Jonny Saunders

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RESEARCH

2020 - Present — **Decentralized Infrastructure**

INFRASTRUCTURE STUDIES, STS, COMPUTER-SUPPORTED COOPERATIVE WORK, DISTRIBUTED SYSTEMS DESIGN, LABOR ORGANIZATION

Organizing mass-scale infrastructures for science and society built on peer-to-peer and linked data technologies.

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

2020 - 2021 — **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.

2015 - 2019 — **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 costicosterone modulation of ion channel dynamics in medullary reticular neurons gating courtship clasping

EDUCATION & TRAINING

2015 - 2022 **University of Oregon**
Ph.D, 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
2022	Workshop	Joel Chan, Wayne Lutters, Jodi Schneider, Karola Kirsanow, Silvia Bessa, Jonny L. Saunders. (2022) **Growing New Scholarly Communication Infrastructures for Sharing, Reusing, and Synthesizing Knowledge.** *CSCW'22 Companion* 278-281 — https://doi.org/10.1145/3500868.3559398 — Workshop Wiki: https://synthesis-infrastructures.wiki/
2022	Preprint	Jonny L. Saunders. **Decentralized Infrastructure for (Neuro)science.** *arxiv:2209.07493.* — https://arxiv.org/abs/2209.07493 — Web: https://jon-e.net/infrastructure
2019, 22	Preprint (V1, V2)	Saunders, J. L., Lucas A. Ott, & Wehr, M. (2022). **Autopilot: Automating experiments with lots of Raspberry Pis.** *bioRxiv,* 807693. https://doi.org/10.1101/807693v2 - Paper Source
2022	Reviewed	LaChance J., Schottdorf M., Zajdel TJ., Saunders JL., Dvali S., Marshall C., Seirup L., Sammour I., Chatburn RL., Notterman D., Cohen D. (2022). **PVP1—The People's Ventilator Project: A fully open, low-cost, pressure-controlled ventilator research platform compatible with adult and pediatric uses**. *PloS One, 17(5),* e0266810 — https://doi.org/10.1371/journal.pone.0266810 — Preprint: https://www.medrxiv.org/content/10.1101/2020.10.02.20206037.abstract
2020	Reviewed	Kane, G., Lopes, G. Saunders JL., Mathis A., Mathis MW. (2020). **Real-time, low-latency closed-loop feedback using markerless posture tracking** — *eLife 9:e61909* — https://doi.org/10.7554/eLife.61909 — Preprint: https://doi.org/10.1101/2020.08.04.236422.
2019	Conference	Saunders, JL., Comerford, A., & Williams, G. **Detecting Deep Fakes With Mice: Machines vs Biology.** *Presented at Black Hat USA Cybersecurity Conference.* https://www.blackhat.com/us-19/briefings/schedule/#detecting-deep-fakes-with-mice-14467
2019	Reviewed	Saunders, J. L., & Wehr, M. (2019). **Mice can learn phonetic categories.** *The Journal of the Acoustical Society of America, 145(3),* 1168-1177. https://doi.org/10.1121/1.5091776 - Paper Source

ORGANIZING

2022	**Volunteer**
	Neuromatch Open Publishing Intiative and Neuromatch.social Mastodon Instance (Interim Admin & Tech Coordinator)
2020 - 2022	**Co-Founder**
	Oregon Neuroethology Innovation CollectivE, Instutute of Neuroscience, University of Oregon.
2016 - 2020	**Union Steward**
	Graduate Teaching Fellows Federation 3544, Psychology Department, University of Oregon.
2017 - 2019	**Corporate Treasurer**
	Students Cooperative Association, Eugene OR.
2017	**Corporate Secretary**
	Students Cooperative Association, Eugene OR.

AWARDS

2017 - 2021	**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
Ongoing	**Mentorship**
	Person-to-person mentorship is a basic part of how I work, but I do not feel comfortable listing the names of my mentees here.