wen Z, McCullumsmith RE: Kinase Network Dysregulation in a Human Induced Pluripotent Stem Cell Model of DISC1 Schizophrenia. Molecular Omics. 15: 173-188, 2019. doi: 10.1039/c8mo00173a.
5. Kim P, Scott MR, Meador-Woodruff JH: Dysregulation of the Unfolded Protein Response (UPR) in the Dorsolateral Prefrontal Cortex in Elderly Patients With Schizophrenia. Molecular Psychiatry. In press.
6. Pinner AL, Mueller TM, Alganem K, McCullumsmith RE, and Meador-Woodruff JH: Protein Expression of Prenyltransferase Subunits in Postmortem Schizophrenia Dorsolateral Prefrontal Cortex. Translational Psychiatry. In press.

7. Mueller TM and Meador-Woodruff JH: Post-translational protein modifications in schizophrenia. Npj Schizophrenia. In press.

NAME Kazutoshi (Kazu) Nakazawa		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
-Keio University School of Medicine, Tokyo, Japan	MD	1981 – 1987	Medicine
-Graduate School of Medicine, Keio University, Tokyo, Japan	PhD	1987 – 1991	Biological Science
ological Science rontier Science Program, Riken nstitute, Japan-Picower Center for Learning & Memory, MIT	Post-doctoral	1991- 1995	
	Post-doctoral	1995 - 2003	

Positions
2018 – present Fellow in Neuroscience, Druge Discovery Division, Southern Research Institute
2013 – present Investigator, Evelyn F. McKnight Brain Institute

NAME Vladimir Parpura, MD, PhD		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
School of Medicine in Split, University of Zagreb, Croatia	MD	1989	Biological role of gangliosides
Iowa State University, Ames, IA	PhD	1993	Glia-neuron signaling

Positions
Professor, Departments of Neurobiology, Biomedical Engineerting, Cell, Developmental and Integrative Biology, Visioin Sciences, UAB
Investigator, Evelyn F. McKnight Brain Institute

Research
My current research includes: i) studying the modulation of calcium-dependent glutamate release from astrocytes in health and disease; ii) assessing the role of the enteric glia in gut functions; iii) visualization of vesicular/receptor trafficking; iv) examination of the nature and energetics of interactions between exocytotic proteins using single molecule detection approaches; v) development of scaffolds and dispersible materials, most notably modified carbon nanotubes, which can be used in repair after brain injury, vi) development of biosensors (e.g. botulinum toxin and nanofabricated carbon-based detectors, and viii) bio-mimetic micro-robotics. It should be noted that the work done in these overlapping categories is highly interrelated. Parpura has been interfacing neuroscience with nanoscience/nanotechnology, synthetic biology and biomedical engineering.

NAME Craig Powell, MD, PhD		POSITION TITLE Professor and Chair	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Louisiana State University	B.S.	1984-1988	Zoology
Baylor College of Medicine	MD, PhD	1988-1997	Neuroscience

Positions
University of Alabama at Birmingham School of Medicine, Birmingham, AL Dept. of Neurobiology
Director, Civitan International Research Center 9/1/18-pres University of Alabama at Birmingham, Birmingham, AL
Dept. of Neurobiology and Depts. of Neurology, Pediatrics, Psychology, Psychiatry, &Cell Developmental & Integrative Biology
Professor with Tenure 9/1/18-pres
University of Alabama at Birmingham School of Medicine, Birmingham, AL
Dept. of Neurobiology and Depts. of Neurology, Pediatrics, Psychology, Psychiatry, &Cell Developmental & Integrative Biology
Investigator, The Evelyn F. McKnight Brain Institute 9/1/18-pres
University of Alabama at Birmingham School of Medicine, Birmingham, AL

Publications
1. Speed, H.E., Kouser, M., Xuan, Z., Liu, S., Duong, A., & Powell, C.M. (2019) Apparent genetic rescue of adult Shank3 exon 21 insertion mutation mice tempered by appropriate control experiments. eNeuro, doi:10.1523/ENEURO.0317-19.2019.
2. Srivastava, S., Scherrer, B., Prohl, A., Filip-Dhima, R., Kapur, K., Kolevzon, A., Buxbaum, J., Berry-Kravis, E., Soorya, L., Thurm, A., Powell, C., Bernstein, J.A., Warfield, S.K., & Sahin, M., Developmental Synaptopathies Consortium (2019) Volumetric Analysis of the Basal Ganglia and Cerebellar Structures in Patients with Phelan-McDermid Syndrome. Pediatric Neurology, 90, 37-43, doi:10.1016/j.pediatrneurol.2018.09.008. PMC6309632

NAME Lucas Damian Pozzo-Miller		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Universidad nacional de Cordoba, Argentina	B.S.	1985	Physical/Natural Sci
Universidad Nacional de Cordoba Argentina	M.S.	1986	Physical/Natural Sci
Universidad Nacional de Cordoba Argentina	PhD	1989	
Case Western Reserve Uni Cleveland, OH	Postdoc	1992	Hippocampal synapse
Roche Institute of Molecular Bio Nutley, NJ	Postdoc	1995	Hippocampal synapse
Master Teacher Program UAB		2006	
Healthcare Leadership Academy		2013	

Positions

1995-1998 Senior Staff Fellow (Research-track Assistant Professor). Laboratory of Neurobiology (Tom Reese, Lab Chief, member US National Academy of Sciences), National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH), Bethesda, MD.

1998-2006 Assistant Professor (tenure-track), Department of Neurobiology, School of Medicine, UAB. Secondary appointments in the Departments of Cell Biology and Physiology & Biophysics (currently Cell, Developmental & Integrative Biology), School of Medicine, UAB.

2006-present Scientist, Civitan International Research Center; Investigator, Evelyn F. McKnight Brain Institute; Scientist, Center for Glial Biology in Medicine; Scientist, Vision Science Research Center; Member, Comprehensive Neuroscience Center, UAB.

2006-2009 Associate Professor (with tenure), Department of Neurobiology, School of Medicine, UAB.

2006-present Investigator, Evelyn F. McKnight Brain Institute

2009-present Professor, Department of Neurobiology, School of Medicine, UAB.

2013-present Professor, Department of Neurobiology, College of Arts & Sciences, UAB. 2014-present Secondary appointment in the Department of Neurology, School of Medicine, UAB.

2014-present Associate Director, Comprehensive Neuroscience Center, UAB.

2016-present Interim Scientific Co-Director, Civitan International Research Center, UAB. 2017-present Co-Director, Neuroscience Theme, Graduate Biomedical Sciences (GBS), UAB.

Publications

Scopus h-index: 39 (5,957 total citations)

NIH iCite Weighted Relative Citation Ratio: 160.83

Research Articles:

1. Phillips ML, HA Robinson & L Pozzo-Miller (2019). Ventral hippocampal projections to the medial prefrontal cortex regulate social memory. eLife 2019;8:e44182.

2. Morello N, R Schina, F Pilotto, M Phillips, R Melani, O Plicato, T Pizzorusso, L Pozzo-Miller & M Giustetto (2018). Loss of Mecp2 causes atypical synaptic and molecular plasticity of parvalbumin-expressing interneurons reflecting Rett syndrome-like sensorimotor defects. eNeuro 5(5) e0086-18.2018: 1–19.

NAME Sumanth D. Prabhu		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Pennsylvania State Uni, PA	B.S.	1983	Science
Jefferson Medical Collge, PA	MD	1985	Medicine
Uni of Pittsburgh, PA	Intern & Resident	1988	
University of Pittsburgh, PA	Research Fellow	1989	
Univ of TX Health Science Ctr, San Antonio, TX		1992	

Positions
Professor, Department of medicine – Cardiovascular Disease; Cell, developmental and Integrative Biology; Biomatrix Eng Regen Med Ctr; Comprehensive Diabetes Center, Ctr for Exercise
Investigator, Evelyn F. McKnight Brain Institute

Honors, Awards, and Advisory Committees
Member, NIH MPOR Study Section 7/2015-6/2019

Dr. Prabhu received a BS degree in Science from Penn State University and his MD degree from Jefferson Medical College in Philadelphia. He did internal medicine residency at the University of Pittsburgh and a cardiology fellowship at the University of Texas Health Science Center at San Antonio. He was a cardiology faculty there as well as at the University of Louisville, before his arrival to UAB as Director of the Division of Cardiovascular Disease. He is also Director of the UAB Comprehensive Cardiovascular Center. Dr. Prabhu serves as a Consulting Editor of Circulation Research and is a member of the American Society for Clinical Investigation.
Dr. Prabhu is actively studying fundamental mechanisms of pathological remodeling in the failing heart, with a particular focus on inflammatory pathways (tumor necrosis factor, nuclear factor-kappaB) and immune cell types (e.g., macrophages). He is also interested in the interplay between inflammatory signaling and cardiac stem cell-mediated repair in the failing heart. Our clinical studies examine the effects of mechanical support (ventricular assist devices) on forward and reverse remodeling in human heart failure.

NAME Erik Roberson		POSITION TITLE Associate Professor Virginia B. Spencer Professor of Neuroscience	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Princeton University, Princeton, NJ	A.B.	1990	Molecular Biology
Baylor College of Medicine	PhD	1997	Neuroscience
Baylor College of Medicine	MD	1999	

Positions

2005–08 Assistant Adjunct Professor of Neurology, UCSF
2006–08 Staff Scientist, Gladstone Institute of Neurological Disease
2008–12 Assistant Professor of Neurology, UAB
2012– Associate Professor of Neurology with tenure, UAB
2013–15 Associate Director, UAB Alzheimer's Disease Center
2013– Co-Director, UAB Center for Neurodegeneration and Experimental Therapeutics
2015– Co-Director, Evelyn F. McKnight Brain Institute at UAB
2015– Director, UAB Alzheimer's Disease Center

Concurrent Appointments

2008–12 Assistant Professor of Neurobiology, UAB (joint appointment)
2012– Associate Professor of Neurobiology, UAB (joint appointment)
2008– Investigator, UAB Center for Neurodegeneration and Experimental Therapeutics
2008– Investigator, Evelyn F. McKnight Brain Institute , UAB
2008– Neurologist, UAB Division of Memory Disorders and Behavioral Neurology
2008– Faculty, UAB Graduate School
2008– Faculty, UAB Medical Scientist Training Program
2008– Scientist, UAB Comprehensive Center for Healthy Aging
2010– Scientist, UAB Center for Glial Biology in Medicine

Publications

Published 11 papers, with another 6 in press, 3 submitted, and 3 more in progress

NAME Michael Switow Saag		POSITION TITLE Professor of Medicine Associate Dean for Global Health Director, UAB Center for AIDS Res	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Chemistry, Tulane Uni	B.S.	1977	Chemistry
University of Louisville, Louisville, Kentucky	MD	1981	Medicine
UAB	Intern	1982	Medicine
UAB	Resident	1984	
UAB	Chief Resident	1985	
UAB	Fellow	1987	
UAB	Post Doc	1987	

Positions

1987 - 2010	Staff Physician, Medical Service Infectious Diseases, Department of Veterans Affairs Medical Center, Birmingham, Alabama
1987 - 2010	Consulting Physician, Cooper Green Hospital, Birmingham, Alabama 1987 -
Present	Attending Physician, Department of Medicine, University of Alabama at Birmingham, School of Medicine, Birmingham, Alabama
2009 - Present	Secondary Appointment to Epidemiology, University of Alabama at Birmingham, School of Public Health, Birmingham Alabama
2017 – Present	Investigator, Evelyn F. McKnight Brain Institute

Honors, Awards, and Advisory Committees

2012 - Present	Board Member, Infectious Diseases and Therapy
2012 - Present	Member, WHO Antiretroviral Therapy Guidelines Committee
2013 -	Member, CFAR Sub-Saharan Africa Working Group (CFAR-SSA) 2013 -
Present	Member, NIH R13 Grant Review Panel
2013 - Present	Member, NIH NIAID/DIR Board of Scientific Counselors
2013 - Present	Co-Chair, AASLD/IDSA/ IAS-USA Hepatitis C Guidelines Committee 2016-
present	Member, United Health Council

Publications

1. Crane HM, Miller ME, Pierce J, Willig AL, Case ML, Wilkin AM, Brown S, Asirot MG, Fredericksen RJ, Saag MS, Landay AL, High KP. Physical Functioning Among Patients Aging With Human Immunodeficiency Virus (HIV) Versus HIV Uninfected: Feasibility of Using the Short Physical Performance Battery in Clinical Care of People Living With HIV Aged 50 or Older. Open Forum Infect Dis. 2019 Mar 11;6(3):ofz038. doi: 10.1093/ofid/ofz038. eCollection 2019 Mar.PMID: 30882010

2. Merlin JS, Long D, Becker WC, Cachay ER, Christopolous KA, Claborn KR, Crane HM, Edelman EJ, Lovejoy TI, Mathews WC, Morasco BJ, Napravnik S, O'Cleirigh C, Saag MS, Starrels JL, Gross R, Liebschutz JM. Marijuana Use Is Not Associated With Changes in Opioid Prescriptions or Pain Severity Among People Living With HIV and Chronic Pain. J Acquir Immune Defic Syndr. 2019 Jun 1;81(2):231-237. PMID: 30865181

3. Webel AR, Willig AL, Liu W, Sattar A, Boswell S, Crane HM, Hunt P, Kitahata M, Matthews WC, Saag MS, Lederman MM, Rodriguez B.Physical Activity Intensity is Associated with Symptom Distress in the CNICS Cohort. AIDS Behav. 2019 Mar;23(3):627-635. doi: 10.1007/s10461-018-2319-7. PMID: 30368620

4. Eaton EF, Mathews RE, Lane PS, Paddock CS, Rodriguez JM, Taylor BB, Saag MS, Kilgore ML, Lee RA. A 9-Point Risk Assessment for Patients Who Inject Drugs and Require Intravenous Antibiotics: Focusing Inpatient Resources on Patients at Greatest Risk of Ongoing Drug Use. Clin Infect Dis. 2019 Mar 5;68(6):1041-1043. PMID: 30165395

NAME David George Standaert		POSITION TITLE Professor and Chair	
EDUCATION/TRAINING			
INSTITUTION/LOCATION Harvard University Washington University School of Medicine	DEGREE A.B. MD/PhD	YEAR(S) 1982 1988	FIELD OF STUDY Biochemistry Medicine, Pharmacolog

Positions

2006 – present Neurologist, University of Alabama Hospital 2006 – present Investigator, Evelyn F. McKnight Brain Institute 2011 – present Chair, UAB Department of Neurology

Publications

1. Prakash N, Caspell-Garcia C, Coffey C, Siderowf A, Tanner CM, Kieburtz K, Mollenhauer B, Galasko D, Merchant K, Foroud T, Chahine LM, Weintraub D, Casaceli C, Dorsey R, Wilson R, Herzog M, Daegele N, Arnedo V, Frasier M, Sherer T, Marek K, Frank S, Jennings D, Simuni T. Feasibility and safety of lumbar puncture in the Parkinson's disease research participants: Parkinson's Progression Marker Initiative (PPMI). Parkinsonism Relat Disord. 2019 Jan 31;. doi: 10.1016/j.parkreldis.2018.12.025. [Epub ahead of print] PubMed PMID: 30738748.

2. Espay AJ, Vizcarra JA, Marsili L, Lang AE, Simon DK, Merola A, Josephs KA, Fasano A, Morgante F, Savica R, Greenamyre JT, Cambi F, Yamasaki TR, Tanner CM, Gan-Or Z, Litvan I, Mata IF, Zabetian CP, Brundin P, Fernandez HH, Standaert DG, Kauffman MA, Schwarzschild MA, Sardi SP, Sherer T, Perry G, Leverenz JB. Revisiting protein aggregation as pathogenic in sporadic Parkinson and Alzheimer diseases. Neurology. 2019 Feb 12;92(7):329-337. doi: 10.1212/WNL.0000000000006926. PubMed PMID: 30745444; PubMed Central PMCID: PMC6382364.

3. Burack M, Aldred J, Zadikoff C, Vanagunas A, Klos K, Bilir B, Fernandez HH, Standaert DG. Reply to: DUOPA® is an Excellent Alternative Treatment but with Some Caveats. Mov Disord Clin Pract. 2019 Apr;6(4):336-337. doi: 10.1002/mdc3.12738. eCollection 2019 Apr. PubMed PMID: 31061847; PubMed Central PMCID: PMC6476597.

4. Lindestam Arlehamn CS, Pham J, Alcalay RN, Frazier A, Shorr E, Carpenter C, Sidney J, Dhanwani R, Agin-Liebes J, Garretti F, Amara AW, Standaert DG, Phillips EJ, Mallal SA, Peters B, Sulzer D, Sette A. Widespread Tau-Specific CD4 T Cell Reactivity in the General Population. J Immunol. 2019 Jul 1;203(1):84-92. doi: 10.4049/jimmunol.1801506. Epub 2019 May 13. PubMed PMID: 31085590; PubMed Central PMCID: PMC6581570.

5. Rabadia SV, Litvan I, Juncos J, Bordelon Y, Riley DE, Standaert D, Reich SG, Hall DA, Kluger B, Shprecher D, Marras C, Jankovic J. Hypertension and progressive supranuclear palsy. Parkinsonism Relat Disord. 2019 Aug 3;. doi: 10.1016/j.parkreldis.2019.07.036. [Epub ahead of print] PubMed PMID: 31420308.

6. Eskow Jaunarajs KL, Scarduzio M, Ehrlich ME, McMahon LL, Standaert DG. Diverse Mechanisms Lead to Common Dysfunction of Striatal Cholinergic Interneurons in Distinct Genetic Mouse Models of Dystonia. J Neurosci. 2019 Sep 4;39(36):7195-7205. doi: 10.1523/JNEUROSCI.0407-19.2019. Epub 2019 Jul 18. PubMed PMID: 31320448; PubMed Central PMCID: PMC6733543.

7. Calabresi P, Standaert DG. Dystonia and levodopa-induced dyskinesias in Parkinson's disease: Is there a connection?. Neurobiol Dis. 2019 Dec;132:104579. doi: 10.1016/j.nbd.2019.104579. Epub 2019 Aug 22. Review. PubMed PMID: 31445160; PubMed Central PMCID: PMC6834901.

8. Gilbert RM, Standaert DG. Bridging the gaps: More inclusive research needed to fully understand Parkinson's disease. Mov Disord. 2019 Nov 11. doi: 10.1002/mds.27906. [Epub ahead of print]

9. Simuni T, Uribe L, Cho HR, Caspell-Garcia C, Coffey CS, Siderowf A, Trojanowski JQ, Shaw LM, Seibyl J, Singleton A, Toga AW, Galasko D, Foroud T, Tosun D, Poston K, Weintraub D, Mollenhauer B, Tanner CM, Kieburtz K, Chahine LM, Reimer A, Hutten SJ, Bressman S, Marek K; PPMI Investigators. Clinical and dopamine transporter imaging characteristics of non-manifest LRRK2 and GBA mutation carriers in the Parkinson's Progression Markers Initiative (PPMI): a cross-sectional study. Lancet Neurol. 2019 Oct 30. pii: S1474-4422(19)30319-9. doi: 10.1016/S1474-4422(19)30319-9. [Epub ahead of print] PMID: 31678032

10. Shoeibi A, Litvan I, Juncos JL, Bordelon Y, Riley D, Standaert D, Reich SG, Shprecher D, Hall D, Marras C, Kluger B, Olfati N, Jankovic J. Are the International Parkinson disease and Movement Disorder Society progressive supranuclear palsy (IPMDS-PSP) diagnostic criteria accurate enough to differentiate common PSP phenotypes? Parkinsonism Relat Disord. 2019 Oct 14;69:34-39. doi: 10.1016/j.parkreldis.2019.10.012. [Epub ahead of print] PMID: 31665686

11. Dean M, Messiaen L, Cooper GM, Amaral MD, Rashid S, Korf BR, Standaert DG. Child Neurology:

Spastic paraparesis and dystonia with a novel ADCY5 mutation.Neurology. 2019 Sep 10;93(11):510-514.

NAME Anne Theibert		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Goucher College, Baltimore, MD	B.A.	1979	Chemistry
Johns Hopkins Uni, Baltimore, MD	PhD	1985	Biochemistry
Johns Hopkins Uni, Baltimore, MD	Postdoc	1987	
Johns Hopkins Uni, Baltimore, MD	Postdoc	1991	

Positions
2009 – present Program Director, Undergraduate Neuroscience, UAB
2006-present Investigator, Evelyn F. McKnight Brain Institute
2000-present Associate Professor (primary) UAB Neurobiology
2000-present Associate Professor (secondary) UAB Department of Cell, Developmental and Integrative Biology
2000-2012 Associate Professor (secondary) UAB Physiology and Biophysics
1996-2000 Assistant Professor (primary) UAB Neurobiology
1991-1996 Assistant Professor (primary) UAB Department of Cell Biology

Honors, Awards, and Advisory Committees
Undergraduate Neuroscience Program Director; Undergraduate Neuroscience Program Curriculum Committee; Neurobiology Department Graduate Program Director and Executive Committee Chair; Graduate Biomedical Science (GBS) Steering and Oversight Committee (SOC); GBS Curriculum Committee; GBS Neuroscience Curriculum Committee; Comprehensive Neuroscience Center (CNC) Executive Committee; Science and Technology Honors Program Admissions Committee

Name Summer Thyme		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Scripps College	BA	2006	Biology & Chemistry
University of Washington	PhD	2012	Biochemistry

Positions:
2019 – Present Assistant Professor, Department of Neurobiology, University of Alabama at Birmingham
2019 – Present Investigator, Evelyn F. McKnight Brain Institute, University of Alabama at Birmingham

2012-2019 Harvard University
Postdoctoral Fellow
Molecular & Cellular Biology Department
Advisor Dr. Alexander Schier

Grants
8/2019 – 9/2022 NIMH R00 MH110603 (Thyme), $747,000 direct + indirect over 3 years.
Functional analysis of schizophrenia-associated genes

NAME Kristen L. Triebel		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Pittsburg State University	B.A.	2002	
Forest Institute	M.A.	2005	Psychology
Forest Institute	PsyD	2006	Psychology
Coatesville VA Med Ctr, Coatesville, PA	Intern	2006	
Dept of Neurology, UAB	Fellow	2008	

Positions

10/2017 - Present Associate Professor/Neuropsychologist (Tenure-track) UAB, Neurology 2017-present
Investigator, Evelyn F. McKnight Brain Institute

Biographical Sketch

Dr. Triebel joined the faculty in 2008 after completing a two-year postdoctoral residency in clinical neuropsychology at UAB. She is board certified in clinical neuropsychology. Her clinical work involves neuropsychological evaluation of adults and older adults with a wide variety of neurological disorders, with a speciality focus in cancer, dementia, and movement disorders (including DBS pre-surgical evaluations). Dr. Triebel is also involved in educating graduate students, interns, and postdoctoral fellows in neuropsychology. She has served as Chair on dissertation committees and provides clinical and research supervision to predoctoral trainees, interns, and postdoctoral fellows. She is the Secretary Elect and member of the board of directors of the National Academy of Neuropsychology (NAN). She currently serves NAN as the Chair of the Membership Committee and Professional Member Advisor of the Student Membership Committee.

Research Interest

Dr. Triebel is a clinician scientist investigating cognitive impairment and functional and quality of life outcomes in patients with cancer-related cognitive impairment and a variety of neurological disorders. She is funded by the American Cancer Society, NIH, and other private organizations. Her research focuses on decisional capacity, cognition, and everyday functioning of patients with a variety of neurological disorders including cancer, traumatic brain injury, mild cognitive impairment, and Parkinson's disease.

Publications

1. Martin, R. C., Gerstenecker, A., Triebel, K. L., Falola, M., McPherson, T., Cutter, G., & Marson, D. C. Declining financial capacity in patients with Mild Cognitive Impairment: A six year longitudinal study. *Archives of Clinical Neuropsychology* 2019; 34(2): 152-161. doi: 10.1093/arclin/acy030. PMID: 29617705

2. Gerstenecker, A., Grimsley, L., Otruba, B., Cowden, L., Marson, D. C., Gerstenecker, K.T., Martin, R. C., & Roberson, E. D. Medical decision-making in progressive supranuclear palsy: A comparison to other neurodegenerative disorders. *Parkinsonism and Related Disorders* 2019; 61: 77-81. PMID: 30514650.

3. Bail, J. R., Ivankova, N., Heaton, K., Vance, D. E., Triebel, K., & Meneses, K. Cancer-related symptoms and cognitive intervention adherence among breast cancer survivors: A mixed methods study. *Cancer Nursing* 2019: April 3. doi: 10.1097/NCC.0000000000000700. [Epub ahead of print]. PMID 30950929

4. Gerstenecker, A., Martin, R., Triebel, K., & Marson, D. Anosognosia of Financial Ability in Mild Cognitive Impairment. *International Journal of Geriatric Psychiatry* 2019. doi: 10.1002/gps.511. [Epub ahead of print]. PMID: 30968462

5. Vo., J. B., Fazeli, P. L., Benz, R., Bail, J., Triebel, K., Vance, D. E., & Meneses, K. Effect of a speed of processing training intervention on self-reported health outcomes in breast cancer survivors. *Nursing: Research and Reviews* 2019; 9, 13-19. DOI: 10.2147/NRR.S199664

6. Gerstenecker, A., Gammon, M., Marotta, D., Fiveash, J., Nabors, B., Mulhauser, K. & Triebel, K. Using cognition to predict the ability to understand medical treatment in brain and metastatic cancer. *Psycho-Oncology* 2019: Nov 8 doi: 10.1002/pon.5277 [Epub ahead of print]. PMID: 31702844

NAME Eroboghene E. Ubogu		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
King's College, Lagos, Nigeria		1991	Secondary School
University of Lagos, Lagos, Nigeria		1992	Pre-medical
Abbey Tutorial College, London, England		1993	Advanced Level
Imperial College School of Medicine London, England, United Kingdom		1998	MBBS

Positions

2013 Professor (tenured), Department of Neurology, University of Alabama at Birmingham Director, Neuromuscular Immunopathology Research Laboratory
Director, Shin J. Oh Muscle and Nerve Histopathology
Director, Electromyography and Clinical Neurophysiology
Director, Clinical Neurophysiology Residency Program
Director, Neuromuscular Medicine Fellowship Program
Investigator, Evelyn F. McKnight Brain Institute

Publications

1. Dong C, Ubogu EE. GDNF enhances human blood-nerve barrier function in vitro via MAPK signaling pathways. Tissue Barriers 2018; 6 (4),1-22 (on-line version: DOI: 10.1080/21688370.2018.1546537, published on December 7th, 2018).
2. Merkies ISJ, van Schaik IN, Léger JM, Bril V, van Geloven N, Hartung HP, Lewis RA, Sobue G, Lawo JP, Durn BL, Cornblath DR, De Bleecker JL, Sommer C, Robberecht W, Saarela M, Kamienowski J, Stelmasiak Z, Tackenberg B, Mielke O; PRIMA Trial Investigators and the PATH Study Group. Efficacy and safety of IVIG in CIDP: Combined data of the PRIMA and PATH studies. Journal of the Peripheral Nervous System 2019; 24:48-55 (on-line version: DOI: 10.1111/jns.12302, published on January 22nd, 2019).
3. Mielke O, Bril V, Cornblath DR, Lawo JP, van Geloven N, Hartung HP, Lewis RA, Merkies ISJ, Sobue G, Durn B, Shebl A, van Schaik IN; PATH study group. Restabilization treatment after IVIG withdrawal in chronic inflammatory demyelinating polyneuropathy. Results from the pre-randomization phase of the Polyneuropathy and Treatment with Hizentra® (PATH) study. Journal of the Peripheral Nervous System 2019; 24:72-79 (on-line version: DOI: 10.1111/jns.12303, published on January 22nd, 2019).
4. Ouyang X, Dong C, Ubogu EE. In situ molecular characterization of endoneurial microvessels that form the blood-nerve barrier in normal human adult peripheral nerves. Journal of the Peripheral Nervous System 2019; 24:195-206 (on-line version: DOI: 10.1111/JNS.12326, published on May 23rd, 2019).

NAME Kristina M. Visscher		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION Carleton College, Northfield MN Washington Uni, St. Louis, MO	DEGREE B.A. PhD	YEAR(S) 1998 2004	FIELD OF STUDY Physics Neuroscienc

Positions
2009-2017 Assistant Professor, Neurobiology, UAB,
Secondary appointments in Psychology, Vision Sciences/optometry, Biomedical Engineering, Ophthalmology, Vision Science Research Center, Comprehensive Center for Healthy Aging 2017-present Associate Professor, Neurobiology, UAB
Secondary appointments in Psychology, Vision Sciences/Optometry, Biomedical Engineering, Ophthalmology, Vision Science Research Center, Comprehensive Center for Healthy Aging 2009-present Investigator, Evelyn F. McKnight Brain Institute, UAB

Publications
1. Elkhetali, A. S., Fleming, L. L., Vaden, R. J., Nenert, R., Mendle, J. E., & Visscher, K. M. (2019). Background connectivity between frontal and sensory cortex depends on task state, independent of stimulus modality. NeuroImage, 184, 790–800. PMID: 30237034
2. Thurman SM, Maniglia M, Davey PG, Biles MK, Visscher KM, Seitz AR (2018). Multi-line Adaptive Perimetry (MAP): A New Procedure for Quantifying Visual Field Integrity for Rapid Assessment of Macular Diseases. Translational Vision Science and Technology 2018 Sep; 7(5) 28 DOI: 10.1167/tvst.7.5.28, PMID: 30356944

NAME Jacques I. Wadiche		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
Northwestern University; Evanston, IL	B.A. PhD	1984-1988 1992-1998	Neurobio. & Physiology
Vollum Institute, OHSU; Portland, OR Vollum Institute, OHSU; Portland, OR	Postdoctoral Student	1998-2006 2003	Neurosci.Biophysics SynapticTransmission Neuroimaging
CSHL Imaging Course; Cold Spring Harbor, NY			

Positions

1987 - 1988 Undergraduate Thesis Fellow, Department of Neurobio. and Physiol., Northwestern University, Evanston, IL; Advisor: Fred Turek, PhD

1990 - 1992 Research Assistant, Department of Neuroscience, Baylor College of Medicine, Houston, TX; Advisor: James W. Patrick, PhD

1992 - 1998 Graduate Student, Vollum Institute, Oregon Health Sciences University, Portland, OR; Advisor: Michael P. Kavanaugh, PhD

1998 - 2006 Postdoctoral Fellow, Vollum Institute, Oregon Health Sciences University, Portland, OR; Advisor: Craig E. Jahr, PhD

2004 Teaching Assistant, Cold Spring Harbor Laboratories Imaging Course, Cold Spring Harbor, NY

2006 – 2013 Assistant Professor, Department of Neurobiology, University of Alabama at Birmingham; Birmingham, AL

2006-present Investigator, Evelyn F. McKnight Brain Institute

2013 - Associate Professor, Department of Neurobiology, University of Alabama at Birmingham; Birmingham, AL

Honors, Awards, and Advisory Committees

2008 - Ad hoc reviewer: Netherlands Organization for Scientific Research, Agence Nationale de la Recherce (France), North Carolina Biotechnology Center

2009 - Ad hoc reviewer NSF Peer Review Committees (Biomolecular Systems, Cellular Systems)

2011 - Editorial Board, Frontiers in Behavioral and Psychiatric Genetics 2016 Graduate Dean's Excellence in Mentorship Award, UAB

NAME Linda Wadiche		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
North Park Uni, Chicago, IL	B.S.	1992	Biology
Northwestern Uni, Chicago, IL		1997	
Vollum Institute, Oregon Health	PhD	2004	

Positions
2019 – present Professor, Department of Neurobiology, UAB
2011 – 2019 Associate Professor, Department of Neurobiology, UAB
2006 - 2011 Assistant Professor (primary), Department of Neurobiology, UAB 2006-present Investigator, Evelyn F. McKnight Brain Institute
2005 - 2006 Assistant Research Professor, Vollum Institute, Oregon Health & Sciences University, Portland, OR

Biographical Sketch
Linda Overstreet Wadiche received a BS in Biology from North Park University in Chicago, IL. In 1997 she received her Ph.D. from the Department of Physiology at Northwestern University Medical School under the mentorship of Dr. N. Traverse Slater. From 1998-2004 she was a postdoctoral fellow with Dr. Gary Westbrook at the Vollum Institute, Oregon Health & Science University. Dr. Wadiche became a Research Assistant Professor at the Vollum Institute in 2004. In June of 2006 she joined the Department of Neurobiology at UAB as an Assistant Professor.

Research Interest
Most neurons in the brain are generated during embryogenesis. However, neural stem cells in discrete regions of the adult continuously produce newborn neurons that can functionally integrate by forming synapses with the existing neural circuitry. One of the regions where adult neurogenesis occurs is the dentate gyrus, an area that is involved learning and memory. My laboratory focuses on the mechanisms underlying functional maturation and synaptogenesis of newborn granule cells, the principal neurons in the dentate gyrus. We use a variety of techniques to explore how newborn neurons survive and integrate, and how these processes are modified by aging, exercise and disease.

Publications in peer reviewed journals
1. Vaden JH, Banumurthy G, Gusarevich ES, Overstreet-Wadiche L, Wadiche JI Elife. 2019 Jul 31;8. pii: e47434. doi: 10.7554/eLife.47434.
2. Dieni CV, Gonzalez JC, Overstreet-Wadiche L (2019) Multifaceted circuit functions of adult-born neurons. F1000 review. Pending.

NAME Virginia G. Wadley		POSITION TITLE Professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of Alabama at Birmingham	B.S.	1991	Psychology and English
University of Alabama at Birmingham	M.A., PhD	1994, 1997	Medical Psychology Clinical Psychology
Duke University Medical Center	Internship	1996-1997	

Positions

2019 – present Emeritus Professor, Department of Medicine Divisioin of Georntology

2015 - 2019 Professor, Department of Medicine, Division of Gerontology, Geriatrics, and Palliative Care; School of Social and Behavioral Sciences, Department of Psychology (secondary appointment); and Department of Ophthalmology (secondary appointment),

2012 - pres. Senior Scientist, Center for Outcomes and Effectiveness Research and Education, 2009 - 2015 Associate Professor, Department of Medicine, Division of Gerontology, Geriatrics, and Palliative Care; School of Social and Behavioral Sciences, Department of Psychology (secondary appointment); and Department of Ophthalmology (secondary appointment—2014-2015)),

2009 - pres. Scientist, appointed, UAB Comprehensive Neuroscience Center

2007 - pres. Associate Director, UAB Edward R. Roybal Center for Translational Research on Aging and Mobility

2007 - pres. Graduate Faculty, University of Alabama, Tuscaloosa, AL

2005 - 2009 Assistant Professor, Department of Medicine, Division of Gerontology, Geriatrics, and Palliative Care; and School of Social and Behavioral Sciences,

2005 - pres. Director, Dementia Care Research Program, Division of Gerontology, Geriatrics, and Palliative Care, University of Alabama at Birmingham, Birmingham, AL

2005 - pres. Director, Alzheimer's Family Program, Comprehensive Center for Healthy Aging, University of Alabama at Birmingham, Birmingham, AL

2000 - pres. Senior Scientist (2015), UAB Comprehensive Center for Healthy Aging (formerly Center for Aging)

2015 – present Investigator, Evelyn F. McKnight Brain Institute

Research Interests

Cognitive and functional assessment of older adults in the contexts of normal aging, Mild Cognitive Impairment, Alzheimer's disease, and stroke. Interventions to maintain cognition and daily function.

Website https://www.ncbi.nlm.nih.gov/sites/myncbi/virginia.wadley%20bradley.1/bibliography/47840873/public/?sort=date&direction=descending

NAME Scott Wilson		POSITION TITLE Associate Professor	
EDUCATION/TRAINING			
INSTITUTION/LOCATION	DEGREE	YEAR(S)	FIELD OF STUDY
University of South Florida	B.S.	1986	Biology
University of South Florida	M.S.	1989	Microbiology
University of Florida	PhD	1996	Molecular Genetics
National Cancer Institute	Postdoc	2002	Genetics

Positions

1990-1991 Instructor, Introductory Biology, Hillsboro Community College, Tampa, Florida 1992-1996 Graduate student in the laboratory of Maurice Swanson, Department of Molecular Genetics and Microbiology, University of Florida College of Medicine, Gainesville, Florida

1997-2002 Postdoctoral Fellow in the laboratory of Drs. Neal Copeland and Nancy Jenkins, National Cancer Institute, Frederick, MD.

8-02 to present Assistant Professor, Department of Neurobiology, University of Alabama at Birmingham, Birmingham, AL,

03 to present Secondary Appointment in the Department of Biochemistry and Molecular Genetics

04 to present Secondary Appointment in the Department of Genetics

2006-present Investigator, Evelyn F. McKnight Brain Institute

6-06 to present Director of Summer Program in Neuroscience

10-06 to present Director of Molecular Recombineering Core. NIH Blueprint Core facility.

8-10 to presentAssociate Professor, Department of Neurobiology, University of Alabama at Birmingham, Birmingham, AL