

# Janine L. Kwapis, Ph.D.

Assistant Professor  
Paul Berg Early Career Professor in the Biological Sciences  
Department of Biology, Pennsylvania State University  
Office: 516 Mueller Lab | Lab: 508 Mueller Lab  
University Park, PA 16802  
Phone: 814-863-0859  
Email: [jlk855@psu.edu](mailto:jlk855@psu.edu)  
Website: [www.kwapislab.com](http://www.kwapislab.com)

## **CURRENT POSITION**

### **Pennsylvania State University**

Paul Berg Early Career Professor in the Biological Sciences 2023-present  
Assistant Professor, Department of Biology 2019-present

#### ***Faculty Affiliations:***

- Huck Institutes of the Life Sciences
- Center for the Molecular Investigation of Neurological Disorders (CMIND)
- Molecular, Cellular, and Integrative Biosciences (MCIBS) PhD Program
- Neuroscience PhD Program
- Pathways Training Program (T32)
- Eukaryotic Gene Regulation (EGR) Training Program (T32)

## **EDUCATION AND TRAINING**

**University of California, Irvine** 2014-2018  
Postdoctoral Fellow, Neurobiology and Behavior  
Advisor: Dr. Marcelo A. Wood

**University of Wisconsin-Milwaukee** 2006-2013  
Ph.D., M.S., Behavioral Neuroscience  
Advisor: Dr. Fred J. Helmstetter

**Alma College** (Alma, MI) 2002-2006  
B.A., Psychology

## **GRANTS AND AWARDS**

### **Funded Grants**

NIH NIA R01 Award 2022-2027  
Glenn and AFAR Junior Faculty Grant 2021-2023  
NIH NIA R21 Exploratory/Developmental Grant Award 2020-2023  
Whitehall Foundation Grant 2020-2021  
NIH NIA R00 Pathway to Independence Award 2019-2023  
NIH NIA K99 Pathway to Independence Award 2017-2019  
NIH NIA F32 Postdoctoral Ruth L. Kirschstein NRSA Fellowship 2016-2017  
NIH NIA T32 Institutional Training Grant Fellowship, UCI MIND 2014-2016  
NIH NIMH F31 Predoctoral Ruth L. Kirschstein NRSA Fellowship 2011-2013  
UWM Department of Psychology Summer Research Fellowship 2013

**Awards/Honors**

Finalist, Brain Research Foundation Seed Grant	2022
Finalist, Kaufman Foundation Award	2021
Dean's Early Career Research Excellence Award	2017
First Place Award, Data Blitz at 30 <sup>th</sup> Annual CNLM Conference	2017
MCCS Scholar (1-year appointment to MCCS Council)	2017-2018
Keystone Symposium Travel Award, Santa Fe	2016
Carl W. Cotman Scholar's Award, UCI MIND	2015
First Place Oral Presentation, UCI ReMIND Symposium	2015
Roger W. Russell Scholar's Award	2014
UWM Psychology Graduate Student Research Award	2012
First Place Poster Presentation, Pavlovian Society Meeting, Jersey City	2012
Student Accessibility Center (SAC) Excellence Award	2010
First Place Oral Presentation, AGSIP Symposium	2008
Graduate Student Travel Award	2008-2010
Chancellor's Graduate Student Award	2006-2008
Alma Leadership Award Finalist	2006
Graduated <i>Summa Cum Laude</i> , honors in Psychology, Alma College	2006
Trustees Scholarship, Alma College	2002-2006

**PUBLICATIONS** [PubMed](#) [Google Scholar](#)

\*Total Citations (12/2022): ~1850 \*H-Index: 26

**Submitted or In Preparation**

1. Smies CW, Wright DS, Bellfy LB, Urban MW, Bodinayake KB, Bennetts S, **Kwapis JL**. Inhibition of HDAC3 ameliorates age-related impairments in hippocampal memory updating. (*In Preparation*).
2. Boyd H, Frick KM, **Kwapis JL**. Connecting the dots: The influence of sex hormones during circadian-based memory formation. (*In Preparation for 1/31/2023; Invited Review, Journal of Biological Rhythms*).
3. Bellfy LB, Smies CW, Bernhardt AR, Bodinayake KK, Sebastian A, Stuart EM, Wright DS, Lo CY, Murakami S, Boyd HM, von Abo MJ, Albert I, **Kwapis JL**. The clock gene *Per1* may exert diurnal control over hippocampal memory consolidation. (*Submitted, Neuropsychopharmacology*).  
\*\***currently a preprint:** *BioRxiv*: 10.11.511798
4. Brunswick CA, Baldwin DJ, Bodinayake KK, McKenna AR, Lo CY, Bellfy L, Urban MW, Stuart EM, Murakami S, Smies CW, **Kwapis JL**. The clock gene *Per1* is necessary in the anterior retrosplenial cortex – but not in the suprachiasmatic nucleus – for incidental learning in young and aging male mice. (*Under revision for Neurobiology of Aging*).

**Published**

1. Ferrara NC, **Kwapis JL**, & Trask S. Memory retrieval, reconsolidation, and extinction: Exploring the boundary conditions of post-conditioning cue exposure. (*In Press, Frontiers in Synaptic Neuroscience*).
2. Smies CW, Bodinayake KK, **Kwapis JL**. (2022). Time to learn: The role of the molecular circadian clock in learning and memory. *Neurobiology of Learning and Memory*, 193, 107651.

3. Urban MW, Lo C, Bodinayake KK, Brunswick CA, Murakami S, Heimann AC, **Kwapis JL**. (2021). The circadian clock gene *Per1* modulates context fear memory formation within the retrosplenial cortex in a sex-specific manner. *Neurobiology of Learning and Memory*, *185*, 107535.
4. Trask S, Ferrara NC, Jasnow AM, **Kwapis JL**. (2021) Contributions of the cingulate-retrosplenial cortical axis to associative learning and memory: A proposed circuit for persistent memory maintenance. *Neuroscience and Biobehavioral Reviews*, *130*: 178-184.
5. Jarome TJ, **Kwapis JL**. (2021). Special issue “Molecular mechanisms of memory formation and modification.” *International Journal of Molecular Sciences*, *22*, 4113.
6. Bellfy LY, **Kwapis JL**. (2020). Molecular mechanisms of reconsolidation-dependent memory updating. *International Journal of Molecular Sciences*, *21*, 6580.
7. Wright DS, Bodinayake KK, **Kwapis JL**. (2020). Investigating memory updating across the lifespan using the Objects in Updated Locations (OUL) task. *Current Protocols in Neuroscience*, *91*, e87.
8. Navabpour SV, **Kwapis JL [Co-Senior Authorship]**, Jarome TJ. (2020). A Neuroscientist’s guide to transgenic mice and other genetic tools. *Neuroscience and Biobehavioral Reviews*, *108*, 732-748.
9. **Kwapis JL**, Alaghband Y, Keiser AA, Dong TN, Michael CM, Rhee D, Shu G, Dang RT, Matheos DP, Wood MA. (2020). Aged mice show impaired memory in the novel OUL updating paradigm. *Neuropsychopharmacology*, *45*: 337-346.
10. 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 and Memory*, *26*: 485-492.
11. **Kwapis JL**, Alaghband Y, Lopez AJ, Li X, Long JM, Li X, Shu G, Bodinayake KK, Matheos DP, Rapp PR, Wood MA. (2019). HDAC3-mediated repression of the *Nr4a* family contributes to age-related impairments in long-term memory. *The Journal of Neuroscience*, *39*: 4999-5009. PMID: 31000586.
12. Hervera A, Zhou L, Pasmisano I, McLachlan E, Kong G, Hutson TH, Danzi M, Lemmon VP, Vixby J, Matamoros-Angles A, Forsberg K, de Virgiliis F, Matheos DP, **Kwapis JL**, Wood MA, Puttagunta R, del Rio JA, Di Giovanni S. (2019). PP4-dependent HDAC3 dephosphorylation discriminates between axonal regeneration and regenerative failure. *The Embo Journal*, *38*: e101032.
13. López AJ, Hemstedt TJ, Jia Y, Hwang PH, Campbell RR, **Kwapis JL**, White AO, Chitnis O, Scarfone VM, Matheos DP, Lynch G, Wood MA. (2019). Epigenetic regulation of immediate-early gene *Nr4a2/Nurr1* in the medial habenula during reinstatement of cocaine-associated behavior. *Neuropharmacology*, *153*: 13-19. PMID: 30998946.
14. Ferrara NC, Jarome TJ, Cullen PK, Orsi SA, **Kwapis JL**, Trask S, Pullins SE, Helmstetter FJ. (2019). GluR2 endocytosis-dependent protein degradation in the amygdala mediates memory updating. *Science Reports*, *9*: 5180. PMID: 30914678.
15. **Kwapis JL**, Alaghband Y, Kramár EA, López AJ, Vogel Ciernia A, White AO, Shu G, Rhee D, Michael CM, Montellier E, Liu Y, Magnan CN, Chen S, Sassone-Corsi P, Baldi P, Matheos DP, Wood MA. (2018). Epigenetic regulation of the circadian gene *Per1* contributes to age-related changes in hippocampal memory. *Nature Communications*, *9*, 3323. PMID: 30127461.

\*\*Originally a preprint: [bioRxiv: 301135](https://doi.org/10.1101/301135)

16. Alagband Y, Kramár E, **Kwapis JL**, Kim ES, Hemstedt TJ, López AJ, White AO, Al-Kachak A, Aimiwu OV, Bodinayake KK, Oparaugo NC, Han J, Lattal KM, Wood MA. (2018). CREST in the nucleus accumbens core regulates cocaine conditioned place preference, cocaine-seeking behavior, and synaptic plasticity. *The Journal of Neuroscience*, 38, 9514-9526. PMID: 30228227
17. López AJ, Jia Y, White AO, **Kwapis JL**, Espinoza M, Hwang P, Campbell R, Alagband, Matheos DP, Lynch G, Wood MA. (2018). Medial habenula cholinergic signaling regulates cocaine-associated relapse-like behavior. (*Addiction Biology*, 24, 403-413). PMID: 29430793
18. Shu G, Kramár EA, López AJ, Huynh G, Wood MA, **Kwapis JL**. (2018). Deleting HDAC3 rescues long-term memory impairments induced by disruption of the neuron-specific chromatin remodeling complex subunit BAF53b. *Learning and Memory*, 25: 109-114. PMID: 29449454.
19. **Kwapis JL**, Alagband Y, López AJ, White AO, Campbell RR, Dang RT, Rhee D, Tran AV, Carl AE, Matheos DP, Wood MA. (2017). Context and auditory fear are differentially regulated by HDAC3 activity in the lateral and basolateral subnuclei of the amygdala. *Neuropsychopharmacology*, 42: 1284-1294. PMID: 27924874. PMID: 27924874.
20. Alagband Y, **Kwapis JL**, López AJ, White AO, Osasumwen VA, Al-Kachak A, Bodinayake KK, Oparaugo NC, Dang R, Astarabadi M, Matheos DP, Wood MA. (2017). Distinct roles for the deacetylase domain of HDAC3 in the hippocampus and medial prefrontal cortex in the formation and extinction of memory. *Neurobiology of Learning and Memory*, 145, 94-104. PMID: 27226355.
21. **Kwapis JL**, Jarome TJ, Ferrara NC, Helmstetter FJ. (2017). Updating procedures can reorganize the neural circuit supporting a fear memory. *Neuropsychopharmacology*, 42: 1688-1697. PMID: 28139682.
22. White AO, Kramár EA, López AJ, **Kwapis JL**, Doan J, Saldana D, Davatolhagh MF, Alagband Y, Blurton-Jones M, Matheos DP, Wood MA. (2016). BDNF rescues BAF53b-dependent synaptic plasticity and cocaine-associated memory in the nucleus accumbens. *Nature Communications*, 7: 11725. PMID: 27226355.
23. López AJ, Kramár EA, Matheos DP, **Kwapis JL**, White AO, Vogel-Ciernia A, Wood MA. (2016). Promoter-specific effects of DREADD modulation on synaptic plasticity and hippocampal learning. *Journal of Neuroscience*, 36: 3588-3599. PMID: 27013687.
24. **Kwapis JL**, Wood MA. (2014). Epigenetic mechanisms in fear conditioning: Implications for treating post-traumatic stress disorder. *Trends in Neurosciences*, 37: 706-720. PMID: 25220045.
25. Jarome TJ, Ferrara NC, **Kwapis JL**, Helmstetter FJ. (2016). CaMKII regulates proteasome phosphorylation and activity and promotes memory destabilization following retrieval. (2016). *Neurobiology of Learning and Memory*, 128: 103-109. PMID: 26779588.
26. **Kwapis JL**, Jarome TJ, Lee JL, Helmstetter FJ. (2015). The retrosplenial cortex is involved in the formation of memory for context and trace fear conditioning. *Neurobiology of Learning and Memory*, 123: 110-116. PMID: 26079095.
27. Jarome TJ, Ferrara NC, **Kwapis JL**, Helmstetter FJ. (2015). Contextual information drives the reconsolidation-dependent updating of retrieved fear memories. *Neuropsychopharmacology*, 40: 3044-3052. PMID: 26062788.

28. **Kwapis JL**, Jarome TJ, Helmstetter FJ. (2014). The role of the medial prefrontal cortex in trace fear extinction. *Learning and Memory*, 22: 39-46. PMID: 25512576.
29. Jarome TJ, **Kwapis JL**, Hallengren JJ, Wilson SM, Helmstetter FJ. (2013). The ubiquitin-specific protease 14 (USP14) is a critical regulator of long-term memory formation. *Learning and Memory*, 21: 9-13. PMID: 24344179.
30. **Kwapis JL**, Helmstetter FJ. (2014). Does PKM(zeta) maintain memory? *Brain Research Bulletin*, 105: 36-45. PMID: 24076105.
31. **Kwapis JL**, Jarome TJ, Lee JL, Gilmartin MR, Helmstetter FJ. (2014). Extinguishing trace fear engages the retrosplenial cortex rather than the amygdala. *Neurobiology of Learning and Memory*, 113: 41-54. PMID: 24055593.
32. Jarome TJ, **Kwapis JL**, Ruenzel WL, Helmstetter FJ. (2013). CaMKII, but not protein kinase A, regulates Rpt5 phosphorylation and proteasome activity during the formation of long-term memories. *Frontiers in Behavioral Neuroscience*, 7: 115. PMID: 24009566.
33. Gilmartin MR, **Kwapis JL**, Helmstetter FJ. (2013). NR2A- and NR2B-containing NMDA receptors in the prelimbic medial prefrontal cortex differentially mediate trace, delay, and contextual fear conditioning. *Learning and Memory*, 15: 290-294. PMID: 23676200.
34. Jarome TJ, **Kwapis JL**, Werner CT, Parsons RG, Gafford GM, Helmstetter FJ. (2012). The timing of multiple retrieval events can alter GluR1 phosphorylation and the requirement for protein synthesis in fear memory reconsolidation. *Learning and Memory*, 19: 300-306. PMID: 22723052.
35. **Kwapis JL**, Jarome TJ, Gilmartin MR, Helmstetter FJ. (2012). Intra-amygdala infusion of the protein kinase Mzeta inhibitor ZIP disrupts foreground context fear memory. *Neurobiology of Learning and Memory*, 98: 148-153. PMID: 22659643.
36. Gilmartin MR, **Kwapis JL**, Helmstetter FJ. (2012). Trace and contextual fear conditioning are impaired following unilateral microinjection of muscimol in the ventral hippocampus or amygdala, but not the prefrontal cortex. *Neurobiology of Learning and Memory*, 97: 452-464. PMID: 22469748.
37. **Kwapis JL**, Jarome TJ, Schiff JC, Helmstetter FJ. (2011). Memory consolidation in both trace and delay fear conditioning is disrupted by intra-amygdala infusion of the protein synthesis inhibitor anisomycin. *Learning and Memory*, 18: 728-732. PMID: 22028394.
38. Jarome TJ, Werner CT, **Kwapis JL**, Helmstetter FJ. (2011). Activity dependent protein degradation is critical for the formation and stability of fear memory in the amygdala. *PLoS One*, 6: e24349. PMID: 21961035.
39. Jarome TJ, **Kwapis JL**, Nye SH, Helmstetter FJ. (2010). Introgression of Brown Norway chromosome 1 onto the fawn hooded hypertensive background rescues long-term fear memory deficits. *Behavior Genetics*, 40: 85-92. PMID: 21961035.
40. **Kwapis JL**, Jarome TJ, Lonergan ME, Helmstetter FJ. (2009). Protein kinase Mzeta maintains fear memory in the amygdala but not in the hippocampus. *Behavioral Neuroscience*, 123: 844-850. PMID: 19634944.

## **TEACHING EXPERIENCE**

### **Pennsylvania State University**

#### **Instructor/Co-Instructor of record**

- Functional & Integrative Neuroscience (BIOL/BBH 470) Fall 2020, 2022

- Function & Development of Organisms (BIOL 240M, honors) Spring 2020-2023

**Guest Lectures**

- Systems Neuroscience Graduate course (Neuro521) Spring 2020-2022  
Multiple lectures each year. Instructor of record: Dr. Nicole Crowley

**Teaching Education/Development**

- Evidence-Based Teaching Academy (EBTA) participant Spring 2021

**University of Wisconsin-Milwaukee**

**Guest Lecturer**

- Proseminar in Biological Psychology, Research Lecture October, 2013
- Research Methods, “Threats to Validity” Lecture March, 2010
- Introduction to Psychology, “Memory” Lecture March, 2007
- Introduction to Psychology, “Conditioning” Lecture September, 2006

**Teaching Assistant**

- Physiological Psychology (James Moyer Jr., Ph.D.) Spring 2009
- Physiological Psychology (Fred Helmstetter, Ph.D.) Fall 2008
- Research Methods in Psychology (Marcellus Merrit, Ph.D.) Spring 2008,  
  - **TA coordinator**, Research Methods (Spring, Fall 2010) Spring, Fall 2010
- Research Methods in Psychology (Susan Lima, Ph.D.) Fall 2007, 2009
- Introduction to Psychology (Kristin Flora, Ph.D.) Spring 2007
- Introduction to Psychology (Katie Mosack, Ph.D.) Fall 2006

**TALKS / SEMINARS / SYMPOSIA**

- Park City Winter Conference on Learning & Memory (Park City, UT) 2023
- University of Utah Neurobiology Seminar (Salt Lake City, UT) 2022
- “Big Picture” lecture to staff (PSU, University Park, PA) 2022
- Millennium Café (PSU, University Park, PA) 2022
- International Behavioral Neuroscience Society (Glasgow, Scotland) 2022
- Purdue Neuroscience Seminar (virtual) 2022
- Big 10 Neuroscience Seminar Series (virtual) 2021
- PSU Center for Brain, Behavior, and Cognition (PSU, virtual) 2021
- Mount Holyoke College (South Hadley, MA, virtual) 2021
- Eastern Psychological Association Meeting (virtual) 2021
- Center for Eukaryotic Gene Regulation (PSU, virtual) 2020
- Early Career Roundtable speaker, WIL Luncheon Reimagined (virtual) 2020
- PSU College of Medicine Neuroscience Seminar (Hershey, PA, virtual) 2020
- International Behavioral Neuroscience Society (Glasgow, Scotland)\* 2020\*
- Center for Brain, Behavior, and Cognition (CBBC) seminar (PSU)\* 2020\*
- Center for Eukaryotic Gene Regulation (CEGR) meeting (PSU) 2020
- Eastern Psychological Association Meeting (Boston, MA)\* 2020\*
- \*Cancelled due to COVID-19 outbreak**
- Virginia Tech (Blacksburg, VA) 2019
- Rosalind Franklin University of Medicine and Science (Chicago, IL) 2019
- Intl Society for Behavioral Neuroscience Meeting (Taormina, Italy) 2019
- Pennsylvania State University Neuroscience Symposium 2019
- Intl Behavioral Neuroscience Society Meeting (Boca Raton, FL) 2018

Intl Conference on Learning & Memory (Huntington Beach, CA)	2018
University of North Carolina, Chapel Hill, Pharmacology Department	2018
University of Wisconsin-Milwaukee, Department of Psychology	2018
Pennsylvania State University, Department of Biology	2018
University of Iowa, Department of Psychological & Brain Sciences	2018
Cornell University, Department of Psychology	2017
Emerging Scientists Symposium, UCI MIND (Irvine, CA)	2017
Molecular and Cellular Cognition Society (San Diego, CA)	2016
Spring Training Grant Retreat Shark Tank presentation (Irvine, CA)	2016
West Coast Epigenetics Day (Irvine, CA)	2016
Roger Russell Award Lecture (Irvine, CA)	2015
Illinois Wesleyan Natural Science Colloquium (Bloomington, IL)	2014
University of California, Irvine, Dept. of Neurobiology & Behavior	2013
New York University, Center for Neural Science (New York, NY)	2013

## **MENTORSHIP**

### ***Postdoctoral Scholars***

Mark Urban, Ph.D.	2020-2022
<i>*Currently a Research Scientist, U Penn Gene Therapy Center</i>	

### ***Graduate Students***

Lauren Bellfy (MCIBS PhD Program, PSU)	2019-present
<ul style="list-style-type: none"> <li>• Pathways to Health Aging T32 Fellow (2020-2021)</li> <li>• J. Lloyd Huck Graduate Fellow (2019-2020)</li> </ul>	
Chad Smies (Biology PhD Program, PSU)	2020-present
<ul style="list-style-type: none"> <li>• Verne M. Willaman Fellow (2020-2021)</li> </ul>	
Chad Brunswick (Neuroscience PhD Program, PSU)	2020-present
<ul style="list-style-type: none"> <li>• Homer F. Braddock Scholarship recipient (2020-2021)</li> </ul>	
Hannah Boyd (Neuroscience PhD Program, PSU)	2021-present
<ul style="list-style-type: none"> <li>• Eukaryotic Gene Regulation T32 Fellow (2022-2023)</li> </ul>	
Gretchen Pifer (Biology PhD Program, PSU)	2022-present
<ul style="list-style-type: none"> <li>• Verne M. Willaman Fellow (2022-2023)</li> <li>• Stephen B. Brumbach Distinguished Graduate Fellowship II (2022-2023)</li> </ul>	

### ***Research Scientists/Technicians***

Shoko Murakami, Ph.D. (Research Scientist)	2019-present
Kasuni K. Bodinayake (Technician)	2019-2020
<i>*Currently a graduate student in the Ostlund Lab at UC Irvine</i>	

### ***Undergraduate Students***

Megan Von Abo* (undergraduate researcher, PSU)	2022-present
Stepfany Dawn Newkirk-Johnson (undergraduate researcher, PSU)	2022-present
<ul style="list-style-type: none"> <li>• ECoS Summer Research Program Award (2022)</li> <li>• Student Engagement Network (SEN) grant awardee</li> </ul>	
Derek Baldwin* (undergraduate researcher, PSU)	2021-present
<ul style="list-style-type: none"> <li>• Student Engagement Network (SEN) grant awardee</li> </ul>	
Alexandria McKenna*& (undergraduate researcher, PSU)	2021-present
Sofia Bennetts*& (undergraduate researcher, PSU)	2020-present
Marc Lussier& (undergraduate researcher, PSU)	2020-present
Alicia Bernhardt*& (undergraduate researcher, PSU)	2020-present

Destiny Wright*#&+ (undergraduate researcher, PSU)	2019-present
Chen-yu (Milo) Lo*&#+ (undergraduate researcher, PSU)	2019-present
<ul style="list-style-type: none"> <li>• Student Engagement Network (SEN) grant awardee</li> </ul>	
Emily Stuart*! (undergraduate researcher, PSU)	2019-2021
Shagun Lakhia& (undergraduate researcher, PSU)	2019-2020
Ashley Heimann* (undergraduate researcher, PSU)	2019-2020
Yunsik (Will) Won (undergraduate researcher, PSU)	2019-2020
Tri Ngoc Dong* (undergraduate researcher, UCI)	2018-2019
Guanhua "Ivan" Shu*#+ (undergraduate researcher, UCI)	2014-2018
<ul style="list-style-type: none"> <li>• UROP Grant (2016, 2017), SURP Grant (2016, 2017)</li> <li>• Carol B. McGaugh Award for excellence in research (2017)</li> </ul>	
Daniel Gutierrez* (undergraduate researcher, UCI)	2017-2018
<ul style="list-style-type: none"> <li>• Minority Science Program (MSP) Scholar (2017)</li> </ul>	
Grace Huynh* (undergraduate researcher, UCI)	2016-2017
Ashley Tran* (undergraduate researcher, UCI)	2016-2017
Christina Michael** (undergraduate researcher, UCI)	2014-2016
<ul style="list-style-type: none"> <li>• UROP grant (2016)</li> <li>• Minority Science Program (MSP) Scholar (2014-2015)</li> <li>• Minority Biomedical Research Support (MBRS) Program (2014)</li> <li>• Minority Access to Research Careers (MARC) Scholar (2014)</li> <li>• Annual ABCRMS Poster Presenter Award (2015)</li> </ul>	
Diane Rhee** (undergraduate researcher, UCI)	2014-2016
<ul style="list-style-type: none"> <li>• UROP grant (2014), SURP grant (2014)</li> </ul>	
Jonathan Lee** (undergraduate researcher, UWM)	2011-2013
<ul style="list-style-type: none"> <li>• SURF grant (2012-2013)</li> <li>• National Conference on Undergraduate Research (NCUR) Presenter (2013)</li> </ul>	
Janet Schiff** (undergraduate researcher, UWM)	
<ul style="list-style-type: none"> <li>• UROP grant (2010-2011)</li> <li>• Undergraduate Apprenticeship in Psychology (URAP) award (2009)</li> </ul>	

§Millenium Scholar  
!Eberly College of Science Summer Undergraduate Research Program Scholar  
&Schreyer's Honors College student  
\*Received authorship on a peer-reviewed research article  
#Working on supervised first-author project and manuscript  
+Received Excellence in Undergraduate Research Award for Thesis

## **ACADEMIC SERVICE AND COMMUNITY OUTREACH**

### **Grant Reviews:**

- ***NIH Learning, Memory, and Decision Neuroscience (LMDN) Study Section*** (Ad hoc reviewer) 6/2022, 2/2023
- ***NIH Biobehavioral Regulation, Learning, and Ethology (BRLE) Study Section*** (Early career reviewer) 6/2021
- ***APA Dissertation Research Award*** (Reviewer) 2020

### **University, School, and Departmental Service:**

- ***PSU Biology Dept Graduate Admissions Committee*** (PSU) 2020-present
- ***PSU Biology Seminar Series Organization Committee*** (PSU) 2020-present



- **Faculty Advisor, Biology Graduate Student Association** 2022-present
- **Biology Department Head Search Committee** (PSU) 2020-2021  
*selected as junior faculty representative*
- **Biology Department Teaching Faculty Search Committee** (PSU) 2020
- **PSU Neuroscience Seminar Series Organizer** (PSU) 2020-2021
- **PSU Neuroscience Program Graduate Admissions Committee** (PSU) 2021, 2023
- **PSU UP-Hershey Neuroscience Retreat Committee** (PSU) 2019-2020
- **PSU MCIBS Qualifying Exam Development Committee** (PSU) 2019-2022
- **Laboratory Tour guide**, CNLM graduate school tour (UCI) 2014
- **Mentor**, Student Accessibility Center (SAC) students (UWM) 2009-2011
- **Founder**, Graduate Students in Behavioral Neuroscience (UWM) 2009

**Scientific Community service:**

- **Breakout Session Leader**, “Funding disparities among women and underrepresented minority populations”, Pavlovian Society Meeting 2022
- **Organizer**, IBNS “Staying Connected” Virtual Seminar Series 2021-2022
- **Organizer**, WIL-IBNS Satellite Event 2021
- **Executive Committee Member**, Pavlovian society 2020-present
- **USA Councilor**, Intl Behavioral Neuroscience Society 2020-present
- **Organizer**, Early Career Roundtable, WIL Luncheon “Reimagined” 2020
- **Poster Session Chair**, Pavlovian Society Meeting (virtual) 2020
- **Symposium Chair**, Intl Behavioral Neuroscience Society Meeting 2018, 2020, 2022

**DEI-related service and Outreach:**

- **Ethics & Diversity Committee**, Intl Behavioral Neuroscience Society 2020-present  
\* **Committee Co-chair** 2021-2022  
\* **Committee Chair** 2022-2023
- **WIL Board Member**, Women in Learning (WIL) 2011-present
- **Rainbow Science Network (RSN)** member 2020-present
- **GAINS (Girls Advancing In STEM) mini-course leader** 2022
- **Program Committee member**, CNLM Memory Conference 2018
- **Classroom presenter**, Sowers School Brain Awareness Week 2015-2017

**REVIEWING ACTIVITIES**

**Journal Reviewer:** BBA Gene Regulatory Mechanisms, Behavioral Brain Research, Biological Psychiatry, BMC Biology, Brain Research Bulletin, Brain Structure and Function, Cannabis and Cannabinoid Research, Cell Reports, Cellular and Molecular Life Sciences, Current Biology, eNeuro, Frontiers in Behavioral Neuroscience, Frontiers in Molecular Neuroscience, Frontiers in Neural Circuits, Hippocampus, Hormones and Behavior, Journal of Neurochemistry, Journal of Neuroscience, Journal of Neuroscience Research, Learning & Memory, Molecular Therapy, Neurobiology of Aging, Neurobiology of Learning and Memory, Neuropharmacology, Neuropsychopharmacology, Physiology & Behavior, Psychopharmacology, Scientific Reports.

**Editorial positions:**

- Editorial Board member, *Neurobiology of Learning and Memory* (2023-2024)
- Section Editor, Aging Neuroscience, *Brain Research Bulletin* (2023-2026)
- Special issue editor, “Pavlovian Society” *Neurobiology of Learning and Memory* (2023)

- Guest editor, “Molecular mechanisms of memory formation and modification,” *International Journal of Molecular Sciences* (2019-2020).

## **RESEARCH SUPPORT**

### **Current funding**

**NIA R01 AG074041** **Kwapis (PI)** **08/2022-6/2027**  
*“Diurnal control of memory allocation by the circadian gene Per1.”*

The aim of this project is to test whether the clock gene *Per1* regulates memory across the day/night cycle by regulating the proportion of CREB+ neurons allocated to memory.

Role: PI

**NIA K99/R00 AG056596** **Kwapis (PI)** **07/2017-06/2023**  
*“Epigenetic regulation of the circadian gene Per1 in age-related memory impairments.”*

In this project, we use a combination of behavioral, molecular, and cutting-edge genetic engineering (CRISPR) approaches to examine the epigenetic regulation of a key circadian rhythm mechanism that may be pivotally involved in normal age-related cognitive decline.

Role: PI

**AFAR and Glenn Foundation A21105** **Kwapis (PI)** **07/2021-06/2023**  
*“Reversing a persistent “nighttime state” that limits memory in aging mice.”*

The aim of this project is to understand how the circadian gene Period1 (*Per1*) contributes to age-related impairments in memory allocation.

Role: PI

**NIA R21 AG068444** **Kwapis (PI)** **09/2020-08/2023**  
*“The role of HDAC3 in age-related impairments in memory updating”*

This project aims to examine the role of the repressive histone deacetylase HDAC3 in regulating gene expression during memory updating in the young and old brain.

Role: PI

### **Past funding**

**Whitehall Foundation 2020-05-06** **Kwapis (PI)** **08/2020-07/2021**  
*“Circadian control of memory allocation”*

The aim of this project is to understand how the circadian gene Period1 (*Per1*) exerts circadian control over hippocampal memory formation through its interactions with the transcription factor CREB.

Role: PI

**NIA F32 AG052303** **Kwapis (PI)** **01/2016-06/2017**  
*“Epigenetic repression of synaptic plasticity and memory in the aging brain.”*

The goal of this project was to identify the role of HDAC3 in age-related impairments in memory formation, memory updating, and synaptic plasticity.

Role: PI/Trainee

**NIA T32 AG000096** **Cotman (PI)** **07/2014-06/2015**  
*“Training in the neurobiology of aging.”*

The goal of this training grant is to apply molecular and quantitative approaches to elucidate the cellular and molecular mechanisms of age-related neurodegeneration, brain plasticity, and learning and memory.

Role: Trainee

**NIMH F31 MH090685**

**Kwapis (PI)**

**01/2011-12/2013**

*“The role of protein kinase Mzeta in hippocampal-dependent memory maintenance.”*

The goal of this project was to understand how long-term memories are stored in the brain through the activity of protein kinase Mzeta.

Role: PI/Trainee