

ASHLEY A. KEISER

Assistant Professor, Arizona State University
ASU Neurodegenerative Disease Research Center, Arizona State
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RELEVANT EMPLOYMENT

- 2024-Current Assistant Professor
ASU Neurodegenerative Disease Research Center
School of Life Sciences
Arizona State University
- 2018-2024 Postdoctoral Fellow (lab of Dr. Marcelo Wood)
Department of Neurobiology & Behavior, Center for the
Neurobiology of Learning and Memory, Institute for Memory
Impairments and Neurological Disorders, University of California,
Irvine
- 2013-2018 Graduate Student (lab of Dr. Natalie Tronson)
Department of Psychology, University of Michigan Advisor:
Dr. Natalie Tronson
Committee: Dr. Jill Becker, Dr. Jacek Debiec, Dr. Martin Sarter
- 2014-2015 Graduate Student Instructor
Department of Psychology, University of Michigan
- 2013 Intern
Lundbeck Pharmaceuticals, Paramus, New Jersey
- 2010-2013 Research Assistant (lab of Dr. Adam Prus)
Department of Psychology, Northern Michigan University
- 2010-2013 Animal Colony and Lab Manager
Department of Psychology, Northern Michigan University
- 2010-2013 Departmental Secretary Assistant
Department of Psychology, Northern Michigan University

EDUCATION

- 2018 Ph.D. Psychology (Biopsychology),

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Department of Psychology. University of Michigan, Ann Arbor, MI.

2015 M.S. Psychology (Biopsychology),
Department of Psychology. University of Michigan, Ann Arbor, MI.

2013 B.S. Psychology (Graduate School Prep),
Department of Psychology. Northern Michigan University,
Marquette, MI.

2013 B.S. Sociology,
Department of Sociology, Northern Michigan University, Marquette,
MI.

FUNDING

2022-2027 K99/R00 NIH Pathway to Independence Award, National Institute on Aging (Impact Score: 14).

2021-2022 National Research Service Award (F32 NRSA), National Institute on Aging.

2018-2020 National Institute on Aging Training grant (T32).

2015-2018 National Defense Science and Engineering Graduate Fellowship (NDSEG) *full three-year graduate fellowship*.

PUBLICATIONS

LaTour S, Shaikh H, Beardwood JH, Augustynski AS, Wood MA, **Keiser AA** (2024) The weekend warrior effect: Consistent intermittent exercise induces persistent cognitive benefits. *Neurobiology of Learning and Memory*.

Keiser AA, Dong T, Kramár EA, Butler CW, Chen S, Matheos DP, Beardwood J, Augustynski AS, Al-Shammari A, Alaghband Y, Alizo Vera V, Berchtold NC, Shanur S, Baldi P, Cotman CW, Wood MA (2024) Specific exercise patterns generate an epigenetic molecular memory window that drives long-term memory formation and identifies ACVR1C as a bidirectional regulator of memory. *Nature Communications*.

Perez-Sisques L, Bhatt S, Matuleviciute R, Gileadi T, Kramár EA, Graham A, Garcia F, **Keiser AA**, Matheos DP, Cain J, Pittman A, Andreae L, Fernandes C, Wood MA, Giese K, Basson M (2024) The intellectual disability risk gene *kdm5b* regulates long term memory consolidation in the hippocampus. *Journal of Neuroscience*.

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Dong T, Kramár EA, Beardwood J, Al-Shammari A, Wood MA, **Keiser AA** (2022) Temporal endurance of exercise-induced benefits on hippocampus-dependent memory and synaptic plasticity in female mice. *Neurobiology of Learning & Memory*, 194.

Alexander DC, Corman T, Mendoza M, Glass A, Belity T, Wu R, Campbell RR, Han J, **Keiser AA**, Winkler J, Wood MA, Kim T, Garcia BA, Cohen H, Mews P, Egervari G, Berger SL (2022) Targeting acetyl-CoA metabolism attenuates the formation of fear memories through reduced activity-dependent histone acetylation. *Proceedings of the National Academy of Sciences*.

Campbell R, Chen S, Beardwood J, Lopez A, Pham L, **Keiser AA**, Childs J, Matheos D, Swarup V, Baldi, P, Wood MA (2021) Cocaine induces paradigm-specific changes to the transcriptome within the Ventral Tegmental Area. *Neuropsychopharmacology*.

Keiser AA, Kramár EA, Dong T, Shanur S, Pirodan M, Ru N, Acharya MA, Baulch JE, Limoli CL, Wood MA (2021) Systemic HDAC3 inhibition ameliorates impairments in synaptic plasticity caused by simulated galactic cosmic radiation exposure in male mice. *Neurobiology of Learning & Memory*, 178.

Butler CW, **Keiser AA**, Kwapis JL, Berchtold NC, Wall VL, Wood MA, Cotman CW (2019) Exercise opens a temporal window for enhanced cognitive improvement from subsequent physical activity. *Learning & Memory*, 26(12):485-492.

Tronson NC, **Keiser AA** (2019) A dynamic memory systems framework for sex differences in learning and memory. *Trends in neuroscience*, 42(10):680-692.

Keiser AA, Wood MA (2019) Examining the contribution of histone modification to sex differences in learning and memory. *Learning & Memory*, 26(9):318-331.

Kwapis JL, Alaghband Y, **Keiser AA**, Dong TN, Michael CM, Rhee D, Shu G, Dang RT, Matheos DP, Wood MA (2020) Aging mice show impaired memory updating in novel OUL updating paradigm. *Neuropsychopharmacology*, 45, 337-346.

Keiser AA, Turnbull LM, Darian MA, Feldman DE, Song I, Tronson NC (2017) Sex differences in context fear generalization and recruitment of hippocampus and amygdala during retrieval. *Neuropsychopharmacology*, 42(2):397-407.

Keiser AA, Tronson NC (2015) Molecular mechanisms of memory in males and females. In R.M. Shansky (Ed.) Sex differences in the central nervous system (1st ed., pp. 27–51). Boston: Elsevier Academic Press.

Keiser AA, Matazel K, Esser M, Feifel D, and Prus AJ (2014) Systemic administration of the neurotensin NTS1-receptor agonist PD149163 improves performance on a memory task in naturally deficient male brown norway rats. *Experimental Clinical*

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Psychopharmacology.

Hillhouse TM, Shankland Z, Matazel KS, **Keiser AA**, Prus AJ (2014) The quetiapine active metabolite N-Desalkylquetiapine and the Neurotensin NTS1 Receptor Agonist PD149163 exhibit antidepressant-like effects on operant responding in male rats.

Experimental Clinical Psychopharmacology.

MANUSCRIPTS UNDER REVIEW

Rodriguez AC, Kramár EA, Augustynski AS, **Keiser AA**, Dong TN, Jones T, Kwapis JL, Matheos DP, Wood MA. HDAC3 Serine 424 phospho-mimic and phospho-null mutants bidirectionally modulate long-term memory formation and synaptic plasticity in the adult and aging mouse brain Under review at *Journal of Neuroscience*.

MANUSCRIPTS IN PREP

Keiser AA, Jullienne A, Dong T, Beardwood J, Al-Shammari A, Obenaus A, Wood MA. Memory updating and synaptic density are impaired in 5xFAD females and males.

Keiser AA, Augustynski AS, Dong T, Tong L, Kramár EA, Butler C, Berchtold NC, Matheos DP, Swarup V, Cotman CW, Wood MA. Hippocampus-dependent memory formation is regulated by an epigenetic feedback loop integrating exercise and metabolism that becomes disrupted with age and AD.

HONORS AND AWARDS

- 2022 K99/R00 NIH Pathway to Independence Award, National Institute on Aging
- 2022 American College of Neuropsychopharmacology (ACNP) Travel Award
- 2022 Roger W. Russell Award in the Neurobiology of Learning and Memory, University of California, Irvine
- 2022 Data Blitz winner at the CNLM Spring Meeting, University of California, Irvine
- 2021 Neuroscience Research Grant, Proteintech
- 2021 Trainee Professional Development Award, Society for Neuroscience
- 2021 National Research Service Award, National Institute on Aging
- 2021 Carl W. Cotman Scholar's Award, University of California, Irvine
- 2021 Outstanding Postdoctoral Fellow Award, 12th annual ReMIND Emerging Scientist Symposium, University of California, Irvine
- 2020 Deans Early Career Research Excellence Award, University of California, Irvine
- 2019 Travel Scholarship to attend the 1st Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia, NIA
- 2018 Marquis Award for Best Dissertation in the Department of Psychology, University of Michigan
- 2018 Wyvell Award for Best Dissertation in Biopsychology, University of Michigan
- 2018 National Institute on Aging Training grant (T32)

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- 2017 Society for Neuroscience Trainee Professional Development Award
- 2017 Rackham Travel Grant, University of Michigan
- 2015 National Defense Science and Engineering Graduate Fellowship (NDSEG)
- 2015 National Science Foundation Graduate Research Fellowship (NSF GRFP)
Honorable Mention
- 2015 Rackham Travel Grant, University of Michigan
- 2015 Rackham Pre-Candidate Research Grant, University of Michigan
- 2014 Rackham Travel Grant, University of Michigan
- 2013 Best Undergraduate Poster (2nd Place), Celebration of Student Works, Northern Michigan University
- 2013 Jean M. Rutherford Outstanding Graduating Senior Northern Michigan University, Marquette Michigan
- 2011-2013 McNair Scholarship, Northern Michigan University, Marquette, Michigan
- 2009-2013 Dean's List, all semesters, Northern Michigan University, Marquette, Michigan
- 2012 Presenter Award, University of California Berkeley, Berkeley
- 2012 Student Travel Award, Northern Michigan University

INVITED TALKS

- Exercise opens an epigenetic ‘molecular memory window’ for cognitive enhancement: mechanistic insights for aging and Alzheimer’s Disease. Society for Brain Mapping annual meeting (March 16th, 2024).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of Michigan (May 9th, 2023).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of Texas at Dallas (April 18th, 2023).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of South Florida (April 13th, 2023).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. Arizona State University (March 23rd, 2023).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. Cedars Sinai (March 15th, 2023).

- Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of Arizona (March 2nd, 2023).

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Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of Alabama, Birmingham (February 9th, 2023).

Unique exercise patterns reveal ACVR1C as key driver of memory formation in adult, aging and Alzheimer's brain. Society for Brain Mapping annual meeting (February 16th-19th, 2023).

Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain.

Using exercise to unlock a key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. University of Michigan, Biopsychology Colloquium (October 11th, 2022).

Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. REMIND Emerging Scientists Symposium (April 28th, 2022).

Exercise opens a 'molecular memory window' to facilitate memory and synaptic plasticity. Eastern Psychological Association annual meeting (March 4-6, 2021).

Exercise opens a 'molecular memory window' to facilitate memory and synaptic plasticity. Society for Brain Mapping annual meeting (July 11th, 2021).

Effects of exercise on memory performance and hippocampal gene expression. 11th Annual REMIND Emerging Scientists Symposium (February 21, 2020).

Could different molecular pathways in men and women play a role in the development of PTSD? Science Technology and Innovation Exchange Event (STIx) put on by Department of Defense Basic Research Office (August 2017, Crystal City, Virginia). Talk can be viewed [here](#).

UNIVERSITY SERVICE

2022	Scientific Committee for the International Conference on Learning and Memory, University of California, Irvine
2021-present	Beall Scholars High School Summer Program, Application and Admissions Committee, University of California, Irvine
2021-present	Co-chair, Research and Education in Memory Impairments and Neurological Disorders (REMIND), University of California, Irvine
2019-2020	Chair, Research and Education in Memory Impairments and Neurological Disorders (REMIND), University of California, Irvine
2018-2019	Co-chair, Research and Education in Memory Impairments and Neurological Disorders (REMIND), University of California, Irvine

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- 2017-2018 Departmental Associate, Department of Psychology, Member, University of Michigan
- 2016-2017 Graduate Admissions Committee, Department of Psychology, Member, University of Michigan
- 2015-2016 Student Academic Advising Committee, Department of Psychology, Member, University of Michigan

TEACHING EXPERIENCE

University of Michigan:

Graduate Student Instructor:

Winter 2015: Psych 230 Introduction to Biopsychology, Dr. Martin Sarter: taught 3 sections/week

Fall 2014: Psych 112 Psychology as a Natural Science, Dr. Brian Malley: taught 3 sections/week

Grader:

2016: Grader for Psych 334- Neuroscience of Learning and Memory, Dr. Natalie Tronson: 2 sections.

2013: Grader for Psych 438 Hormones & Behavior, Dr. Jill Becker: 1 section.

Northern Michigan University:

Undergraduate TA for the following:

2012-2013 PY400 History and Systems, Dr. Harry Whitaker (Psychology): 2 sections. Duties included: grading 10-15 essays per week, providing feedback to students, meeting with students to help with writing assignments.

2012 SO101 Intro to Sociology, Dr. Deanna Trella: 2 sections. Duties included: grading exams and homework assignments.

2011-2013 PY204 Biopsychology Lab, Dr. Adam Prus: 4 sections. Duties included: assisting with Biopsychology labs, leading sheep brain dissections, setting up experiments, assisting with writing lab reports, grading exams and homework assignments.

2011 PY100 Intro to Psychology (lab), Dr. Charles Leith: 2 sections. Duties included: assisting with psychology labs, leading "mini experiments", administering quizzes, and grading homework assignments.

2011 PY100S Intro to Psychology, Dr. Allen Beauchamp: 1 section. Duties Included: helping proctor exams.

Mentoring:

University of California, Irvine:

Previous Undergraduate Student Projects:

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2018-2021 Tri Dong, Thesis Title: “Assessment of the novel plasticity protein ACVR1C in learning and memory.” Recipient of NSF GRFP Fellowship, Excellence in Research, Dean’s Award for Excellence in Research, Chancellors Award of Distinction, Pharmaceutical Sciences Undergraduate Achievement Award, UROP, SURP, Trainee Professional Development Award, Friends of the CNLM Award.

2018-2021 Sharmin Shanur, Thesis Title: “Uncovering the molecular memory for exercise-enhanced learning”. Recipient of Excellence in Research, UROP, SURP, Friends of the CNLM Award.

2018-2020 Melika Pirodan, Project Title: “Effects of exercise on gene expression and synaptic plasticity”. Recipient of UROP, SURP, IASF Scholarship.

Rotation Student Projects:

2021 Alyssa Rodriguez, Project Title: “Power of Phosphorylated Proteins”

2020 Susana Furman, Project Title: “Role of pHDAC3 in hippocampus-dependent memory”

2020 Patrick Hwu, Project Title: “Role of EPAS1 in aging and hippocampus-dependent memory”

2019 Carlene Chinn, Project Title: “DNA Methylation, Biological Age and Memory”

2019 Desiree Macchia, Project Title: “Role of Tsc22d3 in hippocampus-dependent memory”

Current mentees:

Joy Beardwood (lab tech), Agatha Augustynski (lab tech), Ameer Al-Shammari (undergraduate), Hassan Shaikh (undergraduate), Scott LaTour (undergraduate).

Current Undergraduate Student Projects:

2022-present Ameer Al-Shammari, Thesis Title: “Lifespan assessment of memory updating and synaptic density in female and male 5xFAD mice”.

2022-present Scott LaTour, Thesis Title: “Understanding the ‘molecular memory window’ for facilitating cognitive function: the weekend warrior effect”.

2022-present Hassan Shaikh, Thesis Title: “Integration of exercise, epigenetics and metabolism: a feedback loop for memory formation”

University of Michigan:

Undergraduate Student Projects:

2017-2018 Dana Feldman, Thesis Title: “Role of nucleus accumbens in modulating contextual fear conditioning”. Recipient of Tanner Memorial Award, Awarded High Honors.

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2016-2017 Pauline (Lining) Pan, Thesis Title: “The role of ventral hippocampus in retrieval of context fear memories”. Recipient of Mindlin Foundation Undergraduate Research Grant, Albert C. Cain Honors Award, Tanner Memorial Award, Awarded Highest Honors.

2015-2016 Mara Darian, Thesis Title: “Sex differences in memory retrieval in background contextual fear conditioning”. Recipient of Mindlin Foundation Undergraduate Research Grant.

Invited Guest Lectures:

July 2022 Beall Scholar’s Summer Program: Talk Titled: “Behavioral assessment of learning & memory in rodent models”

July 2021 Beall Scholar’s Summer Program: Talk Titled: “Behavioral assessment of learning & memory in rodent models”

Winter 2021 Course: Behavioral Neuroscience. Talk Titled: “Learning and memory in the female and male brain”

Fall 2017 Course: Clowns, spiders and memory: how our brain processes fear. Talk Titled: “Sex differences in fear-related memory”

Summer 2017 Course: Sex differences in brain, behavior, and disease. Talk Titled: “Sex differences in fear conditioning”

Winter 2017 Course: Sex Differences in Brain, Behavior, and Disease. Talk Titled: “Sex differences in fear memory retrieval”

Winter 2016 Course: Sex Differences in Brain, Behavior, and Disease. Talk titled: “Sex differences in memory: behavior and mechanism”

PEER REVIEW ACTIVITIES

Professional Journals:

Science Advances

PLOS ONE

Journal of Neuroendocrinology

Biology of Sex Differences

Neurobiology of Learning and Memory

Neuropharmacology

Brain Research Bulletin

Behavioral Brain Research

Neuroscience and Biobehavioral Reviews

Brain Research

EDITORIAL & WRITING ACTIVITIES

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UCI MIND Blog: [Sex differences in hallmarks of Alzheimer's Disease, April 2021](#)

Prus, AJ (2012) Introduction to Psychopharmacology

PROFESSIONAL MEMBERSHIPS

Society for Neuroscience

Molecular and Cellular Cognition Society

Organization for the Study of Sex Differences

Pavlovian Society

Women in Learning

CONFERENCE PRESENTATIONS

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Beardwood J, Augustynski AS, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise parameters that open a 'molecular memory window' for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer's Disease brain. Pavlovian Society Conference, Sept 29-Oct 1, 2022, Milwaukee, WI.

Rodriguez A, **Keiser AA**, Kramár EA, Dong T, Kwapis JL, Matheos DP, Wood MA. Phosphorylation state of histone deacetylase 3 (HDAC3) modulates long-term memory formation and synaptic plasticity. Society for Neuroscience Conference, November 12-16, 2022, San Diego, CA.

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Beardwood J, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise parameters that open a 'molecular memory window' for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer's Disease brain. Society for Neuroscience Conference, November 12-16, 2022, San Diego, CA.

Rodriguez A, **Keiser AA**, Kramár EA, Dong T, Kwapis JL, Matheos DP, Wood MA. Phosphorylation state of histone deacetylase 3 (HDAC3) modulates long-term memory formation and synaptic plasticity. Neurobiology & Behavior Retreat, September 13, 2022, Irvine, CA.

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Beardwood J, Augustynski AS, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise parameters that open a 'molecular memory window' for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer's Disease brain. Neurobiology & Behavior Retreat, September 13, 2022, Irvine, CA.

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Beardwood J, Augustynski AS, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise parameters that open a 'molecular memory window' for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer's Disease brain. Center for Neural Circuit Mapping Conference, August 15-16, 2022, Irvine, CA.

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Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Beardwood J, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise parameters that open a ‘molecular memory window’ for cognitive enhancement shine light on key memory mechanism in the adult, aging, and Alzheimer’s Disease brain. CNLM Spring Conference, May 5-6, 2022, Irvine, CA.

Obenaus A, Julliene A, Noarbe BP, **Keiser AA**, Trinh MV, Kramár EA, Beardwood J, Dong T, Wood MA, MODEL AD. Neuroimaging of a novel mouse model of Alzheimer’s Disease: The habKI mouse. International Society for Magnetic Resonance in Medicine, May 7-12, 2022, London, England.

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Tong L, Berchtold NC, Chen S, Samad M, Magnan C, Beardwood J, Shanur S, Rodriguez A, Baldi, P, Cotman CW, Wood MA. Exercise opens a ‘molecular memory window’ to facilitate changes in gene expression, synaptic plasticity and memory. Society for Neuroscience Conference, November 13-17, 2021, Chicago, IL.

Rodriguez A, **Keiser AA**, Kramár EA, Dong T, Kwapis JL, Matheos DP, Wood MA. Phosphorylation state of histone deacetylase 3 (HDAC3) modulates long-term memory formation and synaptic plasticity. Society for Neuroscience Conference, November 13-17, 2021, Chicago, IL.

Wheeler DG, Lo C, Murry A, Guanzon N, **Keiser AA**, Peters M, Wood MA, Azevedo R, Gandhi S. Brain-wide snapshots of neuronal activity with Npas4 and cFos. Society for Neuroscience Conference, November 13-17, 2021, Chicago, IL.

Wheeler DG, Lo C, Murry A, Guanzon N, **Keiser AA**, Peters M, Wood MA, Azevedo R, Gandhi S. Measurement of Npas4 and cFos for brain-wide snapshots of neuronal activity. BRAIN Initiative Investigators Meeting, June 15th-17th, 2021.

Keiser AA, Wood MA. Exercise opens a ‘molecular memory window’ to facilitate changes in gene expression, synaptic plasticity and memory. Data Blitz, CNLM Spring Conference, May 28th, 2021.

Keiser AA, Butler C, Kramár EA, Dong T, Matheos DP, Tong L, Berchtold NC, Chen S, Samad M, Magnan C, Beardwood J, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise opens a ‘molecular memory window’ to facilitate changes in gene expression, synaptic plasticity and memory. REMIND Emerging Scientists Symposium, March 19th, 2021. University of California, Irvine.

Keiser AA, Butler C, Kramár EA, Matheos DP, Berchtold NC, Chen S, Samad M, Magnan C, Dong T, Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise opens a ‘molecular memory window’ to facilitate memory and synaptic plasticity. Society for Neuroscience Conference, January 11-13, 2021, virtual platform.

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Dong T, Kramár EA, Butler C, Matheos DP, Berchtold NC, Chen S, Samad M, Magnan C, Shanur S, Baldi, P, Cotman CW, Wood MA, **Keiser AA**. Examining the molecular memory of exercise-enhanced learning. Society for Neuroscience Conference, January 11-13, 2021, virtual platform.

Keiser AA, Dong T, Kramár EA, Butler C, Matheos DP, Berchtold NC, Chen S, Samad M, Magnan C, , Shanur S, Baldi, P, Cotman CW, Wood MA. Exercise opens a 'molecular memory window' to facilitate memory and synaptic plasticity. Pavlovian Society Meeting, September 10-11, 2020, virtual platform.

Keiser AA, Butler CW, Kramár EA, Matheos DP, Berchtold NC, Chen S, Samad M, Magnan C, Baldi, P, Cotman CW, Wood MA (2019). Effects of exercise on memory performance and hippocampal gene expression. Society for Neuroscience Conference, October 19-23, 2019, Chicago, IL.

Kolarik B, **Keiser AA**, Dong T, Shanur S, Pirodan M, Stark S, Wood MA, Stark CEL (2019). Age-related impairment for maintaining separate memories for highly similar experiences in mice and humans. Society for Neuroscience Conference, October 19-23, 2019, Chicago, IL.

Lo C, Azevedo R, **Keiser AA**, Peters M, Wood MA, Gandhi SP, Wheeler G (2019). Brain- wide measurement of neuronal activity at cellular resolution. Society for Neuroscience Conference, October 19-23, 2019, Chicago, IL.

Dong, T, **Keiser AA**, Kwapis, JL, Wood MA (2019). Assessment of memory updating in aging mice. Undergraduate Research Symposium, May 18th, 2019. University of California, Irvine.

Keiser AA, Kramár EA, Kwapis, JL, Shanur S, Pirodan M, Baulch JE, Acharya MM, Limoli CL, Wood MA (2019). Male mice exposed to space-simulated radiation are impaired in memory updating and synaptic plasticity. ReMind Emerging Scientists Symposium, February 11th, 2019. University of California, Irvine.

Stark CEL, Kolarik B, Stark SM, Wood M, **Keiser AA**, Kwapis JL, Baulch J, Acharya, MM, Limoli CL (2018). Cross-species assessment of hippocampal function and the effects of space-based radiation. ASA Human Research Program Investigators' Workshop, January 22-25, 2019. Galveston, TX.

Feldman DE, **Keiser AA**, Tronson NC (2018) Role of nucleus accumbens in context fear retrieval. Psychology Research Forum, April 13, 2018. Ann Arbor, MI.

Keiser AA, Pan L, Tronson NC (2017) Retrieval of context fear memory involves sex-specific molecular mechanisms and changes in hippocampal gene expression. Society for Neuroscience Conference, November 11-15, 2017. Washington, D.C.

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Feldman DE, **Keiser AA**, Tronson NC (2017) Sex differences in blocking after context fear conditioning. Society for Neuroscience Conference, November 11-15, 2017. Washington, D.C.

Pan L, **Keiser AA**, Tronson NC (2017) Sex differences in the role of ventral hippocampus following retrieval of context fear memory. Society for Neuroscience Conference, November 11-15, 2017. Washington, D.C.

Keiser AA, Pan L, Tronson NC (2017) Sex-specific decrease of remote context fear memory. Pavlovian Society Conference, October 5-8, 2017. Philadelphia, Pennsylvania.

Pan L, **Keiser AA**, Tronson NC (2017) Context fear memory retrieval induces sex-specific recruitment of the ventral hippocampus. Pavlovian Society Conference, October 5-8, 2017. Philadelphia, Pennsylvania.

Keiser AA, Pan L, Tronson NC (2017) Retrieval of a context fear memory activates sex-specific amygdalar and hippocampal molecular mechanisms. Amygdala Gordon Research Conference, August 5-11, 2017. Easton, MA.

Feldman DE, **Keiser AA**, Tronson NC (2017) Sex differences in blocking after context fear conditioning. Society for Neuroscience Michigan Chapter, May 22, 2017. Ann Arbor, MI.

Keiser AA, Darian MA, Pan L, Tchessalova D, Collette KM, Tronson NC (2016) Retrieval of a context fear memory involves sex-specific recruitment of hippocampus and amygdala. Society for Neuroscience Conference, November 12-16, 2016. San Diego, CA.

Collette KM, Garcia-Hernandez RE, **Keiser AA**, Tchessalova D, Turnbull LM, Lu G, Tronson NC (2016) Inflammatory signaling and epigenetic modifications in persistent memory deficits after myocardial infarction. Society for Neuroscience Conference, November 12-16, 2016. San Diego, CA.

Tchessalova D, Collette KM, **Keiser AA**, Turnbull LM, Wehbe AE, Tronson NC (2016) Systemic inflammation induces persistent dysregulation of memory and gene expression. Society for Neuroscience Conference, November 12-16, 2016. San Diego, CA.

Keiser AA, Darian MA, Tronson NC (2016) Sex differences in retrieval of context fear memory. Organization for the Study of Sex Differences Conference, May 23-26, 2016. Philadelphia, PA.

Schmeling AA, Donzis EJ, Turnbull LM, Tronson NC (2015) Sex Differences in Generalization and Molecular Mechanisms of Context Fear Conditioning. Society for Neuroscience Conference, October 17-21, 2015, Chicago, IL.

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Turnbull LM, **Schmeling AA**, Donzis EJ, Schwarcz B, Tronson NC (2015) Associative and affective contributions to context fear conditioning. Society for Neuroscience Conference, October 17-21, 2015, Chicago, IL.

Schmeling AA & Tronson NC (2015). Sex Differences in the Generalization of a Context-Fear Associated Memory. Organization for the Study of Sex Differences Conference, April 21-23, 2015, Palo Alto, CA.

Schmeling AA, Speirs, IC, Donzis, EJ, Turnbull, LM, Tronson NC (2014). Sex Differences in Molecular Mechanisms Underlying Memory Consolidation. Society for Neuroscience Conference, November 15-19, 2014, Washington D.C.

Turnbull LM, Speirs IC, **Schmeling AA**, Nevarez N, Donzis EJ, Dubois DM, Tronson NC (2014). Dissociation of Mechanisms Underlying Context Fear Conditioning and Inhibitory Avoidance. Society for Neuroscience conference, November 15-19, 2014, Washington D.C

Donzis EJ, Nevarez N, Speirs IC, **Schmeling AA**, Turnbull LM, Tronson NC (2014). Persistent Dysregulation of Memory and Signal Transduction by Peripheral Inflammation. Society for Neuroscience conference, November 15-19, 2014. Washington D.C.

Nevarez N, Speirs IC, Osborn I, Guison P, **Schmeling AA**, Donzis EJ, Tronson NC (2014). Dynamic Regulation of Cytokines in the Brain After Acute Peripheral Inflammation. Society for Neuroscience conference, November 15-19, 2014, Washington D.C.

Schmeling AA, Prus AJ (2012). Working Memory Assessment of Brown Norway Rats in Delayed Non-Match to Position Radial Arm Maze Task. Society for Neuroscience conference, October 13-17, 2012, New Orleans, Louisiana.

Schmeling AA, Prus AJ (2012). Working Memory Assessment of Brown Norway Rats in Delayed Non-Match to Position Radial Arm Maze Task. McNair Berkeley conference, August 1-5, 2012, Berkeley, California.

Shankland Z, Carey L, **Schmeling AA**, Prus AJ (2012). Effects of atypical antipsychotic drugs on differential reinforcement of low rate 72s performance in rats. Celebration of student research Northern Michigan University, April 12th, 2012, Marquette, MI.

Hillhouse TH, **Schmeling AA**, Prus AJ (2012). Effects of the neurotensin-1 receptor agonist PD149163 and antipsychotic drugs on attentional performance in rats. The University of North Texas McNair Conference, February 17-19, 2012, Denton, Texas.

Hillhouse TH, **Schmeling AA**, Prus AJ (2011). The effects of the Neurotensin receptor-1 agonist PD149163 on signal detection performance in rats. Society for Neuroscience Meeting, November 12-16, 2011, Washington D.C.

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Shankland Z, Carey L, **Schmeling AA**, Prus AJ (2011). Effects of atypical antipsychotic drugs on differential reinforcement of low rate 72s performance in rats. Society for Neuroscience Meeting, November 12-16, 2011, Washington D.C.

OUTREACH AND EXTRACURRICULARS

- 2021-present Beall Scholar's Program, coordinator & mentor
- 2018-present Research and Education in Memory Impairments and Neurological Disorders (ReMIND), Co-chair
- 2021 UCI MIND "Ask the Doc" series, titled "[How are male and female brains different](#)"?
- 2018 Walk4ALZ, Volunteer
- 2011-2018 Brain Awareness Outreach Event
- 2017 MiSfN volunteer and organizer
- 2014-2018 Michigan Association of Psychology Scholars (MAPS), Mentor
- 2014-2018 Brains Rule: Annual outreach Neuroscience project for 6th graders
- 2014-2015 MYELIN: Annual outreach neuroscience project, we plan science activities for elementary and middle school students in the Ann Arbor and Detroit areas
- 2012 Student Psychological Association, Vice President
- 2011-2013 Volunteer, Marquette General Hospital
- 2011 Brain Awareness week: guest spoke at middle/high schools in Marquette, MI
- 2011-2013 Superior Edge: volunteer organization
- 2011-2013 Marquette General Hospital-Addictions Clinic & Mental Health Unit, volunteer
- 2006-present Various theatre & improv performances