Christopher A Zimmerman, PhD
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Education

2019	PhD, Neuroscience, University of California San Francisco
2016	MS, Neuroscience, University of California San Francisco
2013	BS, Neuroscience, University of Pittsburgh
2013	BSE, Bioengineering, University of Pittsburgh

Positions

2019–	Postdoctoral Fellow, Princeton Neuroscience Institute, Princeton University Advisor: Ilana B Witten, PhD
2013–2019	Graduate Student, Department of Physiology, University of California San Francisco Advisor: Zachary A Knight, PhD

Honors and Awards

2023	NIH BRAIN Initiative Advanced Postdoctoral Career Transition Award
2022	McKnight Foundation Allison J Doupe Fellowship
2020	Helen Hay Whitney Foundation Postdoctoral Fellowship
2020	Donald B Lindsley Prize in Behavioral Neuroscience
2020	Eppendorf and *Science* Prize for Neurobiology
2020	Harold M Weintraub Graduate Student Award
2020	Winter Conference on Brain Research Travel Fellowship
2017	NIH National Research Service Award Predoctoral Fellowship
2016	Genentech Foundation Predoctoral Fellowship
2015	UCSF Discovery Fellowship
2013	NSF Graduate Research Fellowship

Publications

Zhukovskaya A, Zimmerman CA, Willmore L, Janarthanan SR, Falkner AL, Witten IB. Differences in an aversive teaching signal produce brainwide and behavioral substrates of susceptibility. *bioRxiv*, 2023. doi: 10.1101/2023.11.06.565681.

Zimmerman CA, Pan-Vazquez A, Wu B, Keppler EF, Guthman EM, Fetcho RN, Bolkan SS, McMannon B, Lee J, Hoag AT, Lynch LA, Janarthanan SR, López Luna JF, Bondy AG, Falkner AL, Wang SSH, Witten IB. A neural mechanism for learning from delayed postingestive feedback. *bioRxiv*, 2023. doi: 10.1101/2023.10.06.561214.

Cox J, Minerva AR, Fleming WT, Zimmerman CA, Hayes C, Zorowitz S, Bandi A, Ornelas S, McMannon B, Parker NF, Witten IB. A neural substrate of sex-dependent modulation of motivation. *Nature Neuroscience* 26, 274–284, 2023.

Zimmerman CA. Neuroscience: Secretin excites the thirst circuit. *Current Biology* 32, R1318–R1320, 2022.

Bolkan SS*, Stone IR*, Pinto L, Ashwood ZC, Iravedra Garcia JM, Herman AL, Singh P, Bandi A, Cox J, Zimmerman CA, Cho JR, Engelhard B, Pillow JW, Witten IB. Opponent control of behavior by dorsomedial striatal pathways depends on task demands and internal state. *Nature Neuroscience* 25, 345–357, 2022. *Equal contributions

Zimmerman CA. The origins of thirst. *Science* 370, 45–46, 2020.

Zimmerman CA, Knight ZA. Layers of signals that regulate appetite. *Current Opinion in Neurobiology* 64, 79–88, 2020.

Zimmerman CA, Huey EL, Ahn JS, Beutler LR, Tan CL, Kosar S, Bai L, Chen Y, Corpuz TV, Madisen L, Zeng H, Knight ZA. A gut-to-brain signal of fluid osmolarity controls thirst satiation. *Nature* 568, 98–102, 2019.

Leib DE*, Zimmerman CA*, Poormoghaddam A, Huey EL, Ahn JS, Lin YC, Tan CL, Chen Y, Knight ZA. The forebrain thirst circuit drives drinking through negative reinforcement. *Neuron* 96, 1272–1281, 2017. *Equal contributions

Zimmerman CA, Leib DE, Knight ZA. Neural circuits underlying thirst and fluid homeostasis. *Nature Reviews Neuroscience* 18, 459–469, 2017.

Leib DE, Zimmerman CA, Knight ZA. Thirst. *Current Biology* 26, R1260–R1265, 2016.

Tan CL, Cooke EK, Leib DE, Lin YC, Daly GE, Zimmerman CA, Knight ZA. Warm-sensitive neurons that control body temperature. *Cell* 167, 47–59, 2016.

Chen Y, Lin YC, Zimmerman CA, Essner RA, Knight ZA. Hunger neurons drive feeding through a sustained, positive reinforcement signal. *eLife* 5, e18640, 2016.

Zimmerman CA, Lin YC, Leib DE, Guo L, Huey EL, Daly GE, Chen Y, Knight ZA. Thirst neurons anticipate the homeostatic consequences of eating and drinking. *Nature* 537, 680–684, 2016.

Luongo FJ, Zimmerman CA, Horn ME, Sohal VS. Correlations between prefrontal neurons form a small world network that optimizes the generation of multineuron sequences of activity. *Journal of Neurophysiology* 115, 2359–2375, 2016.

Presentations

Conference and Departmental Talks
Cosyne Conference. Lisbon, Portugal. Mar 2024.
Princeton Neuroscience Institute Retreat. Philadelphia, PA. May 2023.
Helen Hay Whitney Foundation Retreat. Dedham, MA. Nov 2022.
Hellenic Society for Neuroscience Meeting. Virtual. Oct 2021.
Scripps Department of Neuroscience. La Jolla, CA. Sep 2018.
Keystone Symposium, Synapses and Circuits. Santa Fe, NM. Mar 2017.
UCSF Neuroscience Retreat. Pacific Grove, CA. Sep 2016.
UCSF Diabetes and Obesity Retreat. Santa Cruz, CA. Sep 2015.

Conference Posters
Society for Neuroscience Meeting. Washington, DC. Nov 2023.
Lake Conference, Neural Coding and Dynamics. Seattle, WA. Sept 2023.
Winter Conference on Brain Research. Snowbird, UT. Jan 2023.
Gordon Research Conference, Optogenetics. Newry, ME. Jul 2022.
Winter Conference on Brain Research. Big Sky, MT. Jan 2020. Poster Award.
Gordon Research Conference, Neuromodulation. Les Diablerets, Switzerland. May 2019.
Howard Hughes Medical Institute Meeting. Chevy Chase, MD. Dec 2018.
Cold Spring Harbor Meeting, Neuronal Circuits. Laurel Hollow, NY. Apr 2018.
Keystone Symposium, Synapses and Circuits. Santa Fe, NM. Mar 2017.
Society for Neuroscience Meeting. San Diego, CA. Nov 2016.

Teaching and Service

2023	Cosyne Conference Reviewer
2022–2023	Princeton Neuroscience Institute Seminar Host
2021–2022	Princeton Neuroscience Institute Seminar Series Committee
2021–2022	Princeton Neuroscience Institute Undergraduate Junior Tutorial Course Instructor

2021–2022	Princeton Neuroscience Institute Graduate Student Bootcamp Course Instructor
2021	Neuromatch Academy Computational Neuroscience Course Mentor
2021–	Trainee Supervision in the Witten Lab: 3 PhD Rotations, 3 Technicians, 2 Undergraduates
2021–	Journal Peer Review: *Current Biology*, *Current Opinion in Neurobiology*, *PLOS One*, *Scientific Reports*, *STAR Protocols*
2020–2023	Princeton Neuroscience Institute Graduate Student Journal Club Course Instructor
2019	UCSF Science and Health Education Partnership Teaching Volunteer
2018	UCSF Neuroscience Graduate Program Recruitment Speaker
2015	UCSF School of Dentistry Cell Physiology Course Teaching Assistant
2014–2017	UCSF Neuroscience Graduate Program Recruitment Host
2014–2019	Trainee Supervision in the Knight Lab: 4 PhD Rotations, 3 Technicians, 1 Undergraduate