

# Auriel A. Willette, Ph.D., M.S. (Mr.)

HNSB 1109  
Iowa State University  
Ames, IA 50011

Office Phone: 515-294-3110  
Office Fax: 515-294-6193  
E-Mail: awillett@iastate.edu

## EDUCATION

<b>University of Wisconsin - Madison</b> Ph.D., Psychoneuroimmunology, 4.0 GPA	Madison, WI 2010
<b>University of Wisconsin - Madison</b> M.S., Biological Psychology, 4.0 GPA	Madison, WI 2006
<b>Oberlin College</b> B.A., Neuroscience, Psychology, Cognitive Science, History minor, 3.7 GPA	Oberlin, OH 2002

## CURRENT POSITIONS

<b><u>Iowa State University</u></b>	Ames, IA
<b>Assistant Professor</b> Department of Food Science and Human Nutrition (Main Appointment) Department of Biomedical Sciences (Courtesy) Department of Psychology (Courtesy) Department of Electrical and Computer Engineering (Courtesy, pending)	2015-Present
<b>Co-PI and Neuroimaging Core Lead</b> Big Data Brain Initiative	2016-Present
<b>Deputy Director</b> ISU Neuroscience Initiative (formerly the ISU Brain Initiative)	2016-Present
<b><u>University of Iowa</u></b>	Iowa City, IA
<b>Adjunct Assistant Professor</b> Department of Neurology	2016-Present

## CURRENT GRADUATE PROGRAM AFFILIATIONS

Genetics and Genomics	2019-Present
Molecular, Cellular, and Developmental Biology	2019-Present
Bioinformatics and Computational Biology	2018-Present
Immunobiology	2015-Present
Neuroscience	2015-Present
Nutritional Science	2015-Present

## **PAST POSITIONS and RESEARCH EXPERIENCE**

---

### **National Institute on Aging, Laboratory of Neuroscience**

Baltimore, MD

IRTA Post-Doctoral Fellow

2012-2015

Adviser: Mark Mattson

- Lead phase II Randomized Clinical Trials of endocannabinoids and calorie restriction to enhance brain function, glucose metabolism, and reduce neuroinflammation
- Bioinformatics techniques in multimodal integration and analysis across multiple cohorts to jointly analyze protein, gene, and neuroimaging data
- Neuroimaging techniques in functional and molecular acquisition, processing, and analysis (block- and event-based task fMRI, PRESS-MRS, resting state fMRI)

### **University of Wisconsin – Madison, Dept. Medicine and Public Health**

Madison, WI

NIH NRSA Post-Doctoral Fellow

2010-2012

Advisers: Sterling Johnson and Barbara Bendlin

- Bioinformatics and data analytics of multi-cohort data to examine metabolic and immunologic biomarkers with neuroimaging and behavioral outcomes in mid-life adults at risk for AD
- Neuropsychological testing and clinical work with mid- to late-life asymptomatic adults
- Neuroimaging techniques in humans (DTI, ASL, FDG- and PiB-PET, task & block-based fMRI)

### **University of Wisconsin – Madison, Dept. of Psychology**

Madison, WI

Ford Fellow, NIH NRSA Fellow, and NSF AGEP Fellow graduate student

2004-2010

Advisers: Christopher Coe and Sterling Johnson

- Acute endotoxin effects in adult rhesus macaques on stress hormones, innate and acquired immunologic markers, and cognitive and affect profiles
- Prenatal endotoxin changes in rhesus macaque development of immunity, cognitive and affect profiles, and brain structure
- Effects of life-long calorie restriction in aged rhesus macaques on immune, metabolic, and vascular markers and modulation of regional brain volume and tract integrity
- Techniques included flow cytometry, leukocyte stimulation, behavioral shaping, ELISA and RIA, and acquisition and processing of structural MRI scans (T1, FLAIR, DTI)

### **University of California – Los Angeles, Dept. of Psychology**

Los Angeles, CA

Lead Research Associate and Lab Manager

2003-2004

Adviser: Thomas Minor

- Studied the effects of catecholamines and proinflammatory cytokines on inducing cognitive dysfunction and learned helplessness in Sprague-Dawley and Long-Evans rats
- Oversaw all day-to-day aspects of the lab including the rodent colony, equipment maintenance, IACUC protocols, surgeries, euthanization, undergraduate mentorship, etc.
- Techniques included IHC, RT-PCR, cannulation and infusion, perfusion and brain extraction

### **Oberlin College, Dept. of Neuroscience**

Oberlin, OH

McNair Scholar Research Fellow

2001-2002

Adviser: Albert Borroni

- Examined agonists and antagonists of voltage-dependent calcium channels on short-term and long-term memory in positive and negative reinforcement tasks in C57 mice
- Techniques included cannulation and infusion, shuttle-box testing, and behavioral coding

**Harvard University, Dept. of Psychology**

McNair Scholar Research Fellow

Adviser: Stephen Kosslyn

Cambridge, MA

2001

- Evaluated the association between severe myopia and visual imagery accuracy in humans
- Techniques included neuropsychological testing, programming in E\*Prime and C, and statistics

**Oberlin College, Dept. of Neuroscience**

McNair Scholar Research Assistant

Adviser: Michael Loose

Oberlin, OH

2000

- Examined a neural network of Leutinizing Hormone Releasing Hormone release from the arcuate nucleus of the hypothalamus in Sprague-Dawley rats
- Techniques included confocal imaging, IHC, RT-PCR, and cell culture

**RESEARCH GOALS**

---

- 1) Determine how energy metabolism and immune function markers track brain and behavior changes in normal aging and Alzheimer's Disease and Related Dementias (ADRD)
- 2) Find novel immune, metabolism, and neurovascular unit markers with more precise, circumscribed functions, which may better predict or track ADRD-like changes over time than pleiotropic or non-specific markers (e.g., IL-6; HOMA1-IR; homocysteine)
- 3) Examine how classic genetic and disease markers (APOE4; A $\beta$ ; tau) modulate or mediate immune and energy metabolism associations with ADRD-like changes over time

**RESEARCH EXPERTISE**

---

- Brain MRI (volume, WMHs, AG, R2\*, rsfMRI, task fMRI, ASL, DTI/DTI-NODDI, PRESS-MRS)
- Brain PET and SPECT (FDG; PiB; AV45; FTP; DAT; AV-133)
- Integrative systems biology with content expertise in immunity, nutrition, and metabolism
- Biomedical informatics to curate, standardize, and harmonize longitudinal observational data
- Neural data science to determine biomarker, brain, and behavior links with advanced statistics
- "Omics" platforms and targeted genotype-phenotype interactions to elucidate ADRD biology
- Machine learning for linear/non-linear data clustering, reduction, and latent group classification

**HONORS**

---

- **Top 0.58% of 266,559 authors in neurodegenerative diseases (Expertscape)** 2019
- **ISU Early Achievement in Research Award (1 recipient/year)** 2019
- **Publons Global Peer Review Award (top 1%, Neuroscience & Behavior)** 2019
- **Top 1% ESI in Neuroscience and Behavior by total citations** 2018-Present
- **Top 1% ESI in Psychiatry/Psychology by total citations** 2018-Present
- **Top 1% ESI in Immunology by total citations** 2018-Present
- **Alzheimer's Association Howie Dean Award** 2018
- **Leland Wilson Lectureship at University of Northern Iowa** 2017

- Marquee Who's Who Lifetime Achievement Award 2017
- ADA Outstanding Reviewer – Diabetes Care 2016
- Elsevier Outstanding Reviewer - Brain, Behavior, & Immunity (Top 10%) 2015
- Elsevier Outstanding Reviewer - Alzheimer's and Dementia (Top 10%) 2015
- Research Highlighted during Convocation at Iowa State University 2015, 2016
- Elected to Nutritional Sciences Council, Iowa State University 2015
- Interfraternity Council Faculty Recognition Award (24 of 1900 faculty selected) 2015, 2016
- Presidential High Impact Hire, Iowa State University 2015
- **Fellow Award for Research Excellence** (only intramural NIA LNS recipient) 2013
- NIH Summer Mentor Award 2013
- **Nathan Shock New Investigator Award** 2010
- Schwartz Fellow 2009
- International Scholar Laureate (Delegation on Medicine and Science, UK) 2007, 2008
- Psychoneuroimmunology Research Society Training Scholar 2006, 2008, 2011
- Discussant for Wisconsin Emotions Symposium 2008
- Induction into Golden Key Honor Society 2007
- The National Dean's List (top 1% of doctoral students) 2006, 2007
- Induction into The National Scholars Honor Society 2007
- **Ford Foundation Fellow** 2006
- The Chancellor's List 2005, 2006
- Induction into Phi Kappa Phi National Honors Society 2005
- Ford Foundation Fellowship - Honorable Mention 2005
- **Ronald E. McNair Scholar** 2000
- The Dean's List 1998-1999

## FELLOWSHIPS, SCHOLARSHIPS, and SMALL GRANTS

- Society for Nutrition, Education, and Behavior Travel Award 2017
- Full Foreign Travel Grant, Iowa State University 2017
- Alzheimer's Association International Conference – Travel Award 2014, 2016
- National Institutes of Health FARE Travel Award 2014
- Intramural Training Research Fellowship 2012-2014
- Human Brain Mapping – Full Travel Award 2011
- **Post-Doctoral National Research Service Award** 2010-2012
- University of Wisconsin - Madison Institute of Aging Research Grant 2010
- Marian S. Schwartz Fellowship 2009
- Royalty Research Fellowship 2009
- **Pre-Doctoral National Research Service Award** 2007-2008
- **Ford Foundation Fellowship** (top 3% of applicants accepted) 2006-2007, 2008-2010
- **National Science Foundation-AGEP Consortium Grant** 2006-2008
- Roderick Menzies Memorial Scholarship 2006-2009
- Ford Fellow Travel Award 2006, 2007
- Advanced Opportunity Fellowship 2004-2005
- Vilas Award 2004
- Mary C. Siemer Scholarship 2001, 2002
- J.C. Martin Scholarship 2001, 2002
- Kolko Family Scholarship 2001, 2002

- Ronald E. McNair Award 2001
- Mind-Body Training Grant Awardee 2001
- Merit Scholarship Fund 1999-2001
- Opportunity Grant Awardee 1998-1999

## JOURNAL PUBLICATIONS<sup>†</sup>

---

Mean Impact Factor: 7.30 (for 22 publications since becoming faculty)  
 Total Citations: 1538  
 H-Index: 21  
 i10-Index: 27

<sup>†</sup>Top 0.58% of of 266,559 neurodegenerative disease researchers by citation impact (Expertscape)

1. Klinedinst BS<sup>†</sup>, Pappas C<sup>†</sup>, Le S, McLimans K, Wolf T, Plagman A, Russell DW, Wang Q, **Willette AA**. Fluid intelligence, DEXA body composition measurements, and sex-specific immunologic mediation: a longitudinal UK Biobank cohort study. *Brain, Behavior, and Immunity*, in press.  
<sup>†</sup> = Shared first authorship.
2. McLimans KE<sup>†</sup>, Clark BE<sup>†</sup>, Plagman A, Pappas C, Klinedinst B, Anatharam V; Kanthasamy A; **Willette AA**. Is CSF SOD1 a Biomarker of Tau but not Amyloid Induced Neurodegeneration in Alzheimer's Disease? *Antioxidants and Redox Signaling*, 31(8), 572-578.  
<sup>†</sup> = Shared first authorship.  
**Note:** This paper was fast-tracked as an outstanding 'News and Views' article and accepted in its current form by 6 reviewers and the full editorial board.
3. Ambrosini YM, Borcharding D, Seo YJ, Segarra S, Glanemann B, Garden OA, Neuber S, Müller U, Dang V, Borts D, Atherly T, **Willette AA**, Jergens AE, Mochel JP, Allenspach K. The Gut-Brain-Axis in Neurodegenerative Diseases and Relevance of the Canine Model: A Review. *Frontiers in Aging Neuroscience*, in press.
4. McLimans KE, Collazo-Martinez A, Mochel JP, Allenspach K, **Willette AA**. Serum Vitamin B12, and MTRR and Cubilin SNPs Predict Neural Outcomes across the AD Spectrum. *European Journal of Nutrition*, in press.
5. Luo J, Padhi P, Jin H, Anantharam V, Zenitsky G, Wang Q, **Willette AA**, Kanthasamy A, Kanthasamy AG. Utilization of the CRISPR-Cas9 Gene Editing System to Dissect Neuroinflammatory and Neuropharmacological Mechanisms in Parkinson's Disease. *Journal of Neuroimmune Pharmacology*, in press.
6. Plagman A<sup>†</sup>, Hoscheidt SM<sup>†</sup>, McLimans KE, Klinedinst BS, Pappas C, **Willette AA**, for the Alzheimer's Disease Neuroimaging Initiative. Cholecystokinin and Alzheimer's Disease: A Biomarker of Metabolic Function, Neural Integrity, and Cognitive Performance. 2019. *Neurobiology of Aging*, 76, 201-207. <sup>†</sup> = Shared first authorship.
7. Wolf T, Tsenkova V, Ryff C, Davidson R, **Willette AA**. Metabolic Dysfunction and Task-Induced Emotional Stress Reactivity: Neural and Cognitive Correlates in Middle-Aged Adults. 2018. *Psychosomatic Medicine*, 80(5), 452-459.

8. Swanson A, Wolf W, Sitzmann A, **Willette AA**. The modulation of neuroinflammation in Alzheimer's Disease. 2018. *Behavioural Brain Research*, 347, 49-56.
9. McLimans KE, Webb BS, Anantharam V, Kanthasamy A, **Willette AA**, for the Alzheimer's Disease Neuroimaging Initiative. Peripheral versus central index of metabolic dysfunction and associations with clinical and pathological outcomes in Alzheimer's disease. 2017. *Journal of Alzheimer's Disease* 60(4), 1313-1324.
10. **Willette AA**, Webb JL, Lutz MW, Bendlin BB, Wennberg AM, Oh JM, Roses A, Kosciak RL, Hermann BP, Dowling NM, Asthana S, Johnson SC, for the Alzheimer's Disease Neuroimaging Initiative. Family history modifies TOMM40 '523 memory effects in preclinical and AD cohorts. 2017. *Alzheimer's & Dementia* 13(11), 1217-1225.
11. McLimans L†, **Willette AA†**. Autotaxin and Alzheimer's disease: a potential biomarker for brain insulin resistance. 2017. *Journal of Alzheimer's Disease* 56(1), 403-413. † = **Shared first authorship**.
12. Webb JL, **Willette AA**. Aging Modifies the Effect of GCH1 RS11158026 on DAT Uptake and Parkinson's Disease Clinical Severity. 2017. *Neurobiology of Aging* 50, 39-46.
13. Senthilarumugamveiluk M, Anantharam V, Kanthasamy A, **Willette AA**, Ganapathysubramanian B, Nilakanta S. Big Data and Parkinson's disease: Exploration, Analyses and Data Challenges. *51<sup>st</sup> Hawaii International Conference on System Sciences*. 2017.
14. Swanson A†, **Willette AA†**, Alzheimer's Disease Neuroimaging Initiative. Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum. 2016. *Brain, Behavior, and Immunity* 58, 201-208. † = **Shared first authorship**.
15. Webb JL, Wolf TD, Swanson AE, McLimans KE, Klindinst B, Izbicki P, **Willette AA**. Quantitative Secondary Data Analysis: Utilizing Observational Studies for Integrative Neuroscience and Interdisciplinary Work. 2016. *Organizational Research Methods* 10.4135/9781473998100.
16. **Willette AA**, Bendlin BB. Confounders Regarding the Association of Insulin Resistance and Alzheimer Disease-Reply. 2016. *JAMA Neurology* 73(2), 240-241.
17. **Willette AA**, Burns C, Bendlin BB. Insulin Resistance and APOE ε4. 2015. *JAMA Neurology* 72(12), 1536-1537.
18. **Willette AA†**, Bendlin BB†, Birdsill AC, Johnson SC, Christian BT, La Rue A, Hermann BP, Kosciak RL, Jonaitis EM, Sager MA, Asthana S. Insulin resistance predicts lower cerebral glucose utilization in late middle-age. 2015. *JAMA Neurology* 72(9), 1013-20.  
 † = **Shared first authorship**.
  - 4<sup>th</sup> most cited article in JAMA Neurology between 2015-2018.
19. **Willette AA**. Does metabolic syndrome impact cognition and emotion in Alzheimer's disease? 2016. *European Journal of Neurology* 23(2), 237-238.
20. **Willette AA**, Modanlo N, Kapogiannis D, for the Alzheimer's Disease Neuroimaging Initiative. Insulin resistance predicts medial temporal hypermetabolism in MCI conversion to Alzheimer's disease. 2015. *Diabetes* 64(6), 1933-40.

21. **Willette AA**, Johnson SC, Birdsill A, Sager M, Christian B, Baker L, Craft S, Oh J, Statz E, Hermann B, Jonaitis E, Kosciak R, La Rue A, Asthana S, Bendlin B. Insulin resistance predicts brain amyloid deposition in late middle-aged adults. 2015. *Alzheimer's & Dementia* 11(5), 504-510.e1.
22. **Willette AA**, Kapogiannis D. Does the brain shrink as the waist expands? 2015. *Ageing Research Reviews* 20, 86-97.
23. **Willette AA**, Calhoun VD, Egan JM, Kapogiannis D, for the Alzheimer's Disease Neuroimaging Initiative. Prognostic classification of Mild Cognitive Impairment and Alzheimer's disease: MRI independent component analysis. 2014. *Psychiatry Research* 224(2), 81-88.
24. Sridharan A, Bendlin BB, Gallagher C, Oh JM, **Willette AA**, Alexander AL, Kemnitz JW, Colman RJ, Weindruch RH, Johnson SC. Effect of age and calorie restriction on corpus callosal integrity in rhesus macaques: A fiber tractography study. 2014. *Neuroscience Letters* 1508, 1-8.
25. **Willette AA**, Coe CL, Birdsill AC, Bendlin BB, Colman RJ, Alexander AL, Allison DB, Weindruch RH, Johnson SC. Interleukin-8 and Interleukin-10, brain volume and microstructure, and the influence of calorie restriction in old rhesus macaques. 2013. *Age* 35 (6), 2215-2227.
26. Kapogiannis D, Reiter DA, **Willette AA**, Mattson MP. Posteromedial cortex glutamate and GABA predict intrinsic functional connectivity of the default mode network. 2013. *NeuroImage* 64, 112-119.
27. **Willette AA**, Xu G, Johnson SC, Birdsill AC, Jonaitis EM, Sager MA, Hermann BP, La Rue A, Asthana S, Bendlin BB. Insulin resistance, brain atrophy, and cognitive performance in late middle-aged adults. 2013. *Diabetes Care* 36(2), 443-449.
28. Gallagher C, Bell B, Bendlin B, Palotti M, Okonkwo O, Sodhi A, Wong R, Buyan-Dent L, Johnson S, **Willette A**, Harding S, Ninman N, Kastman E, Alexander A. White matter microstructural integrity and executive function in Parkinson's disease. 2013. *Journal of the International Neuropsychological Society* 19(3), 349-354.
29. Sridharan A, Pehar M, Salamat MS, Pugh TD, Bendlin BB, **Willette AA**, Anderson RM, Kemnitz JW, Colman RJ, Weindruch RH, Puglielli L, Johnson SC. Calorie restriction attenuates astrogliosis but not amyloid plaque load in aged rhesus macaques: a preliminary quantitative imaging study. 2013. *Brain Research* 1508, 1-8.
30. Birdsill AC, Carlsson CM, **Willette AA**, Okonkwo OC, Johnson SC, Xu G, Oh JM, Gallagher CL, Kosciak RL, Jonaitis EM, Hermann BP, LaRue A, Rowley HA, Asthana S, Sager MA, Bendlin BB. Low cerebral blood flow is associated with lower memory function in metabolic syndrome. 2013. *Obesity* 21(7), 1313-1320.
31. **Willette AA**, Bendlin BB, Colman RJ, Kastman EK, Field AS, Alexander AL, Sridharan A, Allison DB, Anderson R, Voytko ML, Kemnitz JW, Weindruch RH, Johnson SC. Calorie restriction reduces the influence of glucoregulatory dysfunction on regional brain volume in aged rhesus monkeys. 2012. *Diabetes* 61(5), 1036-1042.
32. Sridharan A, **Willette AA**, Bendlin BB, Alexander AL, Coe CL, Voytko ML, Colman RJ, Kemnitz JW, Weindruch RH, Johnson SC. Brain volumetric and microstructural correlations of executive and motor performance in aged rhesus monkeys. 2012. *Frontiers in Aging Neuroscience* 4, 31.

33. **Willette AA**, Coe CL, Colman RJ, Bendlin BB, Kastman EK, McLaren DG, Field AS, Alexander AL, Allison DB, Weindruch RH, Johnson SC. Calorie restriction reduces psychological stress reactivity and its association with brain volume and microstructure in aged rhesus monkeys. 2012. *Psychoneuroendocrinology* 37(7), 903-916.
34. Bendlin BB, Carlsson CM, Johnson SC, Zetterberg H, Blennow K, **Willette AA**, Okonkwo OC, Sodhi A, Ries ML, Birdsill AC, Alexander AL, Rowley HA, Puglielli L, Asthana S, Sager MA. CSF T-Tau/A $\beta$ 42 predicts white matter microstructure in healthy adults at risk for Alzheimer's disease. 2012. *PLoS One* 7(6), e37720.
35. Bendlin BB, Canu E, **Willette AA**, Kastman EK, McLaren DG, Kosmatka KJ, Xu G, Field AS, Colman RJ, Coe CL, Weindruch RH, Alexander AL, Johnson SC. Effects of aging and calorie restriction on white matter in rhesus macaques. 2011. *Neurobiology of Aging* 32 (12), 2319.e1–2319.e11.
36. **Willette AA**, Lubach GL, Styner M, Knickmeyer R, Short S, Gilmore J, Coe CL. Brain enlargement and increased behavioral and cytokine reactivity in infant monkeys following acute prenatal endotoxemia. 2011. *Behavioural Brain Research* 219(1), 108-115.
37. **Willette AA**, Bendlin BB, McLaren DG, Canu E, Kastman EK, Kosmatka KJ, Xu G, Field AS, Alexander AL, Colman RJ, Weindruch RH, Coe CL, Johnson SC. Age-related changes in neural volume and microstructure associated with interleukin-6 are ameliorated by a calorie-restricted diet in old rhesus monkeys. 2010. *NeuroImage* 51(3), 987-994.
38. **Willette AA**, Gallagher C, Bendlin BB, McLaren DG, Kastman EK, Canu E, Kosmatka KJ, Field AS, Alexander AL, Colman RJ, Voytko ML, Weindruch RH, Coe CL, Johnson SC. Homocysteine, neural atrophy, and the effect of caloric restriction in rhesus monkeys. 2010. *Neurobiology of Aging* 33(4), 670-680.
39. Kastman EK†, **Willette AA**†, Coe CL, Bendlin BB, Kostmatka KJ, McLaren DG, Xu G, Canu E, Field AS, Alexander AL, Voytko ML, Beasley TM, Colman RJ, Weindruch R, Johnson SC. A calorie-restricted diet decreases brain iron accumulation and preserves motor performance in old rhesus monkeys. 2010. *Journal of Neuroscience* 30 (23), 7940-7947.  
† = Shared first authorship.
40. Bendlin BB, Newman LM, Ries ML, Puglielli L, Carlsson CM, Sager MA, Rowley HA, Gallagher CL, **Willette AA**, Alexander AL, Asthana S, Johnson SC. NSAIDs may protect against age-related brain atrophy. 2010. *Frontiers in Aging Neuroscience* 2, 35.
41. **Willette AA**, Lubach GR, Coe CL. Environmental context affects behavioral, leukocyte, cortisol and IL-6 responses to low dose endotoxemia in the rhesus monkey. 2007. *Brain, Behavior, and Immunity* 21(6), 807-815.

## OUTREACH PUBLICATIONS

---

1. **Willette AA**. Alzheimer's disease: a weighty matter. *Words on Wellness*, Iowa State University Extension and Outreach newsletter. December 2015.

2. **Willette AA**, Swanson A. Brain inflammation and outcomes in Alzheimer's. *Today's Geriatric Medicine*. Featured article for October 2015.
3. **Willette AA**. Eating Less, Thinking Better: Less Body Weight Related to Improved Brain and Cognitive Health. Society for Nutrition Education and Behavior, Healthy Aging Division.
4. Webb JL, **Willette AA**. GCH1 gene mutation linked to early onset in Parkinson's disease in Caucasians. *Today's Geriatric Medicine*. In press featured article.

## **SCIENTIFIC MANUSCRIPTS in REVIEW or PREPARATION**

---

1. Ambrosini YM, Borcharding D, Seo YJ, Segarra S, Glanemann B, Garden OA, Neuber S, Muller U, Dang V, Borts D, Atherly T, **Willette AA**, Jergens A, Mochel JP, Allenspach K. "Treatment with Hydrolyzed Diet Supplemented with Prebiotics and Glycosaminoglycans Alters Lipid Metabolism in a Canine Model of Inflammatory Bowel Disease." *Science: Translational Medicine*, in review.
2. Pappas C, **Willette AA**. CSF glucose tracks regional tau accumulation in a Braak stage specific manner via regional amyloid deposition, AD parental family history, and gender among cognitively impaired aged adults. *Alzheimer's & Dementia*, in review.
3. Klinedinst BS, Pappas C, Le ST, Wang Q, Meier N, Lim YL, Lanningham-Foster L, Morris MC, **Willette AA**. Associations of longitudinal lifestyle and socioeconomic factors related to DEXA-quantified body composition in middle to old age: a UK Biobank study. *Diabetes*, in revision.
4. Le ST, Cerna J, Klinedinst BS, Frizell B, **Willette AA**. Mitochondrial Bioenergetics and Alzheimer's Disease: Pyruvate Kinase and Associations with Neural and Cognitive Outcomes. *Neurobiology of Aging*, in revision.
5. Le ST, Klinedinst SB, Pappas C, Larsen B, Wang Q, Wang Y, Yu S, Wang L, Allenspach-Jorn K, Mochel JP, Bennett D, **Willette AA**. Age, diet, and genetic AD risk factors that track fluid intelligence changes over 6 Years. *The Journal of Gerontology, Series B: Psychological Sciences*, in revision.
6. Klinedinst BS, Le ST, Pappas C, Meier N, Lim YL, Lanningham-Foster L, Morris MC, Bennett D, **Willette AA**. Red wine wins: contrasting alcohol types and longitudinal changes in cardiometabolic factors and cognitive performance. In preparation.
7. Klinedinst BS, Wolf TD, Obhi HK, McLimans KE, Cerna J, Lim Y, Guinness AA, Villines J, Kanthasamy AG, Anantharam V, **Willette AA**. Insulin Resistance and Longitudinal Variation in Brain Atrophy and CSF biomarkers in Alzheimer's Disease. In preparation.
8. Hoscheidt SM, Nicholas CR, **Willette AA**, Ly M, Zetterberg H, Blennow K, Krause R, Gleason CE, Atwood CS, Carlsson CM, Asthana S, Johnson SC, Bendlin BB. Stressful life events are associated with insulin resistance, Alzheimer disease pathology, and hypometabolism in memory regions in APOE  $\epsilon$ 4 carriers. In preparation.
9. Plagman AK, Pappas CA, Mochel J, Allenspach-Jorn K, Kanthasamy A, Anantharam V, Wang L, **Willette AA**. Fasting glucose, genetic risk for Alzheimer's disease, and neural myelination patterns. In preparation.

10. **Willette AA**, Klinedinst BS, Cerna J, Collazo-Martinez A, Dantzer R. Neuroinflammation, Depression and Alzheimer's Disease: Insights from the Kynurenine Pathway. In preparation.
11. Rokad D, Harischandra DS, Lawana V, Sarkar S, Luo D, Jin H, Anantharam V, Kanthasamy A, **Willette AA**, Kanthasamy AG. Manganese Exposure Enhances the Release of Misfolded  $\alpha$ -Synuclein via Exosomes by Impairing Endosomal Trafficking Machinery. In preparation.
12. McLimans KE, Luo D, Webb JL, Izbicki P, Stegemoller E, Anantharam V, Kanthasamy A, **Willette AA**. Ameliorative effects of IGF-1 on dopamine uptake are dysregulated in Parkinson's disease and rodent models. In preparation.

## **TALKS and POSTERS (FIRST and LAST AUTHOR ONLY)**

---

1. Klinedinst BS, Pappas C, Wang Q, Shirtcliff E, **Willette AA**. Rise, fall, or maintain: latent cognitive aging trajectories and neurobiological associations. 2020. Society for Brain Mapping and Therapeutics, Los Angeles, CA. **Talk**.
2. Pappas C, Klinedinst B, Le S, Wang Q, Willette AA. The impact of glucose levels and sex on brain volume and cognition. 2020. Cognitive Aging Conference, Atlanta, GA. **Poster**.
3. Klinedinst BS, Pappas C, Shirtcliff E, **Willette AA**. Die Young as Late as Possible Project – Trajectory Analysis to Identify Super-Agers. 2020. Cognitive Aging Conference, Atlanta, GA. **Poster**.
4. **Willette AA**, Pappas C, Klinedinst B, McLimans KE, Wolf T, Le S, Wang Q, Anantharam V, Kanthasamy A. Hills, Valleys, and Hyperglycemia: the influence of AD genetic risk in mid- and late-life on cognition, affect, and brain outcomes. 2019. Society for Neuroscience Satellite Symposium, Ames, IA. **Talk**.
5. **Willette AA**. Biomedical Informatics: Big Data and Applied Domain Expertise for Neurodegenerative Disorders. 2019. Bioinformatics and Computational Biology retreat, Ames, IA. **Talk**.
6. **Willette AA**, Pappas C, Klinedinst B, McLimans KE, Wolf T, Le S, Wang Q, Anantharam V, Kanthasamy A. Hills, valleys, and hyperglycemia: The influence of AD genetic risk in mid- and late-life on serum glucose and neural network associations. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Talk and Poster**.
7. Klinedinst BS, Pappas C, Le S, Wang Q, Wang Y, Yu S, Wang L, Allenspach-Jorn K, Mochel JP, **Willette AA**. Brain, behavior, and immunity: sex-specific leukocyte mediation of visceral fat and fluid intelligence changes in older adults. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Talk**.
8. McLimans KE, Crank K, Pappas C, Plagman AK, Wolf T, Klinedinst B, Le S, Wang Q, Kanthasamy A, Anantharam V, **Willette AA**. Associations of CSF Superoxide Dismutase 1 with cognitive, neural, and CSF biomarkers across the Alzheimer's Disease spectrum. **Talk and Poster**.

9. **Willette AA**, Pappas C, Klinedinst B, McLimans KE, Wolf T, Le S, Wang Q, Anantharam V, Kanthasamy A. Type 2 Diabetes, AD genetic risk, and age-related changes in affect, cognition, and task fMRI activity. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
10. Plagman AK, Pappas C, McLimans KE, Klinedinst BS, Le ST, Wolf T, Wang Q, **Willette AA**. Fasting glucose and white matter integrity: beneficial followed by detrimental associations over time in preclinical AD and along the AD spectrum. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
11. Pappas C, McLimans KE, Klinedinst B, Wolf T, Plagman AK, Le S, Anatharam V, Kanthasamy A, **Willette AA**. CSF Glucose Tracks Braak Stage Tau Deposition. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
12. Le ST, Klinedinst KS, Pappas C, Cerna J, Frizell B, Anatharam V, Kanthasamy A, **Willette AA**. Mitochondrial bioenergetics and Alzheimer's disease: pyruvate kinase and associations with neural and cognitive outcomes. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
13. Le ST, Klinedinst K, Pappas C, **Willette AA**. Dietary and genetic factors that track fluid intelligence over 6 years. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
14. McLimans KE, Crank K, Pappas C, Plagman AK, Wolf T, Klinedinst B, Le S, Wang Q, Kanthasamy A, Anantharam V, **Willette AA**. Biotinidase as a novel biomarker of neural changes and AD CSF biomarkers across the Alzheimer's Disease spectrum. 2019. Alzheimer's Association International Conference, Los Angeles, CA. **Poster**.
15. Olcott A, Pappas C, Le S, Klinedinst B, **Willette AA**. Associations between long-term fish consumption and regional brain volumes in cognitively unimpaired aged adults. Cyclone Scholars Research Symposium, Ames, IA. **Talk**.
16. **Willette AA**, Pappas C, Klinedinst B, McLimans K, Plagman A, Wang Q. Metabolic Dysfunction, Negative Affect, and task functional MRI: Normal Aging, Preclinical AD, and AD Spectrum. 2019. Society for Brain Mapping and Therapeutics, Los Angeles, CA. **Talk**.
17. **Willette AA**, Pappas C, Klinedinst B, McLimans K, Plagman A, Wang Q. Glucose regulation, neural networks, and cognition: Normal Aging, Preclinical AD, and AD Spectrum. 2019. Society for Brain Mapping and Therapeutics, Los Angeles, CA. **Talk**.
18. **Willette AA**. Metabolic dysfunction and fMRI brain activity: neural correlates of emotion regulation. National Institute on Aging, Director's Regional Meeting. 2018. University of Kansas Medical Center, Kansas City, KS. **Talk**.
19. Klinedinst BS, Pappas C, Le S, Hoscheidt SM, Russell D, **Willette AA**. Systemic inflammation and the body's composition of lean muscle and adipose tissue exert strong influence over long-term fluid intelligence in 4,687 middle-aged adults. 2018. Dallas Aging and Cognition Conference, Dallas, TX. **Talk**.

20. Le S, Klinedinst BS, **Willette AA**. A Longitudinal Model of Diet Impacting Fluid Intelligence. Dallas Aging and Cognition Conference, Dallas, TX. **Talk**.
21. Klinedinst BS, Hoscheidt SM, Wolf TD, McLimans KE, Cerna J, Lim YL, Guinness AA, Villines J, Kanthasamy AG, Anantharam V, **Willette AA**. Insulin Resistance and Longitudinal Variation in Brain Atrophy and CSF biomarkers in Alzheimer's Disease. 2018. Alzheimer's Association International Conference, Chicago, IL. **Talk**.
22. McLimans KE, **Willette AA**. Diacyl Phosphatidylcholines Associated with Decreased Gray Matter in the Default Mode Network, Worse Cognition, and Increased Abeta-42 Tissue Deposition across the AD Spectrum. 2018. Alzheimer's Association International Conference, Chicago, IL. **Talk and poster**.
23. Plagman A, McLimans KE, Pappas C, Hoscheidt SM, Klinedinst BS, **Willette AA**. Cholecystokinin Increases Gray Matter and Glucose Uptake in the Brain Leading to Increased Cognitive Function, but Is Correlated with an Accumulation of Tau and Ptau Formations. 2018. Alzheimer's Association International Conference. **Talk and Poster**.
24. Le S, Klinedinst B, **Willette AA**. Relationship between immunological biomarkers and cerebral atrophy across the AD spectrum. 2018. Alzheimer's Association International Conference. **Poster**.
25. McLimans KE, Collazo-Martinez A, Hoscheidt SM, **Willette AA**. Serum Vitamin B12 and 5-Methyltetrahydrofolate-Homocysteine Methyltransferase Reductase SNPs Predict Grey Matter and Glucose Metabolism across the AD Spectrum. 2018. Alzheimer's Association International Conference. **Talk and poster**.
26. Klinedinst BS, Hoscheidt SM, **Willette AA**. Systemic inflammation mediates associations between DEXA-quantified body composition and fluid intelligence in 4,666 middle-aged adults. 2018. Psychoneuroimmunology Research Society, Miami, FL. **Talk and poster**.
27. Klinedinst BS, Collazo-Martinez A, Dantzer R, **Willette AA**. Kynurenine pathway metabolites are longitudinally related to brain atrophy, cognitive decline, and negative affect across the Alzheimer's disease spectrum. 2018. Psychoneuroimmunology Research Society, Miami, FL. **Talk and poster**.
28. **Willette AA**. Insulin resistance and brain pathology in Alzheimer's disease. 2018. Society for Brain Mapping and Therapeutics, Los Angeles, CA. **Talk**.
29. **Willette AA**. Obesity and the Brain: Implications and Potential Solutions for Children, Middle-Aged Adults, and Older Adults. 2018. Iowa Department of Public Health advisory committee. **Talk**.
30. Lim YL, McLimans KE, Klinedinst BS, **Willette AA**. The effect of vitamin B12 deficiency on cognitive impairment. 2017. National Conference on Undergraduate Research, Memphis, TN. **Poster**.
31. Collazo-Martinez A, **Willette AA**. RAS guanyl releasing protein 4 polymorphisms and brain outcomes across the Alzheimer's spectrum. 2017. Emerging Researchers National Conference in STEM. **Poster**.
32. **Willette AA**. The metabolic hypothesis of Alzheimer's disease. Iowa State Governor's Board Annual Business Meeting. 2017. **Keynote Presentation**.

33. **Willette AA**. Nutritional parameters and dysregulated processes related to Alzheimer's disease and related dementias. 2017. Department of Chemistry and Biochemistry, University of Northern Iowa. **Talk**.
34. **Willette AA**. Obesity and the Brain: Implications for Alzheimer's Disease, Related Dementias, and Novel Disease Therapies. 2017. Leland Wilson Lectureship at University of Northern Iowa. **Keynote Presentation**.
35. **Willette AA**. Insulin resistance and brain pathology in Alzheimer's disease. 2017. Society for Neuroscience satellite meeting, Ames, IA. **Keynote Presentation**.
36. **Willette AA**, Webb JL, Dantzer R. Neuroinflammation, Depression and Alzheimer's Disease: Insights from the Kynurenine Pathway. 2017. Alzheimer's Association International Conference, London, UK. **Talk**.
37. Klinedinst BS, Maitra R, **Willette AA**. Method of Multivariate Time-Derivatives: Modeling Neural Degeneration and its Etiologies. 2017. Alzheimer's Association International Conference, London, UK. **Poster**.
38. Webb JL, Stitz K, Collazo-Martinez A, **Willette AA**. Neuropeptide YY Plasma Concentrations in Alzheimer's Disease. 2017. Alzheimer's Association International Conference, London, UK. **Talk**.
39. McLimans KE, Webb JL, **Willette AA**. Peripheral versus Central Index of Metabolic Dysfunction and Associations with Clinical and Pathological Outcomes in Alzheimer's Disease. 2017. Alzheimer's Association International Conference, London, UK. **Poster**.
40. **Willette AA**, Webb JL, Lutz MW, Bendlin BB, Wennberg AM, Oh JM, Roses A, Kosciak RL, Hermann BP, Dowling NM, Asthana S, Johnson SC. AD Family History Modulates Effects of TOMM40 '523 Poly-T on MTL Atrophy and Hypometabolism in Preclinical and AD Cohorts. 2017. Alzheimer's Association International Conference, London, UK. **Poster**.
41. Webb JL, **Willette AA**. SIRT1 Polymorphisms Modify Regional Grey Matter, Cognition, and White Matter Integrity. 2017. Alzheimer's Association International Conference, London, UK. **Talk**.
42. **Willette AA**. Obesity, Diabetes, and the Aging Brain. 2017. ISU Board of Governors Annual Business Meeting. **Keynote Presentation**.
43. Wolf T, **Willette AA**. The Relationship between Insulin Resistance, Antioxidants, and Eye Blink Startle Reflex during International Affective Picture System Presentation. Experimental Biology 2017. **Poster**.
44. Webb JL, Dantzer R, **Willette AA**. 2017. Neuroinflammation, depression and Alzheimer's disease: Insights from the Kynurenine pathway. Psychoneuroimmunology Research Society, Galveston, Tx. **Talk and Poster**.
45. Webb JL, **Willette AA**. Genetic Variation in Sirtuins and Associations with Cognitive and Neural Deficits across the Alzheimer's Spectrum. 2017. EuroSciCon: Advancing Alzheimer's Research: Characterisation, Diagnosis & Treatment. **Talk**.

46. **Willette AA.** Update on research progress in the IBIS laboratory. 2017. College of Human Sciences Dean Advisory Board. **Talk.**
47. **Willette AA.** The role of nutrition and nutritional deficiencies in Alzheimer's related cognitive decline. 2017. Society for Nutrition Education and Behavior 50th Annual Conference. **Keynote Presentation.**
48. **Willette AA.** Genes and Alzheimer's Disease: Emerging Roles of Metabolic Function On Cognitive and Neurological Decline. 2017. Rush Alzheimer's Disease Research Center, neuroepidemiology series. **Talk.**
49. **Willette AA.** The metabolic hypothesis of Alzheimer's disease. 2017. ISU Faculty Research Day. **Talk.**
50. Collazo-Martinez, A; Swanson, A; **Willette, AA.** 2017. Leptin: A Key Regulator in Alzheimer's Disease. Annual Biomedical Research Conference for Minority Students. **Poster.**
51. **Willette AA.** Alzheimer's disease: Use it or Lose it! 2016. Golden Kiwanis of Ames, Iowa. **Talk.**
52. **Willette AA.** Pre-Diabetes and Alzheimer's disease. 2016. Alzheimer's Federation, Iowa State University. **Talk.**
53. **Willette AA.** Dysmetabolism, Bioenergetics, and Alzheimer's Disease. 2016. Kansas University Alzheimer's Disease Center, Kansas City, KS. **Talk.**
54. **Willette AA.** The role of metabolic dysfunction in Mild Cognitive Impairment and Alzheimer's disease. 2016. Department of Neurology, University of Iowa. **Talk.**
55. Klinedinst BS, Webb JL, Cerna J, **Willette AA.** Insulin resistance and longitudinal associations with temporal atrophy across the Alzheimer's disease spectrum. **Poster.**
56. McLimans KE, **Willette AA.** Alzheimer's Disease Outcomes and Altered Glucose Metabolism Linked with CSF Biomarker Autotaxin. 2016. Alzheimer's Association International Conference. **Poster.**
57. Webb JL, Lutz M, Wennberg AM, **Willette AA.** Alzheimer's disease family history modifies TOMM40 effects on vascular risk factors and neurovascular pathology. 2016. Alzheimer's Association International Conference. **Poster.**
58. Wolf T, **Willette AA.** Metabolic Dysfunction and Task-Induced Emotional Stress Reactivity: Neural and Cognitive Correlates in 311 Middle-Aged Adults. Psychoneuroimmunology Research Society 2016, Brighton, UK. **Talk.**
59. Swanson A; **Willette AA.** Neuronal Pentraxin 2 Predicts Medial Temporal Atrophy and Memory Decline across the Alzheimer's Disease Spectrum. 2016. Psychoneuroimmunology Research Society, Brighton, UK. **Poster.**
60. Obhi HK; Webb JL; Klinedinst B; Margrett J; **Willette AA.** Neuropeptides predict cognitive decline across the Alzheimer's Spectrum. 2016. 21<sup>st</sup> IAGG World Congress of Gerontology and Geriatrics, San Francisco, CA. **Poster.**

61. McLimans, KL; **Willette AA**. Novel CSF Biomarker of Metabolic Dysfunction Predicts AD-like Associations across the Alzheimer's Spectrum. 2016. Experimental Biology. **Poster**.
62. Webb JL; **Willette AA**. Genetic Haplotypes and Family History of Alzheimer's Disease Modify Homocysteine and Influence Neurovascular Pathology. 2016. Experimental Biology. **Poster**.
63. Swanson A; **Willette AA**. Neuronal Pentraxin 2 Predicts Medial Temporal Atrophy and Memory Decline across the Alzheimer's Disease Spectrum. 2016. Experimental Biology. **Poster**.
64. Wolf T; **Willette AA**. Insulin Resistance, Resting EEG Alpha Wave Asymmetry, and Eye Blink Startle Reflex during International Affective Picture System Presentation. 2016. Experimental Biology. **Poster**.
65. **Willette AA**. Obesity, Insulin Resistance, and Alzheimer's Disease. 2016. Alzheimer's Association Reason to Hope Luncheon, Cedar Falls, IA. **Talk**.
66. **Willette AA**. 3T MRI Scanner at Iowa State: An Opportunity to Collaborate. 2015. University of Iowa Carver School of Medicine Research Symposium, Iowa City, IA. **Talk**.
67. **Willette AA**, Mullins R, Mustapic Maja, Eitan E, Mattson M, Goetzl E, Kapogiannis D. Biomarkers of brain insulin resistance and neuroimaging correlates in early Alzheimer's disease. 2015. Alzheimer's Association International Conference, Washington, D.C. **Talk and poster**.
68. **Willette AA**. Novel inflammatory CSF biomarkers strongly predict medial temporal atrophy and cognitive decline in Alzheimer's disease. 2015. Psychoneuroimmunology Research Society. Seattle, Washington. **Talk and poster**.
69. **Willette AA**, Kapogiannis D. Insulin resistance, FDG-PET uptake, and conversion to Alzheimer's disease. 2014. Society for Neuroscience. Washington, D.C. **Talk**.
70. **Willette AA**, Mattson MP, Modanlo N, Kapogiannis D. Insulin resistance predicts glucose uptake in Mild Cognitive Impairment and Alzheimer's disease. 2014. Alzheimer's Association International Conference, Copenhagen, Denmark. **Talk**.
71. **Willette AA**, Mattson MP, Modanlo N, Kapogiannis D. Insulin resistance predicts a shift to increased brain glucose uptake over two years in MCI converters and early AD patients. 2013. Society for Neuroscience Regional Event, University of Maryland - Baltimore, Baltimore, MD. **Poster**.
72. **Willette AA**, Calhoun VC, Egan J, Kapogiannis D. Multi-modal prognostic classification of AD diagnostic categories: MRI independent component analysis and other biomarkers. 2013. National Institutes of Health Research Festival, Baltimore, MD. **Talk**.
73. **Willette AA**, Reiter DA, Kapogiannis D. Precuneus glucose is predicted by GABA and glutamate. 2012. National Institutes of Health Research Festival, Bethesda, MD. **Talk**.
74. **Willette AA**, Bendlin BB, Colman RJ, Kastman EK, Alexander AL, Sridharan A, Allison DB, Anderson R, Voytko ML, Kemnitz JW, Weindruch RH, Johnson SC. Calorie restriction abrogates the influence of glucoregulatory dysfunction on brain volume in aged rhesus monkeys. 2011. Psychoneuroimmunology Research Society, Chicago, IL. **Talk**.

75. **Willette AA**, Xu G, Kastman EK, Jonaitis E, Koscik R, La Rue A, Hermann B, Johnson SC, Sager MA, Bendlin BB. Insulin resistance impacts brain and is modulated by TOMM40 in middle-aged adults. 2011. Human Brain Mapping, Quebec, QC Canada. **Talk.**
76. **Willette AA**, Bendlin BB, Sodhi A, Kastman EK, McLaren DG, Kosmatka KJ, Xu G, Coe CL, Johnson SC. Different inflammatory mechanisms in aged rhesus monkeys mediate cortical and hippocampal atrophy, induction of psychological stress reactivity, and are jointly ameliorated by calorie restriction. 2010. Society for Neuroscience, Chicago, IL. **Poster.**
77. **Willette AA**, Coe CL, Colman RJ, Bendlin BB, Kastman EK, Canu E, McLaren DG, Kosmatka KJ, Xu G, Field AS, Alexander AL, Voytko M, Weindruch RH, Johnson SC. Caloric restriction reduces stress reactivity in rhesus monkeys and atrophy in related regions. 2009. Society for Neuroscience, Chicago, IL. **Poster.**
78. **Willette AA**, McLaren DG, Bendlin BB, Kastman E, Canu E, Coe CL, Johnson SC. Associations of systemic Interleukin-6 on age-induced neural atrophy and its mitigation by caloric restriction in rhesus monkeys. 2009. Psychoneuroimmunology Research Society, Breckenridge, CO. **Talk.**
79. **Willette AA**, Lubach GR, Styner M, Coe CL, Gilmore J. Prenatal endotoxin exposure: inflammatory induction is associated with neural correlates of stress reactivity. 2008. Psychoneuroimmunology Research Society, Madison, WI. **Talk.**
80. **Willette AA**, Lubach GR, Coe CL. Prenatal endotoxin exposure: interleukin-6 consistently predicts behavioral and HPA axis activity during stress. 2008. American Psychological Science Society, Chicago, IL. **Poster.**
81. **Willette AA**, Lubach GR, Styner M, Short S, Coe CL, Gilmore J. Prenatal administration of low-dose endotoxin: behavioral, physiological, and neural sequelae. 2007. National Academy of Sciences Conference, Irvine, CA. **Talk.**
82. **Willette AA**, Lubach GR, Short S, Coe CL. Low dose endotoxin sensitizes the HPA axis in rhesus monkey offspring. 2007. International Society for Psychoneuroendocrinology, Madison, WI. **Talk.**
83. **Willette AA**, Coe CL. Prenatal perturbation and developmental sequelae in non-human primates: preliminary behavioral results. 2006. National Academy of Sciences Conference, Washington, D.C. **Talk.**
84. **Willette AA**, Lubach GL, Coe CL. Environmental context affects behavioral, leukocyte, cortisol and IL-6 responses to low dose endotoxemia in the rhesus monkey. 2006. Society for Neuroscience, Atlanta, GA. **Poster.**
85. **Willette AA**, Lubach GL, Coe CL. Low dose endotoxemia in the rhesus macaque: stressors differentially change behavioral, immunologic, inflammatory, and cortisol sequelae in *macaca mulatta*. 2006. 13<sup>th</sup> Annual Psychoneuroimmunology Research Society, Miami, FL. **Talk.**
86. **Willette AA**, Lubach GL, Coe CL. Environmental stressors differentially affect low-grade inflammation in rhesus monkeys. 2<sup>nd</sup> Annual Hertz Poster Session Symposium. 2006. University of Wisconsin-Madison. **Poster.**

87. **Willette AA**, Coe CL. Immunology and behavior: bacterial challenge induces affiliation in the rhesus monkey. 20<sup>th</sup> Annual Psychology Department Symposium. 2005. University of Wisconsin-Madison. **Talk.**
88. **Willette AA**, Lopez C, Minor RT. Paradoxical effects of adenosine agonists and antagonists in the Learned Helplessness paradigm. 2002. Society for Neuroscience Conference, New Orleans, LA. **Poster.**
89. **Willette AA**, Walsh P, Thompson WL, Kosslyn SM. Myopia and misperception: visual imagery may be adversely affected by nearsightedness. 2001. 10<sup>th</sup> Annual Ronald E. McNair Scholars Research Conference and Graduate Student Fair, Delavan, WI. **Talk.**
90. **Willette AA**, Walsh P, Thompson WL, Kosslyn SM. Severe myopia may induce cognitive deficits in numeric and locational visual imagery discrimination. 2001. McNair, Mellon, and Science Scholar Conference, Oberlin, OH. **Talk.**
91. **Willette AA**, Ellinger Z, Philips A, Loose M. Neural underpinnings of GNRH release from the hypothalamus. 2000. McNair, Mellon, and Science Scholar Conference, Oberlin, OH. **Talk.**
92. **Willette AA**, Ellinger Z, Philips A, Loose M. LHRH release from arcuate nucleus: a neural network schema. 2000. Neuroscience Poster Fair, Oberlin, OH. **Poster.** Alzheimer's Association Research Grant program.

## FEDERAL RESEARCH GRANTS – FUNDED

---

Total Funding Awarded: \$1,001,197

**Graduate Research Fellowship, National Science Foundation (1000220862).** “Mapping the Genetic Architecture of the Default Mode Network”. 09/01/2017-08/31/2020.

Role: Co-Principal Investigator

Amount: \$138,000

Summary: Dr. Willette is the training grant sponsor for this project to support a Ph.D. student. This project focuses on how genotypic variation in metabolism genes are related to neural network strength in the Default Mode Network, a neural network strongly impacted in Alzheimer's disease. Dr. Willette generated the idea for this training grant, drafted the training plan, wrote the Intellectual Merit and Broader Impacts sections, and edited all documents.

**K99/R00 Pathway to Independence Career Award, National Institute on Aging (AG047282).**

“Insulin Resistance, Biomarkers of Brain Function, and Intermittent Calorie Restriction”. July 2015 - December 2020.

Role: Principal Investigator

Amount: \$881,730

Summary: The K99 project examined the impact of intermittent calorie restriction (5 days off, 2 days of 500 kCal) on body weight, brain structure, and neurometabolite concentrations in 55-70 year old healthy adults. The study was funded by NIA AG000975-05. The R00 focuses on similar outcomes but in adults (70-90y) with Mild Cognitive Impairment due to Alzheimer's disease, a precursor state often leading to Alzheimer's. Dr. Willette conceived of and wrote the training grant.

**National Institute on Aging, Internal Grant (AG000975-05).** “Intermittent Calorie Restriction, Insulin Resistance, and Biomarkers of Brain Function”. May 2016-April 2018.

Role: Co-Principal Investigator

Amount: \$173,000

Summary: This project examined the impact of intermittent calorie restriction (5 days off, 2 days of 500 kCal) on body weight, endocrine function, and insulin resistance in 55-70 year old healthy adults. Dr. Mark Mattson, the PI, acquired funding through the intramural National Institute on Aging program.

**National Institute on Aging, Internal Grant** (1 ZIA AG000966-07). “Brain structure, chemistry and function investigations in aging using MRI/MRS”. May 2013-December 2015.

Role: Co-Investigator

Amount: \$185,000

Summary: This project studied how concentrations of excitatory and inhibitory neurotransmitters in the brain were related to relative degree of activity in resting neural networks. Dr. Mark Mattson, the PI, acquired competitive funding through the intramural National Institute on Aging program.

## FEDERAL RESEARCH GRANTS – IN REVIEW OR IN REVISION

Total Potential Funding: \$12,441,395

**National Institute on Aging (Pending)**. “Novel Epigenomic Mechanism of Susceptibility in Environmental Chemical Exposure.”

Role: Co-Investigator

Amount: \$1,872,726

Status: In Review

Summary: This 5-year project would examine individual differences in epigenetic histone acetylation, degree of heavy metal exposure among workers with daily work exposure, and development of Parkinson’s disease or PD-like changes in motor behavior, cognition, and dopamine uptake.

**National Science Foundation** (7994154). “Ultrasound Functional Brain Imaging and Stimulation.”

Role: Co-Principal Investigator

Amount: \$386,405

Status: In Review

Summary: This 3-year project would develop focused ultrasound as a novel method of simultaneously imaging

brain function and structure, as well as neural excitation via a 250KHz transducer. Experiments consist of simulation data to develop functional imaging of brain activity, detecting brain activity following executive function tasks using ultrasound and comparing it to ASL-calibrated fMRI, and simultaneously stimulating and imaging the brain in anaesthetized sheep.

**Parent R01, National Institute of Neurological Disorders and Stroke**. “Evaluation of Rationale Based Progression Biomarkers for Parkinson’s Disease Dementia.”

Role: Co-Investigator

Amount: \$3,828,906

Status: In Review

Summary: This 5-year project would examine the utility of exosomal alpha-synuclein and tau in sub-mandibular levels of Parkinson’s disease patients with or without Dementia, as well as healthy controls, and correlate levels with multimodal MRI, histopathology, and clinical outcomes.

**Parent R01, National Institute on Aging (AG062244).** “The Neuroimaging, Glucose Homeostasis, and Alzheimer’s Disease (NIGHMAD) Consortium: Leveraging Genetic, Metabolic, and Disease Markers to Track Neurological Changes in Midlife and Late-Life.”

Role: Principal Investigator

Amount: \$3,613,663

Status: In Revision

Summary: This 5-year project would determine how hyperglycemia and insulin resistance influence the brain in middle-aged, genetically at-risk asymptomatic adults and aged adults with amyloid, tau, or mitochondrial deficit burdens. This study would use data from ADNI, UK Biobank, CBAS, MAS, and non-UDS data from ADRCs at University of Kansas, University of Wisconsin – Madison, and Wake Forest University.”

**Major Research Infrastructure Equipment Acquisition Grant, National Science Foundation.**

“NSF MRI: 3T MRI Scanner at Iowa State.”

Role: Principal Investigator

Amount: \$2,739,695

Status: In Revision

Summary: The goal of this project was to acquire a modern 3T MRI scanner 100% dedicated to doing research. Dr. Willette originally spearheaded and led this project in 2015, encompassing 75+ researchers across 3 universities. He wrote 85% of the grant, edited the other 15%, worked with the ISU VPR and consulting services to edit the grant, met and worked with MRI company representatives on estimated bids, and carried out all other activities leading to submission. He has since re-worked the grant over the years for resubmission. Resubmission is pending additional startup capital for a new facility to house the unit.

**NIH R21, National Institute on Aging (AG060333).** “The role of Sirtuins in normal and AD-related brain atrophy and cognitive decline.”

Role: Principal Investigator

Amount: \$395,595

Status: In Revision for Cycle 1 2020

Summary: This project would focus on how genetic variation in the Sirtuin genes is related to Alzheimer’s disease related changes in brain and memory. Additional preliminary data is being collected through an Alzheimer’s Association grant before this grant is resubmitted.

## **FOUNDATION and INTERNAL GRANTS – FUNDED**

---

**Total Funding Awarded: \$810,003**

**College of Human Sciences Intramural Collaborative Seed Grant Program, Iowa State University.** “The impact of TOMM40 RS’650 genotype on the hippocampus in people at risk for Alzheimer’s disease and rat hippocampal neurons.” May 2019-May 2021.

Role: Co-Principal Investigator

Amount: \$25,000

Summary: This project focuses on a TOMM40 Single Nucleotide Polymorphism, RS’650, that has consistently been related to increased risk for Alzheimer’s disease and related brain pathology. We would expand on our preliminary data by looking at middle-aged, cognitively normal adults and seeing if RS’650 was related to Alzheimer’s-like decline in cognition and increased brain pathology. Simultaneously, an Adjunct Assistant Professor in the lab, Dr. Qian Wang (PI) would transfect rat

hippocampal neurons to overexpress the RS'650 minor allele, in order to model structural and physiological changes that may be happening in humans.

**Alzheimer's Association Research Grant to Promote Diversity, Alzheimer's Association (AARGD-17-529552).** "Genetic Variation in Sirtuins and Associations with Memory & Brain Atrophy."  
September 2017-August 2020

Role: Principal Investigator

Amount: \$150,000

Summary: This project examines how human genetic variation in the 7 Sirtuin genes is related to less brain volume in the hippocampus, an area of the brain that generates new memories of facts and events, and memory performance. A critical component of the grant is to enhance inclusion of undergraduate and graduate students of diverse background, as well as Dr. Willette who is also of diverse background. Dr. Willette conceived the project, wrote the grant, revised the grant, and edited all documents. This grant is used to fund a post-doc, Dr. Colleen Pappas.

**Glenn/American Federation for Alzheimer's Research.** "Genetic regulation of sirtuins on neuronal structures." May 2017-November-2017

Role: Principal Investigator

Amount: \$5,000

Summary: This seed grant facilitated acquiring previously acquired data in aged humans, to examine genetic variation in the 7 Sirtuin genes and associations with less brain volume in memory-generated areas and memory performance. Dr. Willette initiated the idea and co-wrote the grant with a Ph.D. student in his lab.

**Iowa State University, College of Human Sciences Collaborative Seed Grant.** "The role of genotypic variation in sirtuins in normal aging and Alzheimer's disease."

Role: Principal Investigator

Amount: \$25,000

Summary: This seed grant focused on how metabolism-related genes, Sirtuins, may be important for maintaining brain health in normal aging and Alzheimer's disease. Dr. Willette conceived of and wrote the grant.

**Iowa State University, Presidential Initiative for Interdisciplinary Research.** "Bioinformatics and data analytics of neurodegenerative disease databases."

October 2017-October 2019

Role: Co-Principal Investigator

Amount: \$40,000

Summary: This project focuses on next-generation algorithms to effectively parse and curate hundreds of data vectors across hundreds to tens of thousands of subjects. Once curated, visualization tools are developed to help guide potential data analyses, or for visually examining the relative contributions of various data vectors to an outcome of interest.

**Iowa State University, Presidential Initiative for Interdisciplinary Research.** "The role of IGF-1 in preserving neural function and behavioral output in Parkinson's disease and Alzheimer's disease."

October 2016-October 2019.

Role: Principal Investigator

Amount: \$60,003

Summary: This project focuses on how insulin signaling in Parkinson's disease patients failed to regulate dopamine, but in normal aging brains was a key factor. This led to a 3-year project, in collaboration with Dr. Anumantha Kanthasamy, Chair of Biomedical Sciences at ISU, to see if human

findings were replicated in animal models of Parkinson's disease. Similar work was extended to Alzheimer's disease. Dr. Willette conceived of and wrote the grant.

**Iowa State University, Presidential Initiative for Interdisciplinary Research.** "Pilot study to evaluate aggregated  $\alpha$ Syn in Serum Exosomes as Potential Biomarker for Parkinson's Disease (PD)." October 2016-October 2017.

Role: Co-Principal Investigator

Amount: \$25,000

Summary: This project examined how a toxic protein, alpha-synuclein, is excreted from cells in Parkinson's disease and impacts the brain. Dr. Willette refined part of the proposal related to looking at neuroimaging outcomes in Parkinson's disease patients.

**Iowa State University, Presidential Initiative for Interdisciplinary Research.** "CNS Big Data Initiative." November 2016-November 2019.

Role: Co-Principal Investigator

Amount: \$450,000

Summary: This grant focuses on a biomarker and clinical trial discovery pipeline for identifying new targets in neurological disorders, particularly Alzheimer's and Parkinson's disease. This internal funding from the office of the Vice President for Research provided three years of support for a half-dozen investigators, including Dr. Willette. Dr. Willette conceptualized the grant, refined it with the PI Dr. Anumantha Kanthasamy, and wrote 75% of the proposal. Dr. Willette elected to be the co-PI because Dr. Kanthasamy was a much more established investigator with a proven record.

**Egg Nutrition Center.** Synthesis and administration of egg lecithin and effects on brain glycerophosphocholine in humans. April 2016 – April 2017

Role: Co-Principal Investigator

Amount: \$20,000

Summary: This project examined purifying egg lecithin for eventual use in a prospective, proof-of-principle clinical trial on phosphocholine levels and cognitive function in healthy adults. The idea and proposal were conceived by Drs. Willette and Tong Wang.

**Iowa State University, College of Human Sciences Faculty Seed Grant.** "The impact of obesity on cognitive and emotional processing using functional Magnetic Resonance Imaging (fMRI)." June 2015 – December 2017.

Role: Principal Investigator

Amount: \$10,000

Summary: This project examined how lean versus obese subjects differed in cognitive function, affect processing, and task-based brain activity using EEG ERPs. Startup funds were used to complete the study in October 2018.

## **FOUNDATION and INTERNAL GRANTS - IN REVIEW OR REVISION**

---

**Total Potential Funding: \$1,816,190**

**Building Iowa State University-University of Iowa Research Partnerships grant.** "Topological Data Analytics for Biomedical Image Applications."

Role: Co-Investigator

Amount: \$50,000

Status: In Review

Summary: This project focuses on using non-linear algorithms to observe patterns of associations

(“shapes”, or topology) among many variables in previously collected human neuroimaging studies. This technique in combination with machine learning will also be used to determine cell type in thousands of biopsy images related to myeloma cancer.

**W.M. Keck Foundation Grant.** “Modeling the effect of ketosis on the gut-brain axis in Alzheimer’s disease.”

**Role:** Co-Principal Investigator

**Amount:** \$1,766,190

**Status:** In Review

**Summary:** This project examines how a ketogenic diet induced in old age Beagles, who often develop a Dementia-like condition, may slow cognitive decline and positively impact relevant physiological outcomes.

## **PRESS: SCIENTIFIC, POPULAR, UNIVERSITY**

---

### **2019**

**Industry Global News 24.** An original online article synthesizing our recent report examining body fat, lean muscle mass, and how sex-specific immune modulation may affect changes in fluid intelligence over time. Link: <https://www.industryglobalnews24.com/a-right-balance-of-muscles-and-body-fat-affects-our-thinking>

**Newsweek.** An exclusive interview with senior news correspondent Kashmira Gander about our recently published work in Brain, Behavior, and Immunity regarding body morphometry, fluid intelligence changes over time, and the sex-specific role of the immune system in these associations. Link: <https://www.newsweek.com/higher-body-fat-could-make-brain-age-faster-while-muscle-protects-against-it-study-suggests-1478397>

**Pourquoi Docteur. A French online health news outlet describes** our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <https://www.pourquidocteur.fr/Articles/Question-d-actu/31044-Un-exces-graisse-abdominale-serait-nefaste-l-agilite-de-esprit>

**Yahoo (Main Page):** A main page online article featuring our our recent report examining body fat, lean muscle mass, and how sex-specific immune modulation may affect changes in fluid intelligence over time. Link: <https://www.yahoo.com/entertainment/having-a-spare-tyre-may-leave-you-less-mentally-sharp-151244950.html>

**Environmental News Network.** An online article highlighting our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <https://www.enn.com/articles/61425-changes-in-the-immune-system-explain-why-belly-fat-is-bad-for-thinking>

**Medical News Today.** An original online article synthesizing our recent report examining body fat, lean muscle mass, and how sex-specific immune modulation may affect changes in fluid intelligence over time. Link: <https://www.medicalnewstoday.com/articles/327361.php#1>

**Hindustani Times.** An original online article synthesizing our recent report examining body fat, lean muscle mass, and how sex-specific immune modulation may affect changes in fluid intelligence over

time. Link: <https://www.hindustantimes.com/more-lifestyle/less-muscle-more-body-fat-may-affect-our-intelligence/story-zq0WE6bCrJsLgPICLHhP2I.html>

**Futurity.** An original online article synthesizing our recent report examining body fat, lean muscle mass, and how sex-specific immune modulation may affect changes in fluid intelligence over time. Link: <https://www.futurity.org/body-fat-muscle-flexible-thinking-2236522/>

**Erie News Now.** An online article highlighting our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <https://www.erienewsnow.com/story/41466241/changes-in-the-immune-system-explain-why-belly-fat-is-bad-for-thinking>

**Fox News.** An online article with accompanying short segment our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <http://www.fox21delmarva.com/story/41466241/changes-in-the-immune-system-explain-why-belly-fat-is-bad-for-thinking>

**Tulsa CW.** An online article highlighting our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <http://www.tulsacw.com/story/41466241/changes-in-the-immune-system-explain-why-belly-fat-is-bad-for-thinking>

**Science Daily.** An online article highlighting our recent findings on sex-specific immune modulation of associations with body fat, muscle mass, and fluid intelligence changes in middle-aged adults. Link: <https://www.sciencedaily.com/releases/2019/12/191217141531.htm>

**Food Science and Human Nutrition Alumni Newsletter,** Iowa State University. An article highlighting my research impact being in the top 1% of more than 241,000 researchers in neurodegenerative diseases. Link: <https://fshn.hs.iastate.edu/news/2019/11/18/willette-ranked-among-top-experts-worldwide-in-neurodegenerative-diseases/>

**College of Humans Sciences,** Iowa State University. An article highlighting my research impact being in the top 1% of more than 241,000 researchers in neurodegenerative diseases. Link: [https://fshn.hs.iastate.edu/news/2019/11/18/willette-ranked-among-top-experts-worldwide-in-neurodegenerative-diseases/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=hshappenings](https://fshn.hs.iastate.edu/news/2019/11/18/willette-ranked-among-top-experts-worldwide-in-neurodegenerative-diseases/?utm_source=newsletter&utm_medium=email&utm_campaign=hshappenings)

**Sioux City Daily News.** An on-air radio interview regarding our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: [http://www.siouxcountydailynews.com/?pag\\_\\_&paged=11](http://www.siouxcountydailynews.com/?pag__&paged=11)

**Osceola County Daily News.** An on-air radio interview regarding our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <http://www.osceolacountydailynews.com/?p=15257>

**KJAN 101.1 FM.** An on-air radio interview regarding our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <http://www.kjan.com/index.php/2019/06/isu-studies-role-of-antioxidants-in-preventing-alzheimers-disease/>

**KICD 102.5 FM.** An on-air radio interview regarding our findings that SOD-1, an antioxidant, is

associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://kicdam.com/news/170071-isu-studies-role-of-antioxidants-in-preventing-alzheimers-disease/>

**WorldHealth.net**. An article summarizing our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://www.worldhealth.net/news/antioxidant-deteriorates-areas-susceptible-alzheimers/>

**NeuroscienceNews.com**. An article summarizing our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://neurosciencenews.com/antioxidant-alzheimers-14245/>

**Science Daily**. An article summarizing our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://www.sciencedaily.com/releases/2019/06/190617164701.htm>

**Medscape.com**. An article summarizing our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://www.medscape.com/viewarticle/909140>

**Futurity.org**. An article summarizing our findings that SOD-1, an antioxidant, is associated with variation in tau but not amyloid-beta levels, and mediates cognitive function and brain atrophy. Link: <https://www.futurity.org/alzheimers-tau-sod1-antioxidant-2088142/>

**TechnologyNetworks.com**. An article discussing our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: <https://www.technologynetworks.com/neuroscience/news/what-food-you-eat-could-impact-your-brain-and-memory-314648>

**ANINews.IN**. An article discussing our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: <https://www.aninews.in/news/science/what-you-eat-could-impact-your-brain-and-memory-study20190902162124/>

**PsychCentral**. An article discussing our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: <https://psychcentral.com/news/2019/01/29/high-levels-of-satiety-hormone-tied-to-lower-alzheimers-risk/142432.html>

**Hindustani Times**. An article discussing our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: <https://www.hindustantimes.com/more-lifestyle/what-you-eat-could-impact-your-brain-and-memory/story-ulOzwNngyQLAixrFTHdmIK.html>

**NDTV Food**. An article discussing our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: <https://food.ndtv.com/news/what-you-eat-may-impact-your-memory-and-brain-study-2096060>

**Iowa State Daily**. A featured article in ISU's daily newscast regarding our recent work on CCK, a satiety hormone, and its relationship with Alzheimer's disease. Link: [http://www.iowastatedaily.com/news/iowa-state-researcher-body-brain-alzheimers-disease/article\\_11b629f2-3867-11e9-ab7b-ebb4fcd8c6fd.html](http://www.iowastatedaily.com/news/iowa-state-researcher-body-brain-alzheimers-disease/article_11b629f2-3867-11e9-ab7b-ebb4fcd8c6fd.html)

**CHS Matters, ISU Alumni Magazine.** Featured story on research examining link between type 2 diabetes and pre-diabetes, emotion regulation, and neurophysiology. Link: <https://www.hs.iastate.edu/hsmatters/online/2018May/>

**WGN-TV (Chicago).** This newscast was broadcast in the greater Chicago area and featured research about links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing.

**TekCrispy.com.** A feature in Spanish about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://www.tekcrispy.com/2018/05/08/diabeticos-mas-reactivos-hechos-negativos/>

**Diabetes.co.uk.** A feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://www.diabetes.co.uk/news/2018/may/insulin-resistance-may-increase-negative-responses-to-stress-91338691.html>

**IBNService.** A 500+ word feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <http://ibnservice.com/2018/05/09/people-with-diabetes-and-obesity-predisposed-to-stress/>

**PsychCentral.** A 500+ word feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://psychcentral.com/news/2018/05/09/brain-activity-patterns-tied-to-increased-sadness-anger-in-diabetics/135238.html>

**ScienceDaily.com.** Feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://www.sciencedaily.com/releases/2018/05/180507111821.htm>

**Medicalxpress.com.** Feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://medicalxpress.com/news/2018-05-brain-diabetics-negative-depression.html>

**Futurity.org.** Feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing. Link: <https://www.futurity.org/brains-diabetes-depression-insulin-1751722-2/>

**<http://www.kopalniawiedzy.pl/>**. A freelance journalist, Anna Błońska, interviewed Dr. Willette about a recent study on type 2 diabetes, insulin resistance, and neural correlates of negative affect processing.

**Iowa State University.** A 600+ word feature about a paper published on links between type 2 diabetes, insulin resistance, and neural correlates of negative affect processing, as well as cognitive dysfunction and self-reported negative affect. Link: <https://www.news.iastate.edu/news/2018/05/07/diabetesdepression>

## **2017**

**College of Human Sciences, Iowa State University.** A 150-word feature about a paper published

on the association between insulin-like growth factor binding protein 2 and Alzheimer's disease outcomes. Link: <https://www.hs.iastate.edu/news/2017/12/20/willette-searches-alzheimers-cause/>.

**Food Science and Human Nutrition, Iowa State University.** A 450 word feature about a paper published on the association between insulin-like growth factor binding protein 2 and Alzheimer's disease outcomes. Link: <http://fshn.hs.iastate.edu/news/2017/12/18/iowa-state-researcher-continues-search-cause-alzheimers/>

**College of Human Sciences, Iowa State University.** A 250-word feature about winning a grant from the Alzheimer's Association looking at sirtuin genetic variation and neural outcomes. Link: [https://request.hs.iastate.edu/news/email/?d1=1511287200&d2=1511891999&utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=hshappenings](https://request.hs.iastate.edu/news/email/?d1=1511287200&d2=1511891999&utm_source=newsletter&utm_medium=email&utm_campaign=hshappenings)

**KHOI Community Radio.** A 60 minute radio feature about work related to obesity, midlife cognitive performance, Alzheimer's disease, and interventions.

**MedicalNewsToday.com.** Online feature about recent work published in Alzheimer's and Dementia about TOMM40 '523 poly-T length and longitudinal cognitive decline. Link: <http://www.medicalnewstoday.com/articles/317587.php>

**ABC News, Iowa Local 5 News.** Brief segment discussing recent research published in Alzheimer's and Dementia about TOMM40 '523 poly-T length and longitudinal cognitive decline. Link: <http://www.weareiowa.com/news/local-news/new-isu-study-on-alzheimers-risk/719458490>

**HS Matters Alumni Magazine, Iowa State University.** 1,000 word feature about 7 researchers conducting obesity-related research at Iowa State University, including Dr. Willette's work examining associations with cognition and brain outcomes in mid- and late life. Link: <https://www.hs.iastate.edu/news/2017/08/07/obesity-research/>

**Main University Webpage, Iowa State University.** A front-page, iastate.edu multi-month feature on Dr. Willette's unique combination of clinical research and Big Data work. This feature is showcased on the main page of the ISU webpage among 3-4 other faculty features. Such features are viewed by tens of thousands of students, parents, and alumni every week. Link: <https://www.iastate.edu/stories/2017/06/neuronal>

**HS Matters Alumni Magazine, Iowa State University.** 1,000 word feature about the Iowa State University Big Data Brain Initiative, for which Dr. Willette is a co-PI. This feature detailed contributions by researchers across the lifespan on different factors that impact brain development and atrophy, including a large focus on Dr. Willette's work. This work utilizes secondary data harvesting to answer novel questions. Link: <https://www.hs.iastate.edu/news/2017/08/21/isu-brain-initiative/>

**Foundation Magazine, Iowa State University.** A 175 word feature about collaborative work with Dr. Anumantha Kanthasamy about ISU's Big Data Brain Initiative, a multi-year special project internally funded by the ISU President and Vice President of Research. Link: forthcoming.

**Food Science and Human Nutrition, Iowa State University.** Featured faculty on the webpage for the nutritional sciences portion of Dr. Willette's home department. Link: <https://dev13.hs.iastate.edu/graduate-programs/nutritional-sciences/>

**College of Human Sciences, Iowa State University.** A 1,000+ word feature about ISU campus clubs working with the Alzheimer's Association and related non-profits, including Dr. Willette as an adviser to these groups and his student Joe Webb. Link: <http://www.hs.iastate.edu/news/2017/03/20/alzheimers-disease-awareness/>

**HS Matters Alumni Magazine, Iowa State University.** 1,000 word feature about 3 researchers utilizing 18 million dollar renovated lab space to conduct biomedical research in nutritional sciences at Iowa State University. Link: <https://www.hs.iastate.edu/news/2017/06/05/renovated-labs/>

**Knowridge.com.** Featurette about Knowridge Science Report featuring research regarding autotaxin and Alzheimer's disease. Link: <https://knowridge.com/2017/02/enzyme-in-brain-fluid-predicts-risk-of-diabetes/>

## 2016

**HS Matters Alumni Magazine, Iowa State University.** A 500-word description of obesity, brain, and behavior related research conducted by Dr. Willette at Iowa State University. Link: <https://www.hs.iastate.edu/news/2016/03/21/obesity-and-the-brain/>

**HS Matters Alumni Magazine, Iowa State University.** A 500-word description of study linking gene variation to Parkinson's disease risk. Link: <https://www.hs.iastate.edu/news/2016/11/28/parkinsons-gene/>

**Neurology Reviews.** A 500-word summary of the GCH1 paper on Parkinson's disease risk. Link forthcoming.

**PhysiciansBrief.com.** Brief highlight on GCH1 minor allele variant and Parkinson's disease risk. See: <http://www.physiciansbriefing.com/Article.asp?AID=717282>

**DoctorsLounge.com.** Featurette on GCH1 mutation and Parkinson's disease. See: <http://www.doctorslounge.com/index.php/news/pb/68236>

**MedIndia.net.** Featured under the "genetics and stem cells news" section. GCH1 mutation predicts a potent increase in Parkinson's disease risk, mostly for those under 50 years of age. See: <http://www.medindia.net/news/gene-mutation-in-caucasians-found-to-increase-the-risk-of-parkinsons-disease-165753-1.htm>

**Futurity.org.** Featured under the "health and medicine" section. Mutations of GCH1 are related to increased risk of Parkinson's disease and other complications, particularly below age 50 or early onset. See: <http://www.futurity.org/parkinsons-gene-defect-1306002-2/>

**HS Matters Alumni Magazine, Iowa State University.** A 500-word summary of research related to the synaptogenesis-promoting protein Neuronal Pentraxin 2 and outcomes in Alzheimer's disease. Link: <https://www.hs.iastate.edu/news/2016/08/03/defend-against-memory-loss/>

**MedicalDaily.com.** Featured on "under the hood" segment. GCH1 study linking gene mutation with increased risk, dopamine hypometabolism, and behavioral effects discussed in the context of other genetics studies from Mayo Clinic. See: <http://www.medicaldaily.com/early-onset-parkinsons-causes->

genetic-mutation-associated-increased-risk-405226

**Healthmedicinet.com.** Brief article on Parkinson's disease and a mutation in GCH1 gene, with regard to early onset and effects on imaging, cognition, and affective outcomes. See: <http://healthmedicinet.com/i/gene-mutation-appears-to-increase-risk-of-parkinsons-disease-in-caucasians/>

**Technology.org.** Brief article on research related to GCH1 mutation and Parkinson's disease risk, as well as effects on neuroimaging outcomes. See: <http://www.news-medical.net/news/20161128/Gene-mutation-appears-to-increase-risk-of-Parkinsons-disease-in-Caucasians.aspx>

**News-Medical.net.** Posting of ISU press release on research related to GCH1 mutation and Parkinson's disease risk. See: <http://www.news-medical.net/news/20161128/Gene-mutation-appears-to-increase-risk-of-Parkinsons-disease-in-Caucasians.aspx>

**HS Matters Alumni Magazine, Iowa State University.** A 500-word summary of recently published work linking the adiposity-promoting adipokine autotaxin and various Alzheimer's disease outcome measures. Link: <https://www.hs.iastate.edu/news/2016/12/19/alzheimers-autotaxin/>

**Scicasts.com.** Brief feature in neuroscience section relating how GCH1 affects Parkinson's disease risk, mostly in the context of early onset before age 50. See: <https://scicasts.com/neuroscience/2041-neurodegeneration/12070-gene-mutation-found-linked-to-early-onset-of-parkinson-s-disease-in-caucasians/>

**MedicalXPress.com.** Brief highlight of GCH1 mutation and Parkinson's disease risk. See: <http://m.medicalxpress.com/news/2016-11-gene-mutation-linked-early-onset.html>

**NewsWise.com.** Brief highlight of Parkinson's disease research on GCH1 mutation, risk, and effects on cholesterol levels. See: <http://www.newswise.com/articles/view/665424/?sc=rsla>

**AAAS EurekAlert.com.** Brief highlight of Parkinson's disease research on GCH1 mutation and risk in the context of aging. See: [https://www.eurekalert.org/pub\\_releases/2016-11/isu-gml112316.php](https://www.eurekalert.org/pub_releases/2016-11/isu-gml112316.php)

**AlzForum, online.** Brief highlight of Parkinson's disease research on GCH1 mutation and risk in the context of aging. Link: <http://www.alzforum.org/papers/aging-modifies-effect-gch1-rs11158026-dat-uptake-and-parkinsons-disease-clinical-severity>

**KCCI Channel 8 News, Ames, IA.** On-camera interview and subsequent 1.5-minute segment on Parkinson's disease research shown multiple times. Link forthcoming.

**Iowa State University, Inside Iowa State.** This weekly newsletter circulates to 36,000 students and nearly 5,000 faculty and staff. Daily feature on Parkinson's disease imaging genomics research: <http://www.news.iastate.edu/news/2016/11/28/parkinsonsgene>

**Allure Magazine.** This lay publication has over 1.2 million readers. Soon to be published 2,000+ story examining the impact of green foods and chlorophyll on health outcomes in body and brain. Link forthcoming.

**Diabetic Living Magazine.** This lay publication has over 500,000 readers. Soon to be published 1,000+ word story examining the effects of type 2 diabetes and other metabolic problems on daily function, cognition, and brain. Link forthcoming.

**Psychology Today.** This lay publication has 275,000 subscribers and is the premiere magazine for anything psychology related. In-depth interview and forthcoming new story about nutrition, cognitive and affective health, and Alzheimer's disease. Public release on Nov 1<sup>st</sup>, 2016.

**WAMC Public Radio.** Interview with Lynn Pasquerella, president of the Association of American Colleges and Universities. Segment aired on Oct 11<sup>th</sup>, 2016.

**Academic Minute.** A renowned online resource for featuring academic research. Daily feature from the Iowa State University News corp. Link: <http://academicminute.org/2016/10/auriel-willette-iowa-state-university-alzheimers-disease-and-the-immune-system/>

**Iowa State Daily.** Interview with Nic Wackerly regarding Big Data Brain Initiative internal grant on which Dr. Willette is a co-PI. Story subsequently featured in magazine. Link:

**Fast Company Magazine.** A periodical with a total circulation of 757,858 units. Interview with Charlie Sorrel and subsequent feature in online site and forthcoming edition on research regarding the article "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." Link: <https://www.fastcoexist.com/3062856/use-it-or-lose-it-how-brain-exercise-fights-alzheimers>

**Health Imaging.** Interview with Katherine Davis, director of the new website Health Imaging. Subsequent feature on website regarding the report "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." Link: <http://www.healthimaging.com/topics/molecular-imaging/neuroimaging/brain-protein-could-be-preventive-measure-against-alzheimer%E2%80%99s-new-study-suggests>

**WHO TV, Ames, IA.** One-hour interview and 5-minute news segment on the report "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." Link forthcoming.

**Indian Times.** Featured article regarding the report "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." See: <http://health.economictimes.indiatimes.com/news/diagnostics/brain-use-it-so-you-dont-lose-it/53543055>

**Business Standard.** Story regarding the "Use it or Lose it" theory of cognition in reference to the report "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." See: [http://www.business-standard.com/article/news-ani/brain-use-it-so-you-don-t-lose-it-116080400360\\_1.html](http://www.business-standard.com/article/news-ani/brain-use-it-so-you-don-t-lose-it-116080400360_1.html)

**Hindustan Times.** Featured article regarding the report "Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum." See: <http://www.hindustantimes.com/health-and-fitness/being-mentally-and-socially-active-can-prevent-memory-loss/story-VKAXiU66lGe0KsiOjQ29K.html>

**Medicalxpress.com.** Featured article regarding the report “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: <http://medicalxpress.com/news/2016-08-defend-memory-loss.html>

**News-medical.net.** Featured article regarding the report “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: <http://www.news-medical.net/news/20160804/ISU-researchers-discover-protein-that-appears-to-predict-memory-loss-brain-atrophy-in-Alzheimers-patients.aspx>

**HealthCanal.com.** Featured article regarding the report “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: <http://www.healthcanal.com/brain-nerve/brain-diseases/alzheimer%E2%80%99s/74223-isu-study-suggests-%E2%80%98use-it-or-lose-it%E2%80%99-to-defend-against-memory-loss.html>

**Science Daily.** Featured article on August 3, 2016 regarding the report “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: [https://www.sciencedaily.com/releases/2016/08/160803161609.htm?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed:+sciencedaily/health\\_medicine/alzheimers+\(Alzheimer%27s+News+--+ScienceDaily\)](https://www.sciencedaily.com/releases/2016/08/160803161609.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+sciencedaily/health_medicine/alzheimers+(Alzheimer%27s+News+--+ScienceDaily))

**NIH Alzheimer's & Dementia Education and Referral Center.** The official NIH social media advocacy group for Alzheimer's disease and related dementias. Brief referral to the article “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: [https://twitter.com/Alzheimers\\_NIH/status/761237835139559424](https://twitter.com/Alzheimers_NIH/status/761237835139559424)

**Iowa State University, Alumni Magazine.** A 200-word bulletin about “use it or lose it” theory of cognition in the article “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.” See: [http://cyspace.isualum.org/controls/email\\_marketing/admin/email\\_marketing\\_email\\_viewer.aspx?sid=565&eiid=9699&seiid=8997&usearchive=1&puid=ea571b87-5372-4350-ba04-03da0e823a89](http://cyspace.isualum.org/controls/email_marketing/admin/email_marketing_email_viewer.aspx?sid=565&eiid=9699&seiid=8997&usearchive=1&puid=ea571b87-5372-4350-ba04-03da0e823a89)

**Medical News Today.** This is the largest medical and health news site online, with 16,000,000 monthly page views. Media release regarding the article “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum” published online. See: <http://www.medicalnewstoday.com/releases/312141.php>

**MedicalResearch.com.** Interview with Dr. Marie Benz, editor. Interview regarding the publication “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum”. Forthcoming publication on website.

**College of Human Sciences, Iowa State University.** 600-word news story about the article “Neuronal Pentraxin 2 predicts medial temporal atrophy and memory decline across the Alzheimer's disease spectrum.”

**Alumni Association, Iowa State University.** 500-word news story on TOMM40 gene and Alzheimer's disease work presented at Alzheimer's Association International Conference.

**Radio Broadcast, WOA.** In-depth interview on AM radio discussing the benefits of fruits,

vegetables, and antioxidant properties on brain and behavior.

**Alumni Magazine, Iowa State University.** Feature in “I am a Human Scientist” edition. Two-page, 1,000 word summary of work on neurogenetics, clinical trials, and Big Data analysis.

**Cedar Rapids Gazette.** Five-hundred word story highlighting recent findings on obesity and brain outcomes in Alzheimer’s disease. Link forthcoming.

**Ames Tribune.** Seven-hundred word story highlighting recent findings on obesity and brain outcomes in Alzheimer’s disease. See: <http://amestrib.com/news/isu-alzheimer-s-study-uncovers-links-between-obesity-and-brain>

**Alumni Magazine, Iowa State University.** Five-hundred word story highlighting recent research findings on obesity, metabolism, and brain health. See excerpted story from magazine: <http://www.hs.iastate.edu/news/2016/03/21/obesity-and-the-brain/>

## 2015

**Iowa State Daily.** Interview with Taylor Borde about the short- and long-term effects of caffeine consumption. Subsequently quoted in article. See: [http://www.iowastatedaily.com/self/article\\_c939fc56-7791-11e5-91fa-073642c511dd.html](http://www.iowastatedaily.com/self/article_c939fc56-7791-11e5-91fa-073642c511dd.html)

**AARP.** Acted as a consultant for new AARP website about brain health. Acknowledgement of pro bono consultation on website. Contact person is Elizabeth Howard ([bethrites@gmail.com](mailto:bethrites@gmail.com)).

**College of Human Sciences, Iowa State University, Ames, IA.** Highlight about \$134,370 NIH grant in weekly newsletter.

**Nature.com.** Research highlight by Dr. Hemi Malkki in Nature Reviews Neurology. See: <http://www.nature.com/nrneurol/journal/vaop/ncurrent/full/nrneurol.2015.147.html>

**Reuters.** Interview with Lisa Rapaport regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See online article: <http://www.reuters.com/article/2015/07/28/us-health-alzheimers-diabetes-idUSKCN0Q22I720150728>

**Yahoo!.** Thirty-minute interview with Korin Miller about the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent feature in Yahoo! health section. See: <https://www.yahoo.com/health/sweet-tooth-foggy-brain-the-surprising-link-125268248787.html>

**American Association for the Advancement of Science.** Pre-embargo inquiry and interview about the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: [http://www.eurekalert.org/pub\\_releases/2015-07/tjn-irg072315.php](http://www.eurekalert.org/pub_releases/2015-07/tjn-irg072315.php)

**Huffington Post.** Interview with Yagana Shah. Subsequent feature in online health section. See: [http://www.huffingtonpost.com/entry/sugary-diet-may-contribute-to-alzheimers-disease-study\\_says\\_55b8f011e4b0074ba5a6f195](http://www.huffingtonpost.com/entry/sugary-diet-may-contribute-to-alzheimers-disease-study_says_55b8f011e4b0074ba5a6f195)

**National Public Radio.** Twenty-minute interview with Dar Danielson about the publication “Insulin

resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent radio broadcasts on Iowa Public Radio and National Public Radio. See excerpted text:

<http://www.radioiowa.com/2015/07/28/isu-researcher-finds-link-between-insulin-resistance-and-alzheimers/>

**Iowa Public Radio’s River to River.** Thirty-minute, on-air interview with Ben Keifer of River to River on August 6<sup>th</sup> regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Interview not archived but available on request.

**WebMD.** Featured article on the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See online article:

<http://www.webmd.com/diabetes/news/20150727/high-blood-sugar-may-boost-alzheimers-risk>

**Fox News.** Interview with Fox News correspondent regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article on website. See: <http://www.foxnews.com/health/2015/07/29/insulin-resistance-might-increase-alzheimers-risk/>

**U.S. News and World Report.** Interview with Steven Reinberg regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in health section. See: <http://health.usnews.com/health-news/articles/2015/07/27/high-blood-sugar-may-boost-alzheimers-risk>

KCCI Channel 8 News, Ames, IA. On-camera interview and subsequent 3-minute feature on Alzheimer’s disease research and neuronal pentraxin 2 protein. See: <http://www.kcci.com/article/researcher-finds-protein-that-may-slow-memory-loss-caused-by-alzheimer-s/6907416>

**HS Matters Alumni Magazine, Iowa State University.** 500-page summary of new study linking insulin resistance with hypometabolism in the brains of late middle-aged subjects at risk for Alzheimer’s disease. Link: <https://www.hs.iastate.edu/news/2015/07/27/insulin-and-alzheimers/>

**Iowa State Daily.** Interview with Brian McCarthy about the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age”. Subsequent feature in print and on website. See: [http://www.iowastatedaily.com/news/academics/article\\_e226abf6-3af1-11e5-9ecb-cf5b602d2594.html](http://www.iowastatedaily.com/news/academics/article_e226abf6-3af1-11e5-9ecb-cf5b602d2594.html)

**Ames Tribune, Ames, IA.** Interview with Julie Ferrell regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in health and science section. See: <http://amestrib.com/news/isu-study-finds-correlation-between-insulin-resistance-risk-alzheimer-s-disease>

**MedicalResearch.com.** Interview with Dr. Marie Benz, editor. See online article: <http://medicalresearch.com/mental-health-research/alzheimers-dementia/insulin-resistance-linked-to-poor-memory-performance/16183/>

**ConsumerAffairs.** Online interview with Mark Huffman regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: <http://www.consumeraffairs.com/news/more-evidence-of-alzheimers-diabetes-link-072915.html>

**Medical Daily.** Interview with Susan Scutti regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article under The Grapevine section. See: <http://www.medicaldaily.com/insulin-resistance-linked-alzheimers-disease-high-blood-sugar-may-trigger-memory-loss-344990>

**Consultant, a peer-reviewed journal.** Online interview with Mark McGrawk of Consultant360.com, the website for the journal Consultant, regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent exclusive featured on website. See: <http://www.consultant360.com/exclusives/insulin-resistance-increases-alzheimer-s-risk>

**Rapid News Network.** Interview with Tyler Owen regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent exclusive featured on website. See: <http://rapidnewsnetwork.com/insulin-resistance-increases-risk-for-alzheimer-s-disease-iowa-state-study/92677/>

**PsychCentral.** Interview with Rick Nauert regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article on website. See: <http://psychcentral.com/news/2015/07/29/insulin-resistance-linked-to-memory-decline/87442.html>

**ScienceBlog.** Inquiry and featured article in the brain and behavior section regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: <http://scienceblog.com/79446/insulin-resistance-increases-risk-alzheimers-disease/#ZYcKFy5D9YA6Zm3H.97>

**Dispatch Times.** Interview with “Newsmedia” reporter regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in health section of website. See: <http://www.dispatchtimes.com/insulin-resistance-raises-risk-for-alzheimer-s-disease/21698/>

**The Statesman.** Featured article in science and tech section regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: <http://www.thestatesman.com/news/science-and-tech/insulin-resistance-raises-risk-for-alzheimer-s-disease/78520.html>

**Futurity: Research News.** Featured article in health and medicine section regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: <http://www.futurity.org/obesity-memory-alzheimers-insulin-968272/>

**BigNewsNetwork.com.** Inquiry from author ANI and subsequent featured article in health section. See: <http://www.bignewsnetwork.com/index.php/sid/235206931>

**Times of India.** Featured article in health and fitness section. See: <http://timesofindia.indiatimes.com/life-style/health-fitness/health-news/Insulin-resistance-raises-risk-for-Alzheimer/articleshow/48251807.cms>

**Iowa Public Radio.** One-hour interview with Sarah Boden about the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See online article: <http://iowapublicradio.org/post/alzheimers-disease-and-insulin-resistance-link-found-isu#stream/0>

**UPI.** Interview with Stephen Feller regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in health section. See: [http://www.upi.com/Health\\_News/2015/07/27/Insulin-resistance-increases-risk-for-Alzheimers/5951438019878/](http://www.upi.com/Health_News/2015/07/27/Insulin-resistance-increases-risk-for-Alzheimers/5951438019878/)

**MedPage Today.** Interview with Parker Brown regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in neurology section. See: <http://www.medpagetoday.com/Neurology/AlzheimersDisease/52792>

**Nursing Times.** Interview with Steve Ford regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” Subsequent featured article in neurology section. See: <http://www.nursingtimes.net/nursing-practice/specialisms/neurology/obesity-linked-with-heightened-risk-of-alzheimers-/5089223.article>

**HS Matters magazine.** Iowa State University Alumni Network newsletter email inquiry and posting to alumni list regarding the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.”

**Hindustani Times.** Featured article on the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See: <http://www.hindustantimes.com/wellness/another-reason-to-jog-obesity-could-make-you-lose-memory/article1-1374391.aspx>

**PhillyVoice.com.** Featured health article on the publication “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.” See online article: <http://www.phillyvoice.com/insulin-resistance-might-increase-alzheimers-risk/>

**College of Human Sciences, Iowa State University, Ames, IA.** Interview with Angela Bries and press release for publication entitled “Insulin resistance predicts lower cerebral glucose utilization in late middle-age.”

**Iowa Public Radio’s River to River.** Thirty-minute, on-air interview with Ben Keifer of River to River on “Proteins may slow memory loss in people with Alzheimer’s” (<http://iowapublicradio.org/post/representative-young-checks-ipr>).

**Today’s Geriatric Magazine.** Interview with Editor Barbara Worthington about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent 250-word feature on website. Please also see 1,200-1,600 word featured article for Fall 2015. Today’s Geriatric Magazine has a readership of 25,000 geriatric clinicians.

**1250 AM WHNZ, Des Moines, IA.** On-Air interview with Deb Goldman about “Proteins may slow memory loss in people with Alzheimer’s.”

**Ames Tribune, Ames, IA.** Interview with Julie Ferrell about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent feature in health and science section of paper. See: <http://amestrib.com/news/isu-researcher-finds-protein-may-slow-memory-loss-alzheimer-s>

**The Gazette, Cedar Rapids, IA.** Interview with Erin Jordan about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent 700-word, “above-the-fold” featured article.

**KCCI News 8, Des Moines, IA.** Taped interview with Vanessa Peng. Subsequent airing and 150-word online article.

**Radio Iowa, Des Moines, IA.** Interview with Pat Curtis on “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent broadcast and 200-word article featured on website.

**Sciences et Avenir, France.** Interview with Elena Sender about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent featured article on website. See: <http://www.sciencesetavenir.fr/sante/20150527.OBS9706/une-nouvelle-proteine-anti-alzheimer.html>

**Iowa Science Interface, Des Moines, IA.** Interview with Thomas R. O’Donnell. Subsequent 150-word article featured on website.

**WHO Radio, Des Moines, IA.** Interview with Tom Noller about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent broadcast feature.

**WHO Radio, Des Moines, IA.** Interview with Connor Quealy about “Proteins may slow memory loss in people with Alzheimer’s.” Subsequent broadcast feature.

**Alzheimer-riese.it, Italy.** A featured online editorial about “Proteins may slow memory loss in people with Alzheimer’s.”

**Rotter.net, Israel.** A featured online editorial about “Proteins may slow memory loss in people with Alzheimer’s.”

**Egno, Greece.** A featured online editorial about “Proteins may slow memory loss in people with Alzheimer’s.”

**Iowa Free Press, Iowa, IA.** A featured online editorial about “Proteins may slow memory loss in people with Alzheimer’s.”

**Science Daily.** Featured article on May 21<sup>st</sup>, 2015 about “Proteins may slow memory loss in people with Alzheimer’s.”

**College of Human Sciences, Iowa State University, Ames, IA.** Interview with Meghan Brown on full press release entitled “Proteins may slow memory loss in people with Alzheimer’s.” This research concerned novel inflammatory CSF biomarkers as strong predictors of medial temporal atrophy and cognitive decline in Alzheimer’s disease.

**President’s Council, Iowa State University, Ames, IA.** Work on novel inflammatory CSF biomarkers highlighted by Pamela White, Dean of the College of Human Sciences, at the 2015 President’s Council meeting.

**Forward Magazine, Ames, IA.** Interview with Sherry Speikers on the impact of insulin resistance on different brain outcomes in middle-age and Alzheimer’s disease.

**College of Human Sciences, Iowa State University, Ames, IA.** Interview with Meghan Brown on the contributions of metabolic dysfunction to impaired executive function performance and frontal lobe

atrophy across the lifespan.

## **2014**

**Huffington Post.** Interview with Dr. Tiffany Chow about Ageing Research Reviews publication, entitled “Does the brain shrink as the waist expands?” Subsequent article featured in healthy living section. See: [http://www.huffingtonpost.com/dr-tiffany-chow/alzheimers-prevention\\_b\\_5569094.html](http://www.huffingtonpost.com/dr-tiffany-chow/alzheimers-prevention_b_5569094.html)

## **2012**

**Psychologie Magazine (The Netherlands).** Interview with Edwin Oden about Psychoneuroendocrinology paper on long-term calorie restriction and stress reactivity, entitled “Calorie restriction reduces psychological stress reactivity and its association with brain volume and microstructure in aged rhesus monkeys.”

**BBC, United Kingdom.** Thirty-minute interview with Michael Mosley of BBC Horizons on “Eat, fast and live longer.” Segment featuring Mark Mattson’s work on prospective clinical trial of intermittent fasting and brain activity in late middle-aged women with insulin resistance. See: [http://www.dailymotion.com/video/xvdbtt\\_eat-fast-live-longer-hd\\_shortfilms](http://www.dailymotion.com/video/xvdbtt_eat-fast-live-longer-hd_shortfilms)

## **PROFESSIONAL ACTIVITIES AND SERVICE**

---

### **Editorial Boards:**

- **Alzheimer’s and Dementia, Associate Editor (2019-Present)**  
Professional Duties: Manage reviews for submissions on ADRD and dysmetabolism, immunology, and neuroepidemiology. Invite and manage submissions for Special Topics on these subjects.
- **Brain, Behavior and Immunity, Editorial Board (2018-Present)**  
Professional Duties: Review all submissions related to neuroimaging and neuroepidemiology.
- **Journal of Alzheimer’s Disease, Associate Editor (2016-Present)**  
Professional Duties: Encourage colleagues to submit topics relevant to my expertise areas to JAD, where I would then manage reviews.

### **Leadership Roles in Professional Societies:**

- Organizing/Steering Committee. Society for Brain Mapping and Therapeutics.
- Scientific Committee. Society for Brain Mapping and Therapeutics.
- Organizing/Steering Committee. Alzheimer’s Disease International Conference, Alzheimer’s Association. Nutrition and Metabolism Professional Interest Area.

### **Conference Chairs:**

- Society for Brain Mapping and Therapeutics – **Co-Chair** for “Early AD Diagnosis: Brain & Retinal Imaging” session.” Los Angeles, CA. 2019-Present.
- Society for Brain Mapping and Therapeutics – **Co-Chair** for “AD Mechanisms IV: Metabolism & Energetics.” Los Angeles, CA. 2019-Present.
- Society for Brain Mapping and Therapeutics – **Co-Chair** for session “B24: AD Mechanisms IV: Brain & Systemic Insulin Resistance & Glucose Metabolism.” 2018.

#### **Ad Hoc Grant Reviewer – State, Federal, and International:**

- Brain Disorders and Clinical Neuroscience (BDCN) Study Section, NIH
- Clinical Neuroscience and Neurodegeneration (CNN) Study Section, NIH
- Population Sciences and Epidemiology (PSE) Study Section, NIH
- COBRE P20 Special Emphasis Study Section, NIH
- HBCU-UP RIA, NSF
- BLR&D/CSR&D Merit Review Subcommittee Neurobiology D, Veteran’s Administration
- Innovational Research Incentives Scheme, The Netherlands Organization for Scientific Research (NIH-equivalent federal research agency)
- University of Nebraska VPR Research Initiative
- Institute of Translational Health Sciences (NIH-funded consortium for underfunded U.S. states)

#### **Ad Hoc Grant Reviewer – Foundations:**

- Wellcome Trust, United Kingdom
- Federation for Food and Agricultural Research

#### **Ad Hoc Journal Reviewer:**

- Brain, Behavior, and Immunity (70 reviews)
- Alzheimer’s and Dementia (31 reviews)
- Neurology (16 reviews)
- Diabetes Care (15 reviews)
- Neurobiology of Aging (11 reviews)
- Ageing Research Reviews (8 reviews)
- Human Brain Mapping (6 reviews)
- Diabetes (5 reviews)
- Brain (4 reviews)
- Psychoneuroendocrinology (4 reviews)
- NeuroImage (3 reviews)
- Frontiers in Human Neuroscience (2 reviews)
- Quantitative Imaging in Medicine and Surgery (2 reviews)
- Nature: Scientific Reports
- Nature: Scientific Data
- Biological Psychiatry
- Translational Psychiatry

- Journal of Clinical Medicine
- Alzheimer's Research & Therapy
- Frontiers in Cellular Neuroscience
- Frontiers in Aging Neuroscience
- Frontiers in Pediatrics
- Neurobiology of Disease
- Nutrients
- Neuroscience Letters
- Translational Neurodegeneration
- NeuroImage: Clinical
- Experimental Gerontology
- European Journal of Neurology
- Neuroscience
- PLoS One
- Physiology and Behavior
- Brain Research
- Psychiatry Research – Neuroimaging
- Journal of Chemical Neuroanatomy
- Journal of Adolescent Health
- International Journal of Molecular Sciences
- BMS Open
- Genes

#### **Ad Hoc Conference Reviewer:**

- Alzheimer's Association International Conference
- Society for Brain Mapping and Therapeutics
- Human Brain Mapping
- Psychoneuroimmunology Research Society
- International Federation of Automatic Control

## **CONSULTANTSHIPS and ADVISING ROLES**

---

#### **Scientific, Government, Industry, and Non-Profit Consultantships (Pro Bono):**

**Alzheimer's Association** (Central Iowa and East Iowa chapters); Siemens; Iowa Department of Public Health; Iowa Corn Promotion Board; Flywheel; Center for Investigating Healthy Minds; Foundation for Perception Medicine; WHO Radio, Des Moines; Natural Products Insider; Potential Energy LLC; Kemin Industries; WelseyLife; Today's Geriatric Medicine; techspert.io.

#### **Media Consultantships (Pro Bono):**

**Scientific American; AARP;** Allure magazine; Diabetic Living magazine

#### **Professional Service Positions:**

- **Co-PI and Neuroimaging Core Lead, Big Data Brain Initiative**

Activities: Co-manages \$450,000 grant from the ISU Vice President of Research office on multi-university initiative, to leverage big data for exploring biomarker associations with brain data, followed by testing promising markers in animal models for mechanisms. Organizes symposia.

Highlights: Leads 8 other researchers in processing brain data from developmental and aging cohorts for use in manuscripts and grants. Provides data analytic solutions for 40+ faculty who desire brain data for grants.

- **Deputy Director, ISU Neuroscience Initiative**

Activities: Manages 80+ faculty in monthly and ad-hoc sessions to identify grants for which the group can apply, as well as professional development.

Highlights: Successfully applied for funding to create the Big Data Brain Initiative

- **Member of the ISU Neuroscience Graduate Program Executive Council**

Activities: Three-person council meets to discuss curriculum, student progress, and emphases for Neuroscience Graduate Program at Iowa State University.

Highlights: Streamlined curriculum to be more in line with sister institutions.

Outreach Positions:

- Adviser to Advocates for the Alzheimer's Association student group at Iowa State University

Activities: Raise awareness for Alzheimer's disease research and coordinate student-led initiatives in collaboration with the central and east Iowa chapters of the Alzheimer's Association.

Highlights: Helped raise several thousand dollars through pledge drives for organization.

Outreach Activities:

**Event**: Science Bound, Iowa State University (2018)

Activities. Led 50 underrepresented students in 2-hour contact period with hands-on session with brain data

Highlights. Received a 9/10 rating from participating students. Average rating is 5/10.

**Event**: Iowa State University and Des Moines University joint plenary sessions to coordinate research and internship opportunities (2017)

Activities: Day-long meetings and presentations regarding current research at Iowa State University

Highlights: Helped to facilitate internship program between medical school students and work on Alzheimer's disease and related dementias.

**Event**: Science Bound, Iowa State University (2017)

Activities. Led 50 underrepresented students in 2-hour contact period with hands-on session with brain data

Highlights. Received a 9/10 rating from participating students. Average rating is 5/10.

**Event**: Alzheimer's Impact Movement, a sister organization to the Alzheimer's Association, organized funding advocacy for members of Congress in Washington, D.C. (2017)

Activities: Presented laboratory research on central metabolic dysfunction in Alzheimer's disease, as well as imaging genomics with graduate student Joe Webb

Highlights: Helped facilitate \$400 million increase in Alzheimer's disease appropriations for FY2017.

**Event:** External Advisory Committee for Food Science and Human Nutrition, Iowa State University (2017)

Activities: Chosen by Chair to showcase research for 25-member panel.

Highlights: Selected as most promising young investigator in nutritional science by leading industry experts from PepsiCo, General Mills, and other international firms.

**Event:** Talk at Green Hills Retirement Community (2017)

Activities: Gave a 50 minute presentation about Alzheimer's disease and the lab's recent research on the topic.

Highlights: Fielded questions from community members about various interventions.

**Event:** On-camera interview, Iowa State University (2016)

Activities: Educated 40+ Journalism and Mass Communication undergraduates about Alzheimer's disease

Highlights: Received encouraging feedback about interest in covering brain and aging science topics.

**Event:** External Advisory Committee for Food Science and Human Nutrition, Iowa State University (2016)

Activities: Chosen by Chair to showcase research for 25-member panel.

Highlights: Received commendation for work from leading industry experts in human nutrition and consumer health.

**Event:** Science Bound, Iowa State University (2016)

Activities: Led 50 underrepresented students in 2-hour contact period with hands-on session with brain data

Highlights: Received an 8/10 rating from participating students. Average rating is 5/10.

**Event:** Reason to Hope luncheon, Alzheimer's Association (2016)

Activities: Keynote speaker and Q&A after event

Highlights: Raised \$25,000 for Alzheimer's research

**Event:** Food Science and Human Nutrition Day, Iowa State University (2016)

Activities: Liaison from Nutritional Sciences

Highlights: Recruited 4 high-school students to department

## PROFESSIONAL SERVICE – COMMITTEES

---

- Co-Director, Iowa State University Brain Initiative 2015-Present
- Faculty Board Member, Nutritional Sciences Council, Iowa State University 2015-Present
- Faculty Committee Member, FSHN Computation Advisory Committee 2015-Present
- Executive Board Member, ISU Neuroscience Supervisory Committee 2015-Present
- Faculty Committee Member, Student Outcomes Assessment Committee 2015, 2018
- Faculty Committee Member, FSHN Safety Committee 2017-2018
- Faculty Committee Member, FSHN Seminar Committee 2015-2016
- Faculty Committee Member, FSHN Faculty Hires Committee 2015-2016
- Faculty Committee Member, FSHN Staff Hires Committee 2015-2016
- Judge for NIH Research Symposium 2012-2014
- Judge for Human Brain Mapping Conference 2013-Present

- NIA/Johns Hopkins University Summer Internship Mentor 2013
- Judge for NIA Baccalaureate Research Symposium 2012, 2013
- Doctoral Student Representative on Phi Kappa Phi Steering Committee 2005-2006
- Organizer for SACNAS, University of Wisconsin-Madison 2004
- Vice-President of Psychology Undergraduate Association, Oberlin College 2001-2002
- Volunteer at Adult Day Care Center - Cleveland Clinic, Cleveland, OH 2001
- Student Senator, Oberlin College 2000-2001

## LAB GROUP and MENTORSHIP

---

Current Faculty:	2
Current Post-Doc Researchers:	2
Current Ph.D. Students:	4
Current M.S. Students:	1
Current Volunteer/Collaboration Students:	2

### CURRENT SENIOR STAFF

**Colleen Pappas**, Ph.D. **Post-Doctoral Researcher**. Dr. Pappas focuses on: 1) imaging neurogenomics in the context of metabolic genes and associations with Alzheimer's disease outcomes; and 2) novel biomarkers of Alzheimer's disease outcomes. 2018-Present.

Lab Publications: 3

Lab Conference Talks: 9

Lab Conference Abstracts: 9

Fellowships and Awards:

- Travel Award, Genomics and Genetics Workshop 2019

**Qian Wang**, Ph.D. **Adjunct Assistant Professor**. Dr. Wang focuses on: 1) gene transfection of minor allele variants of sirtuin and other cardiometabolic gene SNPs on rodent hippocampal endritogenesis, synaptogenesis, and neurophysiological processes like LTP and LTD. 2019-Present.

Lab Publications: 2

Lab Conference Talks: 6

Lab Conference Abstracts/Posters: 5

Fellowships and Awards:

- College of Human Sciences Seed Grant (\$25,000) 2019-2021

**TBD**. Post-Doctoral Researcher. This researcher will spearhead conducting Dr. Willette's K99/R00 clinical trial on calorie restriction in adults with MCI.

### CURRENT GRADUATE STUDENTS

**Brandon Klinedinst**. **Ph.D. student, Neuroscience Graduate Program**. Focuses on dysmetabolism associations with longitudinal atrophy and resting state neural networks. Previously obtained M.S. in Neuroscience under Dr. Willette. 2015-Present.

Lab Publications: 4

Lab Talks: 13

Lab Conferences/Posters: 16

Fellowships and Awards:

- Alzheimer's Association International Conference travel award 2016

**Brittany Larsen. Ph.D. Student, Neuroscience Graduate Program.** Focuses on conducting dietary clinical trials and examining markers of BBB integrity and neuroimaging outcomes in adults at risk for AD. 2019-Present.

Lab Publications:	1	
Lab Talks:	0	
Lab Conferences/Posters:	0	
Fellowships and Awards:		
<ul style="list-style-type: none"> <li>Brown Graduate Fellowship</li> </ul>		2020-2021
<ul style="list-style-type: none"> <li>Neuroscience Fellowship</li> </ul>		2019-2020

**Amy Pollpeter. Ph.D. Student, Bioinformatics and Computational Biology.** Focuses on genomic variation and markers related to cellular respiration, with respect to neuroimaging outcomes in adults at risk for AD and along the AD continuum. 2019-Present.

Lab Publications:	0
Lab Talks:	0
Lab Conferences/Posters:	0
Fellowships and Awards:	None

**Scott Le. M.S. student, Interdepartmental Graduate Studies (Statistics, Nutrition, Bioinformatics).** Focuses on the role of adiposity in task-based EEG abnormalities and task performance.

Lab Publications:	1
Lab Conference Talks:	6
Lab Conference Abstracts/Posters:	9
Fellowships and Awards:	None

**Qianti "Tim" Li. Ph.D. student, Bioinformatics and Computational Biology.** Focuses on the associations of pre-diabetes and type 2 diabetes with resting state neural networks in adults at risk for AD and along the AD continuum. 2019-Present.

Lab Publications:	0
Lab Conference Talks:	0
Lab Conference Abstracts/Posters:	0
Fellowships and Awards:	None

## GRADUATED Ph.D. STUDENTS

**Kelsey McLimans. Nutritional Sciences.** Dr. McLimans focused on: 1) Novel biomarkers of dysmetabolism and associations with Alzheimer's disease neuropathology; and 2) relationships between B vitamins and Alzheimer's disease brain and behavior outcomes. 2015-2019.

Lab Publications:	4	
Lab Conference Talks:	2	
Lab Conference Abstracts/Posters:	3	
Fellowships and Awards:		
<ul style="list-style-type: none"> <li>Iowa State University Research Award of Excellence (of 6 students)</li> </ul>		2019
<ul style="list-style-type: none"> <li>Raymond Pearson Memorial Scholarship</li> </ul>		2018
<ul style="list-style-type: none"> <li>Bonnie Keppy Graduate Scholarship</li> </ul>		2018
<ul style="list-style-type: none"> <li>Graduate and Profession Student Senate Development Grant</li> </ul>		2018

- Food Science and Human Nutrition Travel Scholarship 2018
- College of Human Sciences Scholarship 2017
- Krishna I. and Savitri K. Kamath Scholarship 2017
- College of Human Sciences Graduate Scholarship 2016
- Graduate and Professional Student Senate Development Grant 2016
- Food Science and Human Nutrition Travel Scholarship 2016
- International Fund Rosenfeld/Cowan Travel Scholarship 2016
- Graduate and Professional Student Senate Development Grant 2016
- Food Science and Human Nutrition Travel Scholarship 2016
- College of Human Sciences Research Fellowship 2015

Current Position: Assistant Professor of Nursing, Viterbo University

**Joe Webb. Nutritional Sciences.** Mr. Webb focused on metabolic genes, insulin resistance, and brain metabolism influencing onset and progression of neurological disorders. 2015-2019.

Lab Publications: 3

Lab Conference Talks: 2

Lab Conference Abstracts/Posters: 5

Fellowships and Awards:

- **National Science Foundation Graduate Research Fellowship** 2017-2020
- RDA Fellowship 2017
- Glenn/American Federation for Alzheimer's Research scholarship 2017
- Wallace E. Barron fellow (top ISU graduating senior) 2016
- College of Human Sciences Covocation Marshall 2016
- College of Human Sciences Graduating Senior of the Year 2016
- Rosenfeld Scholar 2015

Current Position: Post-Doctoral Fellow, Jackson Labs (transitioning)

**Tovah Wolf. Ph.D. student, Nutritional Sciences (co-advised with Dr. Lorraine Lanningham-Foster).** Focuses on dysmetabolism, resting EEG alpha wave asymmetry, and prefrontal fMRI activity during stress induction. 2015-2019.

Funding: ISU Presidential Research Fellowship (top applicant for College of Human Sciences), 2015-Present

Lab Publications: 4

Lab Conference Talks: 1

Lab Conference Abstracts/Posters: 8

Fellowships and Awards:

- Raymond Pearson Memorial Scholarship 2018
- Noel & Ruth Smith Family FS Graduate Scholarship 2018
- Raymond Pearson Memorial Scholarship 2017
- **ISU Presidential Research Fellowship** 2015-2017
- Psychoneuroimmunology Research Society Training Scholar 2016
- Grace Schroeder Scholarship 2016
- ISU FSHN Travel Scholarship 2016
- Helen Easter FCS Graduate Scholarship 2016, 2017
- Iowa State University Student Senate Travel Scholarship 2016, 2017
- American Society for Nutrition Emerging Leader in Nutrition Science 2015
- Institute of Agriculture & Natural Resources L/W Student Travel Fund 2015

- UNL NPOD/NGN 2015 Graduate Student Poster Award 2015
- Cayman Chemical Travel Fund 2015

Current Position: Assistant Professor of Nutrition and Dietetics, Western Carolina University

## GRADUATED M.S. STUDENTS

**Brandon Klinedinst. Neuroscience Graduate Program.** Focused on Parkinson's disease and electroencephalography under Dr. Elizabeth Stegemoller. Transitioned to my lab and examined how insulin resistance is related to longitudinal brain atrophy and resting state neural networks.

Lab Publications: 2

Lab Conference Talks: 4

Lab Conference Abstracts/Posters: 5

Fellowships and Awards:

- Alzheimer's Association International Conference travel award 2016

Current Position: Ph.D. neuroscience student, Iowa State University

**Alexandra "Allie" Plagman. Nutritional Sciences.** Focused on the role of adipocytokines and both neural and cognitive outcomes across the AD spectrum. 2017-2019.

Lab Publications: 3

Lab Conference Talks: 4

Lab Conference Abstracts/Posters: 5

Fellowships and Awards:

- ISU College of Human Sciences Fellowship 2015-2016

Current Position: Research Associate, Department of Defense

**Ashley Swanson. Nutritional Sciences.** Ms. Swanson studied the impact of inflammatory processes on brain atrophy and cognitive decline across the Alzheimer's disease spectrum. 2015-2017.

Lab Publications: 4

Lab Talks: 0

Lab Conference Abstracts/Posters: 3

Fellowships and Awards:

- FSHN Department Travel Awarded 2016
- ISU College of Human Sciences Fellowship 2015-2016

Current Position: Integrative and Clinical Nutritionist, Wolfson Integrative Cardiology

## PRE-FACULTY STUDENT and STAFF MENTORSHIP

Dr. Jake Mullins. **Post-doctoral researcher.** Intermittent Calorie Restriction, Insulin Resistance, and Biomarkers of Brain Function. 2014-2015.

Erika Starks. **Graduate student.** Insulin resistance predicts lower cerebral glucose utilization in late middle age. 2013-2015.

Dr. Omar Malti. **Resident.** The effect of endocannabinoid agonists and antagonists on heart rate variability. 2013-2014.

Highlight: Omar Malti obtained a research internship at the National Institute on Aging.

Nina Modanlo. **Undergraduate.** Association of insulin resistance with glucose uptake in ADNI participants. 2013.

Alexander Birdsill. **Graduate student.** Low cerebral blood flow is associated with lower memory function in metabolic syndrome. 2011-2012.

Highlight: Alex Birdsill became a graduate student in Clinical Neuroscience at the University of Texas - Austin.

Jake Dietsche, Nathaniel Snell, Elizabeth Flynn, Aparna Sodhi. **Undergraduate students.** Cortical thickness estimation and mediating factors of atrophy among Alzheimer's disease patients and middle-aged at-risk adults. 2011-2012.

Highlight: Nathaniel Snell became a graduate student at Stanford University.

Kimberly Farbota. **Graduate student.** Longitudinal volumetric changes following traumatic brain injury: a tensor-based morphometry study. 2011-2012.

Highlight: Received Ph.D. and later obtained J.D.

Kelsey Melah and Jacque Porter. **Undergraduate students.** The relationship between insulin resistance and brain atrophy in middle-aged adults at risk for Alzheimer's disease. 2011.

Michael Laird. **Undergraduate student.** The influence of Alzheimer's disease family history and at-risk genotypes in insulin resistance and related effects on the brain. 2010.

Haley Highdale. **Undergraduate student.** Calorie restriction induced changes in stress reactivity and its prediction by differences in anatomical connectivity between hippocampus and medial prefrontal cortex. 2010.

Dr. Aadhavi Sridharan. **MD/Ph.D. graduate student.** Calorie restriction induced changes in motor performance and anatomical connectivity among basal ganglia, motor, and pre-motor cortices. 2010-2012.

Highlight: Received M.D. and Ph.D.

Jaryd Hiser, Nicholas Guggenbuehl, Aparna Sodhi. **Undergraduate students.** Longitudinal impact of postnatal anemia on neural development in infant rhesus monkeys. 2009-2010.

Highlight: Jaryd Hiser became a graduate student in Psychology at UW-Madison.

Shane O'Neil. **Undergraduate student.** The effects of maternal lipopolysaccharide on pre-pulse inhibition in rhesus macaque offspring. 2007.

Nicole Miller. **Undergraduate student.** Upper respiratory infections and the influence of negative affect on incidence and recall. 2006

Rachel Bernstein. **Undergraduate student.** Maternal lipopolysaccharide induced fetal proinflammatory cytokine responses affects social behavior in young rhesus monkeys. 2006.

Hung Tran and approximately fourteen others at the University of California - Los Angeles. **Undergraduate students.** Cannulation and surgical techniques for in vivo microdialysis and electrode recording in rodents. 2003-2004.

## TEACHING EXPERIENCE

---

Mean Instructor evaluation score: 4.51 of 5.0 (department mean: 4.21)

Mean Class evaluation score: 4.52 of 5.0 (department mean: 4.18)

### CLASSES TAUGHT at IOWA STATE UNIVERSITY

#### **2019**

**Food Science and Human Nutrition 598: Systems Neuroscience** (2 cr.). Spring 2019.

Role: **Instructor**

Highlights: Achieved 4.69 and 4.62 mean ratings in Instructor and Class categories. Refined existing course for 13 graduate students and upper division undergraduates.

#### **2018**

**Food Science and Human Nutrition 492: Fundamentals of Human Research** (2 cr.). Fall 2018.

Role: **Co-Instructor**

Highlights: Co-teach a course for 17 students focused on research ethics, federal and foundation funding, research types, and hands-on experience with either conducting an animal study or human secondary data analysis.

**Food Science and Human Nutrition 598: Systems Neuroscience** (2 cr.). Spring 2018.

Role: **Instructor**

Highlights: Achieved a 4.8 out of 5.0 rating in Instructor and Class categories. Refined existing course for 15 graduate students and upper division undergraduates.

#### **2017**

**Food Science and Human Nutrition 517: Gut Microbiome – Implications for Health and Diseases** (3 cr.). Fall 2017.

Role: **Co-Instructor**

Highlights: Team-taught a course for 15 graduate students focused on gut-brain axis interactions, and the effects of development and aging on gut microbiome across nematodes, fruit flies, and humans.

**Neuroscience 557: Techniques in Neuroscience** (3 cr.). Spring 2017.

Role: **Co-Instructor**

Highlights: Team-taught a course for 7 graduate students focused on teaching different lab techniques to graduate students.

**Food Science and Human Nutrition 598: Systems Neuroscience** (2 cr.). Spring 2017.

Role: **Instructor**

Highlights: Designed new course for 22 graduate students and upper-division undergraduates.

**Food Science and Human Nutrition 480: Professional Communication** (1 cr.). Spring 2017.

Role: **Instructor**

Highlights: Educated 30 upper-division undergraduates about creating scientific written and oral presentations geared toward a lay audience.

**Food Science and Human Nutrition 682: Seminar** (1 cr.). Spring 2017.

Role: **Instructor**

Highlights: Facilitated faculty, external speaker, and student presentations for 55 students in the Food Science and Nutritional Science programs.

## 2016

**Food Science and Human Nutrition 580: Orientation to FS HN Research** (1 cr.). Spring 2017.

Role: **Instructor**

Highlights: Led 17 students to better understand practical research tools to facilitate their research, invited FSHN speakers to discuss research, and provided training in the responsible conduct of research.

## 2015

**Human Development and Family Studies 690: Advanced Topics in Human Development and Family Studies** (2 cr.).

Role: **Co-Instructor**

Highlights: Taught original materials to 15 students.

## PRE-FACULTY CLASSES and LECTURESHIPS TAUGHT

**Teaching Assistant and Guest Lecturer:** Animal Behavior: The Primates, Department of Psychology, University of Wisconsin – Madison, 2006-2009 (300+ students).

Highlights: Taught original material (6 hours). Prepared multiple-choice questions with main course instructor. Graded, tracked, and entered all student test materials. Used scripting language to streamline process for future TAs. Trained and mentored incoming TA during 2010 session. Held office hours.

**Guest Lecturer:** Grand Rounds Symposium, Department of Medicine and Public Health, University of Wisconsin - Madison, 2011

**Teaching Assistant:** Abnormal Psychology, Department of Psychology, University of Wisconsin - Madison, 2006 and 2009 (300+ students)

Highlights: Prepared multiple-choice and short answer questions with main course instructor. Graded, tracked, and entered all student test materials. Used scripting language to streamline process for future TAs. Held office hours.

**Teaching Assistant and Guest Lecturer:** Behavioral Pathology, Department of Psychology, University of Wisconsin - Madison, 2005 (150+ students)

Highlights: Taught original material (4 hours). Prepared multiple-choice and short answer questions with main course instructor. Graded, tracked, and entered all student test materials. Held office hours.

**Teaching Assistant and Guest Lecturer:** Psychology of Motivation, Department of Psychology, University of Wisconsin - Madison, 2005 (50+ students)

Highlights: Taught 1/3 of the course largely using original material. Prepared multiple-choice, short answer, and essay questions with main course instructor. Graded, tracked, and entered all student test materials. Held office hours.