

Jonny Saunders

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RESEARCH

- 2020 - Present **PVP: The People's Ventilator Project**
USER EXPERIENCE DESIGN, REALTIME EMBEDDED SYSTEMS
An open-source low-cost, easily-manufactured, supply-chain resilient mechanical ventilator for emergency deployment during the Covid-19 pandemic.
- 2017 - Present **Autopilot: Distributed Behavioral Experiments**
PYTHON, LINUX, WEB DESIGN, CIRCUIT DESIGN, 2D/3D CAD
A Python framework for performing hardware-intensive behavioral neuroscience experiments by distributing them over a swarm of Raspberry Pis
- 2015 - Present **Speech Perception in Auditory Cortex**
ANIMAL BEHAVIOR, MESOSCOPIC MULTIPHOTON IMAGING, GEOMETRIC NEURAL ANALYSIS
Computational mechanisms of phonetic discrimination and complex auditory category learning in mouse Auditory Cortex
- 2013-2015 **Rapid Corticosteroidal Gating of Reproductive Behavior**
WHOLE-CELL PATCH CLAMP ELECTROPHYSIOLOGY
Rapid corticosterone modulation of ion channel dynamics in medullary reticular neurons gating courtship clasping

EDUCATION & TRAINING

- 2015 - Present **University of Oregon**
Ph.D Student, Systems Neuroscience
- 2018 **Marine Biological Laboratory**
Neural Systems & Behavior Course
- 2017 **University of Oregon**
MSc., Psychology
- 2015 **Willamette University**
B.A. Neuroscience

PUBLICATIONS

Year	Status	Paper
2020	In-Prep	LaChance J., Schottdorf M., Saunders JL., Zajdel TJ., Dvali S., Notterman D., Cohen D. (2020). PVP1 - The People's Ventilator Project: A fully open-source pressure-controlled ventilator. <i>submitting to bioRxiv during August 2020.</i>
2020	Submitted	Kane, G., Lopes, G. Saunders JL., Mathis A., Mathis MW. (2020). Real-time, low-latency closed-loop feedback using markerless posture tracking <i>submitted to bioRxiv 2020-08-04.</i>
2019	BIORX2019	Saunders, J. L., & Wehr, M. (2019). Autopilot: Automating behavioral experiments with lots of Raspberry Pis. <i>bioRxiv</i> , 807693. https://doi.org/10.1101/807693
2019		Saunders, JL., Comerford, A., & Williams, G. Detecting Deep Fakes With Mice: Machines vs Biology. <i>Presented at Black Hat USA Cybersecurity Conference.</i> https://www.blackhat.com/us-19/briefings/schedule/#detecting-deep-fakes-with-mice-14467
2019	JASA2019	Saunders, J. L., & Wehr, M. (2019). Mice can learn phonetic categories. <i>The Journal of the Acoustical Society of America</i> , 145(3), 1168-1177. https://doi.org/10.1121/1.5091776

AWARDS

2017 - Present	Graduate Research Fellowship National Science Foundation
2019	Best Panel University of Oregon: Graduate Research Forum
2018	Peter O'Day Fellowship University of Oregon
2018	Society for General Physiology Scholar Society for General Physiology
2015	Best Poster Oregon Society for Neuroscience
2014	Science Collaborative Research Program Willamette University & M.J. Murdock Charitable Trust

TEACHING & MENTORSHIP

2017 - 2019	Mentor - GRFP Writing Workshop University of Oregon
2016 - 2019	Instructor - UO Data Science Club University of Oregon
2016, 2019	Instructor - Music and the Brain University of Oregon