

**Brandon L. Roberts, Ph.D.**  
University of Wyoming  
Dept. of Zoology & Physiology, Dept. of Animal Science  
Program in Neuroscience  
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### Current Position

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**University of Wyoming**  
Assistant Professor

Laramie, Wyoming  
Fall 2023 – Present

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### Education

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**Washington State University**  
Ph.D., Neuroscience  
B.S., Neuroscience

Pullman, Washington  
2009 – 2015  
2005 – 2009

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### Previous Appointments

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**Postdoctoral Fellow**  
University of Massachusetts – Amherst

March 2020 – August 2023  
*Dr. Ilia Karatsoreos*

**Postdoctoral Fellow**  
Oregon Health & Science University

March 2015 – March 2020  
*Dr. Paul Kievit; Dr. Kevin Grove*

**Graduate Student**  
Washington State University

Fall 2009 – Winter 2015  
*Dr. Suzanne Appleyard*

**Research Assistant**  
Washington State University

Fall 2007 – Fall 2009  
*Dr. Sue Ritter*

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### Publications

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1. **Brandon L. Roberts**, Jiexin Wang, Haifa Chargui, Nathan C. Cupertino, Walker Sorensen, Ilia N. Karatsoreos. Perinatal circadian desynchronization disrupts sleep and prefrontal cortex function in adult offspring. SLEEP. 2025. DOI: 10.1093/sleep/zsaf210
2. Carey E. Dougan\*, **Brandon L. Roberts\***, Alfred J. Crosby, Ilia Karatsoreos, Shelly R. Peyton. *Impact of cavitation-induced traumatic brain injury on glial and neural function in the hippocampus*. Biophysical Journal, 2024. DOI: 10.1016/j.bpj.2024.07.040 \*co-primary, contributed equally
3. **Brandon L. Roberts** and Ilia N. Karatsoreos. *Circadian desynchronization disrupts physiological rhythms of prefrontal cortex pyramidal neurons in mice*. Scientific Reports, 2023. DOI: 10.1038/s41598-023-35898-8
4. **Brandon L. Roberts**, Eric Kim, Katherine Tennant, Sarah Lindsley, and Paul Kievit. *Fibroblast growth factor -1 activates neurons in the arcuate nucleus and dorsal vagal complex*. Frontiers in Endocrinology, 2021. DOI: 10.3389/fendo.2021.772909
5. **Brandon L. Roberts** and Ilia Karatsoreos. *Brain-body responses to chronic stress: a brief review*. Faculty Reviews, 2021. 10:83. DOI: 10.12703/r/10-83
6. **Brandon L. Roberts**, Baylin J. Bennett, Camdin M. Bennett, Julie M. Carroll, Louise S. Dalbøge, Colin Hall, Wafa Hassouneh, Kristy M. Heppner, Melissa A. Kirigiti, Sarah R. Lindsley, Katherine G. Tennant, Cadence A. True, Andrew Whittle, Anitra C. Wolf, Charles T. Roberts, Jr., Mads Tang-Christensen, Mark W. Sleeman, Michael A. Cowley, Kevin L. Grove, Paul Kievit. *Reelin is modulated by diet-induced obesity and has direct actions on arcuate proopiomelanocortin neurons*. Molecular Metabolism, 2019. S2212-8778 (19)30147-4.
7. **Brandon L. Roberts**, Camdin M. Bennett, Julie M. Carroll, Sarah R. Lindsley, and Paul Kievit. *Early overnutrition alters synaptic signaling and induces leptin resistance in arcuate proopiomelanocortin neurons*. Physiology & Behavior, 2019. 206: 166-174.
8. **Brandon L. Roberts**, Mingyan Zhu, Huan Zhao, Crystal Dillon, and Suzanne M. Appleyard. *High glucose increases action potential firing of catecholamine neurons in the nucleus of the solitary tract by increasing spontaneous glutamate inputs*. American Journal of Physiology, 2017. 313(3):R229-R239.

9. **Brandon L. Roberts\***, Ran Ji Cui\*, Huan Zhao, Mingyan Zhu, and Suzanne M. Appleyard. *Serotonin activates catecholamine neurons in the Solitary Tract Nucleus by increasing spontaneous glutamate inputs*. Journal of Neuroscience, 2012. 32(46):p. 16530-8. \*Co-primary, contributed equally
10. Ai-Jun Li, Michael F. Wiater, Marjolein T. Oostrom, Bethany R. Smith, Qing Wang, Thu T. Dinh, **Brandon L. Roberts**, Heiko T. Jansen and Sue Ritter. *Leptin-sensitive neurons in the arcuate nuclei contribute to endogenous feeding rhythms*. American Journal of Physiology, 2012. 302(11):R1313-26
11. Ran Ji Cui, **Brandon L. Roberts**, Huan Zhao, Michael C. Andresen, and Suzanne M. Appleyard, *Opioids inhibit visceral afferent activation of catecholamine neurons in the solitary tract nucleus*. Neuroscience, 2012. 222:181-190.

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### Manuscripts In Preparation

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1. Jiexin Wang, Ilia N. Karatsoreos and **Brandon L. Roberts**. *Transcriptional and physiological regulation of synaptic function in the PFC is time of day dependent*.
2. Prince Peter Wornemor, Nathan Cupertino, Jonathan Crider, Ryan Bosley, Whitney J. Walker, **Brandon L. Roberts**. *Acute high-fat diet disrupts diurnal properties of prefrontal cortex pyramidal neurons in mice*
3. Haifa Chargui, Kendal Rivera, Kaidance Taylor, Ryan Bosley, Silvee McCoy, Veronika Ozimek, Prince Peter Wornemor, Whitney J. Walker, **Brandon L. Roberts**. *One-week of high-fat diet has consequences for sleep and physiological rhythms*.
4. Jonathan Crider, Jacob Turner, **Brandon L. Roberts**. *Design and development of a low-cost mobile behavioral system for flexible high-throughput behavioral assays*.

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### Invited Presentations

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1. **Brandon L. Roberts**. (2025) AI in Education: A Panel Discussion. Heterodox Academy Regional Conference. Colorado State University. Fort Collins, CO
2. **Brandon L. Roberts**. (2024) *Acute high-fat diet disrupts sleep and prefrontal cortex function in mice*. MCIN Program Seminar. Colorado State University. Fort Collins, CO
3. **Brandon L. Roberts**. (2023) Brown University Tom F. Anders Seminar Series. *How maternal circadian disruption impacts sleep and PFC function in adult offspring*. Providence, RI (Virtual)
4. **Brandon L. Roberts**. (2023) Sensory Biology Core Seminar Series. *From gestation to adulthood: How maternal environment impacts neural development and function*. Laramie, WY
5. **Brandon L. Roberts**, Ilia N. Karatsoreos. (2022) *Impact of circadian desynchronization on neural function in the prefrontal cortex*. MCB Postdoc Showcase. Amherst, MA
6. **Brandon L. Roberts**, Ilia N. Karatsoreos. (2022) *Circadian desynchronization alters information throughput in the prefrontal cortex*. Society for the Study of Biological Rhythms. Amelia Island, FL

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### Oral Abstracts

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1. **Brandon L. Roberts**, N. Ilia Karatsoreos. (2022) *Electrophysiological mechanisms of daily rhythms in the prefrontal cortex*. SRBR Global Talk Series. Virtual. \*Voted one of top 6 presenters
2. **Brandon L. Roberts**, Camdin Bennett, and Paul Kievit. (2018) *Developmental and adult overnutrition alter synaptic inputs and leptin signaling onto proopiomelanocortin neurons in the arcuate nucleus of the hypothalamus*. Society for the Study of Ingestive Behavior; Bonita Springs, FL.
3. **Brandon L. Roberts**. (2016) *Target validation and outcomes*. Novo Nordisk Executive Steering Committee. Marriot Hotel, Portland, OR. \*Nature of this presentation is confidential due to a non-disclosure agreement.
4. **Brandon L. Roberts**, Mingyan Zhu, Suzanne M. Appleyard. (2014) *Low glucose decreases action potential firing of catecholamine neurons in the nucleus of the solitary tract indirectly via a presynaptic 5-HT<sub>3R</sub> dependent mechanism*; Society for the Study of Ingestive Behavior; Seattle, WA.

## Poster Abstracts

1. Kendal Rivera, Kaidance Taylor, Ryan Bosley, Haifa Chargui, Silvee McCoy, Veronika Ozimek, Prince Peter Wormenor, Whitney J. Walker, **Brandon L. Roberts**. (2025) *One-week of high-fat diet has consequences for daily rhythms and peripheral physiology*. UW Undergraduate Research Inquiry Day. Laramie, WY.
2. Prince Peter Wormenor, Nathan Cupertino, Jonathan Crider, Ryan Bosley, Whitney J. Walker, **Brandon L. Roberts**. (2025) *Acute high-fat diet disrupts diurnal properties of prefrontal cortex pyramidal neurons in ♂ mice*. UC San Diego Center for Circadian Biology Symposium. La Jolla, CA.
3. Haifa Chargui, Karla Pitha, Prince Peter Wormenor, Silvee R. McCoy, Veronika Ozimek, Kendal Rivera, Kaidance Taylor, Whitney J. Walker, Emily E. Schmitt, **Brandon L. Roberts**. (2025) *Chrono-exercise prevents fat accumulation, but not sleep disruption after acute high-fat diet exposure*. UC San Diego Center for Circadian Biology Symposium. La Jolla, CA.
4. Haifa Chargui, Prince Peter Wormenor, Whitney J. Walker, **Brandon L. Roberts**. (2024) *Impact of high-fat diet on sleep and prefrontal cortex function in mice*. Wyoming INBRE Conference. Laramie, WY.
5. **Brandon L. Roberts**, Nathan C. Cupertino, Haifa Chargui, Prince Peter Wormenor, Walker Sorensen, and Ilia N. Karatsoreos. (2024) *Maternal circadian desynchronization disrupts sleep and PFC function in adult male offspring*. Society for the Study of Biological Rhythms. San Juan, Puerto Rico.
6. Jiexin Wang, **Brandon L. Roberts**, Gregory Pearson, Francis Lin, Ilia N. Karatsoreos. (2024) *Glutamatergic Signaling and Gene Expression in PFC is Regulated by Time of day*. Society for the Study of Biological Rhythms. San Juan, Puerto Rico.
7. Carey E. Dugan\*, **Brandon L. Roberts\***, Ilia N. Karatsoreos, and Shelly R. Peyton. (2023) *Needle-induced cavitation alters excitatory release onto CA1 pyramidal neurons*. Interdisciplinary Neuroscience Conference. Amherst, MA. \*co-presenters
8. **Brandon L. Roberts\***, Nate Cupertino\*, Walker Sorensen, Ilia N. Karatsoreos. (2023) *Maternal circadian desynchronization disrupts sleep and prefrontal cortex function in adult offspring*. UMass Interdisciplinary Neuroscience Conference. Amherst, MA. \*Co-presenters
9. **Brandon L. Roberts**, Walker Sorensen, Ilia N. Karatsoreos. (2022) *Impact of maternal circadian disruption on sleep and neural function in adult offspring*. Int. Society for Develop. Psychobiology. San Diego, CA  
\*Voted best virtual postdoc iPoster
10. Jiexin Wang, **Brandon L. Roberts**, Ilia N. Karatsoreos. (2022) *Synaptic protein levels and physiological activity in primary cortical neurons are influenced by time of day*. Society for Neuroscience. San Diego, CA
11. Carey E. Dugan\*, **Brandon L. Roberts\***, Ilia N. Karatsoreos, and Shelly R. Peyton. (2022) *Impact of traumatic brain injury on glial and neural function in the hippocampus*. Interdisciplinary Neuroscience Conference. Amherst, MA. \*co-presenters
12. **Brandon L. Roberts**, Ilia N. Karatsoreos. (2021) *Neurophysiology of daily rhythms in the prefrontal cortex of male and female mice*. Neuroscience and Technology Poster Conference. Amherst, MA.
13. **Brandon L. Roberts**, Eric Kim, and Paul Kievit. (2019) *Synaptic Actions of Fibroblast Growth Factor -1 in the Hypothalamus and Dorsal Vagal Complex*. ObesityWeek. Las Vegas, NV.
14. Eric Kim\*, and **Brandon L. Roberts**. (2020) *Combating Diabetes: Synaptic mechanisms of FGF1 in hypothalamic and hindbrain neurons*. Intel International Science and Engineering Fair. Beaverton, OR.
15. **Brandon L. Roberts**, Camdin Bennett, Louise Dalboege, Baylin Bennett, Kevin Grove and Paul Kievit. (2017) *Reelin protein is increased in the hypothalamus of diet-induced obesity (DIO) mice and has direct actions on arcuate proopiomelanocortin (POMC) neurons*. Keystone in Keystone, CO.
16. **Brandon L. Roberts** and Suzanne M. Appleyard. (2013) *Low glucose decreases action potential firing of catecholamine neurons in the nucleus of the solitary tract indirectly by reducing glutamate input*. Society for Neuroscience in San Diego, CA.
17. Zhao H., **Roberts B.L.\***, Appleyard S.M. (2013) *Catecholamine and non-catecholamine neurons have different mechanisms to facilitate synaptic transmission in the nucleus of the solitary tract in mice*. Society for Neuroscience in San Diego, CA. (\*Presenter; Original author not able to attend)

18. **Brandon L. Roberts**, Ran Ji Cui, Huan Zhao, Mingyan Zhu, and Suzanne M. Appleyard. (2011) *5-HT<sub>3</sub> agonists activate catecholamine neurons in the solitary tract nucleus of the brainstem*. Society for Neuroscience in Washington DC.
19. **Brandon L. Roberts**, X.J. Li, R.J. Cui, S.M. Appleyard. (2010) *Glucose sensitivity in the nucleus of the solitary tract*. CVM research symposium. Pullman, WA.
20. **Brandon L. Roberts**, Ai Jun Li, Thu Dinh, Sue Ritter. (2009) *Neuropeptide Y Receptor-Expressing Neurons Play a Critical Role in Feeding Behavior and Metabolic Function*; CVM Research Symposium, Pullman, WA.

### Grants & Funding

<b>Wyoming Sensory Biology Center Research Project Leader</b> \$450,000 (Direct) <i>Impact of early overnutrition on leptin signaling in hypothalamic neuropeptide Y neurons</i> NIH COBRE Grant# 3P20GM121310-07	2024 - Present
<b>IONs Inspiration Award</b> ; \$15,000 <i>Impact of traumatic brain injury on glial and neural function in the hippocampus</i>	2022 – 2023
<b>Sleep Research Society Small Research Grant</b> ; \$5,000 <i>Impact of maternal circadian disruption on sleep and PFC function in offspring</i>	2021 – 2022

### Pending Submissions

<b>NIH R21</b> ; NIEHS Co-I: Dr. Emily Schmitt \$450,000 direct <i>Chrono-Exercise as an Intervention for Diet-Induced Sleep Disruption and Cognitive Function</i>	(In review)
<b>NIH 1R01DK146314-01</b> ; NIDDK; \$1,345,785 direct <i>Acute high-fat diet disrupts sleep and cognitive function in mice</i>	(Submitted)

### Fellowships & Awards

SSIB Postdoctoral New Investigator Travel Award; \$500	2018
Poncin Research Fellowship (Two-year stipend); ~\$40,000 <i>Obesity alters serotonin signaling on hindbrain catecholamine neurons</i>	2013 – 2015
SSIB Graduate student New Investigator Travel Award; \$500	2014
Pfizer Student Research Poster Presentation Award; \$500	2011

### Graduate Students

<b>PhD Student</b> ; Nathan C. Cupertino – <i>University of Wyoming</i>	2025 – Present
<b>PhD Student</b> ; Baizar Alamiri – <i>University of Wyoming</i>	2024 – Present
<b>PhD Student</b> ; Prince Peter Wormenor – <i>University of Wyoming</i>	2023 – Present
<b>MS Student</b> ; Haifa Chargui – <i>University of Wyoming</i>	2023 – Present

### Student Awards & Grants

<b>Bree Coxbill</b> INBRE Undergraduate Research Grant; \$5,140	2025
<b>Taylor Stevens</b> WY Research Scholars Program; \$5,700	2025
<b>Veronika Ozimek</b> Undergraduate Physiology Scholarship; \$2,000	2025
<b>Haifa Chargui</b> L. Floyd Clark Scholarship Fund; \$2,000	2024
<b>Prince Peter Wormenor</b> Neuroscience Mini-grant; \$1,625	2024
CCB Conference Travel Grant; \$1,200	2024

### Teaching Experience

<b>Instructor</b> Neuroseminar 5715; <i>University of Wyoming</i>	2025
<b>Instructor</b> Human Physiology 3115; <i>University of Wyoming</i>	2024 - Present
<b>Guest Lecturer</b> Biological Psychology 330; <i>University of Massachusetts</i>	2022
<b>Guest Instructor</b> Immersive Neuroscience; <i>Beaverton Health &amp; Science</i>	2019 – 2020
<b>Instructor</b> From Bread to Brain; <i>Saturday Academy</i>	2016 – 2018
<b>Co-instructor</b> Affective Neuroscience 409/509; <i>Washington State University</i>	2013 – 2014
<b>Teaching Assistant</b> Neurophysiology 430; <i>Washington State University</i>	2013
<b>Teaching Assistant</b> Neuroanatomy 404; <i>Washington State University</i>	2011 – 2012



## Mentored Students

### University of Wyoming Graduate Committees

1. Erik Gwaltney	<i>Neuroscience PhD</i>	2025 – Present
2. Karla Pitha	<i>Kinesiology MS</i>	2024 – Present
3. Maycie Schultz	<i>Biomedical Sciences PhD</i>	2024 – Present
4. Sirjan Chhatwal	<i>Neuroscience PhD</i>	2024 – 2025
5. Madison Ruhmann	<i>Neuroscience PhD</i>	2024 – Present
6. Ari Tuortellot	<i>Zoology &amp; Physiology PhD</i>	2023 – Present

### University of Wyoming Undergraduate Mentees

1. Bree Coxbill	2025 – Present	8. Kendal Rivera	2024 – 2025
2. Taylor Stevens	2025 – Present	9. Elenore Jenkerson	2024 – 2025
3. Jacob Turner	2025 – Present	10. Maya Harris	Spring 2025
4. Veronika Ozek	2024 – Present	11. Abigail Flesvig	Fall 2024
5. Ryan Bosley	2024 – Present	12. Hannah Shuler	Fall 2024
6. Silvee Raye McCoy	2024 – Present	13. Jonathan Crider	2023 – 2024
7. Kaidance Taylor	2024 – 2025	14. Macy Palmer	2023 – 2024

**Undergraduate;** Nate Cupertino – *UMass* 2022 – 2023

**Graduate Student;** Carey Dougan – *UMass* 2022 – 2023

**Undergraduate;** Walker Sorensen – *UMass* 2022

**High School Student;** Eric Kim – *John Hopkins University* 2019 – 2020

*\*National Regeneron Science Talent Search awardee*

**Undergraduate;** Camdin Bennett – *Western University Northwest Medical School* 2015 – 2017

**Undergraduate;** Luke Duville – *WiSA Tech.* 2015

## Honors

NIH Early Career Researcher (ECR) Program 2025

Human Systems Physiology Course 2025

*Named by Tobin Memorial Award Undergraduate Finalist as most influential course that changed their mind about an important issue*

Honorary Volleyball Coach - University of Wyoming Athletics 2024

*Recognition for positive impact on student athletes' life and education*

## Outreach & Service

- Faculty Advisor – Graduate Student Council and Task Force 2025 – Present
- UW Working Group in Stress Tolerance 2024 – Present
- Faculty Search Committee – Sensory Biology 2024
- Provost AI in Teaching and Learning Committee 2023 – Present
- Faculty Senate; Dept. Zoology & Physiology, University of Wyoming 2023 – Present
- Biological Rhythms Journal Club (*Co-founder*) 2023 – Present
- ZP Mental Health Committee; University of Wyoming 2023 – Present
- UW Trustees' Scholars Award Interview Day (*Interviewer*) 2024
- Int. Society of Developmental Psychobiology; Student poster judge 2022
- Neuroscience & Behavior (NSB) Retreat Organizational Committee 2022
- NSB Graduate Student Mentorship Program 2021 – 2023
- NSB Educational Outreach Organization 2020 – 2023
- NSB DEI anti-racism action team: External Scientific Outreach 2020 – 2021
- Guest lecturer; Century High School AP Anatomy & Physiology 2016 – 2020
- Primary Panelist; ONPRC Scientific Public Outreach panel 2015 – 2020
- Intel International Science and Engineering Fair; Student Presentation Referee 2019
- Neuroanatomy Dissection Coordinator; Sunset High School science club 2017-2019

- Novo Nordisk Drug Discovery Partnership 2015 – 2019
- Presenter; ONPRC Camp Monkey, elementary school outreach 2016 – 2019
- Ambassador; New ONPRC postdoctoral fellows onboarding 2016 – 2018
- Faculty Search Committee; Washington State University 2014
- Facilitator and Project Coordinator; Kid's Judge Neuroscience outreach 2009 – 2014
- Ambassador; WSU Neuroscience Program 2008 – 2009
- President; Neuroscience Undergraduates Teaching Students Mentor program 2008 – 2009
- President; Unite for Sight 2005 – 2006

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### External Service

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NIH Study Section POMD -Cycle III 2026

NIH Study Section HSDO (*invited – declined*)

Journal Reviewer: *Aging Cell; Scientific Reports; Frontiers in Endocrinology*

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### Professional Memberships

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American Thoracic Society	2023 – Present
International Society for Developmental Psychobiology	2022 – Present
Sleep Research Society	2021 – Present
Society for Research on Biological Rhythms	2020 – Present
The Obesity Society	2017 – Present
Society for the Study of Ingestive Behavior	2014 – Present
Society for Neuroscience	2010 – Present