OWEN CARMICHAEL, Ph.D.

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RESEARCH INTERESTS

Brain imaging, late-life cognitive decline, and image processing methodology.

EDUCATION

1997 - 2003   **Carnegie Mellon University, Pittsburgh, PA.**
Ph.D. in Robotics, December 2003.
Thesis: *Discriminative Techniques for the Recognition of Complex-Shaped Objects*
Committee: Martial Hebert (chair), Henry Schneiderman, Jianbo Shi, Tom Minka, Yann LeCun.

1993 - 1997   **University of California, Berkeley, CA.**
B.S. with Honors in Electrical Engineering and Computer Science, May 1997.

PROFESSIONAL EXPERIENCE

2014-current   **Pennington Biomedical Research Center, Baton Rouge, LA.**
Professor and Director of the Biomedical Imaging Center. Promoted from Associate level in 2020.

2005-2014   **Neurology Department, University of California, Davis, CA.**
Associate Professor (100% appointment). Promoted from Assistant to Associate level in 2012.

2006-2014   **Computer Science Department, University of California, Davis, CA.**
Associate Professor (0% appointment). Promoted from Assistant to Associate level in 2012.

2003-2005   **Radiology Department, University of Pittsburgh, Pittsburgh, PA.**
Postdoctoral scholar studying image analysis algorithms for Alzheimer's Disease.
Advisors: Carolyn Meltzer, Yanxi Liu, Oscar Lopez, Jim Becker, Howard Aizenstein

Winter 1999   **Minolta Corporation, Osaka, Japan.**
Developed tools for automatic recognition of human faces from 3D range data.
Advisor: Eiro Fujii

Summer 1999   **Mitsubishi Electric Research Laboratory, Cambridge, MA.**
Implemented techniques for super-resolution of blurred images.

Advisor: Bill Freeman

Summer 1998	**K2T Corporation, Pittsburgh, PA.** Consulted for demonstration of 3D modeling tools for corporate clients. Advisor: Eric Hoffman
1996 - 1997	**IBM Almaden Research Laboratory, San Jose, CA.** Investigated edge-based approaches to content-based image retrieval. Advisor: Myron Flickner
Fall 1996	**DBStar Inc., San Francisco, CA.** Developed new algorithms for quick discovery of causal rules in relational databases. Advisor: Bill Franklin
1995 - 1996	**Electronic Research Laboratory, University Of California, Berkeley, CA.** Developed and programmed a parallel version of a lithography simulation software package. Advisor: Andrew Neureuther

PROFESSIONAL ORGANIZATION MEMBERSHIPS

2019 – Present	International Society to Advance Alzheimer's Research and Treatment (ISTAART)
2014 – Present	The Obesity Society
2007 – 2014	American Academy of Neurology
2003 – Present	Member, then Senior Member (2104), Institute for Electrical and Electronics Engineers (IEEE)

HONORS AND AWARDS

1997 – 2000	National Science Foundation Graduate Student Fellowship
2003 – 2004	National Institutes of Health Institutional NRSA Postdoctoral Fellowship
2006	Appointed Fellow, Summer Research Institute in Geriatric Psychiatry
2008	Travel Fellowship, 6th Annual Mild Cognitive Impairment Symposium
2010	Travel Fellowship, International Conference on Alzheimer's Disease
2011	Finalist, UC Davis Academic Federation Award for Excellence in Research

GRANTS AND CONTRACTS SUPPORT

C. Muller   9/30/2022–7/31/2027
R01AG078533-01 NIH/NIA
Education and Cognitive Functioning in Later Life: The Nation's High School Class of 1972
Major Goals: To complete longitudinal follow-up of individuals that completed the National Longitudinal Survey of 1972, including measurement of Alzheimer-related outcome measures.
Role: Site PI

J. Luchsinger   9/01/2022–8/31/2027

U19AG078558 NIH (NIA)
Alzheimer's Disease and Alzheimer's Disease Related Dementias in Prediabetes and Type 2 Diabetes: The Diabetes Prevention Program Outcomes Study AD/ADRD Project
This study will continue follow-up of the DPPOS cohort, with a goal of assessing relationships between diabetes-related exposures and makers of Alzheimer's disease.
Role: Site PI

L. Bazzano, OT Carmichael, and EM Urbina   7/01/2022 – 6/30/2027
R01AG077497 NIH (NIA) $2,891,965
I3C DECADE: Disparities and Equity in Childhood Cardiovascular Exposures and Alzheimer's Dementia
This study will identify the influence of cardiovascular risk burden in childhood on brain health indicators decades later in midlife, in 3 companion cohorts.
Role: PI (with L Bazzano and E Urbina)

S. Yasar   7/01/2022 – 3/31/2025
R01AG074258 NIH (NIA) $526,730
Effects of the renin angiotensin system on MRI volumetric measures and cognitive function in the Alzheimer's disease process: the LookAHEAD study
Major Goals: To evaluate the role of RAS proteins in aging and how it contributes to the development of AD using brain MRI imaging and cognitive measures in people with history of diabetes mellitus and obesity.
Role: Co-Investigator

T. Kelly, L. Bazzano, and O. Carmichael   4/01/2022 – 1/31/2027
R01AG077000 NIH (NIA)
Early Life Cardiovascular Disease Risk Factors, Epigenetic Age Acceleration, and Alzheimer's Disease Related Brain Health
The goal of this study is to assess the relationship between epigenetic age acceleration, lifespan cardiometabolic exposures, and midlife brain structure and function in 250 healthy middle-aged adults who have participated in the Bogalusa Heart Study.
Role: PI (with Tanika Kelly and Lydia Bazzano)

P. Singh   2021
LA CaTS P & F $ 49,742
Addressing health disparities in African Americans - exploring sleep and developing interventions
The primary goal of this pilot project is to assess attitudes, beliefs, knowledge, and barriers related to sleep quality and sleep research participation among African American adults. Another goal is to assess sleep-related phenotypes in this same population.
Role: Investigator

R. Newton   03/15/2021 – 11/30/2021
NIH $ 230,075
RAATE COVID Supplement
The primary goal of this project is to assess pandemic-related changes in attitudes related to research participation among older African American adults.
Role: Investigator

K. Marlatt   9/01/2020 – 8/31/2021
Pennington Biomedical Research Center $ 41,189
Physical Activity and Cognitive Function in Older Adults: A Novel Role for GPLD1
The main goal of this project is to compare metabolic and brain related phenotypes, including brain imaging measures and cognitive measures, between groups that differed in their GPLD1 genotype.
Role: Investigator

L. Bazzano and O. Carmichael   08/17/2020 – 11/30/2021
Tulane (NIH) $ 45,284

Supplemental Funding Request for AG062309 Early life glycemic status and Alzheimer's disease neuroimaging markers in middle age: the Bogalusa Heart Study
This project was designed to assess pandemic-related changes in physical activity, diet, and sleep among participants in the Bogalusa Heart Study, using accelerometry and food photography.
Role: PI (with Lydia Bazzano)

L. Bazzano and O. Carmichael   9/01/2020 – 8/31/2021
Tulane (NIH) $ 146,980
Administrative Supplement Request to Lifespan Cardiovascular Risk Exposures and Alzheimer-related Brian Health
This project was designed to assess pandemic-related changes in physical activity, diet, and other lifestyle behaviors among Bogalusa Heart Study participants, via surveys and questionnaire items.
Role: PI (with Lydia

C. Martin   6/01/2020 – 5/31/2022
Covance/Lilly $ 3,563,517
Effect of Tirzepatide on Energy Intake and Appetite-and Reward-Related Brain Areas in Overweight/Obese Subjects: A Placebo-Controlled 6 Week Study with Functional MRI
This double-blind, placebo-controlled trial assessed changes in brain responses to images of palatable foods over courses of treatment with the weight loss drugs tirzepatide and liraglutide.
Role: Co-Investigator

O. Carmichael   5/01/2020 – 4/30/2021
NIH $ 250,000
Pennington/Louisiana NORC NOT-DK-20-009 Supplement
This supplement to the Pennington/Louisiana NORC provided funding for three pilot projects whose scientific content included an overlap between Alzheimer's disease and nutrition, metabolism or obesity.
Role: Project Director

Owen Carmichael and Bret Goodpaster   7/01/2020 – 6/30/2024
R01AG069476 $2,650,822
Aging and the mitochondrial response to exercise training, measured by noninvasive 31P magnetic resonance spectroscopy
The purpose of this project is to collect measurements of mitochondrial capacity from skeletal muscle 31P magnetic resonance spectroscopy exams, among participants who are undergoing exercise training in the MoTrPAC exercise trial. Aims are to assess heterogeneity in mitochondrial responses to exercise training and to assess molecular correlates of the mitochondrial response to exercise training.
Role: PI

R. Newton and O. Carmichael   07/01/2020-03/31/2025
RO1 AG067765 NIH (NIA) $3,451,175
Reducing African Americans' Alzheimer's Disease Risk Through Exercise (RAATE MCI)
This study will determine if regular physical activity conducted over a year will reduce risk factors for developing Alzheimer's Disease in older African American adults with mild cognitive impairment. We will assess participant's brain functioning, brain structure, memory, chromosomes, and the contribution of plaques in the brain on outcomes.
Role: PI (with Robert Newton)

O. Carmichael   8/01/2019 – 3/31/2023
Nestlé Research Center, Nestec Ltd $ 3,106,624
The Effect of Myelin-Relevant Nutrients in Infant Formula on Brain Myelination and Cognitive Development (CONNECT)
The goal of this randomized controlled trial is to assess the impact of a myelin-relevant nutrient supplemented infant formula on brain development between birth and two years of age, relative to a standard infant formula.

Role: PI

L. Bazzano and O. Carmichael   8/01/2019 – 3/31/2024
Tulane/NIH $3,599,769
Lifespan Cardiovascular Risk Exposures and Alzheimer-related brain health: Bogalusa Heart Study (BHS Vascular Brain)
The goal of this study is to assess the relationship between lifespan cardiovascular risk factor exposure and midlife brain structure, function, and Alzheimer's disease biomarkers in 200 healthy middle-aged adults who have participated in the Bogalusa Heart Study.
Role: PI (with Lydia Bazzano)

L. Bazzano and O. Carmichael   12/01/2018 – 11/30/2023
Tulane/NIH $3,545,225
Early Life glycemic status and Alzheimer's disease neuroimaging markers in middle age: the Bogalusa Heart Study (BHS Brain 2)
The goal of this study is to recruit 200 healthy middle-aged adults who have participated in the Bogalusa Heart Study. These individuals will undergo: 1. a comprehensive clinical evaluation; 2. a brain MRI to assess brain structure and functioning; 3. brain PET scans to assess cerebral glucose metabolism and amyloid burden. We will assess associations between lifespan cardiometabolic exposures and measured brain characteristics.
Role: PI (with Lydia Bazzano)

R. Newton and O. Carmichael   12/01/2018-11/30/2023
NIH, 1 R01 AG062200-01 $3,592,061
Reducing African Americans' Alzheimer's Disease Risk Through Exercise (RAATE)
The goal of this project is to randomize 200 community-dwelling, cognitively healthy African American older adults to one year of an aerobic exercise intervention or active control condition. Cognitive function, brain structure and function, and telomere length will be measured before and after study participation.
Role: PI (with Robert Newton)

B. Irving and O. Carmichael   7/1/2017-6/30/2021
Louisiana Biomedical Collaborative Research Program $69,500
Mechanisms of Premature Muscle Fatigue in Sedentary and Exercise Trained Adults
The goal of this project is to gain understanding of molecular mechanisms underlying premature muscle fatigue in individuals undergoing exercise training, using high-resolution mitochondrial respirometry and 13C magnetic resonance spectroscopy.
Role: Co-PI (with Brian Irving)

O. Carmichael   7/01/2017 – 6/30/2018
Philanthropic donation $100,000
Louisiana Aging Brain Scans (LABS)
The goal of this project is to clarify the neural basis for increased fall risk due to distraction in healthy elderly individuals. Individuals who have completed distracted gait tasks will complete a distracted gait task during fMRI scanning to assess brain functional differences between those who do and do not show impairments in distracted gait performance.
Role: Co-PI (with Jeff Keller)

R. Newton and O. Carmichael   7/01/2017 – 6/30/2021
BrightFocus Foundation $300,000
Exercise Intervention to Reduce Risk of Alzheimer's Disease in African Americans
The goal of this project is to tailor an aerobic and resistance exercise intervention to an elderly, community-dwelling African American cohort, and determine the effects of training on cognitive function and brain functioning during execution of cognitive tasks.
Role: Co-PI (with Robert Newton)

L. Bazzano   1/1/2017-12/31/2018

LaCATS Pilot Project $50,000
Lifespan Cardiovascular Exposures and Risk of Brain Injury in the Bogalusa Heart Study
The goals of this project are to collect measurements of cognitive and brain health from members of the Bogalusa Heart Study, and to assess relationships between lifespan exposures to cardiovascular risk, and levels of brain and cognitive dysfunction in these individuals.
Role: Co-Investigator

E. Ravussin 05/01/2016 - 04/30/2021
2 P30 DK072476-11A1 NIH (NIDDK) $5,424,848.00
Pennington/Louisiana NORC
During this upcoming NORC cycle, we plan to develop research teams focusing on maternal/Infant nutritional status, pediatric and adulthood obesity, and nutritional status at older age. These three research teams will address research questions from basic science, clinical, and population levels.
Role: Other Professional (0.6 calendar months)

O. Carmichael 10/1/2016 – 2017
NORC Pilot Project $70,000
Effect of carnitine supplementation on liver mitochondria fatty acid processing
The goal of this project is to assess the impact of two weeks of oral carnitine supplementation on levels of stored carnitine in the skeletal muscle, as well as liver mitochondrial fatty acid processing.
Role: Principal Investigator

J. Peng 8/1/2015 – 7/31/2018
NSF IIS-1515538 $487,741
Collaborative Research: Multi-Scale Estimators for Diffusion MRI of the Brain
The goal of the current project is to advance diffusion MRI toward more rigorous and standardized measurements of neural connectivity that are built from strong statistical theory. It will develop a multi-scale representation of brain structural connectivity which provides convenient and biologically interpretable multi-scale features that can be related to external variables of interests in statistical models.
Role: Co-Investigator

A. Van Gemmert 10/1/2016–9/31/2017
Louisiana Biomedical Collaborative Research Program $50,000
Bilateral Transfer of Motor Skills and Brain Activation Patterns
The goal of this project is to collect normative data from healthy young individuals about brain activation patterns associated with transferring a newly learned motor skill from one side of the body to the other, using motor tasks performed during functional magnetic resonance imaging (fMRI).
Role: Co-PI (with Arend Van Gemmert)

D. McDougal 4/1/2015-5/31/2017
LaCATS Pilot Project $100,000
Testing Glial Pathways to HAAF in Human Subjects using 13C Magnetic Resonance Spectroscopy
The goal of this project is to assess levels of metabolism of the cerebral glia in calorie-restricted individuals using 13C magnetic resonance spectroscopy techniques.
Role: Co-Investigator

I. Davidson 8/1/2014 – 7/31/2017
NSF IIS-1422218 $299,980
Functional Network Discovery for Brain Connectivity
This grant develops data mining tools required for high-level network discovery tasks based on brain functional magnetic resonance imaging data.
Role: Co-PI (with Hans Mueller and Jane-Ling Wang)

O. Carmichael 2014 – 2017
Pennington Biomedical Research Foundation $2,800,000

Start-up package for new Biomedical Imaging Center Director
This start-up package pays for the hiring of new research staff and the purchasing of new imaging equipment with a goal of increasing the depth and breadth of the Pennington Biomedical Imaging Center.
Role: Principal Investigator

O. Carmichael   9/1/2013-8/31/2016
State of California $100,000
Determinants and consequences of white matter degeneration in Alzheimer's disease
The aim of this study is to assess associations between molecular measures of Alzheimer's disease pathology, gray matter and white matter volume from MRI, and cognitive functioning in elderly participants in the Alzheimer's Disease Neuroimaging Initiative (ADNI).
Role: Principal Investigator

O. Carmichael   4/1/2013 – 3/30/2016
Alzheimer's Association $100,000
Imaging Biomarkers of Preclinical Cerebrovascular Disease
The aim of this study is to assess relationships among MRI markers of cerebrovascular disease and neuronal injury among healthy elderly individuals whose amyloid status has been determined through PET imaging.
Role: Principal Investigator

C. DeCarli   2001 - 2016
NIH/NIA P30 AG010129
U. C. Davis Alzheimer's Disease Core Center
Major goals of this project are to enroll, study and follow a cohort of patients and control subjects who are thoroughly characterized, and longitudinally followed to autopsy. This provides a research infrastructure for clinical and basic studies of dementia in Northern California.
Role: I am Associate Director of the Neuroimaging Core, responsible for validating and improving neuroimaging data collection for the Center.

O. Carmichael   7/1/2012 – 6/30/2015
NSF DMS-1208917 $110,000
Multidimensional Curve Estimation for Diffusion MRI
The major goal of this project is to develop mathematically rigorous methods for tracing fiber tract trajectories in high angular resolution diffusion MRI. Collaborative proposal with DMS – 1208238 (L. Sakhanenko, PI).
Role: Principal Investigator

H. Mueller   9/1/2012 – 8/31/2015
NSF DMS-1228369 $495,000
Statistical Representations and Algorithms for Brain Connectivity
The major goal of this project is to develop the statistical theory and quantitative algorithms necessary to allow robust quantification of inter-regional brain connectivity from functional magnetic resonance imagery.
Role: Co-PI

M. Weiner   2005 – 2012
NIH/NIA, U01 AG024904
Alzheimer's Disease Neuroimaging Initiative
The goals of this project are to perform analysis of abnormal white matter signals and stroke on subjects with normal cognition, MCI, and mild AD longitudinally followed for 3 years. These data will be combined with other data as a public resource for research on biological markers for early diagnosis and longitudinal evaluation of patients with AD.
Role: I oversee calculation of white matter hyperintensities, tissue volumes, cranial vault segmentations, and infarct ratings on all ADNI MRI scans.

O. Carmichael   2007 – 2008
UC Davis Alzheimer's Disease Center and Clinical Translational Sciences Center

Novel Hippocampal Morphometrics for Quantification of AD Structural Correlates
The goal of this pilot project is to explore the viability of a novel spatial morphometry measure for analysis of hippocampi from the University of California, Davis Alzheimer's Disease Center (UCD ADC). Sensitivity and specificity of the novel morphometric measure for prediction of AD in the UCD ADC will be evaluated.
Role: I provided leadership and data analysis for this project.

O. L. Lopez 2007 – 2012
NIH/NIA, R01AG20098
Predictors of Alzheimer's Disease in Mild Cognitive Impairment
The purpose of this final renewal of the Pittsburgh Cardiovascular Health Study Cognition Study is to determine risk of dementia among cognitively normal participants and individuals with MCI using MRI measures of brain structural integrity and cerebral perfusion as well as cognitive function, cardiovascular health, genetic characteristics, and other risk factors.
Role: I am contributing to analyses that relate brain MRI measures to risk of dementia, death, and ancillary clinical variables related to physical and vascular health.

C. DeCarli 2008 – 2009
Larry L. Hillblom Foundation
Larry L. Hillblom Network for Cognitive Neuroscience of Diabetes, Aging and Memory
The goal of this study was to understand how diabetes effects memory using structural and functional brain imaging and evoked response potentials to examine biological brain changes so that physicians can provide informed treatment and prevention recommendations for seniors and the population as a whole.
Role: I supported neuroimaging data analyses for this project.

H. Chui 2008 – 2013
NIH/NIA, P01 AG 012435
Aging Brain: Vasculature, Ischemia and Behavior
The major goal of this project is to determine how structural changes in the cerebral vasculature affect brain function and behavior in elderly persons.
Role: I oversee MRI data collection at UC Davis for this project.

O. Carmichael 2008 – 2013
NIH/NIA, K01 AG030514
MR Morphometrics and Cognitive Decline Rate in Large-Scale Aging Studies
The purpose of this study is to perform research and career development activities related to the neuroanatomical changes that occur during the course of late-life cognitive decline.
Role: Principal Investigator

J. Lee 2008 – 2009
UC Davis Alzheimer's Disease Center Pilot Grant
Sex Hormones and Cerebral Imaging in Cognitive Dysfunction
The major goals of this project were to quantify serum levels of sex hormone in a diverse cohort of community-dwelling elderly individuals and to relate sex hormone levels to MRI measures of brain structure.
Role: I performed neuroimaging data analyses for this project.

O. Carmichael 2009 – 2012
Dana Foundation
Novel MRI-Based Hippocampal Markers for Alzheimer's Disease
The major goals of this study were to adapt a novel MRI-based morphometric measure of hippocampal atrophy to a large-scale elderly neuroimaging cohort and assess associations between the measure and cognitive decline.
Role: Principal Investigator.

N. Amenta 2011 – 2014
NSF/IIS, 1117663
Shape Differences in the Biological Sciences

The major goals of this project are to develop the mathematical, statistical, and computational methods required to establish anatomical correspondences among groups of biological specimens, and to apply the methods to primate skull fossils, human brain regions, and molecular surface models.

Role: As Co-PI, I provide human brain shape data based on brain MRI, as well as neuroscience expertise, that help drive development of correspondence algorithms.

I. Davidson   2010 – 2012
Office of Naval Research
SME: Guided Learning in Dynamic Environments
The major goal of the grant is to develop machine learning algorithms for classification, clustering, and other problems that increase their usefulness with experience and expert user input. Applications of interest include classification and clustering of functional MRI data in various clinically-relevant tasks with input from domain expert neuroscientists.

Role: I provide functional brain MRI data and domain expertise in neuroscience for this grant.

W. Polonik   2012 – 2015
NSF/ DMS and MPS - 1148643
RTG: Statistics in the 21st Century - Objects, Geometry and Computing
The project provides training to statistics graduate students in dealing with images, matrices, functions, trajectories, trees, graphs, and related objects in statistical analysis. This will prepare students and postdocs for more advanced studies and research activities in Statistics and the mathematical sciences in general

Role: As Senior Personnel, I provide neuroimaging mentorship and data to student trainees applying advanced statistical estimation techniques to the neuroimaging data.

T. Simon   2009 – 2014
NIH/NICHD, RO1 HD042971
Visuospatial Cognitive Deficit in Del22q11.2 Syndrome
The goal of this project is to investigate the hypothesis that the characteristic visuospatial and numerical deficits in this disorder derive from inferior parietal lobe dysfunction.

Role: As a co-investigator, I lead computational analyses of MRI data, including regional hippocampus shape analysis and automated segmentation of relevant brain regions.

PUBLICATIONS

Peer-Reviewed Journal Papers

1.   Sun X, Chen W, Razavi AC, Shi M, Pan Y, Li C, Argos M, Layden BT, Daviglus ML, He J, **Carmichael OT**, Bazzano LA, Kelly TN. *Associations of epigenetic age acceleration with CVD risks across the lifespan: the Bogalusa Heart Study*. J Am Coll Cardiol Basic Trans Science. In press. 2024.

2.   **Carmichael OT**, Singh M, Bashir A, Russell AM, Bolding M, Redden DT, Storrs J, Willoughby WR, Howard-Claudio C, Hsia DS, Kimberly RP, Gray ME, Ravussin E, Denney TS. *Harmonized Multisite MRI-Based Quantification of Human Liver Fat and Stiffness: A Pilot Study*. J Magn Reson Imaging. 2024;59(3):1070-1073. PMID: 37246446.

3.   Cho E, Granger J, Theall B, Lemoine N, Calvert D, Marucci J, Mullenix S, O'Neal H, Jacome T, Irving BA, Johannsen NM, **Carmichael O**, and Spielmann G. *Blood and MRI biomarkers of mild traumatic brain injury in non-concussed collegiate football players*. Sci Rep. 2024;14:665. PMCID: PMC10770029. PMID: 38182718.

4.   Hayden KM, Mielke MM, Evans JK, Neiberg R, Molina-Henry D, Culkin M, Marcovina S, Johnson KC, **Carmichael OT**, Rapp SR, Sachs BC, Ding J, Shappell H, Wagenknecht L, Luchsinger JA, and Espeland MA. *Association between Modifiable Risk Factors and Levels of Blood-Based Biomarkers of Alzheimer's*

*and Related Dementias in the Look AHEAD Cohor*t. JAR Life. 2024;13:1-21. PMCID: PMC10775955. PMID: 38204926.

5.   Lieberman HR, Caldwell JA, Vartanian O, **Carmichael OT**, Karl JP, Berryman CE, Gadde KM, Niro PJ, Harris MN, Rood JC, and Pasiakos SM. *Effects of testosterone enanthate on aggression, risk-taking, competition, mood, and other cognitive domains during 28 days of severe energy deprivation*. Psychopharmacology (Berl).2023;241(3):461-478. PMID: 38038817.

6.   Tong H, Capuano AW, **Carmichael OT**, Gwizdala KL, Bennett DA, Ahima RS, Arnold SE, and Arvanitakis Z. *Brain Insulin Signaling is Associated with Late-Life Cognitive Decline*. Aging Dis. Epub 29 November 2023. PMID: 38029396.

7.   Gwizdala KL, Bazzano LA, Newton, Jr. RL, **Carmichael OT**. *Race and sex differences in the association between lifespan glycemic status and midlife cognitive function: The Bogalusa Heart Study*. Frontiers in Public Health, section Aging and Public Health. 2023;11:1200415. PMCID: PMC10684774. PMID: 38035298. ***Carmichael and Newton contributed equally as senior authors.***

8.   Schneider N, Hartweg M, O'Regan J, Beauchemin J, Redman L, Hsia D, Steiner P, **Carmichael O**, D'Sa V, Deoni S. *Impact of a Nutrient Formulation on Longitudinal Myelination, Cognition, and Behavior from Birth to 2 Years: A Randomized Clinical Trial*. Nutrients. 2023;15(20). PMCID: PMC10610069. PMID: 37892514.

9.   Rhea EM, Leclerc M, Yassine HN, Capuano AW, Tong H, Petyuk VA, Macauley SL, Fioramonti X, **Carmichael O**, Calon F, Arvanitakis Z. *State of the Science on Brain Insulin Resistance and Cognitive Decline Due to Alzheimer's Disease*. Aging Dis. 2023. Epub 2023/08/24. PMID: 37611907.

10. **Carmichael OT**, Singh M, Bashir A, Russell AM, Bolding M, Redden DT, Storrs J, Willoughby WR, Howard-Claudio C, Hsia DS, Kimberly RP, Gray ME, Ravussin E, Denney TS. *Harmonized Multisite MRI-Based Quantification of Human Liver Fat and Stiffness: A Pilot Study*. J Magn Reson Imaging. 2023. Epub 2023/05/29. PMID: 37246446.

11. Davidy T, Yore I, Cukierman-Yaffe T, Ravona-Springer R, Livny A, Lesman-Segev OH, Azuri Y, **Carmichael O**, Kapogiannis D, Zetterberg H, Lin H, Sano M, Beeri MS. *A feasibility study of the combination of intranasal insulin with dulaglutide for cognition in older adults with metabolic syndrome at high dementia risk - Study rationale and design*. Mech Ageing Dev. 2023;213:111825. PMID: 37245533.

12. Wiese LAK, Gibson A, Guest MA, Nelson AR, Weaver R, Gupta A, **Carmichael O**, Lewis JP, Lindauer A, Loi S, Peterson R, Radford K, Rhodus EK, Wong CG, Zuelsdorff M, Saidi LG, Valdivieso-Mora E, Franzen S, Pope CN, Killian TS, Shrestha HL, Heyn PC, Ng TKS, Prusaczyk B, John S, Kulshreshtha A, Sheffler JL, Besser L, Daniel V, Tolea MI, Miller J, Musyimi C, Corkey J, Yank V, Williams CL, Rahemi Z, Park J, Magzamen S, Newton RL, Jr., Harrington C, Flatt JD, Arora S, Walter S, Griffin P, Babulal GM. *Global rural health disparities in Alzheimer's disease and related dementias: State of the science*. Alzheimers Dement. 2023;19(9):4204-25. PMID: 37218539. PMCID: PMC10524180.

13. De Anda-Duran I, Kolachalama VB, **Carmichael OT**, Hwang PH, Fernandez C, Au R, Bazzano LA, Libon DJ. *Midlife Neuropsychological Profiles and Associated Vascular Risk: The Bogalusa Heart Study*. J Alzheimers Dis. 2023;94(1):101-13. PMID: 37212094. PMCID: PMC10443183.

14. Chuang KC, Ramakrishnapillai S, Madden K, St Amant J, McKlveen K, Gwizdala K, Dhullipudi R, Bazzano L, **Carmichael O**. *Brain effective connectivity and functional connectivity as markers of lifespan vascular exposures in middle-aged adults: The Bogalusa Heart Study*. Front Aging Neurosci. 2023;15:1110434. PMID: 36998317. PMCID: PMC10043334.

15. **Carmichael O**. *The Role of fMRI in Drug Development: An Update*. Adv Neurobiol. 2023;30:299-333. PMID: 36928856.

16. Vartanian O, Lam TK, Mandel DR, Ann Saint S, Navarrete G, **Carmichael OT**, Murray K, Pillai SR, Shankapal P, Caldwell J, Berryman CE, Karl JP, Harris M, Rood JC, Pasiakos SM, Rice E, Duncan M, Lieberman HR. *Effect of exogenous testosterone in the context of energy deficit on risky choice: Behavioural and neural evidence from males*. Biol Psychol. 2023;176:108468. PMID: 36481265

17. Wharton W, Anderson A, Hayden KM, **Carmichael OT**, Clark JM, Luchsinger JA, Espeland M, Yasar S. *Effect of renin-angiotensin system antihypertensive medication use on cognitive function in diabetes mellitus with obesity or overweight: An ancillary study to the action for health in diabetes (look ahead) trial*. Diabetes Obes Metab. 2022;24(12):2443-53. PMCID: PMC9617758. PMID: 36065050.

18. Gwizdala KL, Brouillete R, Beyl R, Johnson W, Hebert C, Carter L, Harris M, Newton RL, Jr., **Carmichael OT**. *Exercise effects on cognition in older african americans: A pilot randomized trial*. Front Aging Neurosci. 2022; 14:921978. PMCID: PMC9354972. PMID: 35936770.   ***Carmichael and Newton contributed equally as senior authors.***

19. Espeland MA, Evans JK, **Carmichael O**, Luchsinger JA, Marcovina SM, Neiberg R, Johnson KC, Kahn SE, Hayden KM, Action for Health in Diabetes MASG. *Association of cognition with leptin and vascular endothelial growth factor in individuals with type 2 diabetes mellitus*. Obesity (Silver Spring). 2022;30(9):1863-74. PMCID: PMC9420754. PMID: 35920161.

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Full-Length Peer-Reviewed Conference Papers

Note: The Computer Science conference publications listed below are full-length (4-12 page) papers reviewed through competitive, double-blind processes and published in book format. Conference papers in this area are highly-competitive, highly-respected, and carry similar intellectual weight to journal papers.

1. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Krystal Kirby, Arend W. A. Van Gemmert, Lydia Bazzano, **Owen T. Carmichael**. Joint Estimation of Neural Events and Hemodynamic Response Functions from Task fMRI via Deep Learning. 6th International Workshop on Machine Learning in Clinical Neuroimaging (MLCN) October 2023 Held in Conjunction with MICCAI 2023, Vancouver, BC, Canada, October 8, 2023. Proceedings. pp. 67–78.

2. Reagan Dugan, **Owen T. Carmichael**. Multi-Shell dMRI Estimation from Single-Shell Data via Deep Learning. 6th International Workshop on Machine Learning in Clinical Neuroimaging (MLCN) October 2023 Held in Conjunction with MICCAI 2023, Vancouver, BC, Canada, October 8, 2023. Proceedings. pp. 14–22.

3. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Lydia Bazzano, **Owen T. Carmichael**. Nonlinear conditional time-varying Granger causality of task fMRI data via deep stacking networks and adaptive convolutional kernels. 25th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2022.

4. Sreekrishna R. Pillai, Harris R. Lieberman, Jennifer C. Rood, Stefan M. Pasiakos, Kori Murray, Preetham Shankapal, **Owen T. Carmichael**. Constrained Learning of Task-related and Spatially-Coherent Dictionaries from Task fMRI Data. The 4th International Workshop on Machine Learning in Clinical Neuroimaging (MLCN 2021) September 2021.

5. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Lydia Bazzano, **Owen Carmichael**. Deep Stacking Networks for Conditional Nonlinear Causal Modeling of fMRI Data. The 4th International Workshop on Machine Learning in Clinical Neuroimaging (MLCN 2021) September 2021.

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7. Chia-Tung Kuo, Peter B. Walker, **Owen Carmichael**, and Ian Davidson. *Spectral Clustering for Medical Imaging*, The Fourteenth IEEE International Conference on Data Mining (ICDM 2014)

8. Ian Davidson, Sean Gilpin, **Owen Carmichael**, Peter Walker. *Network Discovery via Constrained Tensor Analysis of fMRI Data.* KDD 2013: The 19th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.

9. Alex Tsui, Devin Fenton, Phong Vuong, Joel Hass, Patrice Koehl, Nina Amenta, David Coeurjolly, Charles DeCarli, **Owen Carmichael**. *Globally optimal cortical surface matching with exact landmark correspondence.* Proceedings of Information Processing in Medical Imaging (IPMI) 2013.

10. Phong Vuong, David Drucker, Chris Schwarz, Evan Fletcher, Charles DeCarli, and **Owen Carmichael**, for the Alzheimer's Disease Neuroimaging Initiative. *Effects of T2-Weighted MRI Based Cranial Volume Measurements on Studies of the Aging Brain.* Proceedings of SPIE: Medical Imaging 2013.

11. Evan Fletcher, Baljeet Singh, Danielle Harvey, **Owen T. Carmichael**, Charles DeCarli. *Adaptive Image Segmentation for Robust Measurement of Longitudinal Brain Tissue Change.* Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2012).

12. Varsha Viswanath, Evan Fletcher, Baljeet Singh, Noel Smith, Debashis Paul, Peng Jie, Jun Chen, **Owen T. Carmichael**. *Impact of DTI Smoothing on the Study of Brain Aging.* Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2012). Pages 94-97.

13. Christopher G. Schwarz, Evan Fletcher, Baljeet Singh, Amy Liu, Noel Smith, Charles DeCarli, **Owen T. Carmichael**. *Most Edges in Markov Random Fields for White Matter Hyperintensity Segmentation are Worthless.* Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2012). Pages 2684-2687.

14. Evan Fletcher, **Owen T. Carmichael**, Charles DeCarli. *MRI Non-Uniformity Correction Through Interleaved Bias Estimation and B-Spline Deformation with a Template.* Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2012). Pages 106-109.

15. Jing Xie, **Owen T. Carmichael**. *Brain Shape Regression Components.* Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2012). Pages 2680-2683.

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19. J. Xie, D. A. Alcantara, N. Amenta, E. Fletcher, O. Martinez, M. Persianinova, C. DeCarli, and **O. T. Carmichael**. *Spatially-Localized Hippocampal Shape Analysis in Late-Life Cognitive Decline*. Proceedings MICCAI Workshop on Computational Anatomy and Physiology of the Hippocampus (CAPH), September 6, 2008. (10 pages).

20. M. Hlawitschka, G. Scheuermann, G. H. Weber, **O. T. Carmichael**, B. Hamann, A. Anwander. *Interactive Volume Rendering of Diffusion Tensor Data*. Proceedings 2007 Dagshtul Scientific Visualization Conference. Also appears in Visualization and Processing of Tensor Fields: Advances and Perspectives. Editors: D. H. Laidlaw and J. Weickert: Springer, Berlin, 2009. 161-176.

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23. L. Teverovskiy, **O. T. Carmichael**, H. J. Aizenstein, N. Lazar, Y. Liu. *Feature-Based vs. Intensity-Based Neuroimage Registration: Comprehensive Comparison Using Mutual Information.* Proceedings of the IEEE International Symposium on Biomedical Imaging, pp. 576-579, April 2007. (Acceptance rate: roughly 50%)

24. **O. T. Carmichael**, P. M. Thompson, R. A. Dutton, A. Lu, S. E. Lee, J. Y. Lee, L. H. Kuller, O. L. Lopez, H. J. Aizenstein, C. C. Meltzer, Y. Liu, A. W. Toga, J. T. Becker. *Mapping Ventricular Changes Related to Dementia and Mild Cognitive Impairment in a Large Community-Based Cohort.* Proceedings of the IEEE International Symposium on Biomedical Imaging, April 2006, pp. 315-318. (Acceptance rate: roughly 50%)

25. Y. Liu, L. Teverovsky, **O. Carmichael**, R. Kikinis, M. Shenton, C.S. Carter, V.A. Stenger, S. Davis, H. Aizenstein, J. Becker, O. Lopez, and C. Meltzer. *Discriminative MR Image Feature Analysis for Automatic Schizophrenia and Alzheimer's Disease Classification*, Proceedings of the International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), September 2004, pp. 393-401. (Acceptance rate: roughly 40%).

26. **O. Carmichael**, M. Hebert. *A Hybrid Object-Level/Pixel-Level Framework For Shape-based Recognition*. Proceedings of the British Machine Vision Conference, (BMVC) 2004, (Acceptance rate: 33%)

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29. D.F. Huber, **O. Carmichael**, and M. Hebert. *3D Map Reconstruction From Range Data*. Proceedings of the IEEE International Conference on Robotics and Automation (ICRA), Vol. 1, April, 2000, pp. 891 - 897 (Acceptance rate: 59%)

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32.   **O. Carmichael** and M. Hebert. *Unconstrained Registration of Large 3D Point Sets for Complex Model Building*, Proceedings 1998 IEEE/RSJ International Conference On Intelligent Robotic Systems (IROS) V. 1, pp. 360-367. (Acceptance rate: 68%)

33.   Victor S.H. Wen, **O. Carmichael**, Hiroshi Yamashita, and Andrew R. Neureuther. *Rigorous Simulation of Statistical Electron-Electron Interactions with Fast Multipole Acceleration and a Network of Workstations*, Proceedings of the 1998 International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (3BEAMS), Chicago, IL

Book chapters

1.   **O. Carmichael**. "The Role of Testosterone in Aggressive Behavior: Use and Interpretation of Functional Magnetic Resonance." In *Handbook of Anger, Aggression, and Violence*, Eds. Colin R. Martin, Victor R. Preedy, Vinood B. Patel. Springer Cham, 2023.

2.   **O. Carmichael**. "The Role of fMRI in Drug Development: An Update." In *Drug Development in Psychiatry*, Eds. Matthew Macaluso, Sheldon H. Preskorn, Richard C. Shelton. Springer Cham, 2023.

3.   Newton RL Jr., Rebok G, McLeod A, **Carmichael OT**. *Using Lifestyle Interventions to Reduce Alzheimer's Risk in African Americans*. In *Oxford Research Encyclopedia of Global Public Health*. Ed. David McQueen. New York: Oxford University Press, 2023.

4.   **O. Carmichael**. *Imaging in Drug Development*. In *Atkinson's Principles of Clinical Pharmacology, 4th Edition.* Shiew-Mei Huang, Juan J.L. Lertora, Paolo Vicini, and Arthur J. Atkinson, Jr., editors. Academic Press 2021. 652 pages

5.   **O. Carmichael**, R. Newton, Jr. *Brain MRI findings related to Alzheimer's disease in older African American adults*. In *Progress in Molecular Biology and Translational Science*. Elsevier, Volume 165, 2019. pp. 3-23.

6.   **O. Carmichael**, S. Lockhart. *The role of diffusion tensor imaging in the study of cognitive aging*. In *Brain Imaging in Behavioral Neuroscience*, in the *Current Topics in Behavioral Neurosciences* series. Cameron Carter and Jeff Dalley, editors. Published by Springer, 2011.

Abstracts

1.   Sevil Yasar, Andrea Anderson, Kathleen M. Hayden, Mark A. Espeland, **Owen T. Carmichael**, Jeanne M Clark, Michelle C Carlson, Daniel Asby, Patrick Gavin Kehoe, James Scott Miners. "Association between plasma angiotensin converting enzyme 1 level and cognition over 12-years: The Look AHEAD Study." Poster presentation. AAIC July 2024.

2.   Maryam Naseri, **Owen T. Carmichael**, Sreekrishna R. Pillai. "Reproducibility Challenges in Brain PET Data Analysis." Poster presentation. AAIC July 2024.

3.   Maryam Naseri, **Owen T. Carmichael**, Sreekrishna R. Pillai. "Reproducibility Challenges in Brain PET Data Analysis." Poster presentation. AIC July 2024.

4. Reagan T. Dugan, Sreekrishna Ramakrishnapillai, Julia St Amant, Kori Murray, Kevin McKlveen, Maryam Naseri, Kaitlyn Madden, Lydia Bazzano, **Owen T. Carmichael**. "Lifespan cardiometabolic exposures are associated with midlife white matter microstructure: The Bogalusa Heart Study." Poster presentation. AAIC July 2024.

5. **Owen Carmichael**, Andrea Hemmingway, Corby Martin, Robert V. Considine, David A. Kareken, Susan Carnell, Ulrike Dydak, Richard D. Mattes, Dave Scott, Tamer Coskun. "fMRI in the GPHH tirzepatide trial. Oral presentation." American Diabetes Association Conference June 23, 2024.

6. Maryam Naseri, **Owen Carmichael**. "Estimation of Synthetic Tau PET from Amyloid PET via Conditional Adversarial Networks." SNMMI 2023.

7. Maryam Naseri, **Owen Carmichael**. "Deep Learning Based Estimation of Synthetic Tau PET from Amyloid PET." Poster presentation. AAIC 2023.

8. Kai-Cheng Chuang, Maryam Naseri, Sreekrishna Ramakrishnapillai, Kaitlyn Madden, Julia St Amant, Kevin McKlveen, Kathryn Gwizdala, Ramasudhakar Dhullipudi, Lydia Bazzano, **Owen Carmichael**. "Hemodynamic Response Function Derived Biomarkers for Brain Health in Middle-Aged Adults." Interactive Poster. AAPM July 2023.

9. Maryam Naseri, **Owen Carmichael**. "Synthesizing of Tau PET Scans from Amyloid PET Scans Using Deep Learning." ePoster. AAPM July 2023.

10. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Kaitlyn Madden, Julia St Amant, Kevin McKlveen, Kathryn Gwizdala, Ramasudhakar Dhullipudi, Lydia Bazzano, **Owen Carmichael**. "Hemodynamic Response Biomarkers for Aging Brain Health: Bogalusa Heart Study." AAIC Abstract. 2023.

11. Sreekrishna R. Pillai, Owen T. Carmichael, and Lydia Bazzano. AAIC Abstract. 2023.

12. Mia M Goodson, Robert L Newton Jr., Kathryn L. Gwizdala, Robbie Beyl, Owen T. Carmichael. AAIC Abstract. 2023.

13. Shapiro ALB, Hogan Tjaden A, Edelstein S, Kahn SE, Srikanthan P, Knowler WC, Venditti EM, Golden SH, **Carmichael O**, Luchsinger JA. "The Impact of Insulin Secretion and Insulin Sensitivity on Cognition in Adults with Prediabetes—The Diabetes Prevention Program Outcomes Study (DPPOS)." 83rd Scientific Sessions of the American Diabetes Association, San Diego, CA. 2023.

14. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Krystal Kirby, Arend Van Gemmert, Lydia Bazzano, **Owen Carmichael**. "Deep Learning for Joint Estimation of Neural Events and Hemodynamic Response Function in Task fMRI Data". Southwest Regional Chapter of American Association of Physicists in Medicine (SWAAPM), Young Investigators Symposium (YIS), Galveston, TX. January 2023.

15. Ericka M. Biagioni, Polina M. Krassovskaia, Alec B. Chaves, Abby D. Altazan, Caitlin Hebert, Chien-Te Lin, Kelsey H. Fisher-Wellman, P. Darrell Neufer, **Owen T. Carmichael**, Kristen E. Boyle, Leanne M. Redman, Nicholas T. Broskey. "Maternal Exercise Enhances Offspring Mitochondrial Bioenergetics in Fetal Mesenchymal Stem Cells." Poster presentation. ACSM Integrative Physiology of Exercise Conference. September 2022.

16. Polina M. Krassovskaia, Ericka M. Biagioni, Alec B. Chaves, Abby D. Altazan, Caitlin Hebert, Chien-Te Lin, Kelsey H. Fisher-Wellman, P Darrell Neufer, **Owen T. Carmichael**, Kristen E. Boyle, Leanne M. Redman, Nicholas T. Broskey. "Physical Activity During Pregnancy Increases Mitochondrial Efficiency in Myotubes and Offspring Myogenic Mesenchymal Stem Cells." Poster presentation. ACSM Integrative Physiology of Exercise Conference. September 2022.

17. **Owen T. Carmichael**, Kathryn L. Gwizdala, Robert Brouillette, Robbie Beyl, William Johnson, Callie Hebert, Leah Carter, Melissa Harris, Robert L Newton Jr. Change in Plasma ATN Biomarkers Over a 12-

Week Physical Activity Intervention Among Older African Americans: Program for African American Cognition and Exercise (PAACE). Poster presentation. Alzheimer's Association International Conference (AAIC). August 2022.

18. Kai-Cheng Chuang, Sreekrishna R. Pillai, Lydia Bazzano, **Owen T. Carmichael**. Effective Connectivity Is A More Promising Biomarker for Brain Health in Middle-Aged Adults Than Functional Connectivity: Bogalusa Heart Study. Poster presentation. Alzheimer's Association International Conference (AAIC). August 2022.

19. Mark A. Espeland, **Owen T. Carmichael**, Joni K Evans, Kathleen M. Hayden, Karen C Johnson, Steven Kahn, Jose Luchsinger, Santica Marvocina, Rebecca H. Neiberg. Is the Long-term Impact of a Multidomain Lifestyle Intervention on Cognitive Function Mediated by Changes in Leptin and Vascular Endothelial Growth Factor Concentrations? Poster presentation. Alzheimer's Association International Conference (AAIC). August 2022.

20. Kai-Cheng Chuang, Sreekrishna R. Pillai, Lydia Bazzano, **Owen T. Carmichael**. Effective Connectivity Is A More Promising Biomarker for Brain Health in Middle-Aged Adults Than Functional Connectivity: Bogalusa Heart Study. Poster presentation. Alzheimer's Imaging Consortium (AIC) Preconference. July 2022.

21. K Chuang, S Ramakrishnapillai, K Madden, J St Amant, K Gwizdala, R Dhullipudi, L Bazzano, **O Carmichael**. Comparison of Effective Connectivity and Functional Connectivity for Brain Health in Middle-Aged Adults. Poster Presentation, American Association of Physicists in Medicine (AAPM) 64th Annual Meeting, July 2022.

22. Kai-Cheng Chuang, Sreekrishna Ramakrishnapillai, Lydia Bazzano, **Owen T. Carmichael**. Nonlinear Conditional Time-varying Granger Causality of Task fMRI Data via Deep Stacking Networks. Poster presentation, American Association of Physicists in Medicine (AAPM) 64th Annual Meeting, July 2022.

23. Reagan Dugan, Krystal Kirby, **Owen Carmichael**. Implementation and testing of intermolecular multiple quantum coherence MRI on clinical 3T MRI for brown adipose tissue detection. Poster presentation, 2022 American Association of Physicists in Medicine (AAPM) 64th Annual Meeting. July 2022.

24. Lowe AC, Johannsen NM, Irving BA, Beyl RA, Newton, RL, **Carmichael O**. Activity Energy Expenditure, Sedentary Time, and Cardiometabolic Responses to an Exercise intervention: The PAACE study. Poster presentation, American College of Sports Medicine (ACSM) 2022 Annual Meeting, June 3, 2022, San Diego, CA.

25. **Owen Carmichael**, Maninder Singh, Eric Ravussin, Geoffrey D. Clarke, Heather Cornnell, Hernandez Brandon, Jinqi Li, Justin Juvera, Mark S. Brown, Melanie Cree-Green, Nicholas Musi, Noah Sanchez, Bret Goodpaster. The MotrMito project: Aging and the Mitochondrial Response to Exercise Training: Measured by ^{31}P Magnetic Resonance Spectroscopy in MoTrPAC Participants. AGE 2022 Annual Meeting, May 2022. Poster presentation. San Antonio, TX.

26. Carter L, Gwizdala K, Newton R, **Carmichael O**. Impact of COVID-19 Pandemic on Health Behaviors Among Older African Americans. ISBNPA 2022 Annual Meeting, May 21, 2022. Poster presentation. Phoenix, AZ.

27. Manrique I, Duran I, Bazzano L, **Carmichael O**. The Relationship between Lifespan Metabolic Syndrome and Mid-Life Depression within the Bogalusa Heart Study. Poster presentation, LSU Discover Day, April 22, 2022. Baton Rouge, LA.

28. De Anda-Duran I, Fernandez C, **Carmichael O**, Kolachalama VB, Au R, Bazzano LA. Blood Pressure Trajectories from Early Life and Their Association with Cognitive Function Changes in Midlife. In-person poster. Alzheimer's Association International Conference (AAIC), July 27, 2021. Denver, CO.

29. Bazzano LA, Gwizdala KL, **Carmichael OT**, Newton RL, Jr. BMI across the lifespan and midlife cognitive function: The Bogalusa Heart Study. Virtual poster. Alzheimer's Association International Conference (AAIC), July 2021. Denver, CO.

30. Newton RL, Jr., Gwizdala KL, Bazzano LA, **Carmichael OT**. Race and sex differences in lifespan glycemic status and midlife cognitive function: The Bogalusa Heart Study. Virtual poster. Alzheimer's Association International Conference (AAIC), July 2021. Denver, CO.

31. Gwizdala KL, Arvanitakis Z, Arnold SE, Ahima RS, Bennett DA, Newton RL, Jr., **Carmichael OT**. Brain Insulin Signaling in Persons with and without Diabetes Is Associated With Cognitive Decline. In-person poster. Alzheimer's Association International Conference (AAIC), July 27, 2021. Denver, CO.

32. Besser LM, Chang L, Mitsova D, Renne J, **Carmichael O**, Moulder KL, Morris JC, Galvin JE. Associations between neighborhood greenspaces and cognitive and brain volume measures in cognitively normal older adults. Virtual poster. Alzheimer's Association International Conference (AAIC), July 2021. Denver, CO.

33. **Carmichael O**, Gwizdala KL, Brouillette R, Beyl R, Johnson W, Hebert C, Carter L, Harris M, Newton RL, Jr. No effect of exercise on AD-related cognition in older African Americans: Program for African American Cognition and Exercise (PAACE). In-person poster. Alzheimer's Association International Conference (AAIC), July 30, 2021. Denver, CO.

34. Hoddy KK, Singh P, Beyl RA, Kirwan JP, Newton RL, Jr., Carmichael OT. Adequate sleep duration enhances cardiovascular benefits of physical activity intervention in older African Americans (PAACE). Poster presentation. SLEEP 2020. August 2020.

35. Duncan ES, Nakkawita S, Lucas H, **Carmichael OT**, de Queiroz M. Modulating Operator Vigilance with Transcranial Direct Current Stimulation (tDCS). 2020 OHBM Annual Meeting, Montreal, Canada.

36. Singh M, **Carmichael OT**. The Molecular Basis for 31P MRS-Based Phosphocreatine Muscle Resynthesis Rate Measurements in Healthy Adults. Digital poster presentation. ISMRM 28th Virtual Annual Meeting & Exhibition. August 2020. *Poster won the Magna Cum Laude Merit Award.

37. Duncan ES, Nakkawita S, Lucas H, **Carmichael OT**, de Queiroz M. Effects of Transcranial Direct Current Stimulation (tDCS) on Operator Vigilance: A Double-blind, Sham-controlled Study. Cognitive Neuroscience Society annual meeting 2020.

38. **Carmichael O**, Brouillete R, Beyl R, Johnson W, Hebert C, Carter L, Harris M, Newton, RL. Lack of cognitive benefit to twelve weeks of physical activity promotion among community-dwelling African Americans: Program for African American Cognition and Exercise (PAACE). Poster presentation, Cognitive Aging Conference 2020.

39. Carter L, Beyl R, Johnson W, Harris M, Hebert C, **Carmichael O**, Newton RL. The effect of a physical activity intervention on physical function in older African American Adults. The 41st Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, April 1-4, 2020, San Francisco, CA.

40. Yassine HN, Anderson A, Brinton R, **Carmichael O**, Espeland MA, Hoscheidt S, Hugenschmidt C, Keller JN, Peters A, Pi-Sunyer X. Do Menopausal Status and APOE4 Genotype Alter the Long-Term Effects of Intensive Lifestyle Intervention on Cognitive Function in Women with Type 2 Diabetes Mellitus? Alzheimer's Association International Conference (AAIC), July 16, 2019, Los Angeles, CA.

41. Kirby K, Ramakrishnapillai S, Brouillette R, Keller J, DeVito A, Bernstein J, Van Gemmert A, **Carmichael O**. Performance and Brain Activation in a Dual Task Mimicking Distracted Walking. Alzheimer's Imaging Consortium (AIC), July 13, 2019, Los Angeles, CA. Alzheimer's Association International Conference (AAIC), July 16, 2019, Los Angeles, CA.

42. **Carmichael O**, Hayden KM, Lockhart SN, Yassine HN, Hoscheidt S, Yasar S, Luchsinger JA, Neiberg RH, Brinton RD, Espeland MA. Sex-Related Differences in Brain Volumes and Cerebral Blood Flow

43. Among Overweight and Obese Adults with Type 2 Diabetes. Alzheimer's Imaging Consortium (AIC), July 13, 2019, Los Angeles, CA. Alzheimer's Association International Conference (AAIC), July 15, 2019, Los Angeles, CA.

44. S. Nicole Fearnbach, Corby Martin, Steven Heymsfield, John Shepherd, Amanda Staiano, Roberts Newton, Alex C. Garn, Samantha Kennedy, **Owen T. Carmichael**, Kori Murray, Graham Finlayson. Implicit bias for sedentary activities is positively associated with BMI z-score in children. 26th European Congress on Obesity, April 2019, Glasgow, Scotland.

45. S. Nicole Fearnbach, Amanda Staiano, Neil Johannsen, Daniel Hsia, Corby Martin, **Owen T. Carmichael**. Post-exercise eating behavior profiles of adolescents ranging from overweight to severe obesity. 26th European Congress on Obesity, April 2019, Glasgow, Scotland.

46. S. Nicole Fearnbach, Amanda Staiano, Neil Johannsen, Daniel Hsia, Corby Martin, **Owen T. Carmichael**. Sex Differences in Body Fat Versus Fitness in Adolescents Ranging from Overweight to Severe Obesity. Obesity Week 2018, November 13, 2018, Nashville, TN.

47. Krystal Kirby, Arend W. Van Gemmert, **Owen T. Carmichael**. Dual Tasking of a Rhythmic Motor and Cognitive Task Deteriorates Performance of Both Tasks in Older Adults. Poster Presentation. 59th Psychonomic Society Annual Meeting 2018, November 2018, New Orleans, LA.

48. **Owen T. Carmichael**, Sreekrishna Pillai, Preetham Shankapal, Alex McLellan, Denis G. Kay, Brian T. Gold, Jeffrey N. Keller. A combination of essential fatty acids, panax ginseng extract, and green tea catechins significantly increases brain activation and functional connectivity during an fMRI task in healthy older adults. Proceedings of the Alzheimer's Association International Conference (AAIC) July 2018, Chicago, IL.

49. **Owen Carmichael**, Patrick Stuchlik, Sreekrishna Pillai, Ram Dhullipudi, Anna Madden, Shane Martin, Daniel Hsia, Vivian Fonseca, Lydia Bazzano. High-normal fasting plasma glucose in adolescence is associated with poorer brain structure and function in midlife: The Bogalusa Heart Study. Proceedings of the Alzheimer's Association International Conference (AAIC) July 2018, Chicago, IL.

50. Mark A. Espeland, **Owen Carmichael**, Kathleen M. Hayden, William Hazzard, Siobhan Hoscheidt, Christina Hugenschmidt, Karen C. Johnson, Michelle M. Mielke, Rebecca Neiberg, Stephen R. Rapp, and Sevil Yasar for the Action for Health in Diabetes (Look AHEAD) Research Group. Sex-related differences in cognitive impairment among overweight and obese adults with type 2 diabetes. Proceedings of the Alzheimer's Association International Conference (AAIC) 2018, July 25, 2018, Chicago, IL.

51. **Owen T. Carmichael**, Rebecca Neiberg, Gareth R. Dutton, Kathleen M. Hayden, Edward Horton, Xavier Pi-Sunyer, Karen Johnson, Stephen R. Rapp, Adam P. Spira, and Mark A. Espeland for the Action for Health in Diabetes (Look AHEAD) Research Group. Associations between ten-year change in diabetes markers and cognitive performance in type 2 diabetes. Proceedings of the Alzheimer's Association International Conference (AAIC) 2018, July 25, 2018, Chicago, IL.

52. Gareth Dutton, Mark Espeland, Rebecca Neiberg, **Owen Carmichael**, Kathleen Hayden, Karen Johnson, Robert Jeffery, Laura Baker, Delilah Cook, Dalane Kitzman, and Steve Rapp. *Impact of Intensive Lifestyle Intervention for Weight Management on Self-Reported Cognitive Function—The Action for Health in Diabetes (Look AHEAD) Randomized Controlled Trial.* Poster Presentation, American Diabetes Association's 78th Scientific Sessions 2018.

53. Bradley M. Wood, G. Jia, **Owen Carmichael**, Kevin McKlveen, Dominique G. Homberger. *3D Imaging Using MRI of a Non-Mineralized Complex Organism: The Jawless Sea Lamprey (Petromyzon marinus) as a Model.* Poster Presentation, Experimental Biology 2017.

54.   Hans-Georg Mueller, Yang Zhou, Jane-Ling Wang and **Owen Carmichael**. *Gradient synchronization as a measure for brain functional connectivity*. Oral presentation, 11th International Conference on Computational and Financial Econometrics (CFE) 2017: CMStatistics.

55.   Krystal Kirby, **Owen Carmichael** and Arend W. Van Gemmert. *Changes in brain activation patterns as a result of bilateral transfer of learning of a visuo-motor task*. Poster presentation, Neuroscience 2017.

56.   Jill King, Preetham Shankapal, Paula Geiselman, Corby Martin, Kori Murray, Jason Hicks, Joe McClernon and **Owen Carmichael**. *Behavioral and fMRI validation of the Macronutrient Picture System (MaPS)*. Poster presentation, The Obesity Society (TOS) Annual Meeting 2016.

57.   Ebrahim Aboualizadeh, **Owen T Carmichael**, Ping He, Diana C. Albarado, Christopher D. Morrison, Carol J Hirschmugl. *Characterizing brown and subcutaneous white adipose tissue activity level with Fourier Transform Infrared (FTIR) Imaging*. Oral presentation, The Obesity Society (TOS) Annual Meeting 2016.

58.   Preetham Shankapal, Jill King, Kori Murray, Corby Martin, Paula Geiselman, Joseph McClernon, and **Owen Carmichael**. *Task-related functional connectivity within the reward network during food image viewing*. Oral presentation, The Obesity Society (TOS) Annual Meeting 2016.

59.   Julia Scott, Meredith N Braskie, Duygu Tosun, Paul Thompson, Michael W Weiner, Charles DeCarli, and **Owen T Carmichael**. *MRI and CSF Biomarker Predictors of Executive Function and Memory in the Elderly*. Poster presentation, Alzheimer's Association International Conference (AAIC) 2016

60.   Julia Scott, Meredith N Braskie, Duygu Tosun, Paul Thompson, Michael W Weiner, Charles DeCarli, and **Owen T Carmichael**. *Cerebral Amyloid Is Associated with Greater White Matter Hyperintensity Accrual over 2 Years in the Elderly*. Poster presentation, Alzheimer's Association International Conference (AAIC) 2016

61.   Julia Scott, Pauline Maillard, Meredith Braskie, Duygu Tosun, Paul Thompson, Michael Weiner, Charles DeCarli, Owen Carmichael. Cerebral Amyloid Is Associated with Poorer Integrity of White Matter Lesions, Penumbra, and Healthy White Matter in the Elderly. Alzheimer's Association International Conference 2015

62.   Mahsa Dadar, Tharick Pascoal, Sarinporn Manitsirikul, John Breitner, Pedro Rosa-Neto, Owen Carmichael, D. Collins. **Spatial Distribution of White Matter Hyperintensities in Elderly Individuals.** Alzheimer's Association International Conference 2015

63.   Julia A. Scott, Meredith N. Braskie, Duygu Tosun, Paul Thompson, Michael Weiner, Charles DeCarli, Owen T. Carmichael.   White matter hyperintensity associated with cerebral amyloidosis independent of hypertension history. Oral presentation, American Academy of Neurology Annual Meeting 2015.

64.   Phong Vuong, Alex Tsui, Evan Fletcher, Baljeet Singh, Noel Smith, Charles DeCarli, **Owen Carmichael**. *Brain Structural Covariance in Midlife: The Framingham Offspring Study*. Proceedings of the Alzheimer's Association International Conference 2014.

65.   Evan Fletcher, **Owen Carmichael**, Charles DeCarli. *In cognitively healthy elderly, fornix microstructure but not medial temporal gray matter predicts brain atrophy in circuits affected by Alzheimer's Disease*. Proceedings of the Alzheimer's Association International Conference 2014.

66.   P. Maillard, **Owen Carmichael**, D. Mungas, B.Reed, C. DeCarli. *Greater Longitudinal White Matter Degeneration Is Associated With Greater Concurrent Cognitive Decline: a Diffusion Tensor Imaging Study.*Proceedings of the Alzheimer's Association International Conference 2014.

67. Charles DeCarli, **Owen Carmichael**, Oliver Martinez, Baljeet Singh, Evan Fletcher and Pauline Maillard. *Baseline white matter hyperintensities and gray matter volume independently predict cognitive trajectories in ADNI II*. Proceedings of the Alzheimer's Association International Conference 2014.

68. Charles DeCarli, Dan Mungas, **Owen Carmichael**, Sylvia Villeneuve, Evan Fletcher, Baljeet Singh, William Jagust, Bruce Reed. *Vascular risk factors impact cognition independent of PIB PET and MRI measures of AD and vascular brain injury*. Proceedings of the Alzheimer's Association International Conference 2014.

69. Cassidy Fiford, Emily N Manning, Manja Lehmann, Gerard R Ridgway, David M Cash, Jonathan W Bartlett, Kelvin K Leung, Geert Jan Biessels, **Owen Carmichael**, Nick C Fox, Josephine Barnes, for the Alzheimer's Disease NeuroImaging Initiative. *Age and WMH have independent associations with whole-brain and hippocampal atrophy rates*. Proceedings of the Alzheimer's Association International Conference 2014.

70. Josephine Barnes, Emily N Manning, Cassidy Fiford, Manja Lehmann, Gerard R Ridgway, David M Cash, Jonathan W Bartlett, Kelvin K Leung, Geert Jan Biessels, **Owen Carmichael**, and Nick C Fox for the Alzheimer's Disease NeuroImaging Initiative. *White matter hyperintensity volume is associated with disproportionate hippocampal atrophy in controls.* Proceedings of the Alzheimer's Association International Conference 2014.

71. Jennifer Nicholas, Tom Meade, Cassidy Fiford, Kelvin K Leung, Emily N Manning, **Owen Carmichael**, Geert Jan Biessels, Jonathan W Bartlett, Nick C Fox, Chris Frost, Josephine Barnes. *Impact of baseline adjustment for vascular risk factors on sample size estimates for Alzheimer's disease clinical trials with atrophy rate outcomes.* Proceedings of the Alzheimer's Association International Conference 2014.

72. Katherine Heller, Charles DeCarli, Duane Beekly, Lilah Besser, Mark Bollenbeck, Joylee Wu, **Owen Carmichael**, Creighton Phelps, Walter Kukull. *The National Alzheimer's Coordinating Center MRI Database.* Proceedings of the Alzheimer's Association International Conference 2014.

73. Christina Boyle, Cyrus A. Raji, Kirk I. Erickson, Oscar Lopez, James T. Becker, H. Michael Gach, William T. Longstreth, Leonid Teverovskiy, Lewis Kuller, **Owen Carmichael**, Paul M. Thompson. *Estrogen Use, Brain Volume and Cognitive Function in a Cohort of Elderly Women.* Organization for Human Brain Mapping 2014.

74. P. Maillard, **O. Carmichael**, D. Mungas, B.Reed, C. DeCarli. *Greater longitudinal white matter degeneration in type 2 diabetes with hypertension than hypertension alone In Cognitively Normal Elderly.* International Society of Vascular, Cognitive and Behavioural Disorders Congress (VASCOG) 2013.

75. Alexandra Roach, Samuel Lockhart, **Owen Carmichael**, Charles DeCarli. *Effects of diabetes mellitus and white matter hyperintensities on Stroop and flanker inhibitory control in cognitively normal older adults.* International Society of Vascular, Cognitive and Behavioural Disorders Congress (VASCOG) 2013.

76. Samuel N. Lockhart, Alexandra E. Roach, Steven J. Luck, Joy Geng, Laurel Beckett, **Owen Carmichael**, Charles DeCarli. *White matter hyperintensities are associated with hyperactivation independent of age during cue-guided spatial search.* International Society of Vascular, Cognitive and Behavioural Disorders Congress (VASCOG) 2013.

77. Jing He, Baljeet Singh, Evan Fletcher, Oliver Martinez, Bruce Reed, Dan Mungas, Charles DeCarli, **Owen Carmichael**.*The effect of white matter hyperintensity on resting hippocampal functional connectivity.* International Society of Vascular, Cognitive and Behavioural Disorders Congress (VASCOG) 2013.

78. P Maillard, E Fletcher, B Reed, D Mungas, C DeCarli, **O. Carmichael**. *White Matter Hyperintensity Penumbra are Differentially Vulnerable to Further Degeneration in the Elderly.* Alzheimer's Association International Conference 2013.

79. Jing He, Baljeet Singh, Evan Fletcher, Oliver Martinez, Bruce Reed, Dan Mungas, Charles DeCarli, **O. Carmichael**. *Longitudinal hippocampal atrophy is associated with longitudinal hippocampus functional connectivity changes in cognitively normal elders.* Alzheimer's Association International Conference 2013.

80. Evan Fletcher, Philip Huebner, **O. Carmichael**, Charles DeCarli. *Fornix white matter degeneration is a sensitive indicator of incipient cognitive decline in a diverse community cohort.* Alzheimer's Association International Conference 2013.

81. P. Maillard, **O. Carmichael**, D. Mungas, B.Reed, C. DeCarli. *Type 2 Diabetes Is Associated With Accelerated Longitudinal White Matter Degeneration In The Elderly.* Alzheimer's Association International Conference 2013.

82. Samuel N. Lockhart, Alexandra E. Roach, Steven J. Luck, Joy Geng, Laurel Beckett, **O. Carmichael**, Charles DeCarli. *White matter injury is associated with visual search behavior independent of generalized slowing in aging.* Cognitive Neuroscience Society Annual Meeting 2013.

83. Alexandra E. Roach, Samuel N. Lockhart, **O. Carmichael**, Charles DeCarli. *Effects of age and vascular risk factors on performance during three inhibitory control paradigms in cognitively normal older adults.* Cognitive Neuroscience Society Annual Meeting 2013.

84. Christina Boyle, Cyrus A. Raji, Kirk I. Erickson, Oscar Lopez, James T. Becker, H. Michael Gach, William T. Longstreth, Leonid Teverovskiy, Lewis Kuller, **Owen T. Carmichael**, Paul M. Thompson (2013). *Physical Activity is Correlated with Regional Brain Volumes in Normal Aging and Alzheimer's Disease.* Organization for Human Brain Mapping, Seattle, WA, June 2013.

85. Qiang Wang, **Owen Carmichael**, Chris Griesemer, Jeff Walton, Josh Rushakoff, Robert Berman. *Longitudinal brain volume and shape changes in the CGG KI mouse model of the Fragile X permutation and FXTAS.* 13th International Fragile X Conference, 2012.

86. Evan Fletcher, Amy Liu, Jasmeen Pabla, Anthony Sheu, Mekala Raman, **Owen Carmichael**, Dan Mungas, Bruce Reed, Charles DeCarli. *Combined fornix degeneration and CA1 hippocampal loss predict conversion of normal to MCI.* Alzheimers Imaging Consortium and Alzheimer's Association International Conference 2012.

87. **Owen Carmichael**, Donald G. McLaren, Douglas Tommet, Dan Mungas, Richard N. Jones. *Coevolution of brain structures in mild cognitive impairment.* Alzheimers Imaging Consortium and Alzheimer's Association International Conference 2012.

88. Jing He, Baljeet Singh, Bruce Reed, Dan Mungas, Charles DeCarli, **Owen Carmichael** *Hippocampal volume and functional connectivity in cognitive health, amnestic mild cognitive impairment, and Alzheimer's Disease.* Alzheimers Imaging Consortium and Alzheimer's Association International Conference 2012.

89. S. N. Lockhart, A. E. Roach, J. He, E. Fletcher, P. Maillard, C. G. Schwarz, C. DeCarli, **O. Carmichael** *Heterogeneity of functional connectivity reductions in normal cognitive aging.* Alzheimers Imaging Consortium and Alzheimer's Association International Conference 2012.

90. Yi Deng, Naomi J. Goodrich-Hunsaker, Margarita Cabaral, David G. Amaral, Kristopher Kalish, **Owen Carmichael**, Robert F. Dougherty, Michael Perry, Brian A. Wandell, Tony J. Simon. *Altered Hippocampal Connectivity and Midline Brain Anomalies in Children with Chromosome 22q11.2 Deletion Syndrome.* 18th Biennial International 22q11.2 Conference, 2012.

91. Mario Riverol, James Becker, Oscar Lopez, Cyrus Raji, Paul Thompson, **Owen Carmichael**, H. Gach, W. T. Longstreth, Linda Fried, Russell Tracy, Lewis Kuller. *Cystatin C Predicts Changes in Brain Structure and Cognition in the Elderly*. 2012 American Academy of Neurology Annual Meeting.

92. Mario Riverol, James Becker, Oscar Lopez, Cyrus Raji, Paul Thompson, **Owen Carmichael**, H. Gach, W. T. Longstreth, Linda Fried, Russell Tracy, Lewis Kuller. *Systemic Inflammatory Markers, Cognition and Brain Structure among Cognitively Normal Elderly.* 2012 American Academy of Neurology Annual Meeting.

93. L. Lopez, J. T. Becker, Y.F Chang, R.A Sweet, S.T. Dekosky, H M. Gach, **Owen Carmichael**, E. McDade, L.H. Kuller. *Incidence of mild cognitive impairment in the CHS Cognition Study.* 2012 American Academy of Neurology Annual Meeting.

94. Pauline Maillard, Sudha Seshadri, Alexa S. Beiser, Philip A. Wolf, Jayandra J. Himali, Sarah Preis, Rhoda Au, **Owen Carmichael**, Evan Fletcher, Charles DeCarli.*Effects of Vascular Risk Factors on White Matter Integrity in Middle-Aged Adults: A Voxel-Based Diffusion Tensor Imaging Study*. 2012 American Academy of Neurology Annual Meeting.

95. **Owen Carmichael**, Jing Xie, Baljeet Singh, Evan Fletcher, Charles DeCarli.*Baseline CSF amyloid and tau are associated with localized hippocampus change independent of total hippocampus volume*. 2012 American Academy of Neurology Annual Meeting.

96. James T. Becker, Leonid Teverovisky, H. Gach, **Owen T. Carmichael**, Paul M. Thompson, Lewis Kuller and Oscar L. Lopez.*Differential Rates of Brain Volume Loss as a Function of Time To Develop AD among Cognitively Normal Individuals*. 2012 American Academy of Neurology Annual Meeting.

97. Vanessa A. Guzman, C. G. Schwarz, **O. Carmichael**, Adam M. Brickman. *Entorhinal cortex volume, white matter hyperintensities, and memory in Mild Cognitive Impairment.* International Neuropsychological Society Annual Meeting 2012.

98. S.N. Lockhart, A.B.V. Mayda, A.E. Roach, P. Maillard, C. G. Schwarz, **O. Carmichael**, E. Fletcher, C. DeCarli. *White matter injury is associated with episodic memory function independent of age and microstructural changes.* International Society of Vascular Behavioural and Cognitive Disorders (VasCog) 2011.

99. Pauline Maillard, **Owen Carmichael**, Danielle Harvey, Evan Fletcher, Bruce Reed, Dan Mungas, Charles DeCarli. *FLAIR and DTI as predictors of White Matter Hyperintensities.* International Society of Vascular Behavioural and Cognitive Disorders (VasCog) 2011.

100. Jing He, **Owen Carmichael**, Baljeet Singh, Evan Fletcher, Oliver Martinez, Bruce Reed, Dan Mungas, Charles DeCarli1. *Functional connectivity, grey matter, and WMH volume independently predict memory performance in cognitively normal elders.* International Society of Vascular Behavioural and Cognitive Disorders (VasCog) 2011.

101. Jing He, Charles Decarli, Dan Mungas, Bruce Reed, Jing He, Evan Fletcher, Baljeet Singh, Ana-Maria Iosif, Oliver Martinez, **Owen Carmichael**. *Correlations between functional connectivity, structural brain volume, and episodic memory in cognitively normal older adults.* 2011 International Conference on Alzheimer's Disease.

102. Natalie L Marchant, Cindee Madison, William Jagust, **Owen Carmichael**, Charles DeCarli, Bruce Reed, Oliver Martinez.*Effects of MRI markers of cerebrovascular disease on amyloid burden and cognition in aging.* 2011 International Conference on Alzheimer's Disease.

103. Josephine Barnes, **Owen Carmichael**, Kelvin Leung, Christopher Schwarz, Gerard R Ridgway, Jonathan Bartlett, Ian Malone, Jonathan M Schott, Martin N Rossor, Geert Jan Biessels, Charlie DeCarli, Nick C Fox. *The independent effects of white matter hyperintensity volume and cerebrospinal fluid amyloid levels on brain atrophy*. Oral presentation, 2011 International Conference on Alzheimer's Disease Alzheimer's Imaging Consortium.

104. Jennifer Lee, Danielle Harvey, **Owen Carmichael**, Dan Mungas, Bruce Reed, John Olichney, Berneet Kaur, Joshua Miller, Charles DeCarli. *Androgen-Estrogen Balance, SHBG, and Cognitive Trajectories in Older Men and Women.* 2011 American Academy of Neurology Annual Meeting.

105. Pauline Maillard, Evan Fletcher, Danielle Harvey, **Owen Carmichael**, Bruce Reed, Dan Mungas, Charles DeCarli. *White Matter Hyperintensity Penumbra.* 2011 American Academy of Neurology Annual Meeting.

106. Aria Jafari, Christopher Schwarz, **Owen Carmichael**, Evan Fletcher, Michael Greicius. *Interactive Effects of Structural and Functional Brain Changes in Age-Related Cognitive Decline.* 2011 American Academy of Neurology Annual Meeting.

107. Lovingly Park, Sarah Farias, **Owen Carmichael**, Dan Mungas, Charles DeCarli. *Structural Changes in the Prefrontal Cortex and White Matter Disease Differentially Relate to Cognitive Functioning.* 2011 American Academy of Neurology Annual Meeting.

108. **Owen Carmichael**, Jing Xie, Evan Fletcher, Baljeet Singh, Charles DeCarli. *Localized Hippocampus Markers Change Earlier in the Alzheimer Pathological Process Than Total Hippocampus Volume Does.* 2011 American Academy of Neurology Annual Meeting.

109. Jing He, **Owen Carmichael**, Evan Fletcher, Baljeet Singh, Bruce Reed, Dan Mungas, Charles DeCarli. *Functional Connectivity, Structural Brain and Cognitive Performance in Elderly.* 2011 American Academy of Neurology Annual Meeting.

110. **Owen Carmichael**, Dan Mungas, Laurel Beckett, Danielle Harvey, Sarah Tomaszewski Farias, Bruce Reed, Jing He, John Olichney, Joshua Miller, Charles DeCarli. *Predictors of clinical conversion to dementia in a diverse cohort.* 2010 International Conference on Alzheimer's Disease (ICAD).

111. James T. Becker, Bruce Cohen, Eileen Martin, Eric M. Miller, Joanne Mullen, Ann Ragin, Ned Sacktor, Ola Selnes, **Owen Carmichael**. *Predictors of Ventricular Volume in HIV Disease.* 2010 American Academy of Neurology Annual Meeting.

112. **Owen Carmichael**, Dan Mungas, Laurel Beckett, Danielle Harvey, Sarah Tomaszewski Farias, Bruce Reed, John Olichney, Joshua Miller, Charles DeCarli. *MRI predictors of cognitive change in a diverse and carefully characterized elderly population.* 2010 American Academy of Neurology Annual Meeting.

113. Charles DeCarli, David Drucker, Evan Lloyd, **Owen Carmichael**, Evan Fletcher, Dan Mungas, *Amyloid Beta Effects on Cognition Are Mediated by Cell Injury (Tau) and Death (Progressive Atrophy).* 2009 American Academy of Neurology Annual Meeting.

114. Evan Fletcher, Evan Lloyd, David Drucker, **Owen Carmichael**, Charles DeCarli. *ApoE Genotype Is Associated with Rate of Hippocampal Atrophy Independent of Clinical Diagnosis: Data from the ADNI Study.* 2009 American Academy of Neurology Annual Meeting.

115. Dan Mungas, David Drucker, Evan Lloyd, **Owen Carmichael**, Evan Fletcher, Charles DeCarli. *Regional Rates of Brain Atrophy Are Significantly Associated with Rates of Cognitive Decline Even after Adjusting for Clinical Syndrome.* 2009 American Academy of Neurology Annual Meeting.

116. Jing He, Evan Fletcher, Oliver Martinez, **Owen Carmichael**, Charles DeCarli. *White Matter Hyperintensities, Incident MRI Infarcts Correlate with Cognition (ADNI Study).* 2009 American Academy of Neurology Annual Meeting.

117. Dan Mungas, Bruce Reed, Sarah Farias, **Owen Carmichael**, Kimberly Carter, Charles DeCarli. *Intracranial Volume and Brain Structure Effects on Cognition in Diverse Older Persons.* 2009 American Academy of Neurology Annual Meeting.

118.   C. Raji, O. Lopez, L. Kuller, **O. T. Carmichael**, J. Becker. *Independent Effects of Age and Alzheimer's Disease on Gray Matter Volume.* 2009 American Academy of Neurology Annual Meeting.

119.   Cyrus Raji, Oscar Lopez, James Becker, Weiying Dai, **Owen Carmichael**, Lewis Kuller. *Hypertension-related Gray Matter Volume Loss in Normal Aging, Mild Cognitive Impairment, and Alzheimer Disease Brains.* 2008 Radiological Society of North America Annual Meeting.

120.   C. DeCarli, **O. T. Carmichael**, D. Mungas, B. Reed, O. Martinez, M. Perisianinova, M. Ortega, E. Fletcher. *Evidence for transynaptic degeneration of fornix fibers in Alzheimer's disease.* 2008 International Conference on Alzheimer's Disease (ICAD) and ICAD Alzheimer's Imaging Consortium.

121.   C. DeCarli, E. Fletcher, B. Reed, S. Farias, **O. T. Carmichael**, O. Martinez, M. Ortega, D. Mungas. *Regional fractional anisotropy (FA) and cognitive performance in normal cognition, MCI and dementia.* 2008 International Conference on Alzheimer's Disease (ICAD) Alzheimer's Imaging Consortium.

122.   **O. T. Carmichael**, David Drucker, E. Fletcher, M. Ortega, Jing He, Mitsuhiro Yoshita, C. DeCarli.*Baseline MRI measures of cerebrovascular disease in the Alzheimer's Disease neuroimaging initiative.* 2008 International Conference on Alzheimer's Disease (ICAD) and ICAD Alzheimer's Imaging Consortium.

123.   E. Fletcher, M. Persianinova, **O. T. Carmichael**, Alexa Beiser, Sudha Seshadri, Rhoda Au, Philip A. Wolf, C. DeCarli. *Hippocampal shape change correlates with delayed memory performance in middle aged adults of the Framingham heart study (FHS).* 2008 International Conference on Alzheimer's Disease (ICAD) and ICAD Alzheimer's Imaging Consortium.

124.   Jing Xie, C. DeCarli, E. Fletcher, D. Mungas, B. Reed, O. Martinez, M. Persianinova, D. Alcantara, N. Amenta, **O. T. Carmichael**. *Spatially-localized hippocampal atrophy measures correlate with domain-specific cognitive decline, AD, and MCI sub-type.*2008 International Conference on Alzheimer's Disease (ICAD) and ICAD Alzheimer's Imaging Consortium.

125.   **O. T. Carmichael**, David Drucker, Christopher Schwarz, E. Fletcher, O. Martinez, Mitsuhiro Yoshita, Jing He, C. DeCarli. *Longitudinal changes in cognition and cerebrovascular disease in the Alzheimer's Disease neuroimaging initiative.* 2008 International Conference on Alzheimer's Disease (ICAD) and ICAD Alzheimer's Imaging Consortium.

126.   E. Fletcher, B. Reed, S. Farias, **O. T. Carmichael**, O. Martinez, M. Ortega, D. Mungas, C. DeCarli. *Regional Fractional Anisotropy (FA) and Cognitive Performance in Individuals with normal and impaired cognition.* 2008 American Academy of Neurology Annual Meeting.

127.   C. DeCarli, **O. T. Carmichael**, D. Mungas, B. Reed, O. Martinez, M. Persianinova, M. Ortega, E. Fletcher. *Hippocampal atrophy is accompanied by degeneration of fornix white matter tracts in Alzheimer's Disease.* 2008 American Academy of Neurology Annual Meeting.

128.   E. Fletcher, D. Mungas, B. Reed, M. Ortega, O. Martinez, **O. T. Carmichael**, C. DeCarli. *Vascular risk factors affect white matter integrity after accounting for the effect of white matter hyperintenisites.* 2008 American Academy of Neurology Annual Meeting.

129.   P. Harris, D. Alcantara, N. Amenta, O. Lopez, G. Eirksdttir, S. Sigurdsson, V. Gudnason, P. Thompson, L. Launer, **O. T. Carmichael**. *Localized Measures of Callosal Atrophy Are Associated with Late-Life Hypertension in a Population-Based Study: AGES-Reykjavik Study.* 2008 American Academy of Neurology Annual Meeting.

130.   **O. T. Carmichael**, D. Drucker, E. Fletcher, M. Ortega, M. Yoshita, J. He, C. DeCarli. *MRI Measures of Cerebrovascular Disease in the Alzheimer's Disease Neuroimaging Initiative.* 2008 American Academy of Neurology Annual Meeting.

131.	**O. T. Carmichael**, P. M. Thompson, R. Dutton, A. Lu, S. Lee, J. Lee, L. Kuller, O. Lopez, H. Aizenstein, C. Meltzer, Y. Liu, A. Toga, J. T. Becker *Spatial Mapping of Ventricular Changes Related to Dementia and Mild Cognitive Impairment in a Large Community-Based Cohort*. Podium presentation, American Academy of Neurology Annual Meeting, Apriil 28-May 5, 2007.

132.	W. Dai, O. L. Lopez, **O. T. Carmichael**, J.T. Becker, L.H. Kuller, H. M. Gach. *Effects of Cardiovascular Disease Risk Factors on Regional Cerebral Blood Flow in Dementia*. Poster presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, May 19-25, 2007, Berlin: 2151.

133.	S. Ziolko, R. Narendran, C. Becker, **O. T. Carmichael**, W. Frankle, W. Kaye, J. Price. *A comparison of automated, fully deformable atlas based segmentation and manually drawn striatal volumes of interest as applied to PET scans*. Poster presentation, Organization for Human Brain Mapping Annual Meeting, 2007.

134.	M. Yoshita, E. Fletcher, **O.T. Carmichael**, M. Ortega, O. Martinez, D. Mungas, B. Reed, C. DeCarli. *Diffusion Tensor Imaging of Cognitive Normal Elderly in Cerebral White Matter: Relation to White Matter Hyperintensities*. Oral presentation, International Stroke Conference 2007.

135.	W. Dai, **O. T. Carmichael**, O. T. Lopez, J. T. Becker, L. H. Kuller, H. M. Gach. *Assessment of hypertension on cerebral blood flow and dementia using CASL MRI.* Poster presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, 2006.

136.	W. Dai, **O. T. Carmichael**, O. T. Lopez, H. M. Gach. *Comparison of two spatial normalization methods in the elderly brain.* Poster presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, 2006.

137.	**O. T. Carmichael**, L. H. Kuller, O. L. Lopez, P. M. Thompson, R. A. Dutton, A. Lu, S. E. Lee, J. Y. Lee, H. J. Aizenstein, C. C. Meltzer, Y. Liu, A. W. Toga, J. T. Becker. Longitudinal study of cerebral ventricular atrophy rates in the Cardiovascular Health Study. Poster presentation, American Academy of Neurology (AAN) Annual Meeting 2006.

138.	L. Teverovskiy, Y. Liu, J. Spears, J. Becker, H. Aizenstein, **O. T. Carmichael**, C. Meltzer. *Brain asymmetry as a predictor of age*, Poster presentation, Organization for Human Brain Mapping Annual Meeting, 2005

139.	J. Spears, P. Greer, S. Ziolko, H. Aizenstein, **O. T. Carmichael**, J. Becker, C. Meltzer. *Construction and Evaluation of an age-specific neurological template*, Poster presentation, Organization for Human Brain Mapping Annual Meeting, 2005

140.	**O. T. Carmichael**, P. Thompson, R. Dutton, A. Lu, S. Lee, J. Lee, K. Hayashi, A. Toga, O. Lopez, H. Aizenstein, Y. Liu, C. Meltzer, J. Becker. *Dementia-Associated Ventricular Volume Changes In A Community Cohort*, Poster presentation, Organization for Human Brain Mapping Annual Meeting, 2005

141.	**O. T. Carmichael**, P. Thompson, R. Dutton, A. Lu, S. Lee, J. Lee, K. Hayashi, A. Toga, O. Lopez, H. Aizenstein, Y. Liu, C. Meltzer, J. Becker. *Mapping 3-Dimensional Ventricular Changes in HIV/AIDS With Manual and Fully-Automated Tracings*, Poster presentation, Organization for Human Brain Mapping Annual Meeting, 2005

142.	**O. T. Carmichael**, H. J. Aizenstein, S. W. Davis, J. T. Becker, P. M. Thompson, C. C. Meltzer, Y. Liu. *Atlas-Based Hippocampus Segmentation In Alzheimer's Disease and Mild Cognitive Impairment*. Oral presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, 2005

143.	W. Dai, O. L. Lopez, **O. T. Carmichael**, V. Lakkavaram, S. Z. Grahovac, J. T. Becker, L. H. Kuller, H. M. Gach. *Differences of regional cerebral blood flow in mild cognitive impairment and early Alzheimer's Disease measured with CASL*. Oral presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, 2005

144. M. Wu, **O. T. Carmichael**, H. J. Aizenstein. *Quantitative Comparison of Neuroimage Registration for fMRI Analyses by AIR, SPM, and a Fully Deformable Model.* Poster presentation, International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting, 2005

145. W. Dai, O.L. Lopez, **O. T. Carmichael**, V. Lakkavaram, J. T. Becker, H. M. Gach. *Changes of regional cerebral blood flow in mild cognitive impairment and early Alzheimer's Disease measured with continuous arterial spin labeled MRI.* Oral presentation, American Academy of Neurology Annual Meeting, November 2004

146. Y. Liu, L. Teverovskiy, **O. T. Carmichael**, H. Aizenstein, J. T. Becker, O. L. Lopez, V. A. Stenger, C. Meltzer. *AD and MCI Classification from Cross-sectional MRI using Discriminative Subspace Analysis.* Poster presentation, American Academy of Neurology Annual Meeting, November 2004

Non-Peer-Reviewed Papers

1. Henry Phillips, Peter Walker, Carrie Kennedy, **Owen Carmichael**, Ian Davidson.*Guided Learning Algorithms: An Application of Constrained Spectral Partitioning to Functional Magnetic Resonance Imaging.* Proceedings of HCI International 2013.

2. **O. Carmichael**, S. Salloway. *Imaging markers of incipient dementia: The white matter matters* Editorial, In Press, Neurology 2012.

3. **O. Carmichael**, O.L. Lopez, J. T. Becker, L. Kuller. *Trajectories of brain loss in aging and the development of cognitive impairment* (Comment on Neurology 70(11):828-33, Mar 11 2008), Neurology 72(8):771, Feb 24 2009.

4. V. Broz, **O. Carmichael**, S. Thayer, J. Osborn, and M. Hebert. *ARTISAN: An Integrated Scene Mapping and Object Recognition System.* American Nuclear Society 8th Intl. Topical Meeting on Robotics and Remote Systems, American Nuclear Society, April, 1999

5. Johnson, **O. Carmichael**, D. Huber, M. Hebert. *Toward A General 3-D Matching Engine: Multiple Models, Complex Scenes, and Efficient Data Filtering.* Proceedings 1998 Image Understanding Workshop (IUW)

6. A.R. Neureuther and **O. Carmichael**, *Computer Intensive Problems in Simulation of Integrated Circuit Lithography and Topography*, Proceedings of NASA AMES Workshop, March 1996

Technical Reports

1. **O. Carmichael**, H. J. Aizenstein, S. W. Davis, J. T. Becker, P. M. Thompson, C. C. Meltzer, Y. Liu. *Atlas-Based Hippocampus Segmentation in Alzheimer's Disease and Mild Cognitive Impairment.* Carnegie Mellon University Robotics Institute Technical Report CMU-RI-TR-04-53, December 2004

2. **O. Carmichael**, S. Mahamud, M. Hebert, *Discriminant Filters for Object Recognition*, Robotics Institute Technical Report TR-02-09, Carnegie Mellon University, March 4, 2002

INVITED TALKS AND LECTURES

1. Alzheimer's Services of the Capital Area 29th Annual Education Conference. Invited talk. The New Drugs for Alzheimer's Disease: An Update. Crowne Plaza Executive Center, Baton Rouge, LA; April 17, 2024.

2. Louisiana Council on Aging Association and Alzheimer's Services of the Capital Area. New Drugs for Alzheimer's Disease…Where are we?
    Hilton Baton Rouge Capitol Center; May 2, 2023.

3. The University of Kansas Medical Center: Alzheimer's Disease Research Center. Invited Seminar Speaker. Fairway, Kansas; October 3, 2022.

4. Alzheimer's Services of the Capital Area: June Lunch-N-Learn. Healthy Heart for a Healthy Mind. Baton Rouge, Louisiana; June 8, 2022.

5. LSU Faculty Panel. Faculty Panel B: Pursuing Research Careers in STEM Disciplines. Baton Rouge, Louisiana; April 2022.

6. Spring Semester of OLLI at LSU Continuing Education. "So What? You are over 50! Current Advances in Medicine & Surgery." March 30, 2022.

7. June 8, 2021. "Does Intervening Against Cardiovascular Disease Enhance Brain Aging?" East Jefferson General Hospital (EJGH) Grand Rounds.

8. May 25, 2021. "Hearts and Minds—The Bogalusa Heart Study." Virtual LSU Science Café. Co-presenters were Lydia Bazzano and Emily Harville.

9. October 29, 2020. "Neuroimaging-based Biomarker Development for Clinical Trials." Biomarkers for Addiction Treatment Development: fMRI Drug Cue Reactivity as an Example, 3rd ISAM Neuroscience Interest Group (ISAM-NIG) Webinar in Collaboration with ENIGMA Addiction Working Group.

10. February 7, 2020. "Lab Research Overview." Guest lecture. LSU MEDP-7995: Medical Physics and Health Physics Seminar, Department of Physics and Astronomy, Louisiana State University.

11. February 6, 2020. "Does intervening against cardiovascular disease enhance brain aging?" Invited lecture. Aging Seminar Series, Tulane Center for Aging, Tulane University.

12. February 5, 2020. "Lifestyle change and brain aging." Invited lecture. LSU Psychology Club and Psi Chi Honors Society.

13. January 24, 2020. "Unintentional weight loss in older adults." Invited lecture. Obesity NORC Day, Tulane University Medical Center.

14. January 15, 2020. "Alzheimer's disease: Genetics, family history, and race/ethnicity." Alzheimer's Services of the Capitol Area Lunch-N-Learn Series.

15. December 11, 2019. "Does Intervening Against Cardiovascular Disease Enhance Brain Aging?" LSU Health Sciences Center Shreveport, Department of Pharmacology, Toxicology & Neuroscience.

16. October 17, 2019. "Does Intervening Against Cardiovascular Disease Enhance Brain Aging?" LSU School of Veterinary Medicine, Department of Comparative Biomedical Sciences.

17. September 26, 2019. "Body Composition and Energy Expenditure Assessment: Equipment and Procedures." 14th Annual Diabetes, Obesity, and Cardiovascular Disease Summit, Pennington Biomedical Research Center.

18. July 8, 2019. "Computational analysis of neuroimaging data: why it matters." Invited seminar speaker. Xidian University, School of Computer Science and Technology. Xi'an, China.

19. June 14, 2019. "Current status of functional neuroimaging in the study of energy balance." Invited presentation, Novo Nordisk National Advisory Board.

20. January 24, 2019. "Diabetes and the Aging Brain." Invited seminar speaker, The University of Mississippi Medical Center.

21. October 8, 2018. "Metabolism and Body Composition." Postdoctoral Nutrition Course, Pennington Biomedical Research Center.

22. September 18, 2018. "Advanced statistical analysis of neuroimaging data: why it matters." Invited colloquium, Michigan State University Department of Statistics and Probability

23. October 25, 2017. "MRI studies of brain metabolism and effects of exercise." Invited lecture, Sticht Center Conference on Aging, Wake Forest University, Winston-Salem, NC.

24. February 23, 2017. "Functional MRI of the brain in clinical trials of drugs and supplements." Invited seminar, PEI BioAlliance, Charlottetown, Canada.

25. October 29, 2016. "The Current Landscape of PET Imaging in Alzheimer's Disease." Fall Educational Symposium, Southwestern Chapter of the Society of Nuclear Medicine and Molecular Imaging.

26. October 3, 2016. "In vivo imaging measurement of body composition and metabolism." Postdoctoral nutrition course, Pennington Biomedical Research Center.

27. September 12, 2016. "In vivo human brain and metabolic imaging opportunities at Pennington Biomedical Research Center." Departmental Seminar, Cell Biology and Anatomy Department, LSUHSC New Orleans.

28. May 27, 2016. "Functional Neuroimaging of the Brain in Obesity." Alcohol and Drug Abuse Center of Excellence Scientific Retreat, LSU Health Sciences Center, New Orleans.

29. April 20, 2016. 23rd Annual Conference on Alzheimer's Disease. "Living Well with a Purpose." Pennington Biomedical Research Center, Baton Rouge, LA.

30. January 27, 2016. Overview of clinical neuroscience activity at the Pennington Center. Tulane University neuroscience seminar series.

31. January 5, 2016. Research Opportunities In Late-Life Neurological Disorders. Invited Seminar, M.S. Ramaiah University of Applied Sciences, Bangalore, India.

32. October 2, 2015. The puzzle of mixed vascular and Alzheimer pathologies in cognitive aging. Invited seminar, LSUHSC Shreveport Neuroscience Day.

33. June 10, 2015. Some Mathematical Problems in Neuroimaging. Invited seminar, LSU Math Circle.

34. June 30, 2015. Open FDA problems in functional MRI." Invited talk, Frontiers in Functional Data Analysis workshop, Banff International Research Station.

35. February 28, 2015. The Resistant Brain: Nourishing our Bodies against Alzheimer's @ TEDxLSU

36. April 17, 2015. Vascular brain aging: Testing the healthy heart, heathy mind hypothesis. Invited Seminar, LSU Life Course and Aging Center Annual Luncheon.

37. December 12, 2014, *Neuroimaging Studies of Brain Aging.* MIND Center Seminar, University of Mississippi Medical Center.

38. December 2, 2014, Why Brain Imaging is Essential to the Study of Alzheimer's Disease. Invited Seminar, Pennington Biomedical Research Foundation, Scientific Dinner Series.

39. October 9, 2014, *In vivo primate MRI opportunities at the Pennington Center*. Invited Seminar, Tulane National Primate Research Center.

40. September 5, 2014, *Magnetic Resonance Research Opportunities at the Pennington Center*. Invited Seminar, Medical Physics graduate program, LSU.

41. October 2, 2013, *The Brain as an End Organ of Cardiovascular and Metabolic Disorders*. Invited Seminar, Pennington Biomedical Research Center.

42. September 4, 2013, *Update on PET imaging in Alzheimer's Disease*. Frontiers in Biomedical Imaging Seminar Series, Radiology Department, UC Davis.

43. May 29, 2013, *Alzheimer's Disease: Overview of current research, caregiver issues, and advocacy.* Greater Sacramento Health Ministry Network Meeting.

44. May 27, 2013, *Estimating Brain Networks From Neuroimaging Data: The Wild West Era.* Invited Seminar, NYU Poly Computer Science and Engineering Department.

45. April 12, 2013, *Estimating Brain Networks From Neuroimaging Data: The Wild West Era.* UC Davis Statistical Sciences Symposium 2013.

46. January 24, 2013, *Imaging Aging Brain Networks: The View From The Wild West.* UC Davis Neurology Department Grand Rounds. (Average evaluation score: 4.75 / 5.)

47. January 16, 2013, *Why are there no effective drugs for Alzheimer's Disease?*. California Retired Teachers Association General Meeting (Division 67), Roseville, CA.

48. December 13, 2012, *New Faculty Workshop: Understanding Differences Among The Faculty Series.* Group discussion leader, UC Davis Health System.

49. November 29, 2012, *Working Dads Need Career Flexibility Too: How to Integrate Work, Life and Family.* Panel discussion, UC Davis Health System.

50. November 2, 2012, *Imaging Aging Brain Networks: Findings and Challenges.* UCSF Memory and Aging Center Grand Rounds.

51. October 22, 2012, *Should You Publish in Open Access Journals?* Panel discussion organized by UC Davis Health Sciences Libraries.

52. June 18, 2012, *The Pathological Course of Alzheimer's Disease: Why Finding a Cure Has Been So Hard*. California Retired Teachers Association Division 25 Annual Symposium, Carmichael, CA.

53. May 30, 2012, *The Pathological Course of Alzheimer's Disease: Why Finding a Cure Has Been So Hard*. Keynote address at Alzheimer's Disease: Continuum of Care VI, Petaluma, CA

54. January 26, 2012, *Statistical challenges in diffusion MRI and resting state functional MRI*. Statistics Colloquium, Department of Statistics and Graduate Group in Biostatistics, UC Davis.

55. November 30, 2011, *The Pathological Course of Alzheimer's Disease: Why Finding a Cure Has Been So Hard*. Keynote address at Understanding Memory Loss: Strategies for Success III, Yountville, CA

56. October 11, 2011, *Diffusion MRI and resting state functional MRI: two brain imaging modalities that need statistical help*. Statistics Department colloquium, Michigan State University.

57. June 14, 2011, *Alzheimer's Disease Neuroimaging: Overview And Recent Developments*. Frontiers in Biomedical Imaging Seminar Series, Radiology Department, UC Davis.

58. May 25, 2011, *Why are there no effective drugs for Alzheimer's Disease?*. California Retired Teachers Association General Meeting (Yolo County, Division 83), Woodland, CA.

59. March 15, 2011, *Why are there no effective drugs for Alzheimer's Disease?*. California Retired Teachers Association Annual Symposium (Sacramento Area 3, Division 5), Sacramento CA.

60. February 11, 2011, *Functional connectivity of the aging human brain from resting BOLD fMRI*. Computational Neuroscience Colloquium, UC Davis.

61. October 28, 2010, *Novel imaging biomarkers for Alzheimer's disease and cerebrovascular disease*. Neurology Department Grand Rounds, UC Davis (Average evaluation score: 4.75 / 5.)

62. July 15, 2010, *MRI markers for AD in an ethnically-diverse population*. Invited talk, International Conference on Alzheimer's Disease.

63. March 13, 2010, *Dynamics of brain changes and cognitive changes in aging and late-life neurodegenerative disease*. Invited talk, UC Davis One-Day Workshop on Modeling Dynamical Systems.

64. March 17, 2009, *Dementia: overview and current research*. California Retired Teachers Association Annual Symposium (Sacramento Area 3, Division 5), Sacramento CA.

65. January 10, 2009, *Current mathematical challenges in imaging of the aging brain*. Graduate Group in Applied Mathematics Mini-Conference, UC Davis.

66. October 16, 2008, *Novel neuroimaging-based measures of brain structure in healthy aging and dementia*. Neurology Department Scientific Research Conference, UC Davis.

67. October 15, 2007, *Current Mathematical Challenges in Neuroimaging*. Graduate Group in Applied Mathematics Seminar, UC Davis.

68. September 22, 2007, *Computational Methods for Brain Structure Quantification From In Vivo Human MRI*. Center For Neuroscience Retreat, UC Davis.

69. July 2, 2007, *Advanced MR Morphometric Measures and Late-Life Cognitive Decline*. Neuroradiology Seminar, Leiden University Medical Center.

70. February 12, 2007, *Automated Image Processing For Brain Change Analysis in Late-Life Cognitive Decline*. Biomedical Engineering Department Seminar, UC Davis

71. June 30, 2006, *Large-scale studies of cerebral ventricle dilation in mild cognitive impairment and dementia*. Alzheimer's Association Northern California Research Symposium .

72. October 10, 2006, *Gross-Scale Morphological Changes Associated With Mild Cognitive Impairment, Dementia, and Cardiovascular Conditions From* In-Vivo *Structural MRI*. Neurological Surgery Grand Rounds, UC Davis Medical Center

73. October 20, 2005, *Image Processing Methods for Large-Scale Studies of Neurodegenerative Disease*. Neurology Grand Rounds, UC Davis Medical Center. (Average evaluation score: 4.71 / 5.)

74. October 13, 2005, *Image Processing Methods for Large-Scale Studies of Neurodegenerative Disease*. Computer Science Department Colloquium, UC Davis

75. July 20, 2004, *Computational Methods for Prediction of Late-Life Cognitive Decline.*. Computer and Information Sciences Department Seminar, University of Pennsylvania

76. July 20, 2004, *Computational Methods for Prediction of Late-Life Cognitive Decline.*. Section of Biomedical Image Analysis Seminar, University of Pennsylvania

77. September 16, 2002, *Detecting Wiry, Holey Objects In Cluttered Scenes*. VASC Seminar, Carnegie Mellon University

SERVICE AND PROFESSIONAL ACTIVITIES

2022	Specialty Chief Editor of Neuroimaging in Neuropsychiatry, a specialty section of Frontiers in Neuropsychiatry)
2022	Publications & Presentations Subcommittee (PPS) for the Diabetes Prevention Program/Diabetes Prevention Program Outcomes Study (DPP/DPPOS)
2022	Chair, PBRC Faculty Advisory Council
2020-2021	Chair, COVID-19 Research Relief Fund Task Force
2019	Branding Agency Advisory Council (PBRC/PBRF)
2015, 2019	National Alzheimer Coordinating Center (NACC) External Advisory Board
2015	LSU Council on Biomedical Research
2015	LSU-PBRC Strategic Partnership Committee

2005-Present   **Manuscript Reviews**
Obesity (2015), Journal of Neuroscience, IEEE International Symposium on Biomedical Imaging (ISBI 2014, 2015), Neuroscience, IEEE Transactions on Biomedical Engineering, Information Processing in Medical Imaging (IPMI) conference (2011, 2013, 2015), Neuroimage: Clinical, Human Molecular Genetics, Journal of the Neurological Sciences (2015), Knowledge and Information Systems, Handbooks of Alzheimer's Disease, Human Brain Mapping, Neurology, International Conference on Software Engineering (ICSE 2010), Brain Research, Radiotherapy and Oncology, Archives of Neurology, Gender Medicine, International Journal of Geriatric Psychiatry, Magnetic Resonance Materials in Physics Biology and Medicine (MAGMA), Faculty of 1000 Medicine, Conference on Medical Image Computing and Computer-Aided Interventions (MICCAI 2008, 2012, 2013, 2016), MICCAI Workshop on Computational Anatomy and Physiology of the Hippocampus (CAPH 2008), Neuroimage, Neurocase, Neuroradiology, Journal of Magnetic Resonance Imaging, Journal of Computer Science and Technology, American Journal of Neuroradiology, Biological Psychiatry, IEEE Transactions on Medical Imaging (TMI), Neurobiology of Aging, Annals of Neurology, Psychiatry Research: Neuroimaging, Computer Vision and Image Understanding (CVIU), IEEE Transactions on Pattern Analysis And Machine Intelligence (PAMI), IEEE Transactions On Robotics And Automation (ITRA), Image and Vision Computing (IVC), IEEE Conference On Computer Vision And Pattern Recognition (CVPR), International Conference On Computer Vision (ICCV), IEEE Conference On Robotics And Automation (ICRA), IEEE/RSJ International Conference On Intelligent Robotic Systems (IROS), International Conference On Pattern Recognition (ICPR), International Joint Conference on Artificial Intelligence (IJCAI 2005), Cardiovascular Health Study Publications and Presentations Committee, International Journal of Obesity (IJO) (2017), PloS ONE, Pediatric Obesity, Brain Sciences, Frontiers in Endocrinology (2018), Frontiers in Human Neuroscience (2018), Medicine & Science in Sports & Exercise (MSSE) (2018), Prostaglandins, Leukotrienes and Essential Fatty Acids (PLEFA) (2018), Biological Psychiatry: Cognitive Neuroscience and Neuroimaging (2019), Alzheimer's & Dementia: The Journal of the Alzheimer's Association (2019), Frontiers in Molecular Biosciences (2019), NeuroImage: Clinical (2019), Frontiers in Neuroscience (2019),

International Journal of Obesity (2019), Obesity (2019, 2020); Frontiers in Aging Neuroscience (2020), Molecular Psychiatry (2020), Journal of Diabetes and Its Complications (2020), Frontiers Public Health (2020), Diabetes Research and Clinical Practice (2021), MICCAI (March 2022), Diabetes, Obesity and Metabolism (August 2022), Journal of the Endocrine Society (October 2022); Frontiers in Public Health (May 2023); Scientific Reports (2023); Brain and Behavior (2023); Journal of Prevention of Alzheimer's Disease (2023); Neurology (2023); Alzheimer's Disease and Associated Disorders (2023); Journal of Clinical Endocrinology and Metabolism (2023); Journal of the Endocrine Society (2023); Circulation (February 2024)

2008-Present   **Editorial Boards**
American Journal of Neurodegenerative Disease, Alzheimer's Disease and Associated Disorders, World Journal of Radiology, Biochimica et Biophysica Acta Clinical, Frontiers in Mathematics of Biomolecules (2008-2020), Frontiers in Aging Neuroscience (2020-present); Frontiers in Neuroimaging (2023-present)

2005-Present   **Conference Organizing and Abstract Reviews**
Symposium Chair, Dec. 2015 fMRI in Clinical Trials: State of the Science and Future Directions
Abstract reviewer, 2013 Alzheimer's Association International Conference
Oral session co-chair, 2012 IEEE Engineering in Medicine and Biology Conference
Scientific Review Committee, 2011, 2013, and 2015 Information Processing in Medical Imaging (IPMI)
Reviewer, 2013-2016 The Medical Image Computing and Computer Assisted Intervention Society (MICCAI)
Program Committee, 2010 American Association for Artificial Intelligence Annual Meeting
Abstract reviewer, 2011 International Conference on Alzheimer's Disease
Abstract reviewer, 2010 Organization for Human Brain Mapping Annual Meeting
Abstract reviewer and oral session co-chair, 2008-2009 and 2011 American Academy of Neurology Annual Meeting Program Committee, 2005 ICCV Workshop on Computer Vision for Biomedical Image Applications (CVBIA), Applications Reviewer for 2016 LA CaTS Meritorious Roadmap Scholar Program, Organizing Committee for Imaging Symposium: Biomedical, Materials & Computation 2016, Paper Reviewer for MICCAI Conference 2016. Imaging Consortium at AAIC Abstract Reviews March 2022, Reviewed conference papers for MICCAI 2022 April 2022, Abstract reviewer for Alzheimer's Imaging Consortium (AIC) April 2022, US Department of Veterans Affairs Rehabilitation R&D Review Panel (RRD6-Chronic Medical Conditions and Aging) Study Section August 16, 2022, Session Chair for AAIC Featured Research Session: Brain energy defects in aging and Alzheimer's disease: Beyond the neuron August 2022, , Session Chair AAIC: Featured Research and Focused Topic Sessions "Brain energy defects in aging and Alzheimer's disease: Beyond the neuron" (August 2022); The Medical Image Computing and Computer Assisted Intervention Society (MICCAI) 2022; Information Processing in Medical Imaging (IPMI) 2023; Alzheimer's Association International Conference (AAIC) 2023; 6th International Workshop on Machine Learning in Clinical Neuroimaging (MLCN) October 2023 Reviewer and Program Committee Member; Alzheimer's Association International Conference (AAIC) 2024 (February);

2006-Present   **Grant/Funding Reviews**
University of Arizona Alzheimer's Disease Center Pilot Grant Program (2007), University of Pittsburgh Older Americans Independence Center Pilot Program (2007 and 2008), UC Davis School of Medicine Bridge Funding Program, France-Berkeley Fund (2009), Alzheimer's Association Research Grant Program (2008-2012, 2014-2015), National Institutes of Health Special Emphasis Panels ZRG1 MDCN-A (58) (July 2009), ZNS1 SRB-R 59 / 60 (June 2012), ZRG1 F02A-J (June 2013, Oct 2013), Department of Veterans Affairs Rehabilitation Research and Development Service Merit Review (August 2012), University of Southern California Alzheimer's Disease Research Center Pilot Grant Program (2012, 2013), Militarily Relevant Peer Reviewed Alzheimer's Disease Research Program (MRPRA, 2013), LSU Biomedical Collaborative Research Program (2015), Alzheimer's Research UK (2015), NIH study section

ETTN-E(55) (March 2016), Co-Chair NIH study section ETTN-E(55) (March 16, 2017), Reviewed for ETTN-E(55) (March, June, and October 2017; February 2018), HDM-Y(57) (June 2017), SRB-M(01) (June 2017), CCTS Partner Network Multidisciplinary Pilot Grants Program (November 2017), CCTS (Center for Clinical and Translational Sciences) at UAB (December 2017), LA CaTS Center Round 6 Pilot Grants Program (December 2017), LSU Graduate School Economic Development Assistantships (December 2017), protocol review for USARIEM (December 2017), LA CaTS Roadmap Scholar Grant Program (2018), USC Southern California Clinical and Translational Science Institute Grant Program (2018), LA CaTS Center Round 7 Pilot Grants Program (May 2018), Edward Mallinckrodt, Jr. Foundation pre-proposals for LSU (2018), NIH grants for review panel ZNS1 SRB-M(06) (June 2018). LSU Graduate School Economic Development Assistantships (December 2018), Boston Area Diabetes Endocrinology Research Center Pilot and Feasibility Grant (January 2019), LA CaTS Roadmap Scholars Applications (February 2019), Chaired NIH study section ZNS1 SRB-M(08) (March 2019), NIH study section ZAG1 ZIJ-P (J1) (August 29, 2019), Austrian Science Fund project KLI 829-B (January 2020), LA CaTS Roadmap Scholars Applications (March 2020), Chaired NIH study section ZNS1 SRB-S(01) (June 12, 2020), LA CaTS Center Pilot Grants Application (June 2020), Austrian Science Fund project KLI 899 (August 2020), NIH/CSR Special Emphasis Panel: Clinical Trials for the Spectrum of Alzheimer's Disease and Age-related Cognitive Decline (October 2020), LSHUSC-S Intramural Pilot Grants (November 2020), Permanent member, AGCD-1 Review Committee (June 2021-present), Reviewer for 2021/08 ZRD1 NURD-E (01) 1-Neurobiology-E (June 2021), Small Animal Imaging Facility Pilot Grants Program (August 2022), Nazarbayev University Research Grant Program (October 2022), CEAR Research Award for LSU Health Shreveport (November 2022); Chronic Medical Conditions & Aging, Rehabilitation Research and Development Parent IRG, Office of Research & Development RRD6 (2023); LaCATs Roadmap Scholar (2023); NIH study section AGCD1 (permanent member 2023-present): review all K99R00 applications submitted to NIA; VA Merit Review study section RRD6 (February 2023); Grant related to brain aging for Israel Science Foundation (ISF); USARIEM "Recovery protein nutrition as a countermeasure for anabolic resistance following sleep loss" (August 2023); LA CaTS Underrepresented Minority Roadmap Scholar & LA CaTS Roadmap Scholar Applications (February 2024);

2023-present   Vice Chair of the ISTAART Nutrition, Metabolism and Dementia Executive Committee of the Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)

2023-present   Member, Pennington Biomedical Promotion and Tenure Committee

2023-present   Member, Diabetes Prevention Project Outcomes Study (DPPOS) Publication and Presentation Subcommittee (PPS)

2023-present   Member, Pennington Biomedical Research Task Force

2023-present   Member, Pennington Biomedical William Hansel Visiting Scientist Speaker Series Committee

2021-present   Member of LSU Medical Physics Admissions Committee

2021-2023   Chair, Faculty Advisory Committee, Pennington Biomedical

2007, 2012   Member, University of Southern California Alzheimer's Disease Research Center External Advisory Committee

2007-2008   Member, UC Davis Biomedical Engineering Graduate Group Admissions Committee

2008 - Present   Member, UC Davis Neurology Department Faculty Development Committee

2009   Chair, UC Davis Neurology Department Academic Federation Peer Committee

2010-2013	Member, UC Davis Academic Senate Grade Change Committee
2010-2011	Member, UC Davis Applied Mathematics Graduate Group Admissions Committee
2003 - Present	Member, then Senior Member (2014), Institute for Electrical and Electronics Engineers

Media

July 26, 2022:	The Science of Weight Loss is Surprisingly Messy; Bloomberg podcast: https://www.bloomberg.com/news/articles/2022-07-26/podcast-the-science-of-weight-loss-is-surprisingly-messy?utm_medium=email&utm_source=newsletter&utm_term=220726&utm_campaign=author_21317891
July 5, 2020:	The Best Exercise for People with Alzheimer's Disease; BrightFocus Foundation https://www.brightfocus.org/alzheimers-disease/article/best-exercise-people-alzheimers-disease
June 30, 2015:	Open FDA Problems in Functional MRI
May 17, 2015:	Talking healthy brains and women's health research on Talk 107.3
February 28, 2015:	The Resistant Brain: Nourishing our Bodies against Alzheimer's @ TEDxLSU
September 9, 2013:	Evan Fletcher's paper on fornix degeneration and risk of future cognitive decline was covered by Medscape and others
September 8, 2013:	I was interviewed for a Sacramento Bee article profiling a relatively young individual who was diagnosed with Alzheimer's disease
August 23, 2013:	The Alzheimer's Association made a video of me talking about Alzheimer's disease and my new grant from them.
January 1, 2013:	I was interviewed for a Sacramento Bee article on effects of exercise on the brain.
November 6, 2012:	Pauline Maillard's paper on high blood pressure and brain injury in Framingham Generation 3 was covered by Forbes, Time, and Bottom Line's Daily Health News.
August 16, 2012:	Neurology Today covered an editorial by myself and Steve Salloway on the imaging of white matter changes in dementia.
November 23, 2011:	Radio interview on Alzheimer's disease for "Health Bits" segment of 1440 AM KVON
November 19, 2010:	Voice of America and The Davis Enterprise covered my paper on white matter disease in the ADNI cohort.
January 28, 2009:	The Davis Enterprise covered my localized hippocampus analysis work.

TEACHING AND MENTORING EXPERIENCE

Teaching, Pennington Biomedical Research Center

Invited Course Instructor "Introduction to Imaging," Xidian University, Xi'an, China, July 2023.

fMRI Working Group	Created an ongoing lecture and discussion group on functional magnetic resonance imaging for staff and faculty at Pennington Biomedical
Invited Course Instructor	"Introduction to Image Processing and Analysis," Xidian University, Xi'an, China, July 4-11, 2019.

Junior Faculty Mentoring, Pennington Biomedical Research Center

Korak Sarkar	Board Certified Neurologist and Brain Injury Specialist, Oschner Baptist, New Orleans, LA
Prachi Singh	Associate Professor, Pennington Biomedical Research Center
Lilah Besser	Assistant Professor, University of Miami
Sylvia Ley	Assistant Professor, Tulane University
Vance Albaugh	Assistant Professor, Pennington Biomedical Research Center
John Apolzan	Assistant Professor, Ingestive Behavior Laboratory
Marc Dalecki	Assistant Professor, LSU School of Kinesiology

Student Mentoring, Pennington Biomedical Research Center

Vanessa Salceneau	Undergraduate LSU. Research support for Bogalusa Heart Study.
Jalyn Pitre	Undergraduate LSU.
Simon Firmin	Undergraduate LSU. Research support for Bogalusa Heart Study.
Ava Reinecke	Undergraduate LSU. Research support for Bogalusa Heart Study.
Arushi Rao	Undergraduate LSU. Research support for Bogalusa Heart Study.
Mia Goodson	Public Health MS Student, University of North Carolina. Research support for Bogalusa Heart Study.
Isabella Manrique	Psychology undergraduate, LSU. Research topic: Lifespan cardiovascular exposures and midlife depression in the Bogalusa Heart Study.
Shaghayegh Rahimi	Medical Physics Ph.D. Student, LSU. Research topic: AI methods for evaluating cortical thickness patterns in aging and Alzheimer's Disease.
Lacey Medlock	Medical Physics Ph.D. Student, LSU. Research topic: Quantifying brain functional connectivity while accounting for the hemodynamic response function.
Carlos Aguilar Miranda	Support for Charles V. Cusimano EHSP Grant entitled "Bone mineral density and spatial visualization distribution in the third metacarpal bone of the adult and elderly thoroughbred horses."
Yimin Ni	Medical Physics Ph.D. Student, LSU. Research topic: Novel methods for post-processing calibrated fMRI data
Kai-Cheng Chuang	Medical Physics Ph.D. Student, LSU. Research topic: Machine learning methods for functional MRI data analysis

Reagan Dugan	Medical Physics Ph.D. Student, LSU. Research topic: Machine learning methods for diffusion MRI data analysis.
Maryam Naseri	Medical Physics Ph.D. student, LSU. Research topic: Computational methods for summarizing the contents of amyloid PET and FDG PET scans of the human brain.
Sreekrishna Pillai	Computer Science and Engineering Ph.D. student, LSU. Research topic: Machine learning methods for analysis of functional connectivity from fMRI data.
Krystal Kirby	Medical Physics Ph.D. student, LSU. Research topic: Multiple quantum coherence MRI methods for quantification of adipose tissue and tumor composition.
Leila Chowdury	Agricultural Engineering undergraduate, LSU. Research Topic: Characterization of the performance characteristics of a gustometer designed for fMRI research.
Jill King	Psychology undergraduate, LSU. Research Topic: Characterization of the perceptual properties of a food photography data set. **Current status:** Neuroscience Ph.D. student, Tulane University
Christina Goehl	Medical Student, Southern Illinois University School of Medicine. Topic: NMR spectroscopic characterization of fat, muscle, and metabolic processes.
Haley Harrington	Undergraduate, Samford University. Topic: Clinical applications of 31P spectroscopy to skeletal muscle diseases.
Anna Beth Madden	Psychology undergraduate, LSU. Research topic: Effects of diabetes treatment on cognitive functioning. **Current status:** Ph.D. student in neuroscience, Texas State University.

Postdoctoral Fellows, Pennington Biomedical Research Center

Yang Pan	Providing mentoring/support for K99/R00 career development award.
Katy Gwizdala	Brain insulin effects on metabolism and cognitive functioning (Secondary advisor. Primary Advisor: Rob Newton)
Maninder Singh	MR spectroscopy techniques for assessing brain substrate metabolism, body fat, and muscle metabolism.
Moses Darpolor	MR spectroscopy techniques in obesity. **Current status:** Assistant Professor, Stillman College.
Nicole Fearnbach	Pediatric energy balance including cognitive mediators of sedentary time. **Current status**: Assistant Professor, Pennington Biomedical Research Center
Keely Hawkins	*Secondary mentor (Obesity T32)
Ping He	Research topic: Nuclear magnetic resonance and magnetic resonance spectroscopy of TCA cycle metabolites using 13C labeled compounds
Preetham Shankpal	Research topic: Development of MRI data post processing algorithms. **Current status:** Assistant Professor at MS Ramaiah School of Engineering and Applied Science

Non-Employee Trainees, Pennington Biomedical Research Center

Jonathan Peterson   Research topic: Functional MRI of working memory

Eric Chin   Research topic: Functional MRI with food photography

Jill King   Research topic: Psychometric properties of food photography data sets

Master's Thesis Committees at LSU

Katy Venable   LSU School of Veterinary Medicine, Comparative Biological Sciences. Thesis topic: Functional MRI studies of nutritional supplements. Thesis advisor: Dr. Thomas Lee

Hatim Chafi   Medical Physics Graduate Group. Thesis topic: Magnetic Resonance Elastography of the liver and brain. Thesis advisor: Guang Jia.

Ryan Schurr   Medical Physics Graduate Group. Thesis topic: Chemical exchange saturation transfer (CEST) magnetic resonance imaging. Thesis advisor: Guang Jia.

PhD Dissertation and Qualifying Exam Committees at LSU

Katy Venable   PhD Qualifying Exam Committee. Passed 08/25/2020. LSU School of Veterinary Medicine, Comparative Biological Sciences. Advisor: Thomas Lee.

Tyler Reekes   LSU Health Sciences Center Shreveport, Department of Pharmacology, Toxicology & Neuroscience. Topic: Functional MRI studies of brain function in Parkinson's disease. Advisor: Elizabeth Disbrow.

Master's Thesis Committees at UC Davis

Leonid Shamis   Computer Science Graduate Group. **Thesis topic:** Constraint Based Framework for Optimal k-Clustering. **Thesis advisor:** Ian Davidson.

Vladimir Glavtchev   Computer Engineering Graduate Group. **Thesis topic:** Using graphics processing units to detect road signage from video sequences. **Thesis advisor:** John Owens.

Karl Beutner   Applied Mathematics Graduate Group. **Thesis topic:** Uncertainty estimation in MRI-based brain region segmentation. **Thesis advisor:** Owen Carmichael.

PhD Dissertation and Qualifying Exam Committees at UC Davis

Arlie Capps   Computer Science Graduate Group. Thesis topic: Visualization and Analysis of Microstructure in Images of the Living Human Retina. Thesis advisors: Bernd Hamann and Jack Warner.

Jinjiang He   Statistics Graduate Group. **Thesis topic**: Functional correlation measures for functional MRI data. **Thesis advisor**: Jang-Ling Wong.

Tom Kuo   Computer Science Graduate Group. **Thesis topic:** Data mining methods for network discovery. **Thesis advisor:** Ian Davidson.

Yang Zhou	Statistics Graduate Group. **Thesis topic:** Covariance estimation in spatio-temporal processes. **Thesis advisor:** Jane-Ling Wang.
Lin Zheng	Computer Science Graduate Group. **Thesis topic:** Multi-modal medical image volume visualization. **Thesis advisor:** Kwan-Liu Ma.
Yuanfeng Zhu	Computer Science Graduate Group. **Thesis topic:** Real time simulation of interactive motion. **Thesis advisor:** Michael Neff.
Sean Gilpin	Computer Science Graduate Group. **Thesis topic:** Tensor decomposition with constraints. **Thesis advisor:** Ian Davidson.
Buyue Qian	Computer Science Graduate Group. **Thesis topic:** Active transfer learning. **Thesis advisor:** Ian Davidson.
Andrea Quintero	Neuroscience Graduate Group. **Thesis topic:** Visuospatial attention in three neurodevelopmental disorders. **Thesis advisor:** Tony Simon.
Yingying Wang	Computer Science Graduate Group. **Thesis topic:** Perception and Synthesis of Conversational Gestures for Virtual Characters. **Thesis advisor:** Michael Neff.
Ryan James	Physics Graduate Group. **Thesis topic:** Efficient estimation of the synchronization properties of computational mechanics models. **Thesis advisor:** Jim Crutchfield.
Maria Gonzalez	Electrical Engineering Graduate Group. **Thesis topic:** Electrical engineering applications of prolate spheroidal wave functions. **Thesis advisor:** Hong Xiao.
Chun-Jung Huang	Biostatistics Graduate Group. **Thesis topic:** Statistical summaries of large-scale neuroimaging data. **Thesis advisor:** Danielle Harvey.
Christopher Schwarz	Computer Science Graduate Group. **Thesis topic:** Markov random field simplification via link removal. **Thesis advisor:** Owen Carmichael.
Bess-Carolina Dolmo	Biomedical Engineering Graduate Group. **Thesis topic:** Point-based representation methods for cortical surface analysis. **Thesis advisor:** Owen Carmichael.
Samuel Lockhart	Neuroscience Graduate Group. **Thesis topic:** White matter integrity, functional connectivity, and executive control in aging. **Thesis advisor:** Charles DeCarli.
Anna Tikhonova	Computer Science Graduate Group. **Thesis topic:** Visualizing large, complex data sets. **Thesis advisor:** Kwan-Liu Ma.
Fatemeh Abbasinejad	Computer Science Graduate Group. **Thesis topic:** Shape matching of proteins using accelerated graphics cards.. **Thesis advisor:** Nina Amenta.
Xiang Wang	Computer Science Graduate Group. **Thesis topic:** Clustering, learning, and ranking in complex graphs. **Thesis advisor:** Ian Davidson.
Jun Chen	Statistics Graduate Group. **Thesis topic:** Smoothing and regression on Riemannian manifolds. Thesis advisors: Debashis Paul and Jie Peng.
Jing Xie	Computer Science Graduate Group. **Thesis topic:** Shape analysis of brain regions from imaging data. **Thesis advisor:** Owen Carmichael.
Deboshmita Ghosh	Computer Science Graduate Group. **Thesis topic:** Automated landmark placement on biomedical shape models. **Thesis advisor:** Nina Amenta.

Jinxiu Liao	Biomedical Engineering Graduate Group. **Thesis topic:** Automated segmentation and reconstruction of positron emission tomography images. **Thesis advisor:** Jinyi Qi.
Blake Hunter	Applied Mathematics Graduate Group. **Thesis topic:** Sparse feature selection in high-dimensional data sets. **Thesis advisor:** Thomas Strohmer.
Mauricio Hess-Flores	Computer Science Graduate Group. **Thesis topic:** Recovering 3D scene structure from aerial photographs. **Thesis advisor:** Ken Joy.
Ernest Woei	Applied Mathematics Graduate Group. **Thesis topic:** Heat diffusion methods for shape description and classification. **Thesis advisor:** Naoki Saito.
Lin Fu	Biomedical Engineering Graduate Group. **Thesis topic:** Iterative reconstruction of positron emission tomography images. **Thesis advisor:** Jinyi Qi.
Zijie Qi	Computer Science Graduate Group. **Thesis topic:** Data mining with constraints. **Thesis advisor:** Ian Davidson.
Pengcheng Luo	Computer Science Graduate Group. **Thesis topic:** Character animation based on motion capture data. **Thesis advisor:** Michael Neff.

Courses at LSU

KIN 4900	Independent study course for Kinesiology undergraduates, Spring 2017.

Courses at UC Davis

RTG	Series of lectures on neuroimaging for the NSF-funded Research Training Group on Objects, Geometry, and Computing in Fall 2013.
HDE 117	"Meet The Scientists" guest lecture for HDE 117, "Longevity," November 7, 2012.
PSC 263	Created PSC 263, "Cognitive Neuroscience of Aging;" Instructor of record for PSC 263 in Spring Quarter 2012 (Overall rating was "Excellent" on 7 / 8 student evaluations).
ECS 173	Instructor of Record for ECS 173 (formerly ECS 189H) Spring Quarter 2009 (Average student evaluation score: 9.33 / 10), Fall Quarter 2010 (9.1 / 10), Spring 2013 (9.1 / 10).
ECS 289H	Created ECS 289H, "Advanced Image Processing and Analysis;" Instructor of record for ECS 289H in Spring Quarter 2008, (Average student evaluation score: 9.5 / 10), Fall Quarter 2009 (9.75 / 10), Winter Quarter 2012 (10/10).
STA 280	Co-Instructor of record for STA 280, "Introduction to Functional Data Analysis and Representations of Brain Connectivity" (with Hans Mueller and Jane-Ling Wang), Fall 2013
Lecture for residents	Lecturer on MRI techniques for UC Davis Neurology Residency Program didactic course, 9/6/2007.
Journal Club	Periodic guest faculty for Neuroimaging Journal Club, 2006-2013
Independent study	Instructor of Record for three independent study projects in computer science (CS 199), two in neuroscience (NEU 199), and one in biomedical engineering (BME 199).

| ECS 189H | Created ECS 189H, "Introduction To Image Processing and Analysis;" Instructor of record for ECS 189H in Winter Quarter 2007. (Average student evaluation score: 9.75 / 10) |

Student Mentoring at the UC Davis

| Julia Scott | (Postdoctoral fellow, Neuroscience) **Research topic:** Relationships between biomarkers of Alzheimer's disease neuropathology, white matter and gray matter markers, and cognitive decline. **Current status:** Lecturer at Santa Clara University |

| Casey Wilson | (B.S. student, Computer Science) **Research topic:** Automated matching of 3D surfaces of the human face. **Research product:** Software system for 3D matching of face surfaces. |

| Melissa Chenok | (B.A. student, Neuroscience, Smith College) **Research topic:** Reliability of protocols for tracing sulci on human brain surfaces. |

| Jessica Liu | (B.S. student, Neurobiology, Physiology, and Behavior) **Research topic:** Protocols for tracing sulci on human brain surfaces. **Research product:** One manuscript in Prized Writing undergraduate journal. |

| Devin Fenton | (B.S. student, Neurobiology, Physiology, and Behavior) **Research topic:** Mathematical complexity of sulcal curves on the aging brain. **Research product:** One Undergraduate Research Conference presentation. |

| Chris Patton | (B.S. student, Computer Science) **Research topic:** Detecting salamanders in video feeds for conservation ecology research. **Research product:** One Undergraduate Research Conference presentation. |

| Varsha Viswanath | (B.S. student, Biomedical Engineering) **Research topic:** Noise removal from diffusion MRI data. **Research products:** One manuscript. |

| Alex Tsui | (Ph.D. student, Computer Science) **Research topic:** Geometric correspondences between MRI-based brain surfaces. **Research products:** Two published manuscripts. |

| Phong Vuong | (Ph.D. student, Computer Science) **Research topic:** Assessment of uncertainty in brain region delineations. **Research products:** One published manuscript. |

| Kristopher Kalish | (Ph.D. student, Computer Science) **Research topic:** Point-based surface methods applied to neuroimaging shape analysis and segmentation. |

| Lovingly Quitania Park | (Postdoctoral fellow, Neuropsychology) **Research topic:** Relationships between cognitive decline, neuropsychiatric symptoms, and brain anatomy in aging. **Primary mentor:** Sarah Farias. |

| Qiang Wang | (Postdoctoral fellow, Mathematics) **Research topic:** Statistics on populations of mouse brain MRIs. **Co-mentor:** Rob Berman. **Current position:** Product development engineer, Aaken Lab, Woodland, CA. |

| Brian Alger | (M.S. student, Applied Math) **Research topic:** Automated brain region segmentation from MRI. |

| Jagadeesh Pakaravoor | (Ph.D. student, Computer Science) **Research topic:** Automated alignment of brain regions in MRI. |

Karl Beutner	(M.S. student, Applied Math) **Research topic:** Automated segmentation of human brain regions. **Research products:** One manuscript and master's thesis.
Jing Xie	(Ph.D. student, Computer Science) **Research topic:** Intuitive parameterization of ensembles of biological shapes. **Research products:** Four manuscripts.
Chris Schwarz	(Ph.D. student, Computer Science) **Research topic:** Automated detection of white matter lesions in structural MR images of the brain. **Research products:** Three manuscripts. **Current status:** Assistant Professor of Radiology at the Mayo Clinic.
Sean Mann	(B.S. student, Computer Science). **Research topic:** Automated construction of 3D shape models of brain regions. **Current status:** Graduate student in Computer Science, UCLA.
Gautam Prasad	(B.S. student, Computer Science). **Research topic:** Automated delineation of brain regions from structural MRI. **Research products:** Oral presentation at 2007 UC Davis Undergraduate Research Conference. **Current status:** Assistant Professor, Computer Science, University of Southern California.
Ana Rapoport	(B.S. student, Biology). **Research topic:** User interfaces for manual tracing of brain regions. **Research product:** Poster presentation at 2007 UC Davis Undergraduate Research Conference.
Peter Harris	(B.A. student, Exercise Biology). **Research topic:** Effects of chronic hypertension on morphology of the elderly brain. **Research products:** Journal paper, two UCD undergraduate journal papers, poster presentation at 2007 UC Davis Undergraduate Research Conference. **Current status:** Medical student at Dartmouth Medical College
Joseph Hong	(B.S. student, Biology). **Research topic:** Manual tracing of the cingulate cortex in elderly brains.

Graduate Student Mentoring in Pittsburgh

During my postdoctoral fellowship, I met regularly with graduate students and their primary faculty advisors to help the students formulate and advance their independent research projects in medical image analysis.

Leonid Teverovskiy	(PhD student, Center for Automated Learning and Discovery, Carnegie Mellon University). **Research product:** Two conference papers published.
Weiying Dai	(PhD student, Electrical Engineering, University of Pittsburgh). **Research products:** Three journal papers published. **Current status:** Postdoctoral fellow, Harvard Medical School
Minjie Wu	(PhD student, Electrical Engineering, University of Pittsburgh). **Research product:** One journal paper published

Teaching at Carnegie Mellon University and University of Pittsburgh

Advanced Perception	Guest presentation on salient point detection in the Advanced Perception graduate seminar. **Instructor:** Dr. Martial Hebert
Medical Image Analysis	Guest lectures on image segmentation and shape modeling in University of Pittsburgh Medical Image Analysis course. **Instructor:** Dr. George Stetten

Image Processing	Guest lecture on shape-based object recognition in University of Pittsburgh undergraduate Introduction to Image Processing course. **Instructor:** Dr. Ching-Chung Li
Teaching Assistant	Graduate-level Mathematical Fundamentals For Robotics course at Caregie Mellon University. **Instructor:** Dr. Michael Erdmann