JENNIFER JAHNCKE, PHD

Portland, OR

EDUCATION

2024 | 2018

Oregon Health & Science University
PhD in Neuroscience — Portland, OR

- Advisor: Kevin M. Wright, PhD, Vollum Institute, OHSU

2014 | 2010

University of California, Davis
BS in Psychology, Minor in Neuroscience — Davis, CA

Selected Courses

- Analytical and Quantitative Light Microscopy, MBL, 2024, Woods Hole, MA
- Behavioral Neuroscience Responsible Conduct of Research, OHSU, 2024, Portland, OR
- Neurohackademy, UW, 2023, Seattle, WA
- Programming for Biology, CSHL, 2022, Cold Spring Harbor, NY
- Biostatistics, OHSU, 2020, Portland, OR
- Data Visualization, OHSU, 2020, Portland, OR
- Practice and Ethics of Science, OHSU, 2018, Portland, OR
- Light and Fluorescence Microscopy, UC Davis, 2017, Davis, CA

RESEARCH EXPERIENCE

Present | 2024

Postdoctoral Researcher
Vollum Institute, OHSU — Portland, OR

- Identification and characterization of an evolutionarily conserved novel architecture of cerebellar GABAergic synapses.
- Development and initial validation of gene therapy to alleviate neurological deficits in mouse models of dystroglycanopathy.

2024 | 2018

Graduate Student Researcher
Neuroscience Graduate Program, OHSU — Portland, OR

- Functional characterization of the scaffolding protein Dystroglycan at inhibitory synapses across the brain in mouse models of dystroglycanopathy.
- Identified novel interacting partners of Dystroglycan in the central nervous system.

2018 | 2014

Staff Research Associate
Zito & Fioravante Labs, UC Davis — Davis, CA

- Characterization of genetically encoded fluorescent glutamate sensors using 2-photon glutamate uncaging.
- Elucidation of a novel protein signaling cascade in non-ionotropic NMDA receptor mediated LTD.

2014 | 2011

Undergraduate Research Assistant
Trimmer & Trainor Labs, UC Davis — Davis, CA

CONTACT INFO

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0000-0003-2319-6109

SKILLS

- R, Python, Bash, Git
- Statistical analysis
- IHC + Microscopy
- Slice electophysiology
- Biochemistry
- Mouse genetics

Extended skills: genetic manipulation (in mouse), immunohistochemistry, confocal microscopy, electrophysiology, biochemistry, immunoprecipitation, SDS-PAGE, western blot, virus design, intracerebroventricular virus injection, primer design, PCR, 2-photon microscopy, glutamate uncaging, organotypic slice culture, biolistic transfection, genetically encoded fluorescent biosensors, experimental design, data analysis, figure design, Adobe Photoshop, Adobe Illustrator, R, Python, Bash, Git

REFERENCES

Kevin M. Wright, PhD
Vollum Institute, OHSU
wrighke@ohsu.edu

Eric Schnell, MD, PhD
Anesthesiology and Perioperative Medicine, School of Medicine, OHSU
schneler@ohsu.edu

Karen Zito, PhD
Center for Neuroscience, UC Davis
kzito@ucdavis.edu

This resume was made with the R package pagedown.

Last updated on 2025-12-05.

PUBLICATIONS

2025 **Distinct functional domains of Dystroglycan regulate inhibitory synapse formation and maintenance in cerebellar Purkinje cells.**
Jahncke JN, Schnell E, Wright KW. Commun Biol. 2025; 8(1):878. doi: 10.1038/s42003-025-08323-1

2024 **Tools for Cre-Mediated Conditional Deletion of Floxed Alleles from Developing Cerebellar Purkinje Cells.**
Jahncke JN, Wright KW. eNeuro 22 May 2024, 11 (6) ENEURO.0149-24.2024; doi: 10.1523/ENEURO.0149-24.2024

2024 **Inhibitory CCK+ basket synapse defects in mouse models of dystroglycanopathy.**
Jahncke JN, Miller DS, Krush M, Schnell E, Wright KW. eLife. 2024; 12:RP87965. doi: 10.7554/eLife.87965.3

2023 **An adhesion signaling axis involving Dystroglycan, β1-Integrin, and Cas adaptor proteins regulates the establishment of the cortical glial scaffold.**
Wong W, Estep JA, Treptow AM, Rajabli N, Jahncke JN, Ubina T, Wright KM, Riccomagno MM. PLoS Biol. 2023 Aug 4;21(8):e3002212. doi: 10.1371/journal.pbio.3002212

2023 **The many roles of dystroglycan in nervous system development and function.**
Jahncke JN, Wright KW. Developmental Dynamics. 2023; 252(1): 61-80. doi: 10.1002/dvdy.516

2022 **Shared and Distinct Functional Effects of Patient-Specific Tbr1 Mutations on Cortical Development.**
Co M, Barnard RA, Jahncke JN, Grindstaff S, Fedorov LM, Adey AC, Wright KM, O'Roak BJ. Journal of Neuroscience 14 September 2022, 42 (37) 7166-7181; doi: 10.1523/JNEUROSCI.0409-22.2022

2020 **Molecular Mechanisms of Non-ionotropic NMDA Receptor Signaling in Dendritic Spine Shrinkage.**
Stein IS, Park DK, Flores JC, Jahncke JN, Zito K. Journal of Neuroscience 22 April 2020, JN-RM-0046-20; doi: 10.1523/JNEUROSCI.0046-20.2020

2017 **A Dual Role for the RhoGEF Ephexin5 in Regulation of Dendritic Spine Outgrowth.**
Hamilton AM, Lambert JT, Parajuli LK, Vivas O, Park DK, Stein IS, Jahncke JN, Greenberg ME, Margolis SS, Zito K. Molecular and Cellular Neuroscience 80 (2017): 66-7 doi: 10.1016/j.mcn.2017.02.001

TALKS

2024 **Go Nuts for Donuts: Molecular determinants of cerebellar GABAergic donut synapses**
Vollum Works In Progress — Portland, OR

2024 **A functional role for Dystroglycan at inhibitory synapses across multiple brain regions**
Dissertation Defense — Portland, OR

2023 **A conserved role for Dystroglycan at inhibitory synapses across multiple brain regions**
Vollum Works In Progress — Portland, OR

HONORS

2023 Vollum/NGP Paper of the Year

2023-2024 OHSU School of Medicine N.L. Tartar Trust Research Fellowship

2020-2023 Ruth L. Kirschstein National Research Service Award

2020 NSF GRFP Honorable Mention

ARCS Foundation Scholar

Phi Beta Kappa

2023 **Inhibitory Basket Synapse Formation in Mouse Models of Dystroglycanopathy**
Vollum Works In Progress — Portland, OR

2021 **A functional role for Dystroglycan at inhibitory cerebellar synapses**
Vollum Works In Progress — Virtual

2020 **Dystroglycan: a scaffold for inhibitory synapses in cerebellar cortex**
Vollum Works In Progress — Virtual

ABSTRACTS

2025 **Distinct domains of Dystroglycan regulate GABAergic synapse formation and function in cerebellar Purkinje cells.**
Jahncke JN, Schnell E, Wright KM. Inhibition in the CNS GRC
Newry, ME

2023 **Purkinje neuron Dystroglycan is required for inhibitory synapse formation and maintenance.**
Jahncke JN, Schnell E, Wright KM. OHSU NGP Retreat
Government Camp, OR

2022 **Dystrogycan is necessary for the formation of functional inhibitory CCK+/CB1R+ basket synapses in hippocampus.**
Jahncke JN, Miller DS, Schnell E, Wright KM. CSHL Molecular Mechanisms of Neuronal Connectivity
Cold Spring Harbor, NY

2020 **Purkinje cell Dystroglycan may promote the function of inhibitory basket synapses in cerebellar cortex.**
Jahncke JN, Schnell E, Wright KM. CSHL Molecular Mechanisms of Neuronal Connectivity
Cold Spring Harbor, NY

2019 **Non ionotropic NMDA receptor signaling mechanisms driving dendritic spine plasticity.**
Stein IS, Park DK, Jahncke JN, Zito K. Society for Neuroscience
Chicago, IL

2018 **Genetically-encoded glutamate sensors for monitoring large populations of individual synapses in vivo.**
Mizuno GO, Dong C, Jahncke JN, Natan R, Papadopoulos S, Jaffe D, Lambert JT, Ji N, Zito K, Tian . Fourth Annual Brain Initiative Investigators Meeting
Bethesda, MD

TEACHING EXPERIENCE

2025 **MBL Analytical and Quantitative Light Microscopy**
Teaching assistant at the Marine Biological Laboratory AQLM course.
Woods Hole, MA

2023 | 2025 **OHSU NGP Bootcamp: Model Organisms**
Hands on dissection of mouse and sheep brains to familiarize incoming graduate students with practical neuroanatomy of model system organisms.
Portland, OR

2023 | 2025

Rigor and Reproducibility in Light Microscopy
Lecture on best practices in light microscopy, aimed at incoming neuroscience graduate students.
Portland, OR

2023 | 2025

OHSU MD Foundations of Medicine: Nervous System and Function
Instruction of first year medical students learning about brain structure and function. Taught human cerebellum and brain stem anatomy in a hands on lab working with donated specimen.
Portland, OR

2021

OHSU NGP Bootcamp: Patch Clamp Electrophysiology
Hands on patch clamp instruction. Portland, OR

2021, 2019

Graduate Level TA Positions
Biostatistics (CONJ 620) Winter 2021, OHSU Portland, OR
Cellular Neurophysiology (NEUS 624) Fall 2019, OHSU

2018

MBL Neurobiology, Imaging Section
Teaching assistant at the Marine Biological Laboratory Neurobiology Course for the imaging section.
Woods Hole, MA

VOLUNTEER & MENTORSHIP EXPERIENCE

2022 | 2026

Neuroscience Graduate Program Rotation Student Mentor
Mentored students through their 8-week laboratory rotation, overseeing their laboratory work, data analysis, and data presentation. In total I have mentored six rotation students.
Portland, OR

2024

Undergraduate Researcher Mentor
Mentored an undergraduate research intern as part of the two month OHSU NGP Summer Intern Program. Oversaw their laboratory work, data analysis, oral presentation, and poster presentation.
Portland, OR

2022 | 2020

Alliance for Visible Diversity (AVDS)
Communications Committee Member Portland, OR

2022 | 2019

OHSU Graduate School Organization (GSO) Peer Mentoring Program
Peer Mentor Portland, OR

2020 | 2019

Women In Science PDX (WIS)
STEMpowerment Committee Member Portland, OR

2019 | 2018

NGP Alumni Invite Committee
Committee Member Portland, OR

2018 | 2015

Brain Awareness Week - Davis Chapter
Event Organizer, Volunteer Davis, CA

2015

UC Davis Neurobiology, Physiology, & Behavior Club
Guest Speaker Davis, CA

2018 | 2014

Undergraduate Researcher Mentor
Mentored two undergraduates in the lab setting, overseeing their independent research projects and providing support through poster presentations, fellowship applications, and career development.
Davis, CA