

JENNIFER JAHNCKE

📍 Portland, OR

🎓 EDUCATION

2024
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2018

Oregon Health & Science University

PhD in Neuroscience

📍 Portland, OR

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

2014
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2010

University of California, Davis

BS in Psychology, Minor in Neuroscience

📍 Davis, CA

Selected Courses

- 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
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2024

Postdoctoral Researcher

Vollum Institute, OHSU

📍 Portland, OR

- Systematic analysis of seizure activity in mouse models of dystroglycanopathy.
- Development and validation of gene therapy to alleviate neurological deficits in mouse models of dystroglycanopathy.

2024
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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
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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
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2011

Undergraduate Research Assistant

Trimmer & Trainor Labs, UC Davis

📍 Davis, CA

CONTACT INFO

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🔗 jennifer-jahncke.netlify.app

🐙 github.com/jnjahncke

🆔 0000-0003-2319-6109

SKILLS

🔧 R, Python, Bash, Git

📊 Statistical analysis

🔬 IHC + Microscopy

⚡ Slice electrophysiology

🧪 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
✉ wrightke@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

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Last updated on 2024-03-13.



PUBLICATIONS

- In Prep **Functional domains of Dystroglycan in synapse formation and maintenance at inhibitory synapses in cerebellar cortex.**
Jahncke JN, Schnell E, Wright KW. *In preparation.*
- In Prep **Tools for Cre-mediated conditional deletion of floxed alleles from developing cerebellar Purkinje cells.**
Jahncke JN, Wright KW. *In preparation.*
- 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](https://doi.org/10.7554/eLife.87965.3)
- 2023 **An adhesion signaling axis involving Dystroglycan, β 1-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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.mcn.2017.02.001)



TALKS

- 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
- 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






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

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



ABSTRACTS

- 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 **Dystroglycan 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

- 2023 **OHSU NGP Bootcamp: Model Organisms**
Hands on dissection of mouse and sheep brains.  Portland, OR
- 2023 **Rigor and Reproducibility in Light Microscopy**
Lecture on best practices in light microscopy, aimed at incoming neuroscience graduate students.  Portland, OR
- 2023 **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
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2020

2022
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2019

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2019

2019
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2018

2018
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2015

2015

2018
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2014

Alliance for Visible Diversity (AVDS)
Communications Committee Member

📍 Portland, OR

OHSU Graduate School Organization (GSO)
Peer Mentoring Program
Peer Mentor

📍 Portland, OR

Women In Science PDX (WIS)
STEMpowerment Committee Member

📍 Portland, OR

NGP Alumni Invite Committee
Committee Member

📍 Portland, OR

Brain Awareness Week - Davis Chapter
Event Organizer, Volunteer

📍 Davis, CA

UC Davis Neurobiology, Physiology, & Behavior Club
Guest Speaker

📍 Davis, CA

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