

JOSH SIEGLE

SCALABLE SYSTEMS NEUROSCIENCE

Seattle, WA, USA · josh@s@alleninstitute.org

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My work pushes the limits of large-scale neural recording, produces widely used open datasets and software, and has revealed fundamental links between brain anatomy and spiking dynamics.

POSITIONS

- **Senior Scientist**, Allen Institute for Neural Dynamics (2021-present)
Leader of the Electrophysiology Group
- **Assistant Investigator**, Allen Institute MindScope Program (2020-2021)
Collected and shared massive open datasets of spiking activity from the mouse visual system
- **Scientist I & II**, Allen Institute MindScope Program (2014-2020)
Early adopter of Neuropixels probes for *in vivo* electrophysiology

EDUCATION

- **PhD, Neuroscience**, Massachusetts Institute of Technology (2014)
- **ScB, Neuroscience**, Brown University (2007)

SELECTED PUBLICATIONS

- Lakunina A, Socha KZ, Ladd A, [...] **Siegle JH**, Carandini M (2025) "Neuropixels Opto: Combining high-resolution electrophysiology and optogenetics" *bioRxiv*.
- De Vries SEJ, **Siegle JH**, Koch C (2023) "Sharing neurophysiology data from the Allen Brain Observatory." *eLife* **12**, e85550.
- **Siegle JH**, Jia X, Durand S, Gale S, Bennett C, Graddis N, Heller G, Ramirez TK, Choi H et al. (2021) "Survey of spiking in the mouse visual system reveals functional hierarchy." *Nature* **592**, 86-92.
- Jun JJ, Steinmetz NA, **Siegle JH**, Denman DJ, Bauza M, Barbarits B, Lee AK, et al. (2017) "Fully integrated silicon probes for high-density recording of neural activity." *Nature* **551**, 232-236.
- **Siegle JH**, Cuevas López A, Patel Y, Abramov K, Ohayon S, Voigts J (2017) "Open Ephys: An open-source, plugin-based platform for multichannel electrophysiology." *Journal of Neural Engineering* **14**, 045003.
- **Siegle JH**, Wilson MA (2014) "Enhancement of encoding and retrieval functions through theta phase-specific manipulation of hippocampus." *eLife* **3**, e03061.

AWARDS & FELLOWSHIPS

- NRSA Fellowship (2012-2014)
- National Defense Science and Engineering Graduate Fellowship (2009-2012)
- Brown University Neuroscience Prize (2007)

TEACHING EXPERIENCE

- Neuropixels and OpenScope Workshop, Organizer (2019-2025)
- MPFI Advanced Neurotechniques Course, Lecturer (2025)
- UCL Neuropixels Workshop, Lecturer (2023-2024)
- Paris Neuro Course, Lecturer (2022-2024)
- Summer Workshop on the Dynamic Brain, Instructor (2023)

LAST UPDATED: FEBRUARY 14, 2026