

Bradley Voytek, Ph.D.

Professor
UC San Diego
Department of Cognitive Science
Halicioğlu Data Science Institute
Neurosciences Graduate Program
Kavli Institute for Brain and Mind

University of California, San Diego
9500 Gilman Dr.
La Jolla, CA 92093-0515

Email: bvoytek@UC San Diego.edu

Website: <http://voyteklab.com>

GitHub: <http://github.com/voytek>

Google Scholar: <https://scholar.google.com/citations?user=ydFvGx0AAAAJ>

This somewhat condensed CV only lists the most recent and relevant information.

Quick links

- [Education](#)
- [Professional positions](#)
- [Honors and awards](#)
- [Selected publications](#)
- [Grants and funding](#)
- [Academic mentorship](#)
- [Teaching](#)
- [Scientific tool development](#)
- [Service](#)
- [Media coverage](#)
- [Invited lectures](#)
- [Conference abstracts](#)
- [Rejections and failures highlights](#)

Education

2004–2010 University of California, Berkeley: PhD, Neuroscience (advisor: Robert T. Knight)
1998–2002 University of Southern California: BA, Psychology

Professional positions

Academic

2023– Professor: UC San Diego, Halicioğlu Data Science Institute (0% appointment)
2022– Professor: UC San Diego, Department of Cognitive Science
2020– Member: UC Irvine Center for Neural Circuit Mapping
2020–2022 Vice-chair: Data Science Major/Minor Steering Committee, UC San Diego
2018–2022 Associate Professor: UC San Diego, Department of Cognitive Science
2018–2022 Fellow (endowed chair): Halicioğlu Data Science Institute (HDSI) of the University of California, San Diego
2014–2018 Assistant Professor: UC San Diego, Department of Cognitive Science
2011–2014 Post-doctoral Fellow (NIH/NIGMS): UC San Francisco (Adam Gazzaley)
2010–2011 Post-doctoral Researcher: UC Berkeley (Mark D'Esposito)

Industry and non-profit

2025– Advisory Committee: Comic-Con Museum (501(c)(3) non-profit)
2019– Co-founder and Board Member: Data Science Alliance (501(c)(3) non-profit)

2011– Advising: National Academy of Sciences, Science & Entertainment Exchange
2021–2023 Chief Professional Development Officer: Neuromatch Academy
 (501(c)(3) non-profit)
2011–2014 Data Scientist: Uber, Inc.

Administrative

2024–2025 Founding Chair: Cognitive Science Alumni Board, UC San Diego
2019–2025 Founding Chair: Halicioğlu Data Science Institute Industry Board, UC San Diego
2017– Executive Committee: Neurosciences Graduate Program, UC San Diego
2017 Founding Faculty: Halicioğlu Data Science Institute, UC San Diego
2017 Founding Faculty: Data Science Major, UC San Diego
2016– Advisory Board: Kavli Institute for Brain and Mind, UC San Diego
2017–2022 Executive Committee: Halicioğlu Data Science Institute, UC San Diego
 (committee no longer in existence)

Honors and awards

2025 Award for Advancing Equity in Graduate Education and Postdoctoral Training,
 UC San Diego Division of Graduate Education and Postdoctoral Affairs
2024 Keynote commencement speaker, UC Berkeley Cognitive Science
 undergraduate graduation
2018–2022 Fellow: Halicioğlu Data Science Institute, UC San Diego
2016 New Attendee Travel Award: Computational & Systems Neuroscience (Cosyne)
2015 Kavli Fellow: National Academy of Sciences
2015 Alfred P. Sloan Research Fellow in Neuroscience
2013 President's Postdoctoral Fellowship Program: University of California
2011 AAAS Early Career Award for Public Engagement with Science (Finalist)
2010 Zombie Research Society: Georgie Award in Science

Selected publications

For full list of over 80 publications, see Google Scholar:

<https://scholar.google.com/citations?user=ydFvGx0AAAAJ>

Research

1. Voytek JB & **Voytek B**. Automated cognome construction and semi-automated hypothesis generation. *J Neurosci Methods* 208, 92-100 (2012).
 - **Media:** The Economist ([link](#)), Wired ([link](#)), Scientific American ([link](#)), MindHacks ([link](#)), Forbes ([link](#))
2. **Voytek B**, Kayser A, Badre D, Fegen D, Chang EF, Crone NE, Parvizi J, Knight RT, D'Esposito M. Oscillatory dynamics coordinating human frontal networks in support of goal maintenance. *Nature Neurosci* 18, 1318-1324 (2015).
 - **Media:** Berkeley press release ([link](#))

3. **Voytek B**, Kramer MA, Case J, Lepage KQ, Tempesta ZR, Knight RT, Gazzaley A. Age-related changes in I/f neural electrophysiological noise. *J Neurosci* 35, 13257-13265 (2015).
 - **Media:** UCSF press release ([link](#))
 - **Media:** *Quanta Magazine*, "Brain's 'Background Noise' May Hold Clues to Persistent Mysteries" ([link](#)); reprinted in *Wired* ([link](#))
4. Tran TT, Hoffner NC, LaHue SC, Tseng L, **Voytek B**. Alpha phase dynamics predict age-related visual working memory decline. *NeuroImage* 143, 196-203 (2016).
5. Cole SR, van der Meij R, Peterson EJ, de Hemptinne C, Starr PA, **Voytek B**. Nonsinusoidal beta oscillations reflect cortical pathophysiology in Parkinson's disease. *J Neurosci* 37, 4830-4840 (2017).
6. **Voytek B**, Samaha J, Rolle CE, Greenberg Z, Gill N, Porat S, Kader T, Rahman S, Malzyner R, Gazzaley A. Preparatory encoding of the fine scale of human spatial attention. *J Cogn Neurosci* 29, 1302-1310 (2017).
7. Gao RD, Peterson EJ, **Voytek B**. Inferring synaptic excitation/inhibition balance from field potentials. *NeuroImage* 158, 70-78 (2017).
8. van der Meij R & **Voytek B**. Uncovering neuronal networks defined by consistent between-neuron spike timing from neuronal spike recordings. *eNeuro* 5, (2018).
9. Moore SM, Seidman JS, Ellegood J, Gao R, Savchenko A, Troutman TD, Abe Y, Stender J, Lee D, Wang S, **Voytek B**, Lerch JP, Suh H, Glass C, Muotri A. Setd5 haploinsufficiency alters neuronal network connectivity and leads to autistic-like behaviors in mice. *Translational Psychiatry* 9, 1-12 (2019).
 - **Media:** UC San Diego press release ([link](#))
10. Cole SR, Donoghue T, Gao R, **Voytek B**. NeuroDSP: A package for neural digital signal processing. *J Open Source Software* 4, 1272 (2019).
11. Jackson N, Cole SR, **Voytek B**, Swann NC. Characteristics of waveform shape in Parkinson's disease detected with scalp electroencephalography. *eNeuro* 6, (2019).
 - **Media:** University of Oregon press release ([link](#))
12. Holdgraf C, Appelhoff S, Bickel S, Bouchard, K, D'Ambrosio S, David O, Devinsky O, Dichter B, Flinker A, Foster BL, Gorgolewski KJ, Groen I, Groppe S, Gunduz A, Hamilton L, Honey CJ, Jas M, Knight R, Lachaux J-P, Lau JC, Lundstrom BN, Lee-Messer C, Miller KJ, Ojemann JG, Oostenveld R, Petridou N, Piantoni G, Pigorini A, Pouratian N, Ramsey NF, Stolk A, Swann NC, Tadel F, **Voytek B**, Wandell BA, Winawer J, Zehl L, Hermes D. iEEG-BIDS, extending the brain imaging data structure specification to human intracranial electrophysiology. *Scientific Data* 6, (2019).
13. Veerakumar A, Tiruvadi V, Howell B, Waters AC, Crowell AL, **Voytek B**, Posse PR, Denison L, Rajendra JK, Edwards JA, Bijanki KR, Choi KS, Mayberg HS. Field potential I/f activity in the subcallosal cingulate region as a candidate signal for monitoring deep brain stimulation for treatment resistant depression. *J Neurophysiol* 122, 1023-1025 (2019).
14. Cole S & **Voytek B**. Cycle-by-cycle analysis of neural oscillations. *J Neurophysiol* 122, 849-861 (2019).
15. Trujillo CA*, Gao R*, Negraes PD*, Chaim IA, Domissy A, Vandenberghe M, Devor A, Yeo GW, **Voytek B**#, Muotri AR#. Complex Oscillatory Waves Emerging from Cortical

- Organoids Model Early Human Brain Network Development. *Cell Stem Cell* 25, 558-569 (2019). *#equal contribution
- **Media:** New York Times ([link](#))
 - Discover Magazine's #7 Top Science Story of 2019 ([link](#))
 - **Honors:** *Web of Science / Clarivate* top 1% most-cited papers in molecular biology & genetics based on its publication year
- Robertson MM, Furlong S, **Voytek B**, Donoghue T, Boettiger CA, Sheridan MA. EEG Power Spectral Slope differs by ADHD status and stimulant medication exposure in early childhood. *J Neurophysiol* 122, 2427-2437 (2019).
 - Molina JL, **Voytek B**, Thomas ML, Joshi YB, Bhakta SG, Talledo JA, Swerdlow NR, Light GA. Memantine effects on EEG measures of putative excitatory/inhibitory balance in schizophrenia. *Biol Psychiatry Cogn Neurosci Neuroimaging* 5(6), 562-568 (2020).
 - Ghatak S, Dolatabadi N, Gao R, Wu Y, Scott H, Trudler D, Sultan A, Ambasadhan R, Nakamura T, Masliah E, Talantova M, **Voytek B**, Lipton SA. NitroSynapsin ameliorates hypersynchronous neural network activity in Alzheimer hiPSC models. *Mol Psychiatry* (2020).
 - **Media:** Scripps Research Institute press release ([link](#))
 - Tran TT, Rolle CE, Gazzaley A, **Voytek B**. Linked sources of neural noise contribute to age-related cognitive decline. *J Cogn Neurosci* 32(9), 1813-1822 (2020).
 - Peterson EJ & **Voytek B**. Homeostatic mechanisms may shape the type and duration of oscillatory modulation. *J Neurophysiol* 124, 168-177 (2020).
 - Donoghue T, Dominguez J, **Voytek B**. Electrophysiological frequency band ratio measures conflate periodic and aperiodic neural activity. *eNeuro* (2020).
 - Donoghue T*, Haller M*, Peterson E*, Varma P, Sebastian P, Gao R, Noto T, Lara AH, Wallis JD, Knight RT, Shestyuk A#, **Voytek B**#. Parameterizing neural power spectra into periodic and aperiodic components. *Nature Neurosci* 23, 1655-65 (2020). *#equal contribution
 - **Media:** *Quanta Magazine*, "Brain's 'Background Noise' May Hold Clues to Persistent Mysteries" ([link](#)); reprinted in *Wired* ([link](#))
 - **Honors:** *Web of Science / Clarivate* top 0.1% most-cited papers in neuroscience & behavior based on its publication year
 - Gao R, van den Brink RL, Pfeffer T, **Voytek B**. Neuronal timescales are functionally dynamic and shaped by cortical microarchitecture. *eLife* e61277 (2020).
 - Schaworonkow N & **Voytek B**. Longitudinal changes in aperiodic and periodic activity in electrophysiological recordings in the first seven months of life. *Dev Cogn Neurosci* (2021).
 - **Media:** *Quanta Magazine*, "Brain's 'Background Noise' May Hold Clues to Persistent Mysteries" ([link](#)); reprinted in *Wired* ([link](#))
 - Donoghue T, **Voytek B**, Ellis S. Teaching creative and practical data science at scale. *J Stat Data Sci Educ* 29, S27-39 (2021).
 - Brown DE, Chavez JI, Nguyen DH, Kadwory A, **Voytek B**, Arneodo E, Gentner TQ, Gilja V. Local field potentials in a pre-motor region predict learned vocal sequences. *PLOS Comput Biol* (2021).

27. Schaworonkow N & **Voytek B**. Enhancing oscillations in intracranial electrophysiological recordings with data-driven spatial filters. *PLOS Comput Biol* (2021).
28. Waschke L, Donoghue T, Fiedler L, Smith S, Garrett DD, **Voytek B**#, Obleser J#. Modality-specific tracking of attention and sensory statistics in the human electrophysiological spectral exponent. *eLife* e70068 (2021). #equal contribution
29. Donoghue T & **Voytek B**. Automated meta-analysis of the event-related potential (ERP) literature. *Sci Rep* (2022).
 - **Honors:** Top 100 most-downloaded Psychology *Scientific Reports* papers published in 2022
30. Ostlund B, Donoghue T, Anaya B, Gunther KE, Karalunas SL, **Voytek B**, Pérez-Edgar KE. Spectral parameterization for studying neurodevelopment: How and why. *Dev Cogn Neurosci* (2022).
31. Donoghue T, **Voytek B**, Ellis S. Course materials for data science in practice. *J Open Source Educ* (2022).
32. Peterson E, Rosen B, Belger A, **Voytek B**, Campbell A. Aperiodic neural activity is a better predictor of schizophrenia than neural oscillations. *Clin EEG Neurosci* (2023).
33. Shafiei G, Fulcher BD, **Voytek B**, Satterthwaite TD, Baillet S, Misic B. Neurophysiological signatures of cortical micro-architecture. *Nature Comms* (2023).
34. Smith SE, Ma V, Gonzalez C, Chapman A, Printz D, **Voytek B**#, Soltani M#. Clinical EEG slowing induced by electroconvulsive therapy is better described by increased frontal aperiodic activity. *Transl Psychiatry* (2023). #equal contribution
 - **Media:** UC San Diego press release ([link](#)); U.S. News & World Report ([link](#)); KPBS ([link](#)); American Psychiatric Association News ([link](#))
 - **Media:** *Quanta Magazine*, “Brain’s ‘Background Noise’ May Explain Value of Shock Therapy” ([link](#))
35. Smith SE*, Kosik EL*, van Engen Q*, Hill AT, Zomorodi R, Daskalakis ZJ, Hadas I#, **Voytek B**#. Magnetic seizure therapy and electroconvulsive therapy increase aperiodic activity. *Transl Psychiatry* (2023). *.#equal contribution
 - **Media:** UC San Diego press release ([link](#)); U.S. News & World Report ([link](#)); KPBS ([link](#)); American Psychiatric Association News ([link](#))
 - **Media:** *Quanta Magazine*, “Brain’s ‘Background Noise’ May Explain Value of Shock Therapy” ([link](#))
36. Martin-Burgos B, McPherson T, Hammonds R, Gao R, Muotri A, **Voytek B**. Development of neuronal timescales in human cortical organoids and rat hippocampus dissociated cultures. *J Neurophysiol* (2024).
37. González KA, Tarraf W, Sultana S, Junco B, Kosik E, **Voytek B**, González H. Sleep parameters of breathing and cognitive function in a diverse Hispanic/Latino cohort. *Chest Pulmonary* (2024).
38. Monchy N*, Modolo J*, Houvenaghel JF, **Voytek B**#, Duprez J#. Changes in electrophysiological aperiodic activity during cognitive control in Parkinson’s disease. *Brain Communications* (2024). *.#equal contribution
39. Bender A, **Voytek B**#, Schaworonkow N#. Resting-state alpha and mu rhythms change shape across development but lack diagnostic sensitivity for ADHD and autism. *J Cogn Neurosci* (2025). #equal contribution

40. Preston MJ, Schaworonkow N, **Voytek B**. Time-resolved aperiodic and oscillatory dynamics during human visual memory encoding. *J Neurosci* (2025).

Reviews and perspectives

1. **Voytek B** & Knight RT. Dynamic network communication as a unifying neural basis for cognition, development, aging, and disease. *Biol Psychiatry* 77, 1089-1097 (2015).
 - **Media:** Forbes ([link](#))
2. **Voytek B**. The virtuous cycle of a data ecosystem. *PLoS Comput Biol* 12, 1-6 (2016).
3. Cole SR & **Voytek B**. Brain oscillations and the importance of waveform shape. *Trends Cogn Sci* 21, 137-149 (2017).
 - **Honors:** *Web of Science / Clarivate* top 1% most-cited papers in psychiatry/psychology based on its publication year
4. **Voytek B**. Social Media, Open Science, and Data Science are Inextricably Linked. *Neuron* 96, 1-4 (2017).
5. Hanganu-Opatz I, Butt S, Hippenmeyer S, De Marco Garcia N, Cardin J, **Voytek B**, Muotri A. The logic of developing neocortical circuits in health and disease. *J Neurosci* (2021).
6. Donoghue T, Schaworonkow N, **Voytek B**. Methodological considerations for studying neural oscillations. *Eur J Neurosci* (2021).
 - **Honors:** *Wiley* Top Downloaded Article; *Web of Science / Clarivate* top 1% most-cited papers in neuroscience & behavior based on its publication year
7. Mercier MR, Dubarry A, Tadel F, Avanzini P, Axmacher N, Cellier D, Del Vecchio M, Hamilton LS, Hermes D, Kahana MJ, Knight RT, Llorens A, Megevand P, Melloni L, Miller KJ, Piai V, Puce A, Ramsey NF, Schwiedrzik CM, Smith SE, Stolk A, Swann NC, Vansteensel MJ, **Voytek B**, Wang L, Lachaux J, Oostenveld R. Advances in human intracranial electroencephalography research, guidelines and good practices. *NeuroImage* (2022).
8. Ahmad J, Ellis C, Leech R, **Voytek B**, Garces P, Jones E, Buitelaar J, Loth E, dos Santos F, Amil A, Verschure P, Murphy D, McAlonan G. From mechanisms to markers: novel non-invasive EEG proxy markers of the neural excitation and inhibition system in humans. *Transl Psychiatry* (2022).
9. **Voytek B**. The data science future of neuroscience theory. *Nature Methods* (2022).
 - **Media:** Spectrum ([link](#))
10. Poldrack RA, ... (114 authors) ..., Gorgolewski KJ. The Past, Present, and Future of the Brain Imaging Data Structure (BIDS). *Imaging Neuroscience* (2023)
11. Mushtaq F, ... (84 authors) ..., Valdes-Sosa P. 100 years of EEG for brain and behaviour research. *Nature Hum Behav* (2024)
12. Fitzgerald M, Kosik E, **Voytek B**. Neuroscience: Unveiling hidden sources of noise. *eLife* (2024)
13. van Bree S, Levenstein D, Krause MR, **Voytek B**, Gao R. Processes and Measurements: a Framework for Understanding Neural Oscillations in Field Potentials. *Trends Cogn Sci* (2025)

Books and book chapters

1. **Voytek B** & Knight RT. Dynamic communication and connectivity in frontal networks. In *Mind and the Frontal Lobes: Cognition, Behavior, and Brain Imaging* (editors, Levine B & Craik FIM) New York (USA): Oxford University Press, (2010).
2. Cohen MX & **Voytek B**. Linking nonlinear neural dynamics to single-trial human behavior. In *Multiscale Analysis and Nonlinear Dynamics: from Molecules to the Brain* (editors, Schuster HG & Pesenson M) New York (USA): Wiley, (2013).
3. Verstynen T & **Voytek B**. *Do Zombies Dream of Undead Sheep? A Neuroscientific View of the Zombie Brain*. Princeton University Press, (2014).
 - **Translations:** Chinese (simplified), Chinese (traditional), Japanese, Korean, Russian, Turkish, Ukrainian
 - **Awards:** American Publishers Professional and Scholarly Excellence (PROSE) Award (Biomedicine & Neuroscience)
 - **Media:** Science, BRAAAAINS, 2014 Oct. ([link](#)); The Lancet: Neurology, Hungry and angry: could we survive a zombie apocalypse?, 2014 Dec. ([link](#)); Scientific American, A True and Complete Account of the Neuroscience of Zombies, 2014 Nov. ([link](#)); Scientific American MIND, New Book Explores the Zombie Brain, 2015 Apr. ([link](#)).
4. **Voytek B**. Parameterizing neural field potential data. In *The Oxford Handbook of EEG Frequency Analyses* (editors, Miller M & Bernat E) New York (USA): Oxford University Press, (2022).
5. Juavinett A & **Voytek B**. *The Data Science Future of Neuroscience* (working title). Princeton University Press, (forthcoming).

Pre-print publications under review

1. Halgren M, Kang R, **Voytek B**, Ulbert I, Fabo D, Eross LG, Wittner L, Madsen J, Doyle WK, Devinsky O, Halgren E, Harnett MT#, Cash SS#. The timescale and magnitude of aperiodic activity decreases with cortical depth in humans, macaques and mice. *bioRxiv* ([preprint](#)), in revision at a peer-reviewed journal #equal contribution
2. Monchy N*, Modolo J*, Houvenaghel J-F, **Voytek B**#, Duprez J#. Changes in electrophysiological aperiodic activity during cognitive control in Parkinson's disease. *bioRxiv* ([preprint](#)), in revision at a peer-reviewed journal *.#equal contribution
3. Bender A, Zhao C, Vogel EK, Awh E, **Voytek B**. Differential representations of spatial location by aperiodic and alpha oscillatory activity in working memory. *bioRxiv* ([preprint](#)), in review at a peer-reviewed journal
4. Cellier D, Riddle J, Hammonds R, Frohlich F, **Voytek B**. Aperiodic neural timescales in prefrontal cortex dilate with increased task abstraction. *bioRxiv* ([preprint](#)), in review at a peer-reviewed journal

Other writings

1. **Voytek B**. What Bats, Bombs and Sharks Taught Us about Hearing. Scientific American, Jun 14, 2011. ([link](#))
2. **Voytek B**. What Is Peer Review for? Scientific American, Nov 2, 2011. ([link](#))
3. **Voytek B**. SfN is my nerd Disneyland. neuroscience@nature: action potential, Nov 12, 2011. ([link](#))

4. **Voytek B.** Automated science, deep data and the paradox of information. O'Reilly Radar: Insight, Analysis, and Research about Emerging Technologies, Mar 30, 2012. ([link](#))
5. **Voytek B.** In defense of frivolities and open-ended experiments. O'Reilly Radar: Insight, Analysis, and Research about Emerging Technologies, Jun 8, 2012. ([link](#))
6. **Voytek B.** There's something fishy about citations: We need a method of assessing the support of research if we want to change the 'publish or perish' culture. London School of Economics blog, Oct 17, 2012. ([link](#))
7. **Voytek B.** On the Horizon: foc.us. BBC Focus, Oct, 2013. ([link](#))
8. **Voytek B.** A Step-by-Step Breakdown of an Awake Brain Tumor Removal Surgery. Gizmodo, Oct 29, 2013. ([link](#))
9. **Voytek B.** What Does It Feel Like to Hold a Human Brain in Your Hands? Slate, Oct 30, 2013. ([link](#))
10. **Voytek B.** Understanding The Music Of Neural Communication Could Solve Brain Disorders. Forbes, May 21, 2015. ([link](#))

Grants and funding

Ongoing

- | | |
|-----------|---|
| 2025 | Private donor: Electrocardiogram parameterization for disease prediction. \$100,000. |
| 2024–2029 | NIH NIMH R61MH135109: Autobiographical memory formation in people moving through real-world spaces using synchronized wearables and intracranial recordings of EEG. Role: Consortium and site PI, data science Co-I; PI: Cory Inman. \$5,974,164. |
| 2023 | Private donor: Open source scientific, education, and data analytics development. \$500,000. |
| 2022–2026 | NIH Office of the Director OT2 OD032644: Bridge2AI: Salutogenesis Data Generation Project. Role: Co-I; PI: Sally Baxter. \$7,838,044. |

Completed

- | | |
|-----------|---|
| 2024 | UC San Diego School of Social Sciences Special Initiatives Fund, Translation of Neuromatch Academy computational neuroscience education resources to Spanish for globally accessible education. \$4,098. |
| 2023 | Kavli Institute for Brain and Mind Innovative Research Grant, The shape of breathing: respiration asymmetries causally shape hippocampal oscillation waveform. Co-Investigator; PI: E. Kosik. \$40,000. |
| 2023 | UC San Diego School of Social Sciences Special Initiatives Fund, Colors of the Brain workshop at the 2023 Cognitive Neuroscience Society: Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience \$2,000. |
| 2021–2022 | NIH NIGMS R01 GM134363 diversity supplement: Tools for parameterizing and visualizing electrophysiological rhythmic and arrhythmic features. Awardee: M.J. Preston; PI: B. Voytek. \$157,153. |
| 2020 | Intel Corporation: On Device Telemetry Workload Correlations with Personas and Environment. \$75,000 (follow-on funding). |

2020 Intel Corporation: On Device Telemetry Workload Correlations with Personas and Environment. \$15,000.

2019–2023 NIH NIGMS R01 GM134363: Tools for parameterizing and visualizing electrophysiological rhythmic and arrhythmic features. PI: B. Voytek. \$1,262,000.

2019 National Science Foundation Research Experiences for Undergraduates Supplement for BCS COGNEURO 1736028. \$9,600.

2018–2020 Whitehall Foundation 2017-12-73: Prefrontal Oscillatory Mechanism of “Activity Silent” Memory. PI: B. Voytek. \$225,000.

2018–2019 UC San Diego Stem Cell Program, Embodied human organoid network oscillations. Role: Co-PI; PI: Alysson Muotri. \$100,000.

2018 UC San Diego, Shiley-Marcos Alzheimer’s Disease Research Center (ADRC): Research Training in Alzheimer’s Disease, \$35,000.

2018 National Science Foundation Research Experiences for Undergraduates Supplement for BCS COGNEURO 1736028. \$9,600.

2018 UC Stem Cell Program Innovative Project Award. Co-Investigator; PI: A. Muotri. \$100,000.

2018 UC San Diego Special Initiatives Fund, ComSciCon: The Communicating Science Workshop for Graduate Students. Co-PI: R. Hendricks. \$5,000.

2017–2020 National Science Foundation DGE NRT 1735234: NRT-IGE: Augmenting, Piloting, and Scaling Computational Notebooks to Train New Graduate Researchers in Data-Centric Programming. Role: Co-PI; PI: James Hollan; Co-PIs: Philip Guo, Scott Klemmer. \$498,751.

2017–2020 National Science Foundation BCS COGNEURO 1736028: Oscillatory phase dynamics coordinate cognitive neural networks. PI: B. Voytek. \$471,777.

2017 Frontiers of Innovation Scholars Program (FISP). \$25,000.

2017 Kavli Institute for Brain and Mind Innovative Research Grant, Bridging Structure and Function with Neural Oscillations in iPSC-derived Cortical Organoids. Co-Investigator; PI: T. Olayinka. \$50,000.

2016 Kavli Institute for Brain and Mind Innovative Research Grant, Systems- and Synaptic-Level Overcoupling in Major Depressive Disorder. Co-Investigator; PI: T. Tran. \$50,000.

2015 Frontiers of Innovation Scholars Program (FISP). \$25,000.

2015 NIMH R01 MH095984-03S1, Revision Application to parent R01 “Oscillatory Contributions to Working Memory and Attention”. Co-Investigator; PI: B.R. Postle. Total direct costs \$133,581.

2015 The John A. Majda, M.D. Memorial Grant. Mentor; PI: M. Soltani. \$10,000.

2015 Kavli Institute for Brain and Mind Innovative Research Grant, Finding parallels: the role of the subiculum in neural encoding of object-environment alignment. Co-Investigator; PI: D. Nitz and J. Olson. \$50,000.

2015 Alfred P. Sloan Research Fellow in Neuroscience. \$50,000.

2014 UC San Diego Qualcomm Institute (QI), California Institute for Telecommunications and Information Technology (Calit2) Strategic Research Opportunities (CSRO) program. \$50,000.

Consultant

2023 NIH NIDCD R21 (DC016985) Brain dynamics of lexical retrieval after left hemisphere stroke (PI: Stephanie Ries, San Diego State University)

Academic mentorship

Post-doctoral researchers

2023– Christian Cazares: UC San Diego

- **Awards:**

- UC San Diego Chancellor's Postdoctoral Fellowship
- NIH Blueprint DSPAN Postdoctoral Training Grant (K00 MHI 32569)
- NIH Institutional Research and Academic Career Development Award
- Keystone Symposia Fellow
- AIM-AHEAD Traineeship in Advanced Data Analytics
- Burroughs Wellcome Fund Postdoctoral Diversity Enrichment Program
- UC San Diego Division of Graduate Education and Postdoctoral Affairs Award for Advancing Equity in Graduate Education and Postdoctoral Training

2023–2025 Pamela D. Riviere Ruiz: UC San Diego

- **Awards:**

- UC San Diego Chancellor's Postdoctoral Fellowship
- NIH National Institute of Mental Health BRAIN Initiative: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32 MHI 34436, declined)
- NIH Institutional Research and Academic Career Development Award

- **Current:** Postdoctoral fellow, Rutgers University

2019–2021 Natalie Schaworonkow: Postdoctoral researcher, UC San Diego

- **Current:** Postdoctoral fellow, Max Planck Institute

2019–2020 Stéphanie Martin: UC San Diego

- **Awards:** Halicioğlu Data Science Institute Post-doctoral Data Science Fellow, UC San Diego

- **Current:** Senior Research Scientist, AE Studio

2015–2017 Roemer van der Meij: UC San Diego

- **Current:** Software Architect, Artinis Medical Systems

2014–2017 Erik Peterson: UC San Diego

- **Current:** Senior Scientist, simulation.science

Graduate students

2023– Morgan Fitzgerald: PhD Student, Neuroscience, UC San Diego

- **Awards:** NSF Graduate Research Fellowship honorable mention

2022– Ryan Hammonds: PhD Student, Data Science, UC San Diego

2021– Blanca Martin-Burgos: PhD Student, Neuroscience, UC San Diego

- Co-advised with Alyson Muotri

- **Awards:** UC San Diego California Institute for Regenerative Medicine (CIRM) Training Grant
- 2021– Trevor McPherson: PhD Student, Neuroscience, UC San Diego
 - Co-advised with Tim Gentner
 - **Awards:**
 - NIH National Institute of Mental Health BRAIN Initiative: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (F31 DC021631)
- 2020– Dillan Cellier: PhD Student, Cognitive Science, UC San Diego
 - **Awards:** NSF Graduate Research Fellowship
- 2020– Eena Kosik: PhD Student, Cognitive Science, UC San Diego
 - **Awards:**
 - NSF Graduate Research Fellowship honorable mention
 - Kavli Institute for Brain and Mind Innovative Research Grant
 - Rita L. Atkinson Graduate Fellowship
- 2020– Quirine van Engen: PhD Student, Cognitive Science, UC San Diego
- 2020– Michael Preston: PhD Student, Neuroscience, UC San Diego
 - **Awards:**
 - NIGMS R01 GM134363 Supplement
 - UC San Diego Neurosciences Graduate Program Leadership Award
- 2020– Andrew Bender: PhD Student, Neuroscience, UC San Diego
- 2020–2025 Sydney Smith: PhD Student, Neuroscience, UC San Diego
 - **Awards:**
 - Malcolm R. Stacey Memorial Fund Fellowship
 - UC San Diego Neurosciences Graduate Program, Leon Thal Research Excellence Award
 - NIH Outstanding Scholars in Neuroscience Award Program (OSNAP)
- 2015–2019 Tammy Tran: PhD Student, Neuroscience, UC San Diego
 - **Awards:**
 - UC San Diego-NIH Institute for Neural Computation Training Program in Cognitive Neurosciences
 - Kavli Institute for Brain and Mind Innovative Research Grant
 - Achievement Reward for College Scientists (ARCS)
 - **Thesis:** On the impact of neural variability on healthy aging and memory
 - **Current:** Patent Agent, Morrison & Foerster, LLP
- 2015–2018 Scott Cole: PhD Student, Neuroscience, UC San Diego
 - **Awards:**
 - NSF Graduate Research Fellowship
 - UC San Diego Frontiers of Innovation Scholars Program
 - **Thesis:** On the waveform shape of neural oscillations
 - **Current:** Data Scientist and Machine Learning Engineer, Block (Cash App)
- 2015 Anwaya Aras: MS Student, Computer Science, UC San Diego
 - **Thesis:** Algorithmic mining of neural-genetic functional relationships

- **Current:** Software Engineer, Uber, Inc.
- 2014–2020 Richard Gao: PhD Student, Cognitive Science, UC San Diego
- **Awards:**
 - Natural Sciences & Engineering Research Council of Canada Postgraduate Scholarship-Doctoral
 - UC San Diego Frontiers of Innovation Scholars Program
 - Computational and Systems Neuroscience (Cosyne) New Attendee Travel Award
 - UC San Diego Summer Graduate Teaching Scholarship
 - UC San Diego Chancellor's Dissertation Medal
 - **Thesis:** Bridging cognition and neurobiology with large-scale cortical dynamics and multimodal brain data
 - **Current:** Postdoctoral researcher, Universität Tübingen
- 2014–2020 Thomas Donoghue: PhD Student, Cognitive Science, UC San Diego
- **Awards:** Cognitive Neuroscience Society Graduate Student Award
 - **Thesis:** On Measuring and Investigating Periodic and Aperiodic Neural Activity
 - **Current:** Postdoctoral researcher, Columbia University

Undergraduate researchers

- 2024– Borngreat Omoma-Edosa: Data Science, UC San Diego
- 2024– Leena Kang: Applied Mathematics, UC San Diego
- 2024– Gabriela Freedland: Cognitive Science - Machine Learning, UC San Diego
- 2024– Leo Fluery: Cognitive Science - Machine Learning, UC San Diego
- 2024– Setareh Metanat: Cognitive Science - Neuroscience, UC San Diego
- 2024– Indrani Vairagare: Cognitive Science - Machine Learning and Computational Neuroscience, UC San Diego
- 2023– Austin Hutton: Cognitive & Behavioral Neuroscience, UC San Diego
- 2023– David Brin: Computer Engineering, UC San Diego
- 2023– Elizabeth Lee: Cognitive Science - Machine Learning, UC San Diego
- 2023– Andrea Ruiz-Dargence: Cognitive & Behavioral Neuroscience, UC San Diego
- 2023–2024 Alexandra Garcia: Cognitive Science - Machine Learning, UC San Diego
- 2023–2024 Cassidy Lu: Cognitive Science - Machine Learning, UC San Diego
- **Awards:** Robert J. Glushko Prize for Distinguished Undergraduate Research
- 2022–2024 Kenton Guarian: Math, UC San Diego
- 2022–2024 Sawyer Figueroa: Biology, UC San Diego
- 2021–2023 Angela Chapman: Clinical Psychology, UC San Diego
- **Awards:** Barry M. Goldwater Scholarship (Department of Defense National Defense Education Program)
- 2021–2022 Simon Fei: Cognitive Science - Machine Learning, UC San Diego
- 2021–2022 Aaron Smith: Cognitive Science - Machine Learning, UC San Diego
- 2020–2021 Lulu Ricketts: Data Science, UC San Diego
- 2020–2021 Valentina Carreno: Cognitive Science - Design & Interaction, UC San Diego

2020–2021 Chase Oden: Data Science, UC San Diego

2020–2021 Shuangquan Feng: Cognitive Science - Machine Learning, UC San Diego

2019–2020 Sasami Scott: Data Science, UC San Diego

- **Awards:** Halicioğlu Data Science Institute Scholarship, UC San Diego

2019–2020 Fenglin Zhang: Cognitive Science - Machine Learning/Math, UC San Diego

2019–2020 Adrianna Hohil: Cognitive Science - Machine Learning, UC San Diego

2019–2020 Allen Zhang: Cognitive Science - Machine Learning, UC San Diego

2019–2020 Meyhaa Buvanesh: Cognitive Science - Machine Learning, UC San Diego

2019–2020 Lakshmi Menon: Cognitive Science - Machine Learning, UC San Diego

- **Awards:** DeepMind Fellow, NYU Center for Data Science

2018–2020 Tianyu Zhang: Cognitive Science - Machine Learning/Math, UC San Diego

2018–2020 Geeling Chau: Cognitive & Behavioral Neuro/Comp Engineering, UC San Diego

- **Awards:** Halicioğlu Data Science Institute Scholarship, UC San Diego

2018–2020 Jairo Chavez: Cognitive Science - Machine Learning, UC San Diego

- **Awards:** Halicioğlu Data Science Institute Scholarship, UC San Diego

2018–2020 Sashaank Pasumarthi: Computer Science & Engineering, UC San Diego

- **Awards:** Halicioğlu Data Science Institute Scholarship, UC San Diego

2018–2020 Michael Tran: Cognitive Science - Machine Learning, UC San Diego

2018–2020 Julio Dominguez: Cognitive Science - Machine Learning, UC San Diego

- **Awards:** UC San Diego Triton Research and Experiential Learning Scholarship (TRELS)

2018 Dylan Christiano: Cognitive Science - Machine Learning, UC San Diego

2018 Sitan Liu: Mathematics - Computer Science, UC San Diego

2017–2019 Jenny Hamer: Mathematics - Computer Science, UC San Diego

2017–2018 Grant Sheagley: Cognitive Science, UC San Diego

2017–2018 Andrew Washington: Cognitive Science-Machine Learning, UC San Diego

- **Awards:** UC San Diego Chancellor's Research Excellence Scholarship

2017 Tanner Turner: Applied Math, UC San Diego

2016–2019 Luyanda Mdanda: Cognitive Science - Machine Learning, UC San Diego

- **Awards:**
 - Halicioğlu Data Science Institute Scholarship, UC San Diego
 - Generation Google Scholarship

2016–2018 Aeri Kim: Biochemistry & Cell Biology, UC San Diego

2016–2018 Lauren Liao: Probability & Statistics, UC San Diego

- **Awards:**
 - Halicioğlu Data Science Institute Scholarship, UC San Diego
 - UC San Diego Chancellor's Research Excellence Scholarship
 - Fields Undergraduate Summer Research Program (FUSR), University of Toronto

2016–2018 Priyadarshini Sebastian: Applied Math / Cognitive Science, UC San Diego

- **Awards:** UC San Diego Frontiers of Innovation Scholars Program

2016–2018 Yimeng Yang: Computer Science & Engineering, UC San Diego

2015–2018 Erin D. Cole: Computer Science & Engineering, UC San Diego

- **Awards:**
 - Mozilla Open Leader
 - UC San Diego Science and Engineering Undergraduate Research Scholarship
- 2015–2017 Simon Haxby: Applied Math, UC San Diego
- 2015–2017 Liz Izhikevich: Computer Science & Engineering, UC San Diego
 - **Awards:**
 - UC San Diego Warren College Undergraduate Research Scholarship
 - UC San Diego Ledell Endowed Research Scholarship for Science and Engineering
- 2008–2009 Lisa Tseng: Neurobiology, UC Berkeley
- 2007–2009 Sara LaHue: Neurobiology, UC Berkeley

Staff

- 2020–2022 Ryan Hammonds: Applications Programmer, UC San Diego
 - **Current:** Data Science PhD student, UC San Diego
- 2018–2019 Sydney Smith: Lab Manager
 - **Current:** Postdoctoral Fellow, Yale University
- 2014–2016 Torben Noto: Lab Manager
 - **Current:** Postdoc, Northwestern University

Visiting faculty

- 2015–2016 Brad Postle: Visiting Professor, University of Wisconsin-Madison

Visiting student researchers

- 2023-2024 Luiz Trajano: PhD student, Diogo Coutinho Soriano Lab, Federal University of ABC, Brazil
- 2021 Celene Gonzales: Summer Training Academy for Research Success (STARS), UC San Diego
- 2019–2020 Jaap van der Aar: Ramsey Lab, University of Utrecht
 - **Current:** PhD student, Technical University Eindhoven, Netherlands
- 2019 Nick Fisher: Summer Training Academy for Research Success (STARS), UC San Diego
- 2019 Jairo Chavez: Summer Training Academy for Research Success (STARS), UC San Diego
- 2018–2019 Quirine van Engen: Pennartz Lab, University of Amsterdam
 - **Current:** Neurosciences PhD student, UC San Diego
- 2017 & 2018 Leonhard Waschke: Obleser Lab, University of Lübeck
 - **Current:** Research Policy Officer, Federal Ministry of Education and Research, Germany
- 2017 Simin Berend: Enriquez-Geppert Lab, University of Groningen
- 2017 Rifqi Affan: NIH Maximizing Access to Research Careers (MARC), UC San Diego

- **Current:** Neurosciences PhD student, Boston University
- 2015 Scott Susi: Summer Training Academy for Research Success (STARS), UC San Diego
- **Current:** Neurosciences PhD student, Brown University

Dissertation committee

- 2025– Bosco Garcia: Craig Callender, UC San Diego, Philosophy
- 2025– Felix Taschbach: Marcus Benna, UC San Diego, Neurobiology
- 2024– Jaime Burks: Benjamin Smarr, UC San Diego, Bioengineering
- 2024– Carlos Escalante Vera: Gabriel Silva, UC San Diego, Neuroscience
- 2024– Ali Rigby: Terry Jernigan, UC San Diego, Neuroscience
- 2024– Gabriel Riegner: Armin Schwartzman, UC San Diego, Data Science
- 2024– Katie Andrade: Stephanie Ries, SDSU, Speech, Language, and Hearing Sciences
- 2023– Zhuojun Ruby Ying: Anastasia Kiyonaga, UC San Diego, Cognitive Science
- 2023– Cynthia Nyongesa: Judy Pa, UC San Diego, Neuroscience
- 2022– Abhishek Dave: Bryce Mander, UC Irvine, Cognitive Science
- 2022– Chiaki Santiago: Brenda Bloodgood, UC San Diego, Neuroscience
- 2022– Louise Stolz: Greg Appelbaum, UC San Diego, Neuroscience
- 2019– Michael Turvey: Tim Gentner, UC San Diego, Psychology
- 2018– Michael Metke: Cory Miller, UC San Diego, Neuroscience
- 2018– Michael Allen: David Kirsch, UC San Diego, Cognitive Science
- 2022–2025 Mia Borzello: Andrea Chiba, UC San Diego, Cognitive Science
- 2022–2023 Pamela Riviere Ruiz: Lara Rangel, UC San Diego, Cognitive Science
- 2022–2023 Tzu-Han Zoe Cheng: Sarah Creel, UC San Diego, Cognitive Science
- 2021–2024 Srihita Rudraraju: Tim Gentner, UC San Diego, Neuroscience
- 2021–2023 Samuel Lau: Philip Guo, UC San Diego, Cognitive Science
- 2020–2022 Sean Kross: Philip Guo, UC San Diego, Cognitive Science
- 2020–2022 Christian Cazares: Tina Gremel, UC San Diego, Neuroscience
- 2020–2022 Ian Drosos: Philip Guo, UC San Diego, Cognitive Science
- 2020 Julian Kosciessa: Douglas Garrett, Psychiatry and Ageing Research, Max Planck Institute for Human Development, Berlin, Germany
- 2019–2021 Robert Loughnan: Terry Jernigan, UC San Diego, Cognitive Science
- 2019–2021 Margaret Henderson: John Serences, UC San Diego, Neuroscience
- 2019 Oscar Christian González: Maxim Bazhenov, UC San Diego, Neuroscience
- 2018–2022 Daril Brown: Vikash Gilja, UC San Diego, Electrical Engineering
- 2018–2021 Sunandha Srikanth: Stefan Leutgeb, UC San Diego, Biology
- 2018–2022 Anna Mai: Erik Baković, UC San Diego, Linguistics
- 2018 Mainak Jas: Alexandre Gramfort, Inria, Université Paris-Saclay
- 2017–2020 Ladan Moheimanian: Gerwin Schalk, Wadsworth Center
- 2016–2023 Thomas Gillespie: Maryann Martone, UC San Diego, Neuroscience
- 2016–2020 Matthew Piper: Rick Grush: UC San Diego, Philosophy
- 2016–2018 Adam Rule: Jim Hollan, UC San Diego, Cognitive Science
- 2015–2020 Vladimir Jovanovic: Cory Miller, UC San Diego, Neuroscience

2015–2019	Lauren Curley:Terry Jernigan, UC San Diego, Cognitive Science
2015–2019	Stephanie Nelli: John Serences, UC San Diego, Neuroscience
2015–2018	Xi Jiang: Eric Halgren, UC San Diego, Neuroscience
2015–2018	Erik Kaestner: Eric Halgren, UC San Diego, Neuroscience
2015–2017	Adriana de Pestors: Gerwin Schalk, Wadsworth Center
2015–2017	Akinyinka Omigbodun:Vikash Gilja, UC San Diego, Electrical Engineering
2015–2017	Marybel Gonzalez:Terry Jernigan, UC San Diego, Cognitive Science
2015–2020	Robert Gougelet: PhD Student, Cognitive Science, UC San Diego
2014–2017	Mary E. Smith: John Serences, UC San Diego, Psychology

Teaching

Instructor of record

2024 (sp&wi)	COGS 190: Cognitive Science Honors Seminar, UC San Diego (enrollment: 19)
2024 (winter)	COGS 193: Cognitive Science Career Seminar, UC San Diego (enrollment: 34)
2023 (fall)	COGS 9: Introduction to Data Science, UC San Diego (enrollment: 246) <ul style="list-style-type: none"> • TAs: James Michaelov, Harshada Yadav

Teaching evaluations no longer quantified in course / instructor format starting Fall 2023

2022 (spring)	COGS 280 (graduate): Neural Oscillations, UC San Diego
2022 (winter)	COGS 138: Neural Data Science, UC San Diego (enrollment: 34) <ul style="list-style-type: none"> • TA: Eena Kosik • Student evaluation: course (100%), instructor (100%)
2022 (winter)	COGS 9: Introduction to Data Science, UC San Diego (enrollment: 295) <ul style="list-style-type: none"> • TAs: Dillan Cellier, Gina D'Andrea-Penna, Aarushi Sehgal • Student evaluation: course (97%), instructor (99%)
2021 (winter)	COGS 138: Neural Data Science, UC San Diego (enrollment: 20) <ul style="list-style-type: none"> • New course, first offering (co-developed with Ashley Juavinett) • TA: Kwonjoon Lee • Student evaluation: course (100%), instructor (100%)
2021 (winter)	COGS 9: Introduction to Data Science, UC San Diego (enrollment: 286) <ul style="list-style-type: none"> • TAs: Eena Kosik, Quirine van Engen, Aparna Srinivisan • Student evaluation: course (96.4%), instructor (100%)
2020 (winter)	COGS 9: Introduction to Data Science, UC San Diego (enrollment: 308) <ul style="list-style-type: none"> • TAs: Tzu-Han Cheng, Shuai Tang • Student evaluation: course (94%), instructor (95%)
2019 (fall)	COGS 108: Data Science in Practice, UC San Diego (enrollment: 434) <ul style="list-style-type: none"> • TAs: Akshansh Chahal, Samuel Lau, Enlin Wei • Student evaluation: course (94%), instructor (96%)
2018 (fall)	COGS 9: Introduction to Data Science, UC San Diego (enrollment: 404) <ul style="list-style-type: none"> • TAs: Richard Gao, Robert Gougelet, Tim Tadros • Student evaluation: course (91%), instructor (95%)
2018 (fall)	COGS 280 (graduate): Neural Oscillations, UC San Diego
2017 (winter)	COGS 108: Data Science in Practice, UC San Diego (enrollment: 426)

- **TAs:** Thomas Donoghue, Shuai Tang
 - **Student evaluation:** course (91%), instructor (98%)
- 2017 (fall) COGS 9: Introduction to Data Science, UC San Diego (enrollment: 200)
 - **TAs:** Lauren Curley, Sakshi Gupta
 - **Student evaluation:** course (93%), instructor (98%)
- 2017 (spring) COGS 108: Data Science in Practice, UC San Diego (enrollment: 401)
 - New course, first offering (co-developed with Thomas Donoghue)
 - **TAs:** Thomas Donoghue, Harshita Mangal, Larry Muhlstein
 - **Student evaluation:** course (87%), instructor (94%)
- 2016 (fall) COGS 1: Introduction to Cognitive Science, UC San Diego (enrollment: 483)
 - Significantly updated course to move to fewer guest lectures and more comprehensive overview
 - **TAs:** Richard Gao, Reina Mizrahi, Eric Morgan
 - **Student evaluation:** course (94%), instructor (96%)
- 2016 (fall) COGS 9: Introduction to Data Science, UC San Diego (enrollment: 245)
 - **TAs:** Lauren Curley, Sakshi Gupta
 - **Student evaluation:** course (88%), instructor (97%)
- 2016 (spring) COGS 9: Introduction to Data Science, UC San Diego (enrollment: 99)
 - **TA:** Robert Gougelet
 - **Student evaluation:** course (97%), instructor (97%)
- 2016 (spring) COGS 260 / NEU 221 (graduate): Neural Oscillations, UC San Diego
- 2015 (fall) COGS 1: Introduction to Cognitive Science, UC San Diego (enrollment: 333)
 - **TAs:** Eunice Lim, Arthur Semenyuk
 - **Student evaluation:** course (91%), instructor (97%)
- 2015 (fall) COGS 9: Introduction to Data Science, UC San Diego (enrollment: 48)
 - **TA:** Thomas Donoghue
 - **Student evaluation:** course (100%), instructor (100%)
- 2015 (fall) NEU 221 (graduate): Communicating Science, UC San Diego
 - New graduate course, first offering (co-developed with Kelsey Ladt)
- 2015 (spring) COGS 3: Introduction to Computation, UC San Diego (enrollment: 91)
 - Significantly updated course to move to Python and shell scripting
 - **TA:** Thomas Donoghue
 - **Student evaluation:** course (95%), instructor (92%)
- 2015 (spring) COGS 260 / NEU 221 (graduate): Neural Oscillations, UC San Diego
 - New graduate course, first offering
- 2014 (fall) COGS 9: Introduction to Data Science, UC San Diego (enrollment: 24)
 - New course, first offering
 - **Student evaluation:** course (100%), instructor (100%)

Graduate student teaching

- 2008 (spring) IB 245: Functional Neuroanatomy, UC Berkeley
 - **Faculty:** Marion Diamond
 - **Student evaluation:** graduate instructor (6.94/7.00)
- 2007 (spring) IB 245: Functional Neuroanatomy, UC Berkeley
 - **Faculty:** Marion Diamond

- **Student evaluation:** graduate instructor (6.80/7.00)
- 2005 (fall) MCB 163: Mammalian Neuroanatomy, UC Berkeley
- **Faculty:** Jeffrey Winer
 - **Student evaluation:** graduate instructor (6.65/7.00)

Scientific tool development

specparam — (formerly **foof**) spectral parameterization ([link](#)): a fast, efficient, and physiologically-informed tool to parameterize neural power spectra.

bicycle — cycle-by-cycle waveform parameterization ([link](#)): bicycle parameterizes features of neural oscillations in the time domain.

neurodsp — neuro digital signal processing ([link](#)): neurodsp is package of tools to analyze and simulate neural time series.

brainSCANr — brain systems, connections, associations, and network relationship engine: brainSCANr is a tool to visually examine the relationships between brain regions, functions, and diseases. (defunct)

Service

Academic

- 2025 Program Chair: JupyterCon 2025 International Python Conference
- 2025– Faculty Representative: Triton Ball Sports Analytics Club, UC San Diego
- 2024–2025 Founding Chair: Cognitive Science Alumni Board, UC San Diego
- 2024–2025 Committee on Senate Awards, UC San Diego
- 2023– External Advisory Board: UC Irvine Center for the Neurobiology of Learning and Memory, Howard Schneiderman Training Program in Learning and Memory
- 2022 Senior Faculty Mentor Training: Optimizing Health Sciences Faculty Mentoring Relationships at UC San Diego. Conducted by instructors trained by the Center for Improvement of Mentored Experiences in Research (CIMER)
- 2021 Professional Development Committee member: Neuromatch Academy
- 2021– Founding Chair: Outreach and Training Committee, Cognitive Neuroscience Society
- 2021– Faculty Board: PATHways to STEM, UC San Diego
- 2019–2025 Chair: Industry Liaison Committee, Halicioğlu Data Science Institute, UC San Diego
- 2017– Executive Committee: Neurosciences Graduate Program, UC San Diego
- 2021–2022 Diversity, Equity, and Inclusion Course Requirement Committee, UC San Diego
- 2020–2022 Vice-chair: Data Science Major/Minor Steering Committee, UC San Diego
- 2019 Organizing committee co-chair: IEEE 25th SIGKDD Conference on Knowledge Discovery and Data Mining, Applied Data Science Panel
- 2019–2022 Halicioğlu Data Science Institute Undergraduate Scholarship Program Committee, UC San Diego
- 2019–2021 Faculty Advocate: PATHways to STEM, UC San Diego
- 2019–2020 Diversity Representative: UC San Diego, Halicioğlu Data Science Institute

- 2019–2020 Co-founder: UC San Diego, Halicioğlu Data Science Institute, Equity, Diversity, and Inclusion Committee
- 2018–2021 Chair: Halicioğlu Data Science Institute Undergraduate Scholarship Program, UC San Diego
- 2018–2020 Director: Halicioğlu Data Science Institute Distinguished Lecture Series, UC San Diego
- 2017–2021 Diversity, Outreach, and Training Committee founder and member: Cognitive Neuroscience Society
- 2017–2022 Executive Committee: Halicioğlu Data Science Institute, UC San Diego
- 2016– Advisory Board: Kavli Institute for Brain and Mind, UC San Diego
- 2016–2019 Diversity Committee Chair: Neurosciences Graduate Program, UC San Diego
- 2018 Committee Chair: National Academy of Sciences, Kavli Frontiers of Science
- 2015–2017 Committee Member: National Academy of Sciences, Kavli Frontiers of Science
- 2015–2024 Faculty Representative: Data Science Student Society (DS3), UC San Diego
- 2015–2017 Academic Senate Representative (elected): John Muir College, UC San Diego
- 2014–2016 Diversity Representative: Neurosciences Graduate Program, UC San Diego
- 2014–2017 Faculty Representative: Cognitive Science Student Association, UC San Diego
- 2014–2017 Diversity Representative: Department of Cognitive Science, UC San Diego
- 2006–2007 Representative: Committee on Educational Policy, UC Berkeley
- 2006–2007 Technology Chair: Graduate Assembly Executive Board, UC Berkeley

Grants

- 2025 Special Emphasis Panel reviewer: National Institutes of Health (NIH) BRAIN Initiative
- 2024 Special Emphasis Panel reviewer: National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)
- 2022 Special Emphasis Panel reviewer: National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)
- 2021 Special Emphasis Panel reviewer: National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)
- 2020 Special Emphasis Panel reviewer: National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)
- 2019–2020 Reviewer: Veterans Affairs (VA) Office of Research and Development, Neurobiology subcommittee

Scientific grant review (ad hoc)

National Science Foundation (NSF) CAREER; National Science Foundation (NSF), Cognitive Neuroscience program; The Netherlands Organisation for Scientific Research (NWO, the Dutch Research Council) Vici programme; Israel Science Foundation (ISF); John Templeton Foundation

Scientific peer review (editor)

PLoS Computational Biology

Scientific peer review (ad hoc)

Addiction Biology, Annals of Neurology; Biological Psychiatry; Brain; Brain and Cognition; Brain Research; Cell Reports; Cerebral Cortex; Clinical Neurophysiology; Cognitive, Affective, and Behavioral Neuroscience; Communications Biology; Current Biology; Developmental Cognitive Neuroscience; eLife; eNeuro; European Journal of Neuroscience; Frontiers in Computational Neuroscience; Frontiers in Human Neuroscience; Human Brain Mapping; Imaging Neuroscience; International Journal of Psychophysiology; Journal of Cognitive Neuroscience; Journal of Neurophysiology; Journal of Neuroscience; Journal of Neuroscience Methods; Nature; Nature Biotechnology; Nature Communications; Nature Human Behaviour; Nature Methods; Nature Neuroscience; Neural Computation; Neurobiology of Aging; NeuroImage; Neuron; Neurology; Neuroscience Letters; npj Parkinson's Disease; PLOS Biology; PLoS Computational Biology; PLOS ONE; PLOS Computational Biology; The Proceedings of the National Academy of Sciences USA; Science; Trends in Cognitive Sciences; Trends in Neurosciences

Scientific conference review (ad hoc)

2018 Conference on Cognitive Computational Neuroscience (CCN 2018), 2019 Conference on Cognitive Computational Neuroscience (CCN 2019)

Scientific book review (ad hoc)

John Wiley & Sons; MIT Press

Academic tenure & promotion review (ad hoc)

Boston University; Brown University; Columbia University; Dartmouth College; Duke University; Hong Kong University; Johns Hopkins University; The Mayo Clinic; University of New Mexico; University of Pennsylvania; University of Washington; Washington University; Yale University

Professional societies

2017 Society for Neuroscience: Invited Panelist, Professional Development Workshop: A Practical Guide to Science Communication
2015 Society for Neuroscience: Invited Panelist, Exploring New Communications Channels: Science Blogging
2013 Society for Neuroscience: Invited Panelist, Careers Beyond the Bench

Media coverage

Book appearances

1. Me, Myself, and Why: Searching for the Science of Self, Jennifer Ouellette, 2014 Jan. (interview)
2. The Data Science Handbook: Advice and Insights from 25 Amazing Data Scientists, Shang, Wang, Chen, and Song, 2015 May. (dedicated chapter profile)

Public outreach/science communication

1. Wired, "Pseudoscience Saps the Power of the TEDx Brand", 2012 Dec. ([link](#))
2. Inc Magazine, "When Passion for Work Is a Bad Thing", 2014 Mar. ([link](#))
3. FastCompany, "How to Stop Feeling Like a Fraud", 2014 Mar. ([link](#))
4. Nature, "Laboratory careers: Catalysts for efficient science", 2014 Jun. ([link](#))
5. Del Mar Times, "Scientist's words resonate with Torrey Pines High students: Listen to, support each other", 2015 Mar. ([link](#))
6. Scientific American, "Scientists: Advertise Your Failures!", 2017 Sep. ([link](#))
7. Psychology Today, "Mistaking the Highlight Reel for the Game", 2018 Nov. ([link](#))
8. Gizmodo, "Could Brain Implants Ever Make Telekinesis Possible?", 2020 Oct. ([link](#))

Neuroscience

1. The New York Times, "In Pursuit of a Mind Map, Slice by Slice", 2010 Dec. ([link](#))
2. Forbes, "The Story Of A Neuroscientist, A Car Service And Location Data", 2012 Mar. ([link](#))
3. The Atlantic, "Things You Cannot Unsee (And What That Says About Your Brain)", 2014 May. ([link](#))
4. The New York Times, "Clues to How an Electric Treatment for Parkinson's Works", 2015 Apr. ([link](#))
5. Wired, "Bradley Voytek on Oliver Sacks' 'Soft Thinking'", 2015 Sep. ([link](#))
6. The New York Times, "'Pacemaker' for the Brain Can Help Memory, Study Finds", 2017 Apr. ([link](#))
7. NPR, "In Memory Training Smackdown, One Method Dominates", 2017 Oct. ([link](#))
8. The New York Times, "To Improve Memory, Tune It Like an Orchestra", 2019 Apr. ([link](#))

Data Science

1. Forbes, "Neuroscientist Bradley Voytek is Bringing the Silicon Valley Ethos into Academia", 2011 Oct. ([link](#))
2. The New York Times, "Attention, Shoppers: Store Is Tracking Your Cell", 2013 Jul. ([link](#))
3. Mashable, "Shutdown Silver Lining: Less Traffic for D.C." 2013 Nov. ([link](#))
4. The Independent, "The number crunch: Will Big Data transform your life - or make it a misery?", 2014 Jan. ([link](#))
5. The New York Times, "With Uber, Less Reason to Own a Car". 2014 Jun. ([link](#))
6. VentureBeat, "Uber simulated a city to teach drivers how to optimize their earnings". 2014 Aug. ([link](#))
7. The Economist, "Automated hypothesis generation: Computer says 'try this'", 2014 Oct. ([link](#))

Zombies

1. National Geographic TV, "The Truth Behind Zombies", 2010 Oct.
2. Wired, "How to Survive the Zombie Apocalypse Using Science", 2011 Jun. ([link](#))
3. Mind Hacks, "The neurology of the undead", 2011 Jun. ([link](#))

4. American Academy of Neurology, interviewed in Neurology Now, "Two Self-Proclaimed Neuroscience 'Geeks' Decipher the Zombie Brain", 11(15), 32-34, 2011 Aug. ([link](#))
5. Wired, "Zombie Brains: Fake Ghoul Science From a Real Scientist", 2011 Aug. ([link](#))
6. Forbes, "Explaining the Neuroscience of the Zombie Epidemic", 2011 Oct. ([link](#))
7. Slate, "Zombies Attack Science", 2011 Oct. ([link](#))
8. NPR, "Bay Area Science Festival Kicks Off with a Few Important Tips On Zombies", 2011 Oct. ([link](#))
9. NPR, "Bay Area Science Festival", 2011 Oct.
10. New York Magazine, "How to Survive a Zombie Attack", 2011 Oct. ([link](#))
11. The Chronicle of Higher Education, "Zombies on the Brain: Young Neuroscientists' Popular Zombie Study Frightens Their Advisers Most of All", 2012 Jul. ([link](#))
12. TED Ed, "Diagnosing a zombie", 2012 Oct. Part 1 ([link](#)); Part 2 ([link](#))
13. Wired, "Zombie Neuroscientist Explains the Ant-Like Behavior of World War Z's Running Dead", 2012 Nov. ([link](#))
14. Wired, "A Pseudo-Scientific Analysis of Warm Bodies and the Zombie Tropes It Defies", 2013 Jan. ([link](#))
15. Slate, "What Don't People Do in Zombie Apocalypse Movies That You Would Do?", 2013 Jul. ([link](#))
16. Image Comics, "The Walking Dead 100 Project" neuroscience primer. 2013 Sep.
17. livescience, "'The Walking Dead': How to Survive a Zombie Invasion", 2013 Oct. ([link](#))
18. livescience, "Zombie Neuroscience: Inside the Brains of the Walking Dead", 2013 Oct. ([link](#))
19. U-T San Diego, "UC San Diego recruits expert on zombies", 2014 Apr. ([link](#))
20. World Science Festival, Smart Reads: Bradley Voytek's 'Do Zombies Dream Of Undead Sheep?', 2014 Sep. ([link](#))
21. NPR/KPBS, "UC San Diego Professor Uses Zombies To Teach About Neuroscience", 2014 Oct. ([link](#))
22. NPR/KPBS, "Zombies Versus Real Science: Which Is Scarier?", 2014 Oct. ([link](#))
23. U-T San Diego, "Inside the brain of a zombie", 2014 Oct. ([link](#))
24. Slate, "Why do zombies lumber?", 2014 Oct. ([link](#))
25. Die Welt, "Why a zombie just can not think clearly", 2015 Jan. ([link](#))
26. Five Books, "Bradley Voytek on Surrealism and the Brain", 2015 Feb. ([link](#))
27. ABC (Australian Broadcasting Corporation) All in the Mind, "Braaaaaains: What the zombie mind teaches us about neuroscience", 2016 Apr. ([link](#))
28. Daily Mail, "How to survive a zombie apocalypse", 2016 May. ([link](#))
29. Popular Mechanics, 'Game of Thrones' Science: How Do Wights Work?, 2019 Apr. ([link](#))

Invited lectures

Public outreach/science communication

1. Girl Scouts of Northern California Girls Go Tech, San Francisco, CA, USA. 2006 Feb.
2. Brain Awareness Week organizer, San Francisco Bay Area chapter of the Society for Neuroscience, Berkeley, CA, USA. 2006 Mar.

3. Girl Scouts of Northern California Girls Go Tech, San Francisco, CA, USA. 2007 Feb.
4. Anthony W. Ochoa Intermediate School Youth Enrichment Program, Hayward, CA, USA. 2007 Jun.
5. The Tech Museum of Innovation Body Worlds 2, San Jose, CA, USA. 2007 Oct.
6. Girl Scouts of Northern California Girls Go Tech, San Francisco, CA, USA. 2008 Feb.
7. Girl Scouts of Northern California Girls Go Tech, San Francisco, CA, USA. 2009 Feb.
8. Allendale Elementary School Mind & Brain Night, Oakland, CA, USA. 2009 Feb.
9. International Conference on the Fantastic in the Arts, Orlando, FL, USA. 2011 Mar.
Reviewed abstract: "Breach in the mind: The hypothetical neuroanatomy subserving the process of 'unseeing' in China Miéville's *The City & The City*"
10. ScienceOnline Bay Area, swissnex, Social Media for Science Outreach, San Francisco, CA, USA. 2012 May.
11. swissnex, San Francisco, CA, USA. 2012 May.
12. UCSF Center for Educational Partnerships, National Youth Leadership Forum, San Francisco, CA, USA. 2012 Jul.
13. NASA Ames Research Center, Social Media for Science Outreach, Mountain View, CA, USA. 2012 Jul.
14. Big Picture Science, Bay Area Science Festival, Computer History Museum, Mountain View, CA, USA. 2012 Oct.
15. Stanford University, Neuroscience PhD Program, Professional Development Program, Stanford, CA, USA. 2013 Jan.
16. UC San Francisco, Recruitment Fair, CA, USA. 2013 Jan.
17. UC Berkeley, Careers Beyond Academia conference, Berkeley, CA, USA. 2013 Mar.
18. UC San Diego, Family Weekend, CA, USA. 2014 Oct.
19. UC San Diego, Social Sciences Supper Club, CA, USA. 2014 Nov.
20. Torrey Pines High School, La Jolla, CA, USA. 2014 Dec.
21. High Tech Middle School, San Diego, CA, USA. 2015 Jan.
22. Los Angeles Brain Bee, UC Irvine, CA, USA. 2015 Feb.
23. High Tech High School, San Diego, CA, USA. 2015 Mar.
24. Torrey Pines High School, La Jolla, CA, USA. 2015 Mar.
25. UC San Diego, "Social Media for Campus Researchers and Faculty". 2015 Apr.
26. Clarion Workshop, UC San Diego, CA, USA. 2015 Jul.
27. City of Hope, Eugene and Ruth Roberts Summer Student Academy, Duarte, CA, USA. 2015 Jul.
28. Rueben H. Fleet Science Center, Adult Lecture Series, San Diego, CA, USA. 2016 Mar.
29. Pacific Ridge School, Carlsbad, CA, USA. 2016 Mar.
30. Keynote speaker, San Diego State University, Graduate Student Symposium, CA, USA. 2016 Apr.
31. Keynote speaker, Chancellor's Associates Scholars Program, UC San Diego, CA, USA. 2016 Jul.
32. Osher Lifelong Learning Institute at UC San Diego, CA, USA. 2016 Sep.
33. San Diego Independent Scholars, La Jolla, CA, USA. 2016 Sep.
34. Keynote speaker, The Communicating Science Workshop, La Jolla, CA, USA. 2016 Sep.

35. Pacific Ridge School, Carlsbad, CA, USA. 2017 Mar.
36. Keynote speaker, Community College Symposium, UC San Diego, CA, USA. 2017 May.
37. Keynote speaker, Frontiers of Innovation Scholars Program Symposium, UC San Diego, CA, USA. 2017 Oct.
38. Pacific Ridge School, Carlsbad, CA, USA. 2018 Apr.
39. PATHS Scholars luncheon, UC San Diego, CA, USA. 2019 Feb.
40. Keynote speaker, Campus Community Conference: Establishing Community, UC San Diego, CA, USA. 2019 Feb.
41. Chancellor's Associates, UC San Diego, CA, USA. 2019 Jun.
42. UCSF IRACDA Scholars Program Career panel, San Francisco, CA, USA. 2019 Nov.
43. Pacific Ridge School, Carlsbad, CA, USA. 2020 Mar.
44. University of California, Berkeley, Helen Wills Neuroscience Institute professional panel, Berkeley, CA, USA. 2020 Oct. (virtual)
45. Pacific Ridge School, Carlsbad, CA, USA. 2021 Mar. (virtual)
46. American Society of Neurorehabilitation - Mentorship Lessons panelist, San Diego, CA, USA. 2021 Apr. (virtual)
47. National Library of Medicine's biomedical informatics program. 2022 Feb. (featured speaker) (virtual)
48. UC San Diego Undergraduate Research Hub mentorship meeting, San Diego, CA, USA. 2022 Mar. (featured speaker)
49. UC Santa Cruz IRACDA Scholars Program Career panel, Santa Cruz, CA, USA. 2022 Apr. (virtual)
50. University of Arizona, URBRAIN (Undergraduate Readying for Burgeoning Research for American Indian Neuroscientists) program, Tucson, AZ, USA. 2022 Jun. (virtual)
51. UC San Diego Undergraduate Data Science Student Society Research Professor Spotlight, San Diego, CA, USA. 2023 Apr.
52. UC San Diego Undergraduate Data Science "Last Lecture" series, San Diego, CA, USA. 2023 Apr.
53. Invited Workshop Organizer, "Best practices in scientific writing and communication", Student and Postdoc Special Interests Group, Organization for Human Brain Mapping (OHBM). 2023 May. (virtual)
54. Point Loma Optimist Club, San Diego, CA, USA. 2024 Mar.
55. Cincinnati Reds "Code Shares" data science team, Cincinnati, OH, USA. 2024 Mar. (virtual)
56. UC San Diego Scholars Welcome Series for admitted and awarded merit-based Regents', Chancellor's, and Jacobs' scholars, San Diego, CA, USA. 2024 Apr.
57. San Diego Rotary Club, San Diego, CA, USA. 2024 May.
58. Keynote speaker, UC Berkeley Cognitive Science undergraduate commencement ceremony, Berkeley, CA, USA. 2024 May.
59. Pacific Ridge School, Carlsbad, CA, USA. 2025 Jan.
60. Dana Middle School, San Diego, CA, USA. 2025 Feb.
61. UC San Diego Scholars Welcome Series for admitted and awarded merit-based Regents', Chancellor's, and Jacobs' scholars, San Diego, CA, USA. 2025 Apr.

62. University of Toronto Psychology Graduate Student Association, Toronto, Canada. 2025 May. (virtual)

Neuroscience

63. Neural Information Processing Systems: Large Scale Brain Dynamics Workshop, Vancouver, BC, Canada. 2007 Dec.
64. UC Berkeley Cognitive Science Student Association, Berkeley, CA, USA. 2008 Apr.
65. IEEE/UC Berkeley Cognitive Science Student Association, Berkeley, CA, USA. 2009 Mar.
66. California Cognitive Science Conference, Berkeley, CA, USA. 2009 Apr.
67. Rikshospitalet University Hospital, Oslo, Norway. 2009 May.
68. Max-Planck-Institut für Kognitions- und Neurowissenschaften, Leipzig, Germany. 2009 Aug.
69. University of Oregon, Department of Psychology, Eugene, OR, USA. 2009 Nov.
70. IEEE/UC Berkeley CS/EE Demo Day, Berkeley, CA, USA. 2010 Apr.
71. Bay Area Memory Meeting, Stanford, CA, USA. 2010 Aug.
72. University of California, Davis, Center for Mind and Brain: Time-Frequency Bootcamp, "Advanced Time-Frequency Analysis Methods", Davis, CA, USA. 2010 Aug.
73. UC Berkeley, Cognition, Brain, and Behavior, Berkeley, CA, USA. 2010 Oct.
74. International Congress for Clinical Neurophysiology: Neuronal Oscillations in Multi-scale Brain Networks Workshop, Kobe, Japan. 2010 Oct.
75. University of Washington, College of Computer Science & Engineering, Seattle, WA, USA. 2010 Nov.
76. Computational and Systems Neuroscience: Developing Simplified Algebras to Describe Large-Scale Brain Dynamics Workshop, Salt Lake City, UT, USA. 2011 Feb.
77. DARPA "Narrative Networks (N2): The Neurobiology of Narratives Workshop", San Francisco, California, USA. 2011 Apr.
78. California Cognitive Science Conference, Berkeley, CA, USA. 2011 Apr.
79. Stanford University, Dept. of Neurology and Neurological Sciences, Stanford, CA, USA. 2011 May.
80. XI International Conference on Cognitive Neuroscience, Symposium Chair, "The Cognitive Role of Cross-frequency Coupling", Palma, Mallorca, Spain. 2011 Sep.
81. 3rd International Workshop on Advances in Electroencephalography, Washington, DC, USA. 2011 Nov.
82. UC Berkeley, Brain Imaging Center Research Day, Berkeley, CA, USA. 2011 Dec.
83. International Conference on the Fantastic in the Arts, Orlando, FL, USA. 2012 Mar.
Reviewed abstract: "Medusa to Slake-moth: The Neurobiological Basis of Hypnagogia, Paralysis, Hallucinations, and Other Magical Abilities of Literary Monsters"
84. Keynote speaker, Annual Meeting of the San Francisco Neurological Society, Sonoma, CA, USA. 2012 May.
85. Neuroscience Information Framework, 2012 May.
86. International Neuropsychological Society, Oslo, Norway. 2012 Jun.
87. Bay Area Memory Meeting, Davis, CA, USA. 2012 Aug.
88. Allen Brain Institute, Seattle, WA, USA. 2012 Aug.
89. UC Berkeley, CA, USA. 2012 Sep.

90. Stanford University, Dept. of Neurology and Neurological Sciences, Stanford, CA, USA. 2012 Sep.
91. University of Chicago, IL, USA. 2012 Oct.
92. UC San Francisco, Grand Rounds, CA, USA. 2013 Jan.
93. Stanford University, Neuroscience PhD Program, Stanford, CA, USA. 2014 Feb.
94. UC San Diego, Neuroscience Retreat, CA, USA. 2014 May.
95. UCLA, Computational Neuroscience Affinity Group, CA, USA. 2014 May.
96. UCLA, Learning and Memory Symposium, CA, USA. 2014 Jun.
97. UC San Diego, Cognitive Science Student Association Conference, CA, USA. 2014 Jun.
98. Keynote speaker, UCLA, Cognitive Science Conference, CA, USA. 2015 Apr.
99. University of Pennsylvania, Computational Memory Lab, Philadelphia, PA, USA. 2015 Aug.
100. UC Merced; Mind, Technology, and Society Seminar, CA, USA. 2016 Jan.
101. UCLA, Integrative Center for Neural Repair, CA, USA. 2016 Mar.
102. Cognitive Neuroscience Society: The role of amplitude, phase, and rhythmicity of neural oscillations in top-down control of cognition Symposium, New York City, NY, USA. 2016 Apr.
103. Arizona State University, Neural Oscillations Conference, AZ, USA. 2016 May.
104. Computational Properties of the Prefrontal Cortex meeting, Lyon, France. 2016 Aug.
105. University of Southern California, Neuroimaging and Informatics seminar, CA, USA. Oct 2016.
106. Brown University, Neuroscience Seminar Series, Providence, RI, USA. 2017 Jan.
107. Stanford University, Center for Mind, Brain, and Computation seminar series. 2017 Feb.
108. Baylor College of Medicine, Core for Advanced MRI (CAMRI) seminar series. 2017 Mar.
109. Ernst Strüngmann Forum, Manifestations and Mechanisms of Dynamic Brain Coordination over Development, Frankfurt, Germany. 2017 Mar.
110. Keynote speaker, UC San Diego, Lab Expo, CA, USA. 2018 Jan.
111. UC Berkeley, Dept. of Molecular and Cellular Biology, Division of Neurobiology seminar. 2018 Apr.
112. UC Santa Barbara, Neuroscience Colloquium Series, CA, USA. 2018 May.
113. University of Pennsylvania, Mahoney Institute for Neurosciences Colloquium Series, Philadelphia, PA, USA. 2018 Oct.
114. 14rd International Workshop on Electrocorticography, San Diego, CA, USA. 2018 Nov.
115. Keynote speaker, American Society of Neurorehabilitation, San Diego, CA, USA. 2018 Nov.
116. Society for Neuroscience, Nanosymposium Chair, "Network Interactions: Oscillations and Synchrony: EEG Studies", San Diego, CA, USA. 2018 Nov.
117. Nerd Nite San Diego, San Diego, CA, USA. 2019 May.
118. University of Texas at Austin, Neural Interface Initiative Seminar Series, Austin, TX, USA. 2019 May.
119. Keynote speaker, McGill University, Nonlinear Dynamics in Brain and Behaviour Symposium, Montreal, Quebec, Canada. 2019 Aug.
120. The Scripps Research Institute / Salk Institute, Neurograd Symposium, CA, USA. 2020 Feb.

121. Gordon Research Conference, Bridging Neural Engineering and Neurobiology Edge Effects to Divergent Innovation, Ventura, CA, USA. 2020 Mar. (postponed)
122. Yale University, Swartz Center for Theoretical Neuroscience seminar, New Haven, CT, USA. 2020 Apr. (postponed)
123. Kavli Institutes in Neuroscience Forum, Yale University, New Haven, CT, USA. 2020 Apr.
124. UC San Diego, Neuroscience Retreat, CA, USA. 2020 May. (postponed)
125. Diné College, NIH R25 URBRAIN—Undergraduate Ready for Burgeoning Research for American Indian Neuroscientists, Tsaile, Apache County, AZ, USA. 2020 Jun. (virtual)
126. University of Illinois Urbana-Champaign, Cognitive Neuroscience Brown Bag, Champaign, IL, USA. 2020 Sep. (virtual)
127. Society for Neuroscience, minisymposium speaker, “The logic of developing neocortical circuits in health and disease”, Washington, DC, USA. 2020 Oct. (virtual)
128. University of Nevada, Reno, Neuroscience/Molecular Biology Seminar Series, Reno, NV, USA. 2020 Oct. (virtual)
129. University of Glasgow, Center for Cognitive Neuroimaging, Glasgow, Scotland. 2020 Oct. (virtual)
130. University of Minnesota, Center for Neuroengineering Seminar Series, Minneapolis, MN, USA. 2020 Nov. (virtual)
131. University of Toronto Ebbinghaus Colloquium, Toronto, CA. 2020 Dec. (virtual)
132. University of California, Irvine CogSci colloquium, Irvine, CA, USA. 2021 Feb. (virtual)
133. University of Southern California Neurorehabilitation Seminar series, Los Angeles, CA, USA. 2021 Mar. (virtual)
134. University of Alabama at Birmingham, School of Medicine Civitan International Neuroimaging Laboratory Brain Core Seminar, Birmingham, AB, USA. 2021 Apr. (virtual)
135. ERP Bootcamp (NIHM-sponsored workshop), Oscillation methods dissection and consultation workshop, San Diego, CA, USA. 2021 Aug.
136. Cornell Psychology Departmental Colloquium Series, Ithaca, NY, USA. 2021 Sep. (virtual)
137. Gordon Research Conference, Bridging Neural Engineering and Neurobiology Edge Effects to Divergent Innovation, Ventura, CA, USA. 2022 Mar. (resumed from earlier postponed event)
138. Doctoral Program of the NeuroSchool Tutored Seminars, Aix-Marseille University, Marseille, France. 2022 Mar. (virtual)
139. Electrophysiology of Brain Dynamics Affinity Group, UCLA, Los Angeles, CA, USA. 2022 Apr.
140. Invited Workshop Organizer, Society for Psychophysiological Research, Vancouver, Canada. 2022 Sep.
141. Goethe-Universität Frankfurt am Main, Frankfurt, Germany. 2022 Sep. (virtual)
142. Neurotechnology Exchange Group, Booz Allen Hamilton, Washington, DC, USA. 2022 Oct. (virtual)
143. Criticality in Neural Systems 2022: Collective Behavior, Synchronization, and Complexity, Porter Neuroscience Research Center, the National Institute of Health, Bethesda, MD, USA. 2022 Nov.

- 144. Invited panelist, The Benefits and Limitations of Alternatives to Animals in Research, The Society for Neuroscience Conference, San Diego, CA, USA. 2022 Nov.
- 145. Heinrich-Heine-University Düsseldorf, Institute of Clinical Neuroscience and Medical Psychology, Düsseldorf, Germany. 2023 Jan. (virtual)
- 146. EU IMBALANCE Consortium, University Medical Center Hamburg-Eppendorf, 2023 Feb. (virtual)
- 147. Cognitive Neuroscience Society, Symposium Chair, "The Data Science Future of Cognitive Neuroscience", San Francisco, CA, USA. 2023 Mar.
- 148. Cognitive Neuroscience Society, Workshop Chair, "Industry Professional Development Panel", San Francisco, CA, USA. 2023 Mar.
- 149. Cognitive Neuroscience Society, Workshop Chair, "Colors of the Brain: Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience", San Francisco, CA, USA. 2023 Mar.
- 150. UC Davis EEG consortium, Davis, CA, USA. 2023 Apr. (virtual)
- 151. University of Southern California Monday Brain Imaging seminar, Los Angeles, CA, USA. 2023 May.
- 152. Ernst Strüngmann Institute gGmbH for Neuroscience seminar, Frankfurt, Germany. 2023 Jun.
- 153. Invited Workshop Organizer, Society for Psychophysiological Research, New Orleans, LA, USA. 2023 Sep.
- 154. Invited Workshop Organizer, "Best practices in scientific writing and communication", Student and Postdoc Special Interests Group, Organization for Human Brain Mapping (OHBM). 2023 May. (virtual)
- 155. Nerd Nite San Diego, San Diego, CA, USA. 2024 Jan.
- 156. UC San Diego, Cognitive Science Student Association Winter Talk series, CA, USA. 2024 Feb.
- 157. HEALthy Brain and Child Development (HBCD) Study EEG Working Group meeting. 2024 Mar. (virtual)
- 158. Invited Workshop Organizer, "A hands-on technical workshop for cognitive neuroscientists", Cognitive Neuroscience Society, Toronto, Canada. 2024 Apr.
- 159. Keynote speaker, General Assembly of the Global Brain Consortium (GBC): Celebrating 100 Years of EEG, Chengdu, China. 2024 Sep. (virtual)
- 160. Cognitive Neuroscience Society, Invited Symposium speaker, "What can('t) oscillations tell us about cognition?", Boston, MA, USA. 2025 Mar.
- 161. Cognitive Neuroscience Society, Invited Professional Career Panelist, Boston, MA, USA. 2025 Mar.

Data Science

- 162. AtGoogleTalks Tech Talk, Mountain View, CA, USA. 2010 Jan.
- 163. Ignite at AndroidOpen, San Francisco, CA, USA. 2011 Oct.
- 164. In-Q-Tel CEO Summit, CA, USA. 2012 Feb.
- 165. Where Conference (O'Reilly Media) workshop, San Francisco, CA, USA. 2012 Apr.
- 166. Where Conference (O'Reilly Media) speaker, San Francisco, CA, USA. 2012 Apr.
- 167. Nerd Nite East Bay, Berkeley, CA, USA. 2012 Nov.

168. Strata, Santa Clara, CA, USA. 2013 Feb.
169. Kaggle, San Francisco, CA, USA. 2013 Mar.
170. General Assembly, San Francisco, CA, USA. 2013 Aug.
171. University of San Francisco, CA, USA. 2013 Oct.
172. PSFK, San Francisco, CA, USA. 2013 Nov.
173. Intuit, Mountain View, CA, USA. 2014 Feb.
174. Data Science for Sustainability, San Francisco, CA, USA. 2014 Aug.
175. Strata, New York, NY, USA. 2014 Oct.
176. Scripps Institution of Oceanography, Climate Science and Policy Program, La Jolla, CA, USA 2016 Aug.
177. Nerd Nite San Diego, San Diego, CA, USA. 2016 Sep.
178. Intuit, San Diego, CA, USA. 2018 Feb.
179. UC San Diego Halicioğlu Data Science Institute Inauguration, La Jolla, CA, USA 2018 Mar.
180. Smart Cities Acceleration Labs, San Diego, CA, USA 2018 Apr.
181. UC San Diego Neurosciences Graduate Program Career Panel, San Diego, CA, USA. 2018 May.
182. American Psychological Association, "Large-Scale Human Electrophysiology via Automated Parameterization of Neural Power Spectra." Talk. San Francisco, CA, USA. 2018 August.
183. American Psychological Association, "Novel Data Science Approaches to Examining Psychology." Symposium Chair. San Francisco, CA, USA. 2018 August.
184. UC San Diego, Computer Science & Engineering Society, 2019 Jan.
185. Teradata "TechVoice" presenter, San Diego, CA, USA. 2019 Feb.
186. Strata Data Conference, Technology Ethics Day, San Francisco, CA, USA. 2019 Mar.
187. Osher Lifelong Learning Institute at UC San Diego, CA, USA. 2019 Apr.
188. Keynote speaker, Uber Science Symposium, San Francisco, CA, USA. 2019 May.
189. Sapien Labs Symposium, "EEG: Analytical Approaches and Applications", 2019 Jun.
190. Qualcomm Data Science, San Diego, CA, USA. 2019 Jun.
191. Let's GO Data Science meetup, San Diego, CA, USA. 2019 Aug.
192. DataScienceGO, San Diego, CA, USA. 2019 Sep.
193. MLConf, San Francisco, CA, USA. 2019 Nov.
194. Cultured Data Symposium, San Diego, CA, USA. 2020 Feb.
195. University of Southern California Data Science Club, Los Angeles, CA, USA. 2020 Mar.
196. Data Science Distinguished Speaker Series and eScience Neuroinformatics Special Interest Group, University of Washington, Seattle, WA, USA. 2020 May. (virtual)
197. Ignite Shelter-in-Place, virtual. 2020 May. (virtual)
198. DataScienceGO, virtual. 2020 Jun. (virtual)
199. Introduction to Data Science (DS-UA 112), guest lecture "Machine Learning", New York University, New York City, New York. 2020 Nov. (virtual)
200. Meet the Boss Panel, UC San Diego's Student Foundation and Student Alumni Association, La Jolla, CA, USA. 2020 Dec. (virtual)
201. SD Machine Learning meetup, San Diego, CA, USA. 2020 Dec. (virtual)

202. Town & Gown lecture series, "Neuroscience in the data science age", UC San Diego, CA, USA. 2021 Apr. (virtual)
203. Socially Responsible Modeling, Computation, and Design (SoReMo) public seminar series, Illinois Institute of Technology, CA, USA. 2021 Apr. (virtual)
204. Thermo Fisher Data Science Innovation Lab Speaker, San Diego, CA, USA. 2021 Jun. (virtual)
205. Data Science for Good, Data Science Alliance, San Diego, CA, USA. 2022 Aug.
206. San Diego Startup Week Ethical Data Science Workshop, University of San Diego, CA, USA. 2022 Oct.
207. STEAM Career Expo, 2023 IES Mathematics Summit, United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, Washington, DC, USA. 2023 Sep. (virtual)
208. Academic Data Science Alliance Career Panel. 2023 Oct. (virtual)
209. Intuit Product Management conference, San Diego, CA, USA. 2023 Oct.
210. Petco Data Summit, San Diego, CA, USA. 2023 Oct.
211. Data Impact with DJ Patil, LinkedIn Learning. 2024 Jan.
 - LinkedIn Learning course where "former U.S. Chief Data Scientist DJ Patil interviews some of the most influential people in tech."
212. Keynote speaker, Solix Empower Conference, San Diego, CA, USA. 2024 Nov.
213. Seminar Speaker, University of Mississippi Medical Center Biostatistics and Data Science. 2025 Apr. (virtual)

Zombies

1. zomBcon, Seattle, WA, USA. 2010 Oct.
 - Panelist: Plague Science
 - Speaker: Scanning the Zombie Brain
 - Panelist: Zombie Anatomy
2. San Francisco Nerd Nite, San Francisco, CA, USA. 2011 Jan.
3. Comic-Con International, San Diego, CA, USA. 2011 Jul.
 - Panelist: History of the Modern Zombie
 - Panelist: Science of Zombies: Is a real-life zombie "virus" possible?
4. 2nd annual zomBcon, Seattle, WA, USA. 2011 Oct.
5. NightLife, California Academy of Sciences/Bay Area Science Festival, San Francisco, CA, USA. 2011 Oct.
6. Brentwood Public Library, Brentwood, CA, USA. 2012 May.
7. Comic-Con International, San Diego, CA, USA. 2012 Jul.
8. Antioch Library, Antioch, CA, USA. 2012 Aug.
9. NightLife, California Academy of Sciences/Bay Area Science Festival, San Francisco, CA, USA. 2012 Oct.
10. University of Wisconsin, 2012 Dec.
11. McDaniel College, 2013 Apr.
12. Comic-Con International, San Diego, CA, USA. 2013 Jul.
13. San Diego State University, CA, USA. 2014 Apr.

14. Westercon (Guest of Honor), Salt Lake City, UT, USA. 2014 Jun.
15. Comic-Con International, San Diego, CA, USA. 2014 Jul.
 - Panelist: Zombie Myths and Misconceptions
 - Panelist: Nerdist Science Panel
16. Skeptics Distinguished Science Lecture Series, Caltech, Pasadena, CA, USA. 2014 Oct.
17. UC San Diego Neuroscience Retreat, CA, USA. 2015 May.
18. UC San Diego California Bookstore Day, CA, USA. 2015 May.
19. KPBS: Zombies 101, CA, USA. 2015 Jun.
20. Academic Connections, CA, USA. 2015 Jul.
21. Suds & Science, San Diego, CA, USA. 2015 Oct.
22. Natural History Museum of Los Angeles County, Los Angeles, CA, USA. 2016 Jun.
23. Trevor Day School, New York, NY, USA. 2016 Sep.
24. Suds & Science, San Diego, CA, USA. 2016 Oct.
25. Rueben H. Fleet Science Center Night of Science, San Diego, CA, USA. 2016 Oct.
26. Taste of Science, San Diego, CA, USA. 2016 Apr.
27. UC San Diego Library, San Diego, CA, USA. 2018 Oct.

Selected conference abstracts (post-2014)

1. Noto T & Voytek B. Spectral whitening influences oscillatory dynamics and behavior in humans. Cognitive Neuroscience Society, San Francisco, CA, USA (2015).
2. Cole SR, Peterson EJ, de Hemptinne C, Starr PA, Voytek B. Deep brain stimulation increases motor cortical 1/f noise and decouples high gamma amplitude from beta phase. Society for Neuroscience, Chicago, IL, USA (2015).
3. Gao R & Voytek B. Exploring the neural basis of the electrophysiological power spectrum. Society for Neuroscience, Chicago, IL, USA (2015).
4. Gougelet RJ, Donoghue T, Piper M, Althoff A, Urbach TP, Voytek B. Influencing visual target detection with oscillatory phase-specific stimulus presentation. Society for Neuroscience, Chicago, IL, USA (2015).
5. Noto T, Gao R, Peterson E, Voytek B. Neural network properties can be inferred from electrophysiological power spectral geometry. Society for Neuroscience, Chicago, IL, USA (2015).
6. Peterson E & Voytek B. Spike-field coupling does not imply spike-spike coupling. Society for Neuroscience, Chicago, IL, USA (2015).
7. Tran T, Hoffner N, Voytek B. Oscillatory visual cortical alpha disruptions in age-related working memory impairments. Society for Neuroscience, Chicago, IL, USA (2015).
8. van der Meij R, Bidet-Caulet A, Parvizi J, Crone N, Chang E, Knight RT, Voytek B. Auditory attention modulates frontal and temporal oscillatory dynamics in humans: Evidence from electrocorticography. Society for Neuroscience, Chicago, IL, USA (2015).
9. Donoghue T, Sebastian P, Voytek B. Automated Analysis of Resting State Cortical Oscillatory Characteristics using Magnetoencephalography (MEG). International Conference on Biomagnetism, Seoul, South Korea (2016).
10. Cole SR & Voytek B. Nonsinusoidal oscillatory shape can drive spurious cross-frequency coupling. Society for Neuroscience, San Diego, CA, USA (2016).

11. Donoghue T, Fox W, Kim A, Voytek B. The relation of alpha-phase to visual perception is dependent on attention and location of stimuli. Society for Neuroscience, San Diego, CA, USA (2016).
12. Gao R & Voytek B. Spiking correlates and temporal variability of oscillatory frequency modulation. Society for Neuroscience, San Diego, CA, USA (2016).
13. Gougelet R, Ouyang AC, Patel RD, Wang X, Voytek B. Evaluating high-resolution frequency spectral estimation approaches to real-time frequency modulation neurofeedback. Society for Neuroscience, San Diego, CA, USA (2016).
14. Izhikevich L, Peterson EJ, Voytek B. Neural oscillatory power is not Gaussian distributed across time. Society for Neuroscience, San Diego, CA, USA (2016).
15. Peterson EJ & Voytek B. Gain control across cortical layers can be mediated by balanced oscillatory coupling. Society for Neuroscience, San Diego, CA, USA (2016).
16. Rosen B, Peterson EJ, Campbell AM, Belger A, Voytek B. Spectral 1/f noise differences account for apparent oscillatory band-specific effects in Schizophrenia. Society for Neuroscience, San Diego, CA, USA (2016).
17. Sebastian P, Donoghue T, Noto T, Haxby S, Voytek B. Data mining to generate novel hypotheses for the genetic underpinnings and functional roles of cortical oscillations. Society for Neuroscience, San Diego, CA, USA (2016).
18. van der Meij R, Maris E, Voytek B. Extracting neural networks formed by consistent between-cell spike timing from unit recordings. Society for Neuroscience, San Diego, CA, USA (2016).
19. Samaha J, Sprague TC, Voytek B, Gazzaley A, Postle BR. Preparatory encoding of the location and scope of human spatial attention. Society for Neuroscience, San Diego, CA, USA (2016).
20. Donoghue T & Voytek B. Automated meta-analysis of event-related potentials and their correlates through text-mining. Cognitive Neuroscience Society, San Francisco, CA, USA (2017).
21. Tran T, Gazzaley A, Voytek B. Spatial attention reduces visual cortical 1/f neural noise. Cognitive Neuroscience Society, San Francisco, CA, USA (2017).
22. Gajawelli N, Voytek B, Wang DJJ, Zlokovic B, Toga AW, Law M, Morris J, Benzinger T, Pa J. Power law exponent analysis of the resting state BOLD signal as a potential measure of excitatory-inhibitory balance in Alzheimer's disease. International Society for Magnetic Resonance in Medicine, Honolulu, HI, USA (2017).
23. Holdgraf C, Bouchard KE, Flinker A, Gorgolewski KJ, Gunduz A, Hamilton LS, Knight RT, Perry M, Petridou N, Ramsey NF, Schaefer G, Swann NC, Voytek B, Winawer J, Hermes D. BIDS-iEEG: a data structure for intracranial EEG that facilitates open data and integration with other human imaging methods. Society for Neuroscience, Washington, DC, USA (2017).
24. van der Meij R, Voytek B. Extracting neural networks formed by consistent between-population spike timing from multiunit activity. Society for Neuroscience, Washington, DC, USA (2017).
25. Gao R, Negraes P, Trujillo C, Muotri A, Voytek B. Network oscillations spontaneously emerge in human iPSC-derived cortical organoids. Society for Neuroscience, Washington, DC, USA (2017).

26. Cole S & Voytek B. The waveform shape of hippocampal theta oscillations weakly informs local spiking statistics. Society for Neuroscience, Washington, DC, USA (2017).
27. Peterson E & Voytek B. The tradeoff between oscillatory communication and neural computation. Society for Neuroscience, Washington, DC, USA (2017).
28. Tran T, Itthipuripat S, Serences J, Voytek B. Selective attention reduces trial-by-trial variability in stimulus-evoked EEG activity. Society for Neuroscience, Washington, DC, USA (2017).
29. Liao L, Gao R, Voytek B. Differentiating noise from structure in electrophysiological power spectra via the spectral coefficient of variation. Society for Neuroscience, Washington, DC, USA (2017).
30. Donoghue T & Voytek B. Assessing approaches for estimating the electrophysiological 1/f background spectrum. Society for Neuroscience, Washington, DC, USA (2017).
31. Affan R, Tran T, van der Meij R, Voytek B. 1/f Neural Noise and Theta Oscillation in Frontotemporal Cortical Region during Memory Formation. Annual Biomedical Research Conference for Minority Students, Phoenix, AZ, USA (2017).
32. Donoghue T & Voytek B. Alpha Power and 1/f Slope Provide Independent Decoding of Spatial Attention. Cognitive Neuroscience Society, Boston, MA, USA (2018).
33. Cole S & Voytek B. Brain oscillations and the importance of waveform shape. International Conference on Biomagnetism, Philadelphia, PA, USA (2018).
34. Donoghue T, Sebastian P, Voytek B. Large-Scale Topographical Analysis of Oscillations and 1/f Background Reveals Patterns of Spatial Variation Within and Between Subjects. International Conference on Biomagnetism, Philadelphia, PA, USA (2018).
35. Donoghue T, Sebastian P, Noto T, Haxby S, Voytek B. Integrating human electrophysiology, gene expression, and functional data. INCF Neuroinformatics, Montréal, Canada (2018).
36. Gao R, Liao L, Voytek B. Spectral Power Variation Separates Oscillatory from Non-Oscillatory Stochastic Neural Dynamics. Conference on Cognitive Computational Neuroscience, Philadelphia, PA, USA (2018).
37. Cole S & Voytek B. Characterization of neural oscillations using a cycle-by-cycle approach. Society for Neuroscience, San Diego, CA, USA (2018).
38. Donoghue T, Haller M, Peterson E, Varma P, Sebastian P, Gao R, Noto TJ, Knight RT, Shestyuk A, Voytek B. Parameterizing neural power spectra. Society for Neuroscience, San Diego, CA, USA (2018).
39. Jackson N, Cole SR, Voytek B, Swann NC. Characteristics of beta waveform shape in Parkinson's disease detected with scalp electroencephalography. Society for Neuroscience, San Diego, CA, USA (2018).
40. Mdanda L, Donoghue T, Voytek B. Parameterization of periodic and aperiodic human electrophysiology reveals greater between- than within-subject variability. Society for Neuroscience, San Diego, CA, USA (2018).
41. Yang Y, Cole SR, Gilja V, Voytek B. Neural oscillation symmetry as a novel feature for decoding algorithms in brain-computer interfaces. Society for Neuroscience, San Diego, CA, USA (2018).
42. Gougelet RJ, Miyakoshi M, Voytek B, Makieš S. Oscillatory mechanisms of planning vs. memory. Society for Neuroscience, San Diego, CA, USA (2018).

43. Trujillo CA, Gao R, Negraes P, Chaim IA, Domissy A, Vandenberghe M, Devor A, Yeo GW, Voytek B, Muotri AR. Spontaneous functional network activity in organoids resembles programmed early human brain development. Society for Neuroscience, San Diego, CA, USA (2018).
44. Cain SS, Voytek B, Gentler TQ. Sound texture evoked potentials encode acoustic complexity over time in avian auditory cortex. Society for Neuroscience, San Diego, CA, USA (2018).
45. Tran T & Voytek B. Predicting memory formation using theta oscillations and temporal-frontal oscillatory coupling. Society for Neuroscience, San Diego, CA, USA (2018).
46. Loughnan RJ, Donoghue T, Voytek B, Mukamel EA. Deconvolution of bulk RNA sequencing data to estimate neuron type abundance across human cortical regions. Society for Neuroscience, San Diego, CA, USA (2018).
47. Peterson E & Voytek B. Homeostasis and oscillatory modulation. Society for Neuroscience, San Diego, CA, USA (2018).
48. Robertson MM, Furlong S, Voytek B, Boettiger CA, Sheridan MA. Elevated slope of the EEG power spectrum: a novel biomarker for ADHD in childhood. Cognitive Neuroscience Society, San Francisco, CA, USA (2019).
49. Pasumarthi S, Cole S, Washington A, Voytek B. Evaluation of Neural Oscillation Burst Detection Algorithms. Cognitive Neuroscience Society, San Francisco, CA, USA (2019).
50. Donoghue & Voytek B. WORKSHOP: New methods for analyzing periodic oscillations and aperiodic 1/f in electrophysiology. Cognitive Neuroscience Society, San Francisco, CA, USA (2019).
51. Dominguez J, Donoghue T, Voytek B. Electrophysiological Frequency Band-Ratio Measures Conflate Changes in Periodic and Aperiodic Features. Cognitive Neuroscience Society, San Francisco, CA, USA (2019).
52. Enriquez-Geppert S, Berend S, Dickhut C, Bösterling M, Hieke S, Greve M, Voytek B, Aleman A. A 1/f χ neural noise perspective on age-related changes in cognitive and emotion control. Organization for Human Brain Mapping, Rome, Italy (2019).
53. Waschke L, Donoghue T, Smith S, Voytek B, Obleser J. Aperiodic EEG activity tracks 1/f stimulus characteristics and the allocation of cognitive resources. Conference on Cognitive Computational Neuroscience, Berlin, Germany (2019).
54. Donoghue T, Gao R, Waschke L, Voytek B. A Simulation-Based Comparison of Methods for Analyzing Aperiodic Neural Activity. Conference on Cognitive Computational Neuroscience, Berlin, Germany (2019).
55. Gao R, Christiano D, Donoghue T, Voytek B. The Structure of Cognition Across Computational Cognitive Neuroscience. Conference on Cognitive Computational Neuroscience, Berlin, Germany (2019).
56. Gao R & Voytek B. Hierarchy of cortical population characteristic timescales inferred from field potentials. Society for Neuroscience, Chicago, IL, USA (2019).
57. Tran T & Voytek B. Prefrontal cortical aperiodic activity tracks the number of items held in short-term memory. Society for Neuroscience, Chicago, IL, USA (2019).
58. Smith S & Voytek B. Oscillatory mechanisms of electroconvulsive therapy (ECT) for Major Depressive disorder (MDD). Society for Neuroscience, Chicago, IL, USA (2019).

59. van Engen Q & Voytek B. Dissociating contributions of periodic and aperiodic neural activity in human visual working memory. Society for Neuroscience, Chicago, IL, USA (2019).
60. Waschke L, Donoghue T, Smith S, Voytek B, Obleser J. Tracking of 1/f stimulus characteristics in the human electroencephalogram. Society for Neuroscience, Chicago, IL, USA (2019).
61. Zhang F, Donoghue T, Voytek B. Comparing the effects of pre-stimulus periodic and aperiodic activity on post-stimulus event-related potentials. Society for Neuroscience, Chicago, IL, USA (2019).
62. Hohil A, Gao R, Voytek B. Assessing how periodic oscillation properties influence estimates of aperiodic neural activity. Society for Neuroscience, Chicago, IL, USA (2019).
63. Ghatak S, Dolatabadi N, Gao R, Trudler D, Wu Y, Zhang X, Sultan A, Talantova MV, Amba Sudhan R, Voytek B, Lipton SA. Hyperexcitability in Alzheimer's disease hiPSC derived neurons and cerebral organoids is a result of both increased excitation and decreased inhibition. Society for Neuroscience, Chicago, IL, USA (2019).
64. Farnan T, Donoghue T, Voytek B. Evaluating spectral estimation methods for time-resolved measurement of aperiodic activity. Society for Neuroscience, Chicago, IL, USA (2019).
65. Barry B, Voytek B, Gao R. Relating the power law decay of power and eigenvalue spectra of neural population data. Brain Criticality Virtual Workshop (2020).
66. Barry B, Voytek B, Gao R. Relating the power law decay of power and eigenvalue spectra of neural population data. neuromatch 3.0 (2020).
67. Smith S & Voytek B. Aperiodic activity as a potential clinical indicator in Major Depressive Disorder. Society for Neuroscience, Chicago, IL, USA (2021).
68. Preston MW, Schaworonkow N, Voytek B. Simultaneous stimulus modulation of both oscillations and aperiodic electrophysiological activity in human visual cortex. Society for Neuroscience, Chicago, IL, USA (2021).
69. Bender AS, Schaworonkow N, Voytek B. Quantifying waveform shape of EEG alpha and mu oscillations across development. Society for Neuroscience, Chicago, IL, USA (2021).
70. Hammonds R, Donoghue TD, Voytek B. A combined time- and frequency- domain processing pipeline for parameterizing neural periodic and aperiodic activity. Society for Neuroscience, Chicago, IL, USA (2021).
71. Schaworonkow N, Bender AS, Voytek B. The shape of spectral peaks of EEG alpha-rhythms: Gaussian or not?. Society for Neuroscience, Chicago, IL, USA (2021).
72. Halgren M, Kang R, Voytek B, Ulbert I, Fabo D, Eross LG, Wittner L, Madsen J, Doyle WK, Devinsky O, Halgren E, Harnett MT, Cash SS. The timescale and magnitude of 1/f aperiodic activity decrease with cortical depth in humans, macaques, and mice. Cosyne, Lisbon, Portugal (2022).
73. van Engen Q, Smith S, Kosik E, Voytek B. Both aperiodic activity and slow-oscillatory power increase in patients with treatment-resistant depression after receiving electroconvulsive therapy. Cognitive Neuroscience Society, San Francisco, CA, USA (2022).

74. Bender AS, Schaworonkow N, Voytek B. Quantifying waveform shape of EEG alpha and mu oscillations across development. Cognitive Neuroscience Society, San Francisco, CA, USA (2022).
75. McPherson T, Martin-Burgos B, Hammonds R, Voytek B. Nonlinear development of neuronal timescales in human cortical organoids and rat hippocampus dissociated cultures. Cognitive Neuroscience Society, San Francisco, CA, USA (2022).
76. Barry B, Voytek B, Gao R. Power law scaling of frequency spectrum and eigenspectrum in neural population data. Society for Neuroscience, San Diego, CA, USA (2022).
77. Chapman A, Smith S, Voytek B. Hemispheric differences in aperiodic activity interact with symptom chronicity in Major Depressive Disorder to predict Sertraline treatment response. Society for Neuroscience, San Diego, CA, USA (2022).
78. Kosik E & Voytek B. Asymmetries in the human inspiration/exhalation cycle relate to the nonsinusoidal waveforms of medial temporal lobe oscillations. Society for Neuroscience, San Diego, CA, USA (2022).
79. Preston M, Fei S, Voytek B. Population spike-synchrony contributes to the spectral exponent of aperiodic neural activity. Society for Neuroscience, San Diego, CA, USA (2022).
80. van Engen Q, Smith A, Voytek B. Non-oscillatory aperiodic activity influences theta power and theta phase estimates. Society for Neuroscience, San Diego, CA, USA (2022).
81. Bender A, Schaworonkow N, Voytek B. Age-related changes in alpha and mu oscillation amplitude and waveform asymmetry. Society for Neuroscience, San Diego, CA, USA (2022).
82. Hammonds R, Martin-Burgos B, McPherson T, Gao R, Voytek B. Estimating neuronal timescales. Society for Neuroscience, San Diego, CA, USA (2022).
83. Martin-Burgos B, Chu T, McPherson T, Puppo F, Hammonds R, Muotri A, Voytek B. Neuronal timescales across the lifespan: using human cortical organoids to study neurodevelopment and aging. Society for Neuroscience, San Diego, CA, USA (2022).
84. Donoghue T, Kleen J, Voytek B, Jacobs J. Methodological considerations for examining spectral features in epilepsy. American Epilepsy Society, Nashville, TN, USA (2022).
85. Smith SE, Rigby A, Doelling K, Voytek B. Investigating the mechanisms of precise predictive timing: behavior and intracranial EEG. Cognitive Neuroscience Society, San Francisco, CA, USA (2023).
86. Hammonds R, Martin-Burgos B, McPherson T, Gao R, Voytek B. Estimating Neuronal Timescales in Sleep. Cognitive Neuroscience Society, San Francisco, CA, USA (2023).
87. Preston M, Cellier D, Kosik E, Seyfourian P, Claar L, Marks L, Rembado I, Voytek B. Novel parameterization of event-related potentials: a step towards characterizing the biophysical origins. Society for Neuroscience, Washington, DC, USA (2023).
88. Figueroa S, Preston M, Voytek B. Aperiodic electrophysiological activity tracks spiking statistics between behavioral states. Society for Neuroscience, Washington, DC, USA (2023).
89. Bender AS, Voytek B. Decoding spatial location from aperiodic and alpha oscillatory activity in working memory. Society for Neuroscience, Washington, DC, USA (2023).

90. Smith SE, Doelling K, Voytek B. Investigating the mechanisms of precise predictive timing: simulation and intracranial EEG. Society for Neuroscience, Washington, DC, USA (2023).
91. Van Engen Q, Lu C, Voytek B. Neural complexity measures reflect aperiodic activity. Society for Neuroscience, Washington, DC, USA (2023).
92. Cellier D, van Engen Q, Gao R, Voytek B. Neuronal timescales are dynamic and not intrinsic during human working memory. Society for Neuroscience, Washington, DC, USA (2023).
93. Smith S, Kosik E, Van Engen Q, Hadas I, Soltani M, Voytek B. Spectral parameterization of EEG reveals a plausible biological mechanism for therapeutic effects of seizure-based treatments for depression. IEEE Asilomar Conference on Signals, Systems, and Computers, Asilomar, CA, USA (2023).
94. Bender A, Voytek B. Representations of spatial location by aperiodic and alpha oscillatory activity in working memory. Cognitive Neuroscience Society, Toronto, Canada, USA (2024).
95. Van Engen Q, Garcia A, Voytek B. Aperiodic vs. slow wave activity in rat sleep stages. Cognitive Neuroscience Society, Toronto, Canada, USA (2024).
96. Kosik EL, Voytek B. Waveform shape better explains the relationship between respiration and neural oscillations than cross-frequency coupling. Cognitive Neuroscience Society, Toronto, Canada, USA (2024).
97. Martin-Burgos B, Riviere P, Hammonds R, Voytek B. Not all-or-nothing: intracellular action potential waveform varies systematically with extracellular gamma oscillatory state. Cognitive Neuroscience Society, Toronto, Canada, USA (2024).
98. Cazares C, Hutton A, Voytek B. Cannabidiol treatment induces broadband spectral electrophysiological changes in boys with low-functioning autism spectrum disorder. Society for Neuroscience, Chicago, IL, USA (2024).
99. Cellier D, Riddle J, Voytek B. Neural timescales are dynamic, not intrinsic, and reflect gradations of task abstraction. Society for Neuroscience, Chicago, IL, USA (2024).
100. Fitzgerald M, Kosik E, Voytek B. Assessing electrocardiogram waveform interference in simulated electroencephalogram signals. Society for Neuroscience, Chicago, IL, USA (2024).
101. Hammonds R, Voytek B. Oscillatory eigenvectors. Society for Neuroscience, Chicago, IL, USA (2024).
102. Lee E, Bender A, Voytek B. Distinct time-domain modifications to alpha bursting account for alpha power changes in working memory. Society for Neuroscience, Chicago, IL, USA (2024).
103. Martin-Burgos B, Riviere P, Hammonds R, Juavinett A, Voytek B. Not all-or-nothing: intracellular action potential waveform varies systematically with causal stimulation and extracellular oscillatory state. Society for Neuroscience, Chicago, IL, USA (2024).
104. Ruiz D'Argence A, Preston MW, Voytek B. Stimulus-evoked changes in aperiodic electrophysiological activity in macaque visual cortex. Society for Neuroscience, Chicago, IL, USA (2024).
105. Smith SE, Doelling K, Voytek B. Modeling the independence and convergence of top-down frontal anticipation signals and bottom-up auditory drive in human auditory cortex. Society for Neuroscience, Chicago, IL, USA (2024).

- I06. van Engen Q, Riddle J, Voytek B. Causal role of aperiodic neural activity in human working memory. Society for Neuroscience, Chicago, IL, USA (2024).
- I07. van Engen Q, Cellier D, Hammonds R, Voytek B. Methodological considerations for estimating timescales in electrophysiological data. Society for Neuroscience, Chicago, IL, USA (2024).
- I08. Donoghue T, Voytek B, Jacobs J. Specparam 2.0: spectral parameterization with time-resolved estimates and updated model forms. Society for Neuroscience, Chicago, IL, USA (2024).
- I09. Cellier D, Riddle J, Voytek B. Neural timescales are dynamic, not intrinsic, and reflect gradations of task abstraction. Society for Psychophysiological Research, Prague, Czech Republic. 2024 Oct.
- I10. McSweeney M, Fox NA, Morales S, Wilkinson C, Voytek B, Garcia MA, Campbell AM, Pedapati E, Perez-Edgar K. The use of spectral parameterization to examine the developmental trajectories of periodic and aperiodic neural activity in the infant: A HEALTHY Brain and Child Development (HBCD) pilot data study. The Fetal, Infant, & Toddler Neuroimaging Group, Baltimore, MD, USA (2024).
- I11. Cazares C, Estrada A, Voytek B. Divergent aging trajectories of aperiodic neural activity between neurotypical adults and those with autism spectrum disorder. Cognitive Neuroscience Society, Boston, MA, USA (2025).
- I12. Freedland G, van Engen Q, Riddle J, Voytek B. Using electrical stimulation to test the causal role of Aperiodic activity in working memory. Cognitive Neuroscience Society, Boston, MA, USA (2025).
- I13. Dance O, Cellier D, Voytek B. Timescale changes across neurodevelopment utilizing the ACF. Cognitive Neuroscience Society, Boston, MA, USA (2025).
- I14. Cellier D, van Engen Q, Voytek B. Aperiodic correction for analyses of event-related oscillations. Society for Psychophysiological Research, Montreal, Canada (2025).
- I15. Trajano da Silva LR, Rocha MSH, Nasuto S, Voytek B, Godinho F, Soriano DC. Subthalamic LFP spectral decay captures movement-related differences between Parkinson's disease phenotypes. Organization For Computational Neurosciences meeting, Florence, Italy (2025).

Rejections and failures highlights

Academic and professional

- University of Southern California: academic probation, loss of scholarships, ejected from the university due to low GPA (successfully appealed re-admission), 2000
- Applied to neuroscience PhD programs at UC Berkeley, UC Irvine, UCLA, UC San Diego, and UC San Francisco; rejected with no interviews, except Berkeley, 2004
- Applied to two faculty jobs in 2010 and three in 2012; received one offer

Scientific peer-review

- Voytek et al. (2010), Neuron: rejected from 3 journals and twice from Neuron
- Voytek & Voytek (2012), J Neurosci Methods: rejected from 13 journals
- Voytek et al. (2015), J Neurosci: rejected from 3 journals and once from J Neurosci
- Tran et al. (2016), NeuroImage: rejected from 3 journals

- Cole et al. (2017), J Neurosci: rejected from 2 journals and once from J Neurosci
- Gao et al. (2017), NeuroImage: rejected from 6 journals
- Cole & Voytek (2019), J Neurophysiol: rejected from 3 journals
- Trujillo et al. (2019), Cell Stem Cell: rejected from 3 journals
- Gao et al. (2020), eLife: rejected from 5 journals
- Smith et al. (2023), Transl Psychiatry: rejected by editor after being tentatively accepted
- Smith et al. (2023), Transl Psychiatry: rejected by editor after being tentatively accepted

Awards & grants

- University of California Berkeley: Teaching Effectiveness Award, not awarded 2005
- National Science Foundation: Graduate Research Fellowship, not awarded 2004, 2005
- University of California President's Postdoctoral Fellowship Program: not awarded 2010
- Glushko Dissertation Prize: nominated 2010; not awarded
- Branco Weiss Fellowship: not awarded 2011
- AAAS Early Career Award for Public Engagement with Science: nominated 2011, 2013; not awarded
- American Federation for Aging Research Grants for Junior Faculty: not awarded 2014, 2015
- Simons Foundation Global Brain: not awarded 2014
- Gordon & Betty Moore Foundation Data-Driven Discovery Investigator: not awarded 2014
- UC Multicampus Research Programs and Initiatives: not awarded 2014
- Searle Scholars Program application denied, 2014; advanced but denied, 2015
- Rita Allen Scholars Award: not awarded 2016
- McKnight Memory and Cognitive Disorders Award: not awarded 2015, 2016, 2017
- Klingenstein-Simons Fellowship Award in the Neurosciences: not awarded 2015, 2016, 2017
- Pew Biomedical Scholars Award: not awarded 2016
- Blavatnik National Awards for Young Scientists: not awarded 2016, 2018
- Brain & Behavior Research Foundation (NARSAD) Award: not awarded 2016, 2017
- NSF CAREER Award: not awarded 2016, 2017
- Office of Naval Research Multidisciplinary University Research Initiative (MURI), Neural Basis of Symbolic Processing: not awarded 2016
- NIH Director's New Innovator Award Program (DP2): not awarded 2016
- Packard Fellowships for Science and Engineering: not awarded 2016
- UC San Diego Hellman Fellowship Program: not awarded 2016, 2017
- UC San Diego Faculty Career Development Program: not awarded 2016, 2017
- Whitehall Foundation: not awarded 2016
- Dana Foundation David Mahoney Neuroimaging Program: not awarded 2016
- INCF Seed Funding: not awarded 2016
- McKnight Scholar Award: not awarded 2017
- NIMH R01: not awarded 2016; revised and denied 2017
- NIMH R24: not awarded 2018

- NIMH R01: not awarded 2018
- Keck Foundation Science and Engineering Research Program: not awarded 2018
- Chan Zuckerberg Initiative Ben Barres Early Career Acceleration Award: not awarded 2018
- NSF Harnessing the Data Revolution: Data Science Corps grant: not awarded 2019, 2021
- NYSCF Innovator Awards in Neuroscience program: not awarded 2019
- Mahoney Institute for Neurosciences at the University of Pennsylvania RisingStar Award in Brain Science Technology: not awarded 2020
- Chan Zuckerberg Inflammation grant: not awarded 2020
- James S. McDonnell Foundation Understanding Human Cognition grant: not awarded 2020
- McKnight Technological Innovations in Neuroscience Award: not awarded 2021
- American Federation for Aging Research Glenn Foundation for Medical Research Breakthroughs in Gerontology (BIG) Award: not awarded 2021
- NSF grant: not awarded 2021
- NINDS U19: not awarded 2021
- I907 Foundation Trailblazer Award: not awarded 2021
- Simons Collaboration on Plasticity and the Aging Brain grant: not awarded 2022
- NIMH R01: not awarded 2022, 2023, 2023
- NIH Director's Pioneer Award Program (DPI): not awarded 2023, 2025
- NHLBI R21: not awarded 2023
- NINDS Champions of Rigor Prize: not awarded 2024
- Chan Zuckerberg Initiative Essential Open Source Software for Science: not awarded 2019, 2022, 2024
- NINDS R01: not awarded 2024
- Keck Foundation Science and Engineering Research Program: not awarded 2024

Very Important Metrics

Erdős–Bacon number = 7 ([link](#))

Erdős number = 4

1. Ronald Graham (Erdős 1) and Paul Erdős. Old and new problems and results in combinatorial number theory (1980).
2. Fan R. K. Chung, Ronald Graham, Shing Tung Yau (Erdős 2). On sampling with Markov chains. *Random Structures & Algorithms*, 9, 55-77 (1996).
3. Wang YL, Gu X, Hayashi KM, Chan TF, Thompson PM (Erdős 3), Yau ST. Brain surface parameterization using Riemann surface structure. *International Conference on Medical Image Computing and Computer-Assisted Intervention* (2005).
4. London ED, Berman SM, **Voytek B** (Erdős 4), Simon SL, Mandelkern MA, Monterosso J, Thompson PM, Brody AL, Geaga JA, Hong MS, Hayashi KM, Rawson RA, Ling W. Cerebral metabolic dysfunction and impaired vigilance in recently abstinent methamphetamine abusers. *Biol Psychiatry* 58, 770-778 (2005).

Bacon number = 3

1. Tom Savini (Bacon 1) with Kevin Bacon, Friday the 13th (1980)
2. Max Brooks (Bacon 2) with Tom Savini, Doc of the Dead (2014)
3. Bradley Voytek (Bacon 3) with Max Brooks, Zombies: The Truth (2010)