

**Auriel A. Willette, Ph.D.**

Assistant Professor  
 Department of Food Science and Human Nutrition  
 Iowa State University

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**EDUCATION**

2010                    **Ph.D.**, Psychology with Neuroscience minor  
 University of Wisconsin - Madison, Madison, WI  
 GPA: 3.96

2006                    **M.S.**, Psychology  
 University of Wisconsin - Madison, Madison, WI  
 GPA: 4.00

2002                    **B.A.** Neuroscience, Psychology, and Cognitive Science with History minor  
 Oberlin College, Oberlin, OH  
 GPA: 3.67

**POSITIONS**

2015-Present            Assistant Professor, **Iowa State University**, Department of Food Science and Human Nutrition (Main department).

2015-Present            Assistant Professor, **Iowa State University**, Neuroscience Interdepartmental Graduate Program.

2012-2015                Postdoctoral Fellow, **National Institute on Aging**, Laboratory of Neurosciences. PIs: Mark Mattson and Dimitrios Kapogiannis.

2010-2012                Postdoctoral Fellow, **University of Wisconsin – Madison**, School of Medicine and Public Health. PIs: Sterling Johnson and Barbara Bendlin.

2004-2010                Doctoral Student, **University of Wisconsin - Madison**, Department of Psychology. PI: Christopher Coe.

2003-2004                Volunteer Lab Manager, Research Associate, and Technician, **University of California - Los Angeles**. PI: Thomas Minor.

2001-2002                Research Assistant, **Oberlin College**, Department of Neuroscience. PI: Albert Borroni.

2001                        Research Assistant, **Harvard University**, Department of Psychology. PI: Stephen Kosslyn.

2000                        Research Assistant, **Oberlin College**, Department of Neuroscience. PI: Michael Loose.

**SCIENTIFIC JOURNAL PUBLICATIONS    (14 first author, 9 co-author)**

1. **Willette AA**<sup>†</sup>, Bendlin BB<sup>†</sup>, 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. *JAMA Neurology*, in press.
- † = Shared first authorship.**
2. **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. *Diabetes*, in press.
3. **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. 2014. *Alzheimer's and Dementia*, in press.
4. **Willette AA**, Kapogiannis D. Does the brain shrink as the waist expands? 2014. *Ageing Research Reviews*, in press.
5. **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. *Psychiatry Research: Neuroimaging*, in press.
6. 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.
7. **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.
8. 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.
9. **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.
10. 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.
11. 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.
12. 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.
13. **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.

14. 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.

15. **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.

16. 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.

17. 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.

18. **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.

19. **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.

20. **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.

21. Kastman EK<sup>†</sup>, **Willette AA**<sup>†</sup>, 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.

<sup>†</sup> = Shared first authorship.

22. 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.

23. **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.

1. Bendlin BB, **Willette AA**, Puglielli L, Alexander AL, Rayasam A, Carlsson C, Johnson SC, Gallagher C, Sager MA. Myelin basic protein in cerebrospinal fluid predicts radial diffusivity in cognitively healthy adults. *American Journal of Neuroradiology*, in review.
2. Kapogiannis D, Carlson O, **Willette AA**, Resnick SM, Egan JM, Ferrucci L, Goetzl EJ. CSF IL-12/23, brain atrophy, and cognitive performance in MCI and Alzheimer's disease. *Nature Neuroscience*, in review.
3. **Willette AA**, Kapogiannis D, Goetzl E. Neurally enriched exosome biomarkers of brain insulin resistance and Default Mode Network in early AD. *Nature Neuroscience*, in review.
4. Omar M<sup>†</sup>, **Willette AA<sup>†</sup>**, Kapogiannis D. Differential effects of the endocannabinoid agonist nabilone on heart rate variability during fMRI task and resting. In preparation.  
**† = Shared first authorship.**
5. Willette AA, Kapogiannis D, Goetzl E. Exosome tau and amyloid strongly predict hippocampal atrophy in MCI and early AD. In preparation.
6. Swanson A, **Willette AA**, for the Alzheimer's Disease Neuroimaging Initiative. Novel proinflammatory CSF biomarkers strongly predict longitudinal atrophy and memory decline in Mild Cognitive Impairment and Alzheimer's disease.

## NON-JOURNAL or LAY PUBLICATIONS

1. **Willette AA**, Swanson A. Brain inflammation and outcomes in Alzheimer's. *Today's Geriatric Medicine*. Forthcoming featured article in September 2015.

## FUNDING - RESEARCH GRANTS

**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)." Ongoing.

Role: Principal Investigator

Total direct costs: 10,000 USD.

Status: Funded.

**K99/R00 Pathway to Independence Career Award, National Institute on Aging (1K99AG047282-01).**

"Insulin Resistance, Biomarkers of Brain Function, and Intermittent Calorie Restriction". Ongoing.

**Role:** Principal Investigator

Total direct costs: 134,730 USD. Priority Score: 16 (6th %).

Status: Funded.

**National Institute on Aging, Internal Grant (T-AG-0001).** "Intermittent Calorie Restriction, Insulin Resistance, and Biomarkers of Brain Function". Ongoing.

**Role:** Co-Principal Investigator

Total direct costs: 173,000 USD.

Status: Funded.

**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-Principal Investigator  
 Total direct costs: 185,000 USD.  
 Status: Funded.

## FUNDING - FELLOWSHIPS, SCHOLARSHIPS, AWARDS

2014	Alzheimer's Association International Conference - Full Travel Award
2014	National Institutes of Health FARE Travel Award
2012-2014	Intramural Training Research Fellowship
2011	Human Brain Mapping – Full Travel Award
2010-2012	<b>Post-Doctoral National Research Service Award</b>
2010	University of Wisconsin - Madison Institute of Aging Research Grant
2009	Marian S. Schwartz Fellowship
2009	Royalty Research Fellowship
2007-2008	<b>Pre-Doctoral National Research Service Award</b>
2006-2007, 2008-2010	<b>Ford Foundation Fellowship</b> (top 3% accepted)
2006-2008	<b>National Science Foundation-AGEP Consortium Grant</b>
2006-2009	Roderick Menzies Memorial Scholarship
2006, 2007	Ford Fellow Travel Award
2004-2005	Advanced Opportunity Fellowship
2004	Vilas Award
2001, 2002	Mary C. Siemer Scholarship
2001, 2002	J.C. Martin Scholarship
2001, 2002	Kolko Family Scholarship
2001	Ronald E. McNair Award
2001	Mind-Body Training Grant Awardee
1999-2001	Merit Scholarship Fund
1998-1999	Opportunity Grant Awardee

## HONORS AND INVITED TALKS

2015	Symposia invitation to International Conference on Alzheimer's Disease and Dementia
2015	Elected to Nutritional Sciences Council, Iowa State University
2015	<b>Interfraternity Council Faculty Recognition Award (24 of 1900 faculty selected)</b>
2015	Presidential High Impact Hire, Iowa State University
2014	Selected Speaker - Society for Neuroscience
2014	Selected Speaker - Alzheimer's Association International Conference
2013	<b>Fellow Award for Research Excellence</b> (only LNS recipient)
2013	NIH Summer Mentor Award
2013	Selected Speaker - NIH Research Festival
2011	Selected Speaker - Human Brain Mapping
2010	<b>Nathan Shock New Investigator Award</b>
2009	Schwartz Fellow
2007, 2008	International Scholar Laureate
2006, 2008, 2011	Psychoneuroimmunology Research Society Training Scholar
2008	Discussant for Wisconsin Emotions Symposium
2007	Induction into Golden Key Honor Society
2006, 2007	The National Dean's List (top 1% of doctoral students)

2007	Induction into The National Scholars Honor Society
2006, 2007	<b>Invited Speaker at National Academy of Sciences</b>
2006	<b>Ford Foundation Fellow</b>
2006, 2008, 2011	Selected Speaker at Psychoneuroimmunology Research Society
2005, 2006	The Chancellor's List
2005	Induction into Phi Kappa Phi National Honors Society
2005	Ford Foundation Fellowship - Honorable Mention
2003	Psychology Endorsement and Finalist for UCLA Fellowship
2001	Selected Speaker - Ronald E. McNair Scholars Research Conference
2000	Selected Speaker - McNair, Mellon, and Science Scholar Conference
2000	<b>Ronald E. McNair Scholar</b>
1998-1999	The Dean's List

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

**Iowa Public Radio's River to River.** Thirty-minute, in-person interview with Ben Keifer 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. Forthcoming 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."

**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.** 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." Forthcoming 500-1,000 word featured article in Sciences et Avenir, a French scientific magazine.

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

**WHO Radio, Des Moines, IA.** 2015. Interview with Tom Noller about "Proteins may slow memory loss in people with Alzheimer's." Subsequent broadcast feature.

**WHO Radio, Des Moines, IA.** 2015. 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.** 2015. Featured article on May 21<sup>st</sup>, 2015.

**College of Human Sciences, Iowa State University, Ames, IA.** 2015. 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.** 2015. 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.** 2015. Interview with Sherry Speikers on the impact of insulin resistance on different brain outcomes.

**College of Human Sciences, Iowa State University, Ames, IA.** 2015. Interview with Meghan Brown on the contributions of metabolic dysfunction to impaired executive function performance and frontal lobe atrophy across the lifespan.

**Psychologie Magazine (The Netherlands).** 2012. Interview with Edwin Oden about Psychoneuroendocrinology paper on long-term calorie restriction and stress reactivity.

**BBC Horizons, United Kingdom.** 2012. Interview with Michael Mosley 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.

## **RESEARCH EXPERIENCE**

2012-2014                      Mark Mattson and Dimitrios Kapogiannis      **National Institute on Aging**  
Phase 1 clinical trials examining amelioration of glucoregulatory impairment and effects on brain function and metabolism. Additional work examining the association of metabolism biomarkers on brain atrophy, glucose uptake, and amyloid deposition in cognitively normal and impaired participants. Neuroimaging techniques include block- and event-based fMRI, VBM, MRS, resting state fMRI, FDG-PET, and PiB-PET. **Role:**  
Postdoctoral Fellow

- 2010-2012 Sterling Johnson and Barbara Bendlin **University of Wisconsin - Madison**  
Biological mediators of brain changes in people at risk for Alzheimer's disease and in aged rhesus monkeys. Neuroimaging techniques included VBM, DTI, ASL, FDG- and PiB-PET, and block-based fMRI. **Role:** Postdoctoral Fellow
- 2004-2010 Christopher Coe **University of Wisconsin - Madison**  
Biological and psychological mediators of changes in brain and behavior, in prenatally stressed and aging rhesus monkeys. Neuroimaging techniques included VBM and DTI. **Role:** Doctoral Student
- 2003-2004 Thomas Minor **UCLA**  
Effects of catecholamines and proinflammatory cytokines on the induction of cognitive decline and learned helplessness in rodents. **Role:** Volunteer Research Associate
- 2001-2002 Albert Borroni **Oberlin College**  
Effects of voltage-dependent calcium channels on short-term and long-term memory in positive and negative reinforcement tasks in rodents. **Role:** Research Assistant
- 2001 Stephen Kosslyn **Harvard University**  
The association of severe myopia and visual imagery accuracy. **Role:** Research Assistant
- 2000 Michael Loose **Oberlin College**  
Establishing a neural network of Leutinizing Hormone Releasing Hormone release from the arcuate nucleus of the hypothalamus. **Role:** Research Assistant

## **PROFESSIONAL ACTIVITIES**

Ad hoc reviewer: **Alzheimer's and Dementia (4 reviews); Brain (4 reviews);** Ageing Research Reviews (6 reviews); Diabetes Care (3 reviews); Diabetes (2 reviews); Biological Psychiatry; Brain, Behavior, and Immunity (3 reviews); Neurobiology of Aging (2 reviews); NeuroImage; Human Brain Mapping; Psychoneuroendocrinology; Experimental Gerontology; European Journal of Neurology; Frontiers in Aging Neuroscience; PLoS One; Physiology and Behavior; Brain Research; Psychiatry Research – Neuroimaging.

## **PROFESSIONAL SERVICE**

Faculty Board Member, Nutritional Sciences Council (2015-Present)  
Faculty Board Member, Iowa State University BRAIN Initiative (2015-Present)  
Faculty Committee Member, FSHN Seminar Committee (2015-Present)  
Faculty Committee Member, FSHN Computer Committee (2015-Present)  
Faculty Committee Member, FSHN Faculty Hires Committee (2015-Present)  
Faculty Committee Member, FSHN Staff Hires Committee (2015-Present)  
Faculty Committee Member, Student Outcomes Assessment Committee (January 2015-April 2015)  
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 Society for Advancement of Chicanos and Native Americans in Science, UW-Madison (2004)



Vice-President of Psychology Undergraduate Association, Oberlin College (2001-2002)  
 Volunteer at Adult Day Care Center - Cleveland Clinic, Cleveland, OH (2001)  
 Student Senate Representative, Oberlin College (2000-2001)

## **FACULTY MENTORING - UNDERGRADUATE, GRADUATE, POST-GRADUATE**

Tovah Wolf. **Ph.D. student, Nutritional Sciences (on rotation)**. The relationship between insulin resistance, resting EEG alpha wave asymmetry, and prefrontal fMRI activity during IAPS presentation. 2015-Present.  
Highlight: Presidential Research Assistantship recipient.

Caroline McKinney. **M.S. student, Nutritional Sciences (on rotation)**. The association between maternal gestational diabetes and behavioral outcomes in human offspring. 2015-Present.  
Highlight: College of Human Sciences Research Assistantship recipient.

Kelsey McLimans. **Ph.D. student, Nutritional Sciences (on rotation)**. Focuses on two research projects: 1) The relationship between carbohydrate intake and brain atrophy; and 2) the impact of metabolic dysfunction on amyloid deposition across the Alzheimer's disease spectrum. 2015-Present.  
Highlight: College of Human Sciences Research Assistantship recipient.

Ashley Swanson. **M.S. student, Nutritional Sciences**. The impact of inflammatory processes on brain atrophy and cognitive decline across the Alzheimer's disease spectrum. 2015-Present.

Joe Webb. **Undergraduate student**. Genes, Insulin Resistance, and Brain Metabolism Influencing Onset and Progression of Alzheimer's disease. 2015-Present.  
Highlight: 2015 Rosenfeld Scholar.

Tianqi Wang. **Undergraduate student**. Honor's project: The association of ectonucleotide pyrophosphatase 2 in cerebrospinal fluid and Alzheimer's disease outcomes. 2015-Present.  
Highlight: Honor's program.

Haley Baas, McKenzie Besch, Jonathan Cerna, Ellie Schmidt. **Undergraduate students**. Obesity, Structural Imaging, and Reactivity at Iowa State (OSIRIS) study. 2015-Present.

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

## **PRE-FACULTY MENTORING – UNDERGRADUATE, GRADUATE, POST-GRADUATE**

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.

## **TALKS AND POSTERS (FIRST-AUTHOR ONLY)**

**Willette, AA**. Novel inflammatory CSF biomarkers strongly predict medial temporal atrophy and cognitive decline in Alzheimer's disease. Psychoneuroimmunology Research Society. Seattle, Washington. **Talk and poster**.

**Willette AA**, Kapogiannis D. Insulin resistance, FDG-PET uptake, and conversion to Alzheimer's disease. 2014. Society for Neuroscience. Washington, D.C. **Talk.**

**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.**

**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.**

**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.**

**Willette AA**, Reiter DA, Kapogiannis D. Precuneus glucose is predicted by GABA and glutamate. 2012. National Institutes of Health Research Festival, Bethesda, MD. **Talk.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**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.**

**Willette AA**, Ellinger Z, Philips A, Loose M. LHRH release from arcuate nucleus: a neural network schema. 2000. Neuroscience Poster Fair, Oberlin, OH. **Poster.**

## **TEACHING EXPERIENCE**

**Guest Lecturer:** Human Development and Family Studies 690: Advanced Topics in Human Development and Family Studies (15 students).

Highlights: Taught original materials (6 hours).

**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.

## **REFERENCES**

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