

Washington State University-Spokane
Elson S. Floyd College of Medicine
Department of Biomedical Sciences
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EDUCATION*University of Wisconsin-Madison*

- Ph.D. Neuroscience, 2008, Area of Specialization: Sleep, Learning & Memory
- B.Sc. Zoology, 1999
- B.Sc. Communication Arts, TV-Radio-Film, 1999

RESEARCH EXPERIENCE*Assistant Research Professor: Washington State University-Spokane, 2014-present*

- Development of spatial/temporal genetic manipulations in mice and flies to examine changes in astrocyte-specific biology and behavior
- Introduced a *Drosophila* research program to WSU
- Using gene expression profiling and bioinformatics approaches to evaluate changes in glial-specific pathways regulating perisynaptic processing and local translation in sleep homeostasis
- Developed international collaborations to investigate gene association studies of sleep disturbance in humans, mice, and flies
- Supported by NIH grant R01MH099544 (2014-2016)

Post-Doctoral Fellowship: Univ. of Pennsylvania, Center for Sleep and Circadian Neurobiology, 2010-2014 (Research Advisors: Dr. Allan Pack and Marcos G. Frank)

- Utilized translational approaches in mouse and *Drosophila* models to investigate role of specific human genetic mutations affecting sleep and circadian behavior
- Used *Drosophila* Alzheimer's disease model to investigate genetic and pharmacological rescue of molecular mechanisms responsible for beta-amyloid-induced disruption in sleep behavior
- Designed custom sleep analysis program for fly, mouse, and human actigraphy
- Developed independent research program in mice integrating circadian rhythms and epilepsy
- Supported by NIH grant 5T32HL007713 (2010-2013)
- Supported by NIH grant R01MH099544 (2014)

Assistant Scientist: Univ. of Wisconsin, Dept. of Genetics, 2009-2010

- Utilized the fly model *Drosophila melanogaster* and neurogenetics to study the molecular mechanisms underlying sleep and memory formation
- Developed fly transgenic models to study gain- and loss-of-function with spatial and temporal control - Experience writing research papers, reviews, and proposals - Supported by NIH grant R01NS063245

Post-Doctoral Research: Univ. of Wisconsin, Dept. of Genetics, 2008-2009

- Tailored sleep deprivation and sleep/activity recording in flies to evaluate genetic intersection of sleep/circadian rhythms with learning & memory
- Used a reverse genetic approach to study sleep in various mutant fly strains - Supported by NIH grant R01NS063245

Curriculum Vitae

Jason R. Gerstner, PhD

Doctoral Research: Neuroscience Training Program, Dept. of Genetics, 2003-2008

(Research advisors: Drs. Jerry C.P. Yin and Charles F. Landry)

- Generated transgenic flies for conditional expression of target genes
- Constructed/utilized olfactory avoidance conditioning apparatus for fly memory
- Supported by NIH grant 5T32GM007507 (2003-2006)
- Supported by NIH grant R01MH067774 (2006-2008)

Associate Research Specialist: University of Wisconsin, Dept. of Psychiatry, 2001-2003

(Principal Investigators: Drs. Charles F. Landry and Ann E. Kelley)

- Microarray analysis of brain gene expression in circadian rhythms & addiction in rodents

Undergraduate Research/LTE: University of Wisconsin, Dept. of Psychiatry, 1999-2001

(Research Advisor: Ruth M. Benca)

- Immunocytochemical characterization of hypothalamic proteins, peptides, and factors involved in sleep/wake regulation in rodents and birds
- EEG sleep physiology on rodents, modulation of sleep behavior

TEACHING EXPERIENCE

- Guest Lecturer- Mind, Brain, and Behavior course, University of Washington 2018.
- Guest Lecturer- Biology, Gonzaga University 2017.
- External examiner for master's student thesis, University of Bergen 2016.
- Mentored 4 undergraduate students, 1 master's student, Washington State University 2015-current
- Guest Lecturer- CS 355-1: Bioinformatics (Genetics/Genomics) Whitworth University, 2015, 2017.
- Mentored 2 graduate students, 2 undergrad students Center for Sleep and Circadian Neurobiology 2010-2014.
- Mentored 4 graduate students, 3 undergraduate students during post-doc, Department of Genetics, University of Wisconsin-Madison, 2008-2009.
- Mentored 7 undergraduate students, 3 technicians, during graduate training, Neuroscience Training Program, University of Wisconsin-Madison, 2003-2008.
- Assistant Instructor- Human brain anatomy, first year medical students, University of Wisconsin, 2008.
- Instructor – Basic Neuroscience course (genetics, molecular biology, neurophysiology, learning, memory, emotions, sleep, mental disorders), PEOPLE program, University of Wisconsin, 2006-2007.

AWARDS and HONORS

- Outstanding Early Investigator Award - Honorable Mention, Sleep Research Society 2017
- AGS-NIA U13 Sleep Conference Award, Bethesda, MD, 2015
- Trainees in Chronobiology Award to present at Aging and Sleep Meeting, Lyon, France, 2014
- UPenn Biomedical Postdoctoral Programs Award, 2014
- American Academy of Sleep Medicine, Young Investigator Research Forum Award, 2014
- Sleep Research Society Abstract Excellence Award, APSS Sleep Meeting, 2013
- Late-Breaking Abstract Award presentation, Gerontological Society Annual Meeting, 2012
- Best Poster Award, UPenn Biomedical Postdoctoral Research Symposium, 2012
- Sleep Research Society Honorable Mention Award, APSS Sleep Meeting, 2012
- Sleep Research Society Abstract Excellence Award, APSS Sleep Meeting, 2009
- Howard Hughes Janelia Conference: Sleep in Non-Mammalian Models Award, 2009
- Keystone Symposia: Genetics and Biochemistry of Sleep Award, 2008 - Academic Honors, Golden Key Int'l Honour Society, 2007
- Debra Tillmann Memorial Medical Scholar: 1994-95, 1995-96, 1996-97

FUNDING and RESEARCH SUPPORT

- Washington State University EFCOM-Biomedical Sciences Department Chair Discretionary Funds
- NIH NIMH R01MH099544 (PI Marcos Frank) Non-Neuronal Regulators of Sleep (2014-2017)
- NIH NHLBI T32HL07713 (PI Allan Pack) Training Program/Respiratory Neurobiology and Sleep (2010-2013)
- NIH NIGMS T32GM007507 (PI Tom Yin) Neuroscience Training Program (2003-2006)

SOCIETIES

- American Association for the Advancement of Science, 2015-present
- American Academy of Sleep Medicine, 2013-present
- Sleep Research Society, 2008-present
- Society for Cognitive Studies of the Moving Image, 2008-2009
- Society for Neuroscience, 2004-present
- American Society for Neurochemistry, 2005
- Undergraduate Zoological Society, UW-Madison, Founder, 1996-1999

PATENTS

- US 13/751,213 "Methods and Compositions for Improving Sleep and Memory"

OTHER PROFESSIONAL EXPERIENCE

- *Ad hoc* scientific grant reviewer for National Science Foundation
- *Ad hoc* reviewer for Science, Nature Communications, Scientific Reports, Glia, Cellular and Molecular Life Sciences, Journal of Neurological Sciences, Journal of Circadian Rhythms, Learning & Memory, Neural Plasticity, Nature and Science of Sleep, Cerebral Cortex, Frontiers in Systems Neuroscience, PLoS One, Frontiers in Aging Neuroscience, Neurobiology of Sleep and Circadian Rhythms, Journal of Neuroscience, Journal of Neuroscience Research, SLEEP, Molecular Neurobiology.
- Member, Advisory Board, Spokane Center for Public Neuroscience Education (SCPNE) 2018-present
- Elson S. Floyd College of Medicine Faculty Bylaws subcommittee member.
- The Role of Sleep Deficiency and Sleep Disorders in Aging, Cognition, and Neurodegeneration Workshop participant, NHLBI- NIA, NIH, Bethesda, MD, 2018.
- Alzheimer's Symposium Participant, Allen Institute for Brain Science, Seattle, WA 2016. - Sleep and Performance Research Center- Research and Grantsmanship Workshop Planning Committee, WSU Spokane and Priest Lake, Idaho 2015.
- Member, Flybase Community Advisory Group, 2014.
- American Academy of Sleep Medicine, Young Investigator Research Forum participant, NIH, 2014.
- Co-Chair, symposium "Translational Regulation in Glial Cells" XI European Meeting on Glial Cells in Health and Disease, Berlin, Germany. 2013.
- Guest Associate Chief Editor, "Sleep and Circadian Rhythms in Plasticity and Memory" Frontiers in Neuroscience, 2013.
- Attendee for UCLA Lake Arrowhead Sleep Training Workshop, 2013, 2015.
- Chair, symposium "Glial Cell Regulation of Sleep and Circadian Rhythms," Assoc Prof Sleep Societies Meeting. Boston, MA. 2012.
- Editorial "Sleep and Circadian Rhythms in Memory Formation" Penn Sleep News, Winter Issue, 2011.
- Attendee for Cold Spring Harbor Labs Course on the Biology of Memory, 2011.
- Chair, symposium "Cycling Behavior and Memory Formation," Society for Neuroscience. Chicago, IL. 2009.

PUBLICATIONS and ABSTRACTS*Publications*

Vanderheyden, WM, Goodman, AG, Taylor, RH, Frank, MG, Van Dongen, HPA, **Gerstner, JR**. Astrocyte expression of the *Drosophila* TNF-alpha homologue, Eiger, regulates sleep in flies. *PLoS Genetics*. 2018 Oct 31;14(10):e1007724.

Vanderheyden WM, Lim MM, Musiek ES, **Gerstner JR**. Alzheimer's Disease and Sleep-Wake Disturbances: Amyloid, Astrocytes, and Animal Models. *J Neuroscience*. 2018 Mar 21;38(12):2901-2910. doi: 10.1523/JNEUROSCI.1135-17.2017.

Gerstner, JR, Lenz, O, Vanderheyden, WM, Chan, M, Pfeiffenberger, C, Pack, AI. Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in *Drosophila*. *Journal of Neuroscience Research*. 2017 Aug;95(8):1548-1564. doi: 10.1002/jnr.23778.

Gerstner, JR, Perron, IJ, Riedy, SM, Yoshikawa, T, Kadotani, H, Owada, Y, Van Dongen, HPA, Galante, RJ, Dickinson, K, Yin, JCP, Pack, AI, Frank MG. Normal sleep requires the astrocyte brain fatty acid binding protein FABP7. *Science Advances* 05 Apr 2017:Vol. 3, no. 4, e1602663

Gerstner, JR, Koberstein, J, Watson, AJ, Zapertov, N, Risso, D, Speed, TP, Frank, MG, Peixoto, L. Removal of unwanted variation reveals novel patterns of gene expression linked to sleep homeostasis in murine cortex. *BMC Genomics* 2016 Oct 25;17:727

Gerstner, JR, Aton, SJ, Heller, HC. Waking up to the alarm: Sleep, clocks, and making memory (s)tick *Front Syst Neurosci*. 2015 Apr 22;9:65.

Lim, MM, **Gerstner, JR**, Holtzman, DM. The sleep-wake cycle and Alzheimer's Disease: What do we know? *Neurodegenerative Disease Management*. 2014 Oct; 4(5): 351-362

Gerstner, JR, Smith, G, Lenz, O, Perron IJ, Buono RJ, Ferraro, TN. BMAL1 controls the diurnal rhythm and set point for electrical seizure threshold in mice. *Front Syst Neurosci*. 2014 Jun 26; 8:121.

Vanderheyden, WM, **Gerstner, JR**, Tanenhaus, A, Yin, JCP, Shaw, PJ. ERK Phosphorylation Regulates Sleep and Plasticity in *Drosophila*. *PLoS One* 2013 Nov 14;8(11):e81554.

Grandner, MA, Jackson, N, **Gerstner, JR**, Knutson, KL. Sleep symptoms associated with intake of specific dietary nutrients. *J Sleep Res*. 2013 Sep 2

Tubon, TC, Zhang, J, Friedman, E, Jin, H, Gonzalez, ED, Zhou, H, Drier, D, **Gerstner, JR**, Paulson, E, Fropf, R, and Yin, JCP. dCREB2-mediated Enhancement of Memory Formation. *J Neurosci*. 2013 Apr 24;33(17):7475-87

Grandner MA, Jackson NJ, **Gerstner JR**, Knutson KL. Dietary nutrients associated with short and long sleep duration: data from a nationally representative sample. *Appetite*. 2013 Jan 19

Gerstner, JR, Perron IJ, Pack AI. The nexus of a β , aging, and sleep. *Sci Transl Med*. 2012 Sep 5;4(150):150fs34.

Gerstner, JR. On the evolution of memory: A time for clocks. *Front Mol Neurosci*. 2012;5:23.

Gerstner, JR, Vanderheyden, WM, LaVaute, TM, Westmark, CJ, Rouhana, L, Pack, AI, Wickens, M, Landry, CF. Time-of-day regulates subcellular trafficking, tripartite synaptic localization and polyadenylation of the astrocytic Fabp7 mRNA. *J Neurosci*. 2012 Jan 25;32(4):1383-94.

Gerstner, JR, Vanderheyden, WM, Shaw, PJ, Landry, CF, and Yin, JCP. Cytoplasmic to nuclear localization of fatty-acid binding protein correlates with specific forms of long-term memory in *Drosophila*. *Commun & Integr Biol* 2011.

Gerstner, JR, Vander Heyden, WM, Shaw, PJ, Landry, CF, and Yin, JCP. Fatty-acid binding proteins modulate sleep and enhance long-term memory consolidation in *Drosophila*. *PLoS One*. 2011 Jan 27;6(1)

Gerstner JR, Yin JC. Circadian rhythms and memory formation. *Nat Rev Neurosci*. 2010 Aug;11(8):577-88.

Gerstner JR. The aging clock: to 'BMAL'icious toward learning and memory. *Aging* (Albany NY). 2010 May;2(5):251-4.

Gerstner JR, Lyons LC, Wright KP Jr, Loh DH, Rawashdeh O, Eckel-Mahan KL, Roman GW. Cycling behavior and memory formation. *J Neurosci*. 2009 Oct 14;29(41):12824-30.

LaVaute TM, Yoo YD, Pankratz MT, Weick JP, **Gerstner JR**, Zhang SC. Regulation of neural specification from human embryonic stem cells by BMP and FGF. *Stem Cells*. 2009 Aug;27(8):1741-9.

Gerstner JR, Bremer QZ, Vander Heyden WM, Lavaute TM, Yin JC, Landry CF. Brain Fatty Acid binding protein (fabp7) is diurnally regulated in astrocytes and hippocampal granule cell precursors in adult rodent brain. *PLoS One*. 2008 Feb 20;3(2):e1631.

Gerstner JR, Landry CF. The zinc-binding protein chordc1 undergoes complex diurnal changes in mRNA expression during mouse brain development. *Neurochem Res*. 2007 Feb;32(2):241-50.

Gerstner JR, Landry CF. Expression of the transcriptional coactivator CITED1 in the adult and developing murine brain. *Dev Neurosci*. 2007;29(3):203-12.

Gerstner JR, Vander Heyden WM, Lavaute TM, Landry CF. Profiles of novel diurnally regulated genes in mouse hypothalamus: expression analysis of the cysteine and histidine-rich domain-containing, zincbinding protein 1, the fatty acid-binding protein 7 and the GTPase, ras-like family member 11b. *Neuroscience*. 2006;139(4):1435-48.

Books

Gerstner, JR, Aton, SJ, Heller, HC (editors). *Sleep and Chronobiology in Plasticity and Memory*. (Front Syst Neurosci. – eBook 2016)

Abstracts

Vanderheyden, WM, Goodman, AG., Taylor, RH, Frank MG, Van Dongen, HPA, **Gerstner, JR**. Astrocyte expression of Eiger, the *Drosophila* TNF-alpha homologue, regulates sleep in flies. Gordon Research Conference on Sleep Regulation and Function, Galveston, TX. 2018.

Hamilton, HL, **Gerstner, JR**. Sleep Disturbances in Pathological Amyotrophic Lateral Sclerosis *Drosophila melanogaster*, hSOD1, Model. SIRC (Spokane Intercollegiate Research Conference). Whitworth University, Spokane, WA. 2018. *1st Place, Best Poster Award

Bains, I, **Gerstner, JR**. Excessive Daytime Sleepiness in a Fly model of Parkinson's disease. Graduate and Professional Students Association (GPSA) Research Exposition. Pullman, WA. 2018.

Gerstner, JR, Perron, IJ, Riedy, S, Yoshikawa, T, Kadotani, H, Owada, Y, Van Dongen, H, Dye, K, Yin, JCP, Pack, AI, Frank MG. Normal sleep requires the astrocyte brain-type fatty acid binding protein FABP7. Society for Neuroscience meeting. Washington, DC. 2017.

Gerstner, JR, Perron, IJ, Riedy, S, Yoshikawa, T, Kadotani, H, Owada, Y, Van Dongen, H, Dye, K, Yin, JCP, Pack, AI, Frank MG. The Astrocytic Fabp7 Gene Regulates Sleep Across Phylogeny. Assoc Prof Sleep Societies Meeting. Boston, MA. 2017.

Gerstner, JR, Koberstein, J, Watson, AJ, Frank, MG, Piexoto, L. Removal of unwanted variation reveals novel patterns of gene expression linked to sleep homeostasis in murine cortex. Gordon Research Conference on Sleep Regulation and Function, Galveston, TX. 2016.

Gerstner, JR, Perron, IJ, Paschos, G, Kochersberger, A, Balance, H, Grandner, M, Jager, J, Yoshikawa, T, Kadotani, H, Owada, Y, Lazar, M, Hogenesch, J, FitzGerald, G, Pack, AI. The circadian clock controlled brain fatty-acid binding protein FABP7 regulates sleep quality in mammals. University of Pennsylvania Biomedical Post-doctoral Symposium. Philadelphia, PA. 2013.

Gerstner, JR, Lenz, O, Ly, S, Chan, M, Pfeiffenberger, C, Pack, AI. Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in *Drosophila*. Annual Marian S. Ware Neurodegenerative Diseases Research Retreat, University of Pennsylvania, Philadelphia, PA. 2013.

Gerstner, JR, Smith, GG, Ferraro, TN, Bmal controls the diurnal rhythm and set point for electrical seizure threshold in mice. Soc for Neurosci, San Diego, CA 2013.

Perron, IJ, Paschos, G, Owada, Y, FitzGerald, G, Pack AI, **Gerstner, JR**, The brain fatty acid binding protein FABP7 regulates sleep quality. Soc for Neurosci, San Diego, CA 2013.

Gerstner, JR, "Diurnal control of trafficking and post-transcriptional processing of the astrocyte Fabp7 mRNA" EuroGlia Meeting, Berlin, Germany, 2013.

Gerstner, JR, Chan, M, Pfeiffenberger, C, Lenz, O, Pack, AI. Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in *Drosophila*. Assoc Prof Sleep Societies Meeting. Baltimore, MD. 2013. *Abstract Excellence Award

Gerstner, JR, Chan, M, Pfeiffenberger, C, Lenz, O, Pack, AI. Fabp Expression Rescues Amyloid-beta Induced Sleep Fragmentation in *Drosophila*. Gerontological Society of America annual meeting. San Diego, CA. 2012. *Late-breaking Abstract Award

Gerstner, JR, Chan, M, Lenz, O, Pack, AI. Fabp Expression Rescues Amyloid-beta Induced Sleep Fragmentation in *Drosophila*. University of Pennsylvania Biomedical Post-doctoral Symposium. Philadelphia, PA. 2012. *Selected Best Poster Award

- Gerstner, JR**, Chan, M, Zimmerman, J, Pack, AI. Fabp Expression Rescues A β 42-Induced Sleep Fragmentation in *Drosophila*, Aging and Sleep Meeting. Paris, France. 2012.
- Gerstner, JR**, Lenz, O, Chan, M, Zimmerman, J, Yin, JC, Pack, AI. Effects of Acute Sleep Loss on dFabp Expression and dFabp-induced Long-term Memory in *Drosophila*. Assoc Prof Sleep Societies Meeting. Boston, MA. 2012. *Abstract Honorable Mention Award
- Ferraro, TN, Smith, GG, Dolye, GA, Buono, RJ, **Gerstner, JR**. Diurnal influences on electrical seizure threshold in mice. Poster Presentation. Soc for Neurosci, Washington, DC. 2011.
- Gerstner, JR**, Huh, CJ, Miller, B, Pizarro, A, Paschos, G, FitzGerald, G, Takahashi, J, Hogenesch, J, Pack, AI. Effects of acute sleep deprivation and the circadian clock on expression of fatty-acid binding proteins in mouse brain. Poster Presentation. Soc for Neurosci, Washington, DC. 2011.
- Gerstner, JR**, Vanderheyden, WM, Lavaute T, Westmark, CJ, Rouhana, L, Kochersberger, A, Huh, CJ, Pack AI, Wickens, M, Landry CF. Diurnal oscillation of tripartite synaptic trafficking and polyadenylation of the astrocytic Fabp7 mRNA. Poster Presentation. Tenth Annual Biomedical Research Symposium, Philadelphia, PA. 2011.
- Huh, CJ, Paschos, G, FitzGerald, G, Hogenesch, J, Pack, AI, **Gerstner, JR**. Effects of the clock and acute sleep deprivation on fatty-acid binding protein expression in murine brain. Poster Presentation. Center for Sleep Research Retreat, Philadelphia, PA. 2011.
- Gerstner, JR**, Vander Heyden, WM, Shaw, PJ, Landry, CF, and Yin, JCP. Long-term memory enhancement and sleep/wake modulation via fatty-acid binding proteins in *Drosophila*. Poster Presentation. Soc for Neurosci, Chicago, IL. 2009.
- Gerstner, JR**, Vanderheyden, WM, Shaw, PJ, Landry, CF, and Yin, JCP. Fatty-acid binding proteins modulate sleep and improve long-term memory in *Drosophila*. Poster Presentation. Janelia Conference: Sleep in Non-Mammalian Models, Ashburn, VA. 2009. *Travel Award
- Gerstner, JR**, Vander Heyden, WM, Shaw, PJ, Landry, CF, and Yin, JCP. A Role for Fatty-Acid Binding Proteins in Sleep Homeostasis and Long-Term Memory in *Drosophila*. Poster Presentation. Keystone Conference: Genetics and Biochemistry of Sleep, Tahoe City, CA. 2008. *Travel Award
- Gerstner, JR**, Bremer, QZ, Yin, JCP, and Landry, CF. Fatty acid binding protein 7 is diurnally regulated in astrocytes and granule-cell progenitors in adult mouse hippocampus. Poster Presentation. Soc for Neurosci, San Diego, CA. 2007.
- Gerstner, JR** and Landry, CF. CHORDCI mRNA is coordinately regulated in a diurnal rhythm in rodent brain. Poster Presentation. Assoc Prof Sleep Societies Meeting. Salt Lake City, UT. Sleep 29: Abstr. Supp. 2006.
- Gerstner, JR**, Vander Heyden, WM, and Landry, CF. Diurnal regulation of brain fatty acid binding protein (FABP7) mRNA and poly(A) tail length in the rodent brain. Poster Presentation. Am. Soc. Neurochem. Meeting. Madison, WI. 2005.
- Gerstner, JR**, LaVaute, TM, Vander Heyden, WM, and Landry, CF. Gene expression profiling in hypothalamic brain regions involved in the regulation of behavioral state. Assoc Prof Sleep Societies Meeting. Sleep 26: Abstr. Supp. 2003.

Rattenborg, N, **Gerstner, J**, Landry, C, Obermeyer, W, Benca, R. Hypocretin Immunoreactive Neurons in Normal and Roller Pigeons (*Columbia livia*). Assoc Prof Sleep Societies Meeting. Sleep 24: Abstr. Supp. 2002.

Schiltz, CA, LaVaute, TM, **Gerstner, JR**, Kelley, AE, Landry CF. Morphine-Paired Environmental Cues Elicit an Elevation of ARC mRNA in Rat Prefrontal Cortex. Poster Presentation. Soc. for Neurosci. Meeting, Orlando, FL. 2002

Benca, RM, Parsons, MJ, **Gerstner, JR**, Roberts, A, Landry, CF. Changes in Brain Glucose Uptake Following Acute REM Sleep Deprivation. Poster Presentation. Assoc Prof Sleep Societies Meeting. Sleep 24: Abstr. Supp. 2001.

Mostaghimi, L, Obermeyer, WH, **Gerstner, JR**, Rattenborg, N, Benca, RM. Effects of REM Sleep Deprivation on Wound Healing in Rats. Poster Presentation. Assoc Prof Sleep Societies Meeting, Sleep 24: Abstr. Supp. 2001.

Parsons, MJ, **Gerstner, JR**, Obermeyer, WH, Benca, RM, Landry, CF. Changes in Brain-Derived Neurotrophic Factor (BDNF) mRNA and Protein Levels Following Acute REM Sleep Deprivation. Poster Presentation. Assoc Prof Sleep Societies Meeting. Sleep 24: Abstr. Supp. 2001.

Rattenborg, N, **Gerstner, J**, Landry, C, Obermeyer, W, Benca, R. Hypocretin Immunoreactive Neurons in the Avian Hypothalamus. Poster Presentation. Soc. for Neurosci. Meeting, San Diego, CA. 2001.

Rattenborg, NC, **Gerstner, J**, Behan, M, Obermeyer, WH, Benca, RM. Fos Expression in the Pigeon (*Columbia livia*) During Wakefulness and Sleep. Poster Presentation. Assoc Prof Sleep Societies Meeting. Sleep 24: Abstr. Supp. 2001

INVITED TALKS/SYMPOSIA

International:

"Biological aspects of psychological states and regulatory processes, from animals to humans - with a special emphasis on sleep, circadian rhythms and stress." Invited lecture. University of Bergen, Bergen, Norway. 2016.

"Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in *Drosophila*" Aging and Sleep International Meeting, Lyon, France. 2014.

"Diurnal control of trafficking and post-transcriptional processing of the astrocyte Fabp7 mRNA" XI European Meeting on Glial Cells in Health and Disease, Berlin, Germany. 2013.

"A Role for Fatty Acid Binding Proteins in Sleep and Memory" Max Planck Institute, Seewiesen, Germany. 2011.

"Fatty-acid binding proteins regulate sleep and long-term memory" XII Congress of the European Biological Rhythms Society, University of Oxford, Oxford, UK. 2011.

National/Regional:

- "Sleep as a phenotypic marker in Drosophila models of neurodegeneration" The Role of Sleep Deficiency and Sleep Disorders in Aging, Cognition, and Neurodegeneration Workshop, NIH, Bethesda, MD. 2018
- "En route to answering a major biomedical research question (or the story of a recent graduate)" Biology Seminar/Lecture – Gonzaga University. 2017
- "Drosophila Fatty-acid binding proteins regulate Sleep and Cognitive Performance" Invertebrate Research Group – Joint meeting WSU-Spokane and WSU-Pullman. 2016
- "A β Induced Sleep Fragmentation is Rescued by FABPs in a Drosophila Alzheimer's Disease Model" Data Blitz, Sleep and Performance Research Center Annual Retreat, WSU-Spokane and Priest Lake, Idaho. 2015
- "Role of Fabp7 in Sleep Consolidation" Sleep and Performance Research Center Shiftwork Symposium, WSU-Spokane. 2015
- "Applications of Microarray Data to a Big Question" Guest Lecturer, CS 355-1: Bioinformatics, Whitworth University, Spring 2015
- "Fly by night: a tale of genes, sleep and cognitive performance in Drosophila" Sleep and Performance Research Center Seminar Series, Washington State University, Spokane, WA. 2014.
- "The astrocytic brain fatty-acid binding protein regulates sleep in mice and man" Gordon Research Conference on Sleep Regulation and Function, Galveston, TX. 2014.
- "The circadian clock controlled brain fatty-acid binding protein FABP7 regulates sleep quality in mice and humans" New York Area Clocks Meeting, Philadelphia, PA. 2013.
- "The brain fatty acid binding protein FABP7 regulates sleep quality in mammals" Clock meeting, Smilow Translational Research Center, University of Pennsylvania, Philadelphia, PA. 2013.
- "Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in Drosophila" DataBlitz Sleep Research Society at Assoc Prof Sleep Societies Meeting. Baltimore, MD. 2013.
- "Amyloid-beta Induced Sleep Fragmentation is Rescued by Fatty-acid Binding Proteins in Drosophila" Center for Sleep and Circadian Neurobiology Research Retreat, University of Pennsylvania, Philadelphia, PA. 2013.
- "Astrocytes and fatty-acid binding proteins: a nexus of sleep, clocks, and memory?" Department of Neuroscience Seminar, Tufts University, Boston, MA. 2013.
- "Sleep, Clocks, and Memory: Novel Roles for Fatty-acid Binding Proteins" Sleep Medicine Research Conference, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA. 2013.
- "Lipid-binding proteins: a nexus of sleep, clocks, and memory?" Department of Neuroscience Seminar, University of Arizona, Tucson, AZ. 2013.
- "Sleep, clocks and memory: Novel roles for fatty-acid binding proteins" Department of Biology Neuroscience Seminar, Indiana University-Purdue University Indianapolis, IN. 2013.

"Astrocytes: information integrators between sleep, metabolism and the clock?" Assoc Prof Sleep Societies Meeting. Boston, MA. 2012.

"Time-of-Day Regulates Electrical Seizure Threshold in Mice" Center for Sleep and Circadian Neurobiology 9th Annual Retreat. University of Pennsylvania, Philadelphia, PA. 2012.

"Time-of-day regulates astrocytic Fabp7 perisynaptic localization and polyadenylation." Sleep Medicine Research Conference. University of Pennsylvania, Philadelphia, PA. 2011.

"Fatty-acid binding protein overexpression regulates circadian CREB activity, sleep and memory in *Drosophila*." New York Clocks Club (Dr. Justin Blau) hosted at University of Pennsylvania, Philadelphia, PA. 2011.

"Fatty-acid binding proteins regulate sleep and long-term memory." Hot Topics Session, Center for Neurobiology and Behavior Retreat, University of Pennsylvania, Philadelphia, PA. 2011.

"Effects of acute sleep loss on dFabp expression and dFabp-induced long-term memory in *Drosophila*." Center for Sleep and Circadian Neurobiology 8th Annual Retreat, University of Pennsylvania, Philadelphia, PA. 2011.

"A Role for Fatty Acid Binding Proteins in Sleep and Memory" FlyGroup Seminar, University of Wisconsin-Madison, Madison, WI. 2010.

"Cycling Behavior and Memory Formation," Mini-Symposium Chair. Society for Neuroscience. Chicago, IL. 2009.

"A Role for Fatty Acid Binding Proteins in Sleep and Memory" Plasticity Group, University of Wisconsin-Madison, Madison, WI. 2009.

"Fatty-acid binding proteins modulate sleep and improve long-term memory in *Drosophila*," Symposia Presentation. Assoc Prof Sleep Societies Meeting. Seattle, WA. 2009.

"A Role for Fatty-Acid Binding Proteins in Sleep Homeostasis and Long-Term Memory in *Drosophila*" Plenary Presentation. Keystone Symposia: Genetics and Biochemistry of Sleep, Tahoe City, CA. 2008.

"Brain fatty acid binding protein (Fabp7) mRNA and poly(A) tail length are diurnally regulated in the rodent brain" Presentation. Neuroscience Research Symposium, Promega, Fitchburg, WI. 2006.

"Gene Expression Profiling in Hypothalamic Brain Regions Involved in the Regulation of Behavioral State" Symposia Presentation. Assoc Prof Sleep Societies Meeting. Chicago, IL. 2003.