JENNIFER JAHNCKE

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

- Genetics study abroad program in Cambridge, UK and Stockholm, Sweden (Summer 2012)

Selected Courses

- 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 | 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.
- Use of R, Python, and Igor to automate data analysis.

2018 | 2014

Staff Research Associate

Zito & Fioravante Labs, UC Davis — Davis, CA

- Characterization of genetically encoded fluorescent glutamate sensors using 2-photon glutamate uncaging on dendritic spines in CA1 of the hippocampus.
- 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

- Independent project: Profiling expression and localization of Kv2.1 & Kv2.2 voltage gated potassium channels in the developing rat hippocampus.
- Assisted in a study investigating the role of D1 dopamine receptors in social withdrawal behavior associated with anxiety and depression.
- Assisted in a project investigating kappa opioid receptors as a mechanism for behavioral differences between the sexes in response to stress.

CONTACT INFO

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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 2024-01-02.

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
Cellular Neurophysiology (NEUS 624) Fall 2019, OHSU
Portland, OR

2018 **MBL Neurobiology, Imaging Section**
Teaching assistant at the Marine Biological Laboratory Neurobiology Course for the imaging section.
Woods Hole, MA

PUBLICATIONS

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 **Inhibitory CCK+ basket synapse defects in mouse models of dystroglycanopathy.**
Jahncke JN, Miller DS, Krush M, Schnell E, Wright KW. eLife. 2023 May 16; 12:RP87965. doi: 10.7554/eLife.87965.2

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

HONORS

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

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

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

2020

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

ABSTRACTS

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

VOLUNTEER & MENTORSHIP EXPERIENCE

Present | 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