

CURRICULUM VITAE

Cameron Wilhite

November 2025

Ph.D. Candidate

Neuroscience Graduate Program

University of California, San Francisco

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EDUCATION

2019 – Present

University of California San Francisco, San Francisco, CA

Ph.D., Neuroscience (GPA 4.0)

Primary advisor: Massimo Scanziani

Neuronal dynamics in the superior colliculus during navigation

Secondary advisor: Loren Frank

2018

University of Arizona, Tucson, AZ

M.S., Physiological Sciences (GPA 4.0)

Primary advisor: Stephen Cowen

Acoustoelectric and electrophysiological mapping of cardiac and neural activity

Secondary advisor: Russell Witte

2014

University of Arizona, Tucson, AZ

B.S., Physiology (GPA 4.0)

EMPLOYMENT

2018 – 2019

University of Arizona, Tucson, AZ

Research Specialist, Medical Imaging

Advisor: Russell Witte

Experimental Ultrasound and Neural Imaging Laboratory

Summer 2017

University of Arizona, Tucson, AZ

Graduate Research Assistant, Medical Imaging

Advisor: Russell Witte

Experimental Ultrasound and Neural Imaging Laboratory

2016 – 2018

University of Arizona, Tucson, AZ

Graduate Teaching Assistant, Physiology

AWARDS AND FELLOWSHIPS

Discovery Fellow, UCSF Graduate Division, 2021-2024

Graduate Student Award, Memory, Space, and Time Workshop, Tucson, AZ. November 2022

NIH Training Grant Award (T32), UCSF Neuroscience Graduate Program, 2020-2021

Infinity Trainee Award, NIH BRAIN Initiative Investigators Meeting, Rockville, MD. April 2018.

SCHOLARSHIP

Manuscripts

Wilhite C., Frank LM., Scanziani M., “Directional alignment of turn-related activity in the superior colliculus with locomotor dynamics and hippocampal representations of future paths,” *in preparation*.

Brenner J.*, Ruediger S.*, **Wilhite C.***, Senzai Y., Scanziani M., Beltramo R., “Tecto-cortico control of place field reorganization in the hippocampus,” *in preparation*. (*equal contribution)

Alvarez A., Preston C., Trujillo T., **Wilhite C.**, Burton A., Vohnout S., and Witte RS., "In vivo acoustoelectric imaging for high-resolution visualization of cardiac electric spatiotemporal dynamics," *Appl. Opt.* 59, 11292-11300, 2020.

Conference Presentations

Wilhite C., Frank LM., Scanziani M., “Directional alignment of turn-related activity in the superior colliculus with locomotor dynamics and hippocampal representations of future paths,” Lake Conference – Neural Coding and Dynamics, September 2025 / Society for Neuroscience Meeting, November 2025.

Wilhite C., Frank LM., Scanziani M. “Coordination between nonlocal hippocampal representations and the collicular orienting system,” Society for Neuroscience Meeting, October 2024.

Wilhite C., Frank LM., Scanziani M. “A locomotor rhythm organizes directional firing of neurons in the superior colliculus,” Society for Neuroscience Meeting, October 2023 / HHMI Science Meeting, December 2023.

Wilhite C., Senzai Y., Scanziani M. “Poor spatial representation in primary visual cortex in the absence of visual input,” Society for Neuroscience Meeting, November 2021.

Wilhite C., Witte RS., Cowen SL. “Parallel signal transfer through hippocampal CA2 region following perforant-path stimulation and internally generated dentate spikes,” Society for Neuroscience Meeting, October 2019.

Wilhite C., Alvarez A., Burton A., Preston C., Gothard KM., Fuglevand AJ., Mustacich D., Cowen SL., Witte RS. “*In vivo* swine model for developing and validating acoustoelectric brain imaging of neuronal current,” BRAIN Initiative Investigators Meeting, April 2019.

Wilhite C., Witte RS., Cowen SL. “Peak activation of the CA2 sub-region of the hippocampus precedes peak activation of CA3 following perforant-path stimulation,” Society for Neuroscience Meeting, November 2018.

Wilhite C., Burton A., Hill D., Bera T., Ingram P., Cowen SL., Witte RS. “Acoustoelectric brain imaging in anesthetized rats: towards noninvasive, real-time 4D electrical brain mapping,” BRAIN Initiative Investigators Meeting, Rockville, MD. April 2018.

Departmental Talks

“A locomotor rhythm in the superior colliculus phases hippocampal theta sweeps,” Research in Progress Seminar, University of California San Francisco, San Francisco, CA. March 2024.

“A locomotor rhythm organizes turn-selective firing of neurons in the superior colliculus,” Research in Progress Seminar, University of California San Francisco, San Francisco, CA. February 2023.

“Re-examining memory circuits: Role of hippocampal CA2 region in the initial processing of cortical input,” Neuroscience Data Blitz, University of Arizona, Tucson, AZ. April 2019.

“Acoustoelectric brain imaging in the rat hippocampus: towards noninvasive, real-time electrical brain mapping,” Physiological Sciences, University of Arizona, Tucson, AZ. May 2018.

TEACHING EXPERIENCE

2021	<i>University of California San Francisco, San Francisco, CA</i>
Cell Physiology (TA)	

2016 – 2018	<i>University of Arizona, Tucson, AZ</i>
Human Anatomy and Physiology (TA)	