

# BRADLEY VOYTEK, Ph.D.

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## EDUCATION

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- 2010 May Neuroscience (PhD), University of California, Berkeley  
*Advisor:* Robert T. Knight  
*Dissertation:* "Frontal and Basal Ganglia Contributions to Working Memory and Attention"  
*Committee:* Richard B. Ivry, Michael Silver, Stephen Hinshaw
- 2002 May Psychology (BA), University of Southern California

## EMPLOYMENT

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### Academic:

- 2017 Founding Faculty, Data Science Major and Halicioglu Institute of Data Science, University of California, San Diego
- 2014 – current Assistant Professor, University of California, San Diego  
Department of Cognitive Science  
Neurosciences Graduate Program  
Institute for Neural Computation
- 2011 – 2014 Post-doctoral Fellow (NIH/NIGMS fellowship)  
PI: Adam Gazzaley, University of California, San Francisco
- 2010 – 2011 Post-doctoral Researcher  
PI: Mark D'Esposito, University of California, Berkeley
- 2004 – 2010 Graduate Student Researcher  
PI: Robert T. Knight, University of California, Berkeley
- 2002 – 2004 Staff Research Associate II  
PI: Edythe D. London, University of California, Los Angeles
- 2000 – 2002 Undergraduate Research Assistant  
PI: Adrian Raine, University of Southern California

**Professional:** *The National Academy of Sciences - Science & Entertainment Exchange*, Consultant; *Beyond Academia*, Advisor (former); *Kyron*, Scientific Advisor (former); *Science*

*for Everyone Everywhere* (501(c)(3) non-profit education organization;  
(dissolved), President & Co-founder

## ACADEMIC MENTORING

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### Mentee Awards/Grants:

#### Graduate Students:

- Scott Cole, *NSF Graduate Research Fellowship*
- Scott Cole, *UCSD Frontiers of Innovation Scholars Program*
- Richard Gao, *UCSD Frontiers of Innovation Scholars Program*
- Richard Gao, *Natural Sciences & Engineering Research Council of Canada Postgraduate Scholarship-Doctoral*
- Richard Gao, *Computational and Systems Neuroscience (Cosyne) New Attendee Travel Award*
- Robert Gougelet, *UCSD Summer Graduate Teaching Scholarship*
- Tam Tran, *Kavli Institute for Brain and Mind Innovative Research Grant*
- Tam Tran, *UCSD Achievement Rewards for College Scientists*
- Tom Donoghue, *Cognitive Neuroscience Society Graduate Student Award*

#### Undergraduates:

- Erin D. Cole, *UCSD Science and Engineering Undergraduate Research Scholarship*
- Liz Izhikevich, *UCSD Warren College Undergraduate Research Scholarship*
- Liz Izhikevich, *UCSD Ledell Endowed Research Scholarship for Science and Engineering*
- Priyadarshini Sebastian, *UCSD Frontiers of Innovation Scholars Program*

### Post-doctoral Fellows:

2014 – 2017 Erik Peterson (*UC San Diego*)

- Current: Senior Computational Neuroscientist, *Kernel*

2015 – *current* Roemer van der Meij (*UC San Diego*)

### Ph.D. Students:

2014 – *current* Thomas Donoghue, Cognitive Science (*UC San Diego*)

2014 – *current* Richard Gao, Cognitive Science (*UC San Diego*)

2015 – *current* Robert Gougelet, Cognitive Science (*UC San Diego*)

2015 – *current* Scott Cole, Neuroscience (*UC San Diego*)

2015 – *current* Tammy Tran, Neuroscience (*UC San Diego*)

2016 – *current* Tunmise Olayinka, Neuroscience (*UC San Diego*)

### M.S. Students:

2015 Anwaya Aras, Computer Science (*UC San Diego*)

- Thesis: Algorithmic mining of neural-genetic functional relationships
- Current: Software engineer, *Uber, Inc.*

### Laboratory Employees:

2014 – 2016 Torben Noto, Lab Manager

- Current: Neurosciences PhD student, *Northwestern University*

### Ph.D. Dissertation:

- 2015 – 2017 Marybel Gonzalez (Prof. Terry Jernigan - *UC San Diego, Cognitive Science*)  
 2015 – 2017 Akinyinka Omigbodun (Prof. Vikash Gilja - *UC San Diego, Electrical & Computer Engineering*)  
 2015 – 2017 Adriana de Pestors (Prof. Gerwin Schalk - *National Center for Adaptive Neurotechnologies Wadsworth Center*)  
 2014 – 2017 Mary E. Smith (Prof. John Serences - *UC San Diego, Psychology*)  
 2015 – current Erik Kaestner (Prof. Eric Halgren - *UC San Diego, Neuroscience*)  
  
 2015 – current Xi Jiang (Prof. Eric Halgren - *UC San Diego, Neuroscience*)  
  
 2015 – current Vladimir Jovanovic (Prof. Cory Miller - *UC San Diego, Neuroscience*)  
 2016 – current Matthew Piper (Prof. Rick Grush - *UC San Diego, Philosophy*)  
 2016 – current Thomas Gillespie (Prof. Maryann Martone - *UC San Diego, Neuroscience*)  
 2016 – current Adam Rule (Prof. Jim Hollan - *UC San Diego, Cognitive Science*)  
 2017 – current Ladan Moheimanian (Prof. Gerwin Schalk - *National Center for Adaptive Neurotechnologies Wadsworth Center*)

**Ph.D. Rotation Students:**

- 2015 Nicole Hoffner (*UC San Diego, Neuroscience*)  
 2015 Eric Leonardis (*UC San Diego, Cognitive Science*)  
 2016 Burke Rosen (*UC San Diego, Neuroscience*)  
 2016 Christian Cazares (*UC San Diego, Neuroscience*)  
 2016 Pamela Riviere (*UC San Diego, Cognitive Science*)  
 2016 Ryan Golden (*UC San Diego, Neuroscience*)  
 2016 Gina D'Andrea-Penna (*UC San Diego, Neuroscience*)  
 2017 Robert Loughnan (*UC San Diego, Cognitive Science*)

**Undergraduate Students:**

- 2017 – current Tanner Turner (*UC San Diego, Applied Mathematics*)  
 2017 – current Andrew Washington (*UC San Diego, Cognitive Science/Machine Learning*)  
 2016 – current Luyanda Mdanda (*UC San Diego, Cognitive Science/Machine Learning*)  
 2016 – current Lauren Liao (*UC San Diego, Probability and Statistics*)  
 2016 – current Priyadarshini Sebastian (*UC San Diego, Applied Mathematics and Cognitive Science*)  
 2016 – current Yimeng Yang (*UC San Diego, Computer Science and Engineering*)  
 2015 – current Erin D. Cole (*UC San Diego, Computer Science and Engineering*)  
 2015 – current Simon Haxby (*UC San Diego, Applied Mathematics*)  
 2015 – current Liz Izhikevich (*UC San Diego, Computer Science and Engineering*)  
 2007 – 2009 Sara LaHue (*UC Berkeley, Neurobiology Honors Student*)  
 2008 – 2009 Lisa Tseng (*UC Berkeley, Neurobiology*)

**Summer Research Students:**

- 2015 Scott Susi (*UC San Diego Summer Training Academy for Research Success (STARS)*)  
 2017 Rifqi Affan (*NIH Maximizing Access to Research Careers (MARC)*)

**ACADEMIC SERVICE**

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- 2017 - current UC San Diego, Halicioglu Institute for Data Science: Founding faculty and Advisory Board

- 2017 – 2018 *National Academy of Sciences Kavli Frontiers of Science (KFoS) symposium*:  
Organizing Committee Chair
- 2016 – current *UC San Diego, Data Science undergraduate major*: Founding Faculty
- 2016 – current *Kavli Institute for Brain and Mind*: Advisory Board
- 2016 – current *Neurosciences Graduate Program*: Diversity Committee Chair
- 2015 – 2017 *National Academy of Sciences Kavli Frontiers of Science (KFoS) symposium*:  
Organizing member
- 2015 *UC San Diego, Department of Cognitive Science*: Graduate admissions committee
- 2015 – current *UC San Diego, Data Science Student Society (DS3)*: Faculty Representative
- 2015 – 2017 *UC San Diego, John Muir College*: Academic Senate Representative (elected)
- 2015 *NIH/CSHL Banbury Meeting, Brain Rhythms as Potential Targets for Intervention in Cognitive Dysfunctions*
- 2014 – 2016 *UC San Diego, Neurosciences Graduate Program*: Diversity Representative
- 2014 – 2017 *UC San Diego, Cognitive Science Student Association*: Faculty Representative
- 2014 – 2017 *UC San Diego, Department of Cognitive Science Faculty*: Diversity Representative
- 2006 – 2007 *UC Berkeley*: Graduate Assembly Delegate
- 2006 – 2007 *UC Berkeley*: on Educational Policy Representative
- 2006 – 2007 *UC Berkeley Graduate Assembly Executive Board*: Technology Chair

## HONORS, AWARDS, & INVITED EVENTS

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- 2016 *Computational and Systems Neuroscience (Cosyne)*: New Attendee Travel Award
- 2015 *National Academy of Sciences*: Kavli Fellow
- 2015 *Foo Camp attendee*: Invitation-only conference by *O'Reilly Media*
- 2015 *Alfred P. Sloan Research Fellow in Neuroscience*
- 2014 *Foo Camp attendee*: Invitation-only conference by *O'Reilly Media*
- 2013 *University of California*: President's Postdoctoral Fellowship Program
- 2012 *Foo Camp attendee*: Invitation-only conference by *O'Reilly Media*
- 2012 *AAAS*: Finalist - Early Career Award for Public Engagement with Science
- 2011 *Forbes* “Edge Thinker” ([link](#))
- 2011 *SciFoo attendee*: Invitation-only conference by *Nature Publishing Group, Google, Inc., and O'Reilly Media*
- 2009 *Society for Neuroscience*: Neuroscience Scholars Program  
Three-year professional development fellowship
- 2009 *AAAS/Science*: Program for Excellence in Science  
Honorary student membership to the American Association for the Advancement of Science
- 2007 *University of California, Berkeley*: Course Improvement Grant  
Awarded funding to enhance learning • Integrative Biology 245L: Functional Neuroanatomy
- 2005 *University of California, Berkeley*: Outstanding Graduate Student Instructor  
University teaching award • Molecular & Cell Biology 163: Mammalian Neuroanatomy
- 2004 *American Psychological Association*: Diversity Program in Neuroscience  
3-year graduate research fellowship
- 1998 *University of Southern California*: Presidential Scholarship
- 1998 *University of Southern California*: Thematic Option Program (alumnus)  
Honors general education program

- 1998 *University of Southern California: Resident Honors Program*  
Early college admittance program
- 1998 *University of Southern California Undergraduate: Physics scholarship*
- 1998 *Hewlett Packard Outstanding Scholarship*

## GRANTS & FUNDING

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- 2008 – 2010 *National Institute of Neurological Disorders and Stroke, NIH. Diversity Supplement to NS021135: Attention, Orientation and Human Prefrontal Cortex, \$122,988.*  
(Graduate student researcher; PI: R.T. Knight)
- 2011 – 2014 *National Institute of General Medical Sciences, NIH. Institutional Research and Career Development Award (IRACDA) Scholars in Science (ISIS), ~\$300,000*  
(four years salary and benefits, plus research and travel costs). (Mentor: A. Gazzaley)
- 2012 *University of California, San Francisco. Information Technology Innovation Contest: Disseminating UCSF Research & Connecting with Disease Communities via Social Media Automation, \$10,000*
- 2012 *The Feldman Family Foundation, \$15,000* (Post-doctoral researcher; PI: A. Gazzaley)
- 2014 *UCSD Qualcomm Institute (QI), California Institute for Telecommunications and Information Technology (Calit2) Strategic Research Opportunities (CSRO) program, \$50,000*
- 2015 *Frontiers of Innovation Scholars Program (FISP), \$25,000*
- 2015 *NIMH R01 MH095984-03S1, Revision Application (formerly "Supplement") 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, \$10,000* (Mentor; PI: M. Soltani)
- 2015 *Kavli Institute for Brain and Mind Innovative Research Grant, Finding parallels: the role of the subiculum in neural encoding of object-environment alignment, \$50,000* (Co-Investigator; PI: D. Nitz and J. Olson)
- 2015 *Alfred P. Sloan Research Fellow in Neuroscience, \$50,000*
- 2016 *Kavli Institute for Brain and Mind Innovative Research Grant, Systems- and Synaptic-Level Overcoupling in Major Depressive Disorder, \$50,000* (Co-Investigator; PI: T. Tran)
- 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, \$50,000* (Co-Investigator; PI: T. Olayinka)
- 2017 – 2020 *National Science Foundation BCS COGNEURO 1736028: Oscillatory phase dynamics coordinate cognitive neural networks, \$471,777* (total). (Sole-PI: B. Voytek)
- 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, \$498,751* (total). (Role: Co-PI; PI: James Hollan; Co-PIs: Philip Guo, Scott Klemmer)

## PEER-REVIEWED PUBLICATIONS

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1. Bauer M, London ED, Rasgon N, Berman SM, Frye MA, Altshuler LL, Mandelkern MA, Bramen J, **Voytek B**, Woods R, Mazziotta JC, Whybrow PC. Supraphysiological doses of levothyroxine alter regional cerebral metabolism and improve mood in bipolar depression. *Mol Psychiatry* 10(5): 456-469. 2005.
2. **Voytek B**, Berman SM, Hassid BD, Simon SL, Mandelkern MA, Brody AL, Ling W, London ED. Differences in regional brain metabolism associated with marijuana abuse in methamphetamine abusers. *Synapse* 57(2): 113-115. 2005.
3. London ED, Berman SM, **Voytek B**, 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(10): 770-778. 2005.
4. **Voytek B**. Emergent basal ganglia pathology within computational models. *J Neurosci* 26(28): 7317-7318. 2006.
5. Berman SM, **Voytek B**, Mandelkern MA, Hassid BD, Isaacson A, Monterosso JR, Miotto K, Ling W, London ED. Changes in cerebral glucose metabolism during early abstinence from chronic methamphetamine abuse. *Mol Psychiatry* 13(9): 897-908. 2008.
6. Bauer M, Berman SM, Schlagenhaut F, **Voytek B**, Rasgon N, Mandelkern MA, Whybrow PC, London ED. Regional cerebral glucose metabolism and anxiety symptoms in bipolar depression: Effects of levothyroxine. *Psychiatry Res* 181(1): 71-76. 2009.
7. **Voytek B**, Secundo L, Bidet-Caulet A, Scabini D, Stiver S, Gean AD, Manley G, Knight RT. Hemicraniectomy: A new model for human electrophysiology with high spatio-temporal resolution. *J Cogn Neurosci* 22(11): 2491-2502. 2010.  
**Media:** *Wired* ([link](#)); *MindHacks* ([link](#))
8. **Voytek B** & Knight RT. Prefrontal cortex and basal ganglia contributions to visual working memory. *Proc Natl Acad Sci USA* 107(42): 18167-18172. 2010.  
**Media:** UC Berkeley press release ([link](#))
9. **Voytek B**, Canolty RT, Shestyuk A, Crone NE, Parvizi J, Knight RT. Shifts in gamma phase-amplitude coupling frequency from theta to alpha over posterior cortex during visual tasks. *Front Hum Neurosci* 4(191): 2010.  
\* Promoted to 2<sup>nd</sup> tier to *Frontiers in Neuroscience* due to high impact.
10. **Voytek B**, Davis M, Yago E, Barceló F, Vogel EK, Knight RT. Dynamic neuroplasticity after human prefrontal cortex damage. *Neuron* 68(3): 401-408. 2010.  
**Media:** Faculty of 1000 ([link](#)); CBS News ([link](#)); The Washington Post ([link](#)); UC Berkeley press release ([link](#))
11. Løvstad M, Funderud I, Lindgren M, Endestad T, Due-Tønnessen P, Meling T, **Voytek B**, Knight RT, Solbakk AK. Contribution of subregions of human frontal cortex to novelty processing. *J Cogn Neurosci* 24(2): 378-395. 2012.
12. **Voytek B\***, Soltani M\*, Pickard N, Kishiyama MM, Knight RT. Prefrontal cortex lesions impair object-spatial integration. *PLOS ONE* 7(4): e34937. 2012.  
\* these authors contributed equally

13. Voytek JB, **Voytek B**. Automated cognome construction and semi-automated hypothesis generation. *J Neurosci Methods* 208(1): 92-100. 2012.  
**Media:** *Forbes* ([link](#)); *Wired* ([link](#)); *Scientific American* ([link](#)); *MindHacks* ([link](#)); *The Economist* ([link](#))
14. Løvstad M, Funderud I, Meling T, Krämer UM, **Voytek B**, Due-Tønnessen P, Endestad T, Lindgren M, Knight RT, Solbakk AK. Anterior cingulate cortex and cognitive control: Neuropsychological and electrophysiological findings in two patients with lesions to dorsomedial prefrontal cortex. *Brain Cognit* 80(2): 237-249. 2012.
15. Funderud I, Lindgren M, Løvstad M, Endestad T, **Voytek B**, Knight RT, Solbakk AK. Differential Go/NoGo activity in both contingent negative variation and spectral power. *PLoS ONE* 7(10): e48504. 2012.
16. Ritaccio A, Beauchamp M, Bosman C, Brunner P, Chang E, Crone N, Gunduz A, Gupta D, Knight R, Leuthardt E, Litt B, Moran D, Ojemann J, Parvizi J, Ramsey N, Rieger J, Viventi J, **Voytek B**, Williams J, Schalk G. Proceedings of the third international workshop on advances in electrocorticography. *Epilepsy Behav* 25(4): 605-613. 2012.
17. **Voytek B**, Gazzaley A. Stimulating the aging brain. *Ann Neurol* 73(1): 1-3 (editorial). 2013.
18. **Voytek B**, D'Esposito M, Crone NE, Knight RT. A method for event-related phase/amplitude coupling. *NeuroImage* 64: 416-424. 2013.
19. Rolle CE, **Voytek B**, Gazzaley A. Exploring the potential of the iPad and Xbox Kinect for cognitive science research. *Games Health J* 4(3): 221-224. 2015.
20. **Voytek B** & Knight RT. Dynamic network communication as a unifying neural basis for cognition, development, aging, and disease. *Biological Psychiatry* 77(12): 1089-1097. 2015.  
**Media:** *Forbes* ([link](#))
21. **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 Neuroscience* 18(9): 1318-1324. 2015.  
**Media:** *Berkeley press release* ([link](#))
22. **Voytek B**, Kramer MA, Case J, Lepage KQ, Tempesta ZR, Knight RT, Gazzaley A. age-related changes in 1/f neural electrophysiological noise. *Journal of Neuroscience*, 35(38): 13257-13265. 2015.  
**Media:** *UCSF press release* ([link](#))
23. **Voytek B**. The virtuous cycle of a data ecosystem. *PLoS Computational Biology* 12(8): 1-6. 2016.
24. 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.
25. Cole SR & **Voytek B**. Brain oscillations and the importance of waveform shape. *Trends Cogn Sci* 21(2): 137-149. 2017.

26. 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(18): 4830-4840. 2017.
27. **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(7): 1302-1310. 2017.
28. Rolle CE, Anguera JA, Skinner SN, **Voytek B**, Gazzaley A. Enhancing spatial attention abilities in younger and older adults. *J Cogn Neurosci* (in press).
29. Gao RD, Peterson EJ, **Voytek B**. Inferring synaptic excitation/inhibition balance from field potentials. *NeuroImage* (in press).

## **PRE-PRINTED PUBLICATIONS UNDER REVIEW**

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1. Peterson EJ, **Voytek B**. Balanced oscillatory coupling improves information flow. bioRxiv ([preprint](#)), currently in revision at a peer-reviewed journal.
2. Peterson EJ, Rosen BQ, Campbell AM, Belger A, **Voytek B**. 1/f neural noise is a better predictor of schizophrenia than neural oscillations. bioRxiv ([preprint](#)), currently under review at a peer-reviewed journal.

## **PEER-REVIEWED CONFERENCE PROCEEDINGS**

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1. Gao R & **Voytek B** (2016). Inferring excitatory and inhibitory synaptic parameters from the local field potential. *Computational and Systems Neuroscience (Cosyne)*.
2. Gao R, Donoghue T, **Voytek B** (2017). Automated Generation of Cognitive Ontology via Web Text-Mining. *Proceedings of the 39th Annual Conference of the Cognitive Science Society*.

## **ACADEMIC BOOKS & BOOK CHAPTERS**

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1. **Voytek B** & Knight RT (2010). 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.
2. Cohen MX & **Voytek B** (2013). 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.
3. Verstynen T & **Voytek B** (2014). *Do Zombies Dream of Undead Sheep? A Neuroscientific View of the Zombie Brain*: Princeton University Press.
  - **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](#)).

## TEACHING

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### Faculty Instructor

- COGS 9: Introduction to Data Science, *UC San Diego*, Fall 2014  
Overall Student Recommendation: **Course (100%), Instructor (100%)**  
Student enrollment: 24
- COGS 3: Introduction to Computation, *UC San Diego*, Spring 2015  
TA: Thomas Donoghue  
Overall Student Recommendation: **Course (95%), Instructor (92%)**  
Student enrollment: 85
- COGS 260 / NEU 221: Neural Oscillations, *UC San Diego*, Spring 2015
- COGS 9: Introduction to Data Science, *UC San Diego*, Fall 2015  
TA: Thomas Donoghue  
Overall Student Recommendation: **Course (100%), Instructor (100%)**  
Student enrollment: 48
- COGS 1: Introduction to Cognitive Science, *UC San Diego*, Fall 2015  
TAs: Eunice Lim, Arthur Semenyuk  
Student enrollment: 333  
Overall Student Recommendation: **Course (91%), Instructor (97%)**
- NEU 221: Communicating Science, *UC San Diego*, Fall 2015
- COGS 260 : Neural Oscillations, *UC San Diego*, Spring 2016
- COGS 9: Introduction to Data Science, *UC San Diego*, Spring 2016  
TA: Robert Gougelet  
Overall Student Recommendation: **Course (97%), Instructor (97%)**  
Student enrollment: 99
- COGS 1: Introduction to Cognitive Science, *UC San Diego*, Fall 2016  
TAs: Richard Gao, Reina Mizrahi, Eric Morgan  
Overall Student Recommendation: **Course (94%), Instructor (96%)**  
Student enrollment: 480
- COGS 9: Introduction to Data Science, *UC San Diego*, Fall 2016  
TAs: Lauren Curley, Sakshi Gupta  
Overall Student Recommendation: **Course (88%), Instructor (97%)**  
Student enrollment: 243
- COGS 108: Data Science in Practice, *UC San Diego*, Spring 2017  
TAs: Thomas Donoghue, Harshita Mangal, Larry Muhlstein  
Overall Student Recommendation: **Course (87%), Instructor (94%)**  
Student enrollment: 401

### Development

- Spring Semester Teaching Workshop Series (NIH-IRACDA, UCSF/SFSU program)

### Graduate Student Instructor

- Marion Diamond, IB 245: Func Neuroanatomy, *UC Berkeley* 2008  
**Overall Student Evaluation: 6.94/7.00**

- Marion Diamond, IB 245: Func Neuroanatomy, *UC Berkeley* 2007  
**Overall Student Evaluation: 6.80/7.00**
- Jeffrey Winer, MCB 163: Mamm Neuroanatomy, *UC Berkeley* 2005  
**Overall Student Evaluation: 6.65/7.00**

## ACADEMIC ACTIVITIES

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### Scientific Tools

**brainSCANr** ([link](#))

- The Brain Systems, Connections, Associations, and Network Relationship engine. Search tool to visually examine the relationships between brain regions, functions, and diseases.

### Grant Review Service

United States: NSF CAREER

International: The Netherlands Organisation for Scientific Research (NWO, the Dutch Research Council) Vici programme external reviewer; Israel Science Foundation (ISF)

Non-profit: John Templeton Foundation

### Editorial Service

Peer-review: *Annals of Neurology; Biological Psychiatry; Brain; Brain and Cognition; Brain Research; Cerebral Cortex; Cognitive, Affective, and Behavioral Neuroscience; eLife; eNeuro; European Journal of Neuroscience; Frontiers in Computational Neuroscience; Frontiers in Human Neuroscience; Human Brain Mapping; Journal of Cognitive Neuroscience; Journal of Neurophysiology; Journal of Neuroscience; Journal of Neuroscience Methods; Nature; Nature Communications; Nature Neuroscience; Neural Computation; Neurobiology of Aging; NeuroImage; Neuron; Neurology; Neuroscience Letters; PLoS Computational Biology; PLOS ONE; PLOS Computational Biology; The Proceedings of the National Academy of Sciences USA; Trends in Neurosciences*

Book review: *John Wiley & Sons; MIT Press*

### Membership

- American Association for the Advancement of Science (AAAS), 2009 – current
- Society for Neuroscience (SfN), 2004 – current
- Association for Psychological Science (APS), 2013 – current
- Cognitive Neuroscience Society (CNS), 2012 – current

### Service

- *San Francisco Bay Area Society for Neuroscience Chapter*: Organizer, Brain Awareness Week, 2006
- *Society for Neuroscience*: Invited Panelist, Careers Beyond the Bench, 2013
- *Society for Neuroscience*: Invited Panelist, Exploring New Communications Channels: Science Blogging, 2015
- *Society for Neuroscience*: Invited Panelist, Professional Development Workshop: A Practical Guide to Science Communication, 2017

## MEDIA COVERAGE

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### 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. *The Huffington Post*, Neuroscience on Twitter: 30 High-Profile Scientists who Tweet, 2012 Jun. ([link](#))
2. *Chicago Tribune*, Feel like you're faking it? That might not be a bad thing, 2012 Jul. ([link](#))
3. *Wired*, Pseudoscience Saps the Power of the TEDx Brand, 2012 Dec. ([link](#))
4. *Inc Magazine*, When Passion for Work Is a Bad Thing, 2014 Mar. ([link](#))
5. *FastCompany*, How to Stop Feeling Like a Fraud, 2014 Mar. ([link](#))
6. *Nature*, Laboratory careers: Catalysts for efficient science, 2014 Jun. ([link](#))
7. *livescience*, Scientists' Resolutions for 2015, 2014 Dec. ([link](#))
8. *Del Mar Times*, Scientist's words resonate with Torrey Pines High students: Listen to, support each other, 2015 Mar. ([link](#))

### Neuroscience

1. *The New York Times*, In Pursuit of a Mind Map, Slice by Slice, 2010 Dec. ([link](#))
2. *The Washington Post*, Brain Trauma and Rehabilitation, 2011 Jan. ([link](#))
3. *Forbes*, Why Uber's Data Fascinates a Neuroscientist, 2012 Mar. ([link](#))
4. *Forbes*, The Story Of A Neuroscientist, A Car Service And Location Data, 2012 Mar. ([link](#))
5. *Big Picture Science*, Wired for Thought, 2012 Jan. ([link](#))
6. *Forbes*, Do Liars Really Have Different Brains?, 2012 Jun. ([link](#))
7. *Vice Magazine*, Blinking Prosthetics and a Better Robocop: Neural Interfacing Tech Is Booming, 2012 Oct. ([link](#))
8. *ScienceNews*, Global neuro lab, 2013 Nov. ([link](#))
9. *Discover*, What's on Your Mind?, 2014 Mar.
10. *Business Insider*, Why We're Constantly Losing Brain Cells, 2014 Mar. ([link](#))
11. *The Atlantic*, Things You Cannot Unsee (And What That Says About Your Brain), 2014 May. ([link](#))
12. *The New York Times*, Clues to How an Electric Treatment for Parkinson's Works, 2015 Apr. ([link](#))
13. *Wired*, Bradley Voytek on Oliver Sacks' "Soft Thinking", 2015 Sep. ([link](#))
14. *Gizmodo*, New Study Casts More Doubt on Notion of the Brain's 'Pain Matrix', 2016 Apr. ([link](#))
15. *The New York Times*, 'Pacemaker' for the Brain Can Help Memory, Study Finds, 2017 Apr. ([link](#))

### Data Science

1. *Forbes*, Neuroscientist Bradley Voytek is Bringing the Silicon Valley Ethos into Academia, 2011 Oct. ([link](#))
1. *Strata*, Why Uber's Data Fascinates a Neuroscientist, 2012 Mar. ([link](#))
2. *Reuters*, Chart of the day, party neighborhood edition, 2012 Sep. ([link](#))
3. *Mountain View Voice*, In data analysis, details matter, 2013 Mar. ([link](#))
4. *The New York Times*, Attention, Shoppers: Store Is Tracking Your Cell, 2013 Jul. ([link](#))

5. *Mashable*, “Shutdown Silver Lining: Less Traffic for D.C.” 2013 Nov. ([link](#))
6. *The Inquisitr*, “Government Shutdown Solved One Problem: Washington D.C. Traffic”. 2013 Nov. ([link](#))
7. *The Independent*, The number crunch: Will Big Data transform your life - or make it a misery?, 2014 Jan. ([link](#))
8. *The New York Times*, “With Uber, Less Reason to Own a Car”. 2014 Jun. ([link](#))
9. *VentureBeat*, “Uber simulated a city to teach drivers how to optimize their earnings”. 2014 Aug. ([link](#))
10. *The Economist*, Automated hypothesis generation: Computer says “try this”, 2014 Oct. ([link](#))

## LECTURES

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### 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. Social Media for Science Outreach, *ScienceOnline Bay Area, swissnex*, 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. Social Media for Science Outreach, *NASA Ames Research Center*, 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. *University of California, San Francisco*, Recruitment Fair, CA, USA. 2013 Jan.
17. *University of California, Berkeley*, Careers Beyond Academia conference, Berkeley, CA, USA. 2013 Mar.
18. *University of California, San Diego*, Family Weekend, CA, USA. 2014 Oct.
19. *TEDxSanDiego*, San Diego, CA, USA. 2014 Nov.
20. *University of California, San Diego*, Social Sciences Supper Club, CA, USA. 2014 Nov.
21. *Torrey Pines High School*, La Jolla, CA, USA. 2014 Dec.
22. *High Tech Middle School*, San Diego, CA, USA. 2015 Jan.
23. *Los Angeles Brain Bee*, UC Irvine, CA, USA. 2015 Feb.
24. *High Tech High School*, San Diego, CA, USA. 2015 Mar.

25. *Torrey Pines High School*, La Jolla, CA, USA. 2015 Mar.
26. *UC San Diego*, “Social Media for Campus Researchers and Faculty”. 2015 Apr.
27. *Clarion Workshop*, UC San Diego, CA, USA. 2015 Jul.
28. *City of Hope*, Eugene and Ruth Roberts Summer Student Academy, Duarte, CA, USA. 2015 Jul.
29. *Rueben H. Fleet Science Center, Adult Lecture Series*, San Diego, CA, USA. 2016 Mar.
30. *Pacific Ridge School*, Carlsbad, CA, USA. 2016 Mar.
31. *San Diego State University*, Graduate Student Symposium, CA, USA. 2016 Apr. (keynote)
32. *Chancellor's Associates Scholars Program, UC San Diego*, CA, USA. 2016 Jul. (keynote)
33. *Osber Lifelong Learning Institute at UC San Diego*, CA, USA. 2016 Sep.
34. *San Diego Independent Scholars*, La Jolla, CA, USA. 2016 Sep.
35. *The Communicating Science Workshop*, La Jolla, CA, USA. 2016 Sep. (keynote)
36. *Community College Symposium, UC San Diego*, CA, USA. 2017 May. (keynote)

## Neuroscience

1. *University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2005 May.
2. *University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2006 Apr.
3. *University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2006 Nov.
4. *University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2007 Apr.
5. *Neural Information Processing Systems: Large Scale Brain Dynamics Workshop*, Vancouver, BC, Canada. 2007 Dec.
6. *University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2008 Apr.
7. *IEEE/University of California, Berkeley Cognitive Science Student Association*, Berkeley, CA, USA. 2009 Mar.
8. *California Cognitive Science Conference*, Berkeley, CA, USA. 2009 Apr.
9. *Rikshospitalet University Hospital*, Oslo, Norway. 2009 May.
10. *Max-Planck-Institut für Kognitions- und Neurowissenschaften*, Leipzig, Germany. 2009 Aug.
11. *University of Oregon, Department of Psychology*, Eugene, OR, USA. 2009 Nov.
12. *IEEE/University of California, Berkeley CS/EE Demo Day*, Berkeley, CA, USA. 2010 Apr.
13. *Bay Area Memory Meeting*, Stanford, CA, USA. 2010 Aug.
14. *University of California, Davis, Center for Mind and Brain: Time-Frequency Bootcamp*, “Advanced Time-Frequency Analysis Methods”, Davis, CA, USA. 2010 Aug.
15. *University of California, Berkeley, Cognition, Brain, and Behavior*, Berkeley, CA, USA. 2010 Oct.
16. *International Congress for Clinical Neurophysiology: Neuronal Oscillations in Multi-scale Brain Networks Workshop*, Kobe, Japan. 2010 Oct.
17. *University of Washington, College of Computer Science & Engineering*, Seattle, WA, USA. 2010 Nov.
18. *Computational and Systems Neuroscience: Developing Simplified Algebras to Describe Large-Scale Brain Dynamics Workshop*, Salt Lake City, UT, USA. 2011 Feb.
19. *DARPA “Narrative Networks (N2): The Neurobiology of Narratives Workshop”*, San Francisco, California, USA. 2011 Apr.

20. *California Cognitive Science Conference*, Berkeley, CA, USA. 2011 Apr.
21. *Stanford University, Dept. of Neurology and Neurological Sciences*, Stanford, CA, USA. 2011 May.
22. *XI International Conference on Cognitive Neuroscience*, Symposium Chair, “The Cognitive Role of Cross-frequency Coupling”, Palma, Mallorca, Spain. 2011 Sep.
23. *3<sup>rd</sup> International Workshop on Advances in Electroencephalography*, Washington, DC, USA. 2011 Nov.
24. *University of California, Berkeley*, Brain Imaging Center Research Day, Berkeley, CA, USA. 2011 Dec.
25. *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”
26. *Annual Meeting of the San Francisco Neurological Society*, Keynote Speaker, Sonoma, CA, USA. 2012 May.
27. *Neuroscience Information Framework*, 2012 May.
28. *International Neuropsychological Society*, Oslo, Norway. 2012 Jun.
29. *Bay Area Memory Meeting*, Davis, CA, USA. 2012 Aug.
30. *Allen Brain Institute*, Seattle, WA, USA. 2012 Aug.
31. *University of California, Berkeley*, CA, USA. 2012 Sep.
32. *Stanford University, Dept. of Neurology and Neurological Sciences*, Stanford, CA, USA. 2012 Sep.
33. *University of Chicago*, IL, USA. 2012 Oct.
34. *University of California, San Francisco*, Grand Rounds, CA, USA. 2013 Jan.
35. *Stanford University*, Neuroscience PhD Program, Stanford, CA, USA. 2014 Feb.
36. *University of California, San Diego*, Neuroscience Retreat, CA, USA. 2014 May.
37. *University of California, Los Angeles*, Computational Neuroscience Affinity Group, CA, USA. 2014 May.
38. *University of California, Los Angeles*, Learning and Memory Symposium, CA, USA. 2014 Jun.
39. *University of California, San Diego*, Cognitive Science Student Association Conference, CA, USA. 2014 Jun.
40. *University of California, Los Angeles*, Cognitive Science Conference, CA, USA. 2015 Apr. (keynote)
41. *University of Pennsylvania*, Computational Memory Lab, Philadelphia, PA, USA. 2015 Aug.
42. *University of California, Merced*; Mind, Technology, and Society Seminar, CA, USA. 2016 Jan.
43. *University of California, Los Angeles*, Integrative Center for Neural Repair, CA, USA. 2016 Mar.
44. *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.
45. *Arizona State University*, Neural Oscillations Conference, AZ, USA. 2016 May.
46. *Computational Properties of the Prefrontal Cortex meeting*, Lyon, France. 2016 Aug.
47. *University of Southern California*, Neuroimaging and Informatics seminar, CA, USA. Oct 2016.
48. *Brown University*, Neuroscience Seminar Series, Providence, RI, USA. 2017 Jan.
49. *Stanford University*, Center for Mind, Brain, and Computation seminar series. 2017 Feb.
50. *Baylor College of Medicine*, Core for Advanced MRI (CAMRI) seminar series. 2017 Mar.

51. *Ernst Struengmann Forum*, Manifestations and Mechanisms of Dynamic Brain Coordination over Development, Frankfurt, Germany. 2017 Mar.

## Data Science

1. *AtGoogleTalks Tech Talk*, Mountain View, CA, USA. 2010 Jan. ([video link](#))
2. *TEDxBerkeley*, Berkeley, CA, USA. 2010 Apr. ([video link](#))
3. *SciFoo* lecture, Mountain View, CA, USA. 2011 Aug.
4. *Ignite* talk at *AndroidOpen*, San Francisco, CA, USA. 2011 Oct. ([video link](#))
5. *In-Q-Tel CEO Summit*, CA, USA. 2012 Feb.
6. *Orange Institute*, Palo Alto, CA, USA. 2012 Feb.
7. *Splunk*, San Francisco, California, USA. 2012 Mar.
8. *Where Conference (O'Reilly Media) workshop*, San Francisco, CA, USA. 2012 Apr.
9. *Where Conference (O'Reilly Media) speaker*, San Francisco, CA, USA. 2012 Apr.
10. *Lookout*, San Francisco, CA, USA. 2012 May.
11. *Nerd Nite East Bay*, Berkeley, CA, USA. 2012 Nov.
12. *Hult International Business School*, San Francisco, CA, USA. 2013 Jan.
13. *The Hive*, Palo Alto, CA, USA. 2013 Feb.
14. *Strata*, Santa Clara, CA, USA. 2013 Feb.
15. *Kaggle*, San Francisco, CA, USA. 2013 Mar.
16. *BrightTALK*, "Machine Learning: How to Make it Work in Your Organization". 2013 Jul.
17. *General Assembly*, San Francisco, CA, USA. 2013 Aug.
18. *University of San Francisco*, CA, USA. 2013 Oct.
19. *PSFK*, San Francisco, CA, USA. 2013 Nov.
20. *Intuit*, Mountain View, CA, USA. 2014 Feb.
21. *Data Science for Sustainability*, San Francisco, CA, USA. 2014 Aug.
22. *Strata*, New York, NY, USA. 2014 Oct.
23. *Scripps Institution of Oceanography, Climate Science and Policy Program*, La Jolla, CA, USA. 2016 Aug.

## ACADEMIC SCIENCE FICTION

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### Awards

- 2010 *Zombie Research Society*: Georgie Award in Science

### Lectures

1. 1<sup>st</sup> annual *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. 2<sup>nd</sup> 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. *Westcon* (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.

## Media

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. *El Mundo*, “Neurociencia contra los zombies”, 2011 Jul. ([link](#))
5. *American Academy of Neurology*, interviewed in *Neurology Now*, “Two Self-Proclaimed Neuroscience ‘Geeks’ Decipher the Zombie Brain”, 11(15), 32-34, 2011 Aug. ([link](#))
6. *Wired*, “Zombie Brains: Fake Ghoul Science From a Real Scientist”, 2011 Aug. ([link](#))
7. *Forbes*, “Explaining the Neuroscience of the Zombie Epidemic”, 2011 Oct. ([link](#))
8. *Slate*, “Zombies Attack Science”, 2011 Oct. ([link](#))
9. NPR, “Bay Area Science Festival Kicks Off with a Few Important Tips On Zombies”, 2011 Oct. ([link](#))
10. NPR, “Bay Area Science Festival”, 2011 Oct.
11. *New York Magazine*, “How to Survive a Zombie Attack”, 2011 Oct. ([link](#))
12. *New Hampshire Public Radio*, “Of Zombie and Ants”, 2012 May. ([link](#))
13. *The Washington Monthly*, “Zombie Brains”, 2012 Jul. ([link](#))
14. *The Chronicle of Higher Education*, Zombies on the Brain: Young Neuroscientists' Popular Zombie Study Frightens Their Advisers Most of All, 2012 Jul. ([link](#))
15. *TED Ed*, “Diagnosing a zombie”, 2012 Oct. Part 1 ([link](#)); Part 2 ([link](#))
16. *The Columbus Dispatch*, “The science (fiction) of zombies”, 2012 Oct. ([link](#))
17. *Wired*, “Zombie Neuroscientist Explains the Ant-Like Behavior of World War Z’s Running Dead”, 2012 Nov. ([link](#))
18. *Wired*, “A Pseudo-Scientific Analysis of *Warm Bodies* and the Zombie Tropes It Defies”, 2013 Jan. ([link](#))
19. *Slate*, “What Don't People Do in Zombie Apocalypse Movies That You Would Do?”, 2013 Jul. ([link](#))



20. *Image Comics*, “The Walking Dead 100 Project” neuroscience primer. 2013 Sep.
21. *livescience*, "The Walking Dead": How to Survive a Zombie Invasion, 2013 Oct. ([link](#))
22. *livescience*, Zombie Neuroscience: Inside the Brains of the Walking Dead, 2013 Oct. ([link](#))
23. *U-T San Diego*, UCSD recruits expert on zombies, 2014 Apr. ([link](#))
24. *World Science Festival*, Smart Reads: Bradley Voytek’s ‘Do Zombies Dream Of Undead Sheep?’, 2014 Sep. ([link](#))
25. *NPR/KPBS*, UCSD Professor Uses Zombies To Teach About Neuroscience, 2014 Oct. ([link](#))
26. *NPR/KPBS*, Zombies Versus Real Science: Which Is Scarier?, 2014 Oct. ([link](#))
27. *U-T San Diego*, Inside the brain of a zombie, 2014 Oct. ([link](#))
28. *Slate*, Why do zombies lumber?, 2014 Oct. ([link](#))
29. *Aeon*, The good zombie, 2014 Nov. ([link](#))
30. *The Daily Mail*, The science of ZOMBIES, 2014 Dec. ([link](#))
31. *Die Welt*, Why a zombie just can not think clearly, 2015 Jan. ([link](#))
32. *Pittsburgh Post-Gazette*, Headaches of the Walking Dead: 'Do Zombies Dream of Undead Sheep? A Neuroscientific View of the Zombie Brain', 2015 Feb. ([link](#))
33. *Five Books*, Bradley Voytek on Surrealism and the Brain, 2015 Feb. ([link](#))
34. *ABC (Australian Broadcasting Corporation) All in the Mind*, Braaaaaains: What the zombie mind teaches us about neuroscience, 2016 Apr. ([link](#))
35. *Daily Mail*, How to survive a zombie apocalypse, 2016 May. ([link](#))

## SCIENTIFIC WRITING

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2013 – present Blogger “Brain Metrics”, *Nature Publishing Group*, *Nature Education: Scitable*  
 2012 – present Blogger, [BrainFacts.org](#); public information initiative of *The Kavli Foundation*, the *Gatsby Charitable Foundation*, and the *Society for Neuroscience*

- *BBC* ([link](#))
- *Nature Publishing Group* ([link](#))
- *Scientific American* ([link](#)) ([link](#))  
 Media: *Skeptically Speaking Radio* ([link](#))
- *O’Reilly Media* ([link](#)) ([link](#))  
 Media: *Forbes* ([link](#))
- *Oscillatory Thoughts* ([link](#))  
 Media: *The Guardian* ([link](#)); *The Atlantic* ([link](#)); *MindHacks* ([link](#)); *The New Yorker* ([link](#)); *MindHacks* ([link](#)); *Forbes* ([link](#)); *BoingBoing* ([link](#)); *Seattle Post Intelligencer* ([link](#)); *BoingBoing* ([link](#)); *Forbes* ([link](#)); *Newsweek* ([link](#)); *Forbes* ([link](#)); *London School of Economics* ([link](#)); *Gizmodo* ([link](#)); *Slate* ([link](#)); *Fastcompany* ([link](#)); *Inc.* ([link](#))

## CONFERENCE ABSTRACTS

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1. Simon SL, Berman S, **Voytek BT**, Dacey J, Ling W, London ED. Deficits in reasoning and correlated abnormalities of regional cerebral glucose metabolism in methamphetamine abusers. *Cognitive Neuroscience Society*, New York City, NY, USA. 2003

2. Simon SL, Berman S, **Voytek BT**, Dacey J, Ling W, London ED. Deficits on complex cognitive tasks and correlated regional cerebral glucose metabolism in methamphetamine abusers. *Society for Neuroscience*, New Orleans, LA, USA. 2003
3. **Voytek BT**, Berman S, Simon SL, Ling W, Hayashi K, London ED. Differences in regional brain function due to marijuana use by methamphetamine abusers. *Society for Neuroscience*, New Orleans, LA, USA. 2003
4. **Voytek BT**, Berman S, Simon SL, Ling W, London ED. Differences in cerebral metabolism but not cognitive performance due to marijuana use by methamphetamine abusers. *College for Problems on Drug Dependence*, San Juan, PR. 2004
5. London ED, Berman SM, **Voytek BT**, Simon SL, Monterosso JR, Geaga JA, Hong MS, Hayashi KM, Thompson PM, Mandelkern MA, Brody AL, Rawson RA, Ling W. Cerebral metabolic dysfunction and impaired vigilance in recently abstinent methamphetamine abusers. *American College of Neuropsychopharmacology*, San Juan, PR. 2004
6. London ED, Bartzokis G, Hassid BD, Payer D, Monterosso J, **Voytek B**. Greater age-related brain atrophy in methamphetamine abusers than in healthy comparison subjects. *Society for Neuroscience*, Washington, DC, USA. 2005
7. Fuhrmann Alpert G, Oga T, Swann NC, **Voytek B**, Knight RT. Increased motor network  $\gamma$ -band coherence during movement preparation predicts short reaction times: An EEG study. *Society for Neuroscience*, Washington, DC, USA. 2005
8. Bauer M, London ED, Berman SM, Rasgon N, Mandelkern MA, **Voytek B**, Whybrow PC. Regional cerebral metabolism and anxiety symptoms in bipolar depression: Effect of levothyroxine. *American College of Neuropsychopharmacology*, Waikoloa, HI, USA. 2005
9. Berman SM, **Voytek B**, Mandelkern MA, Hassid BD, Isaacson A, Monterosso J, Miotto K, Ling W, Woods R, London ED. Changes in regional cerebral metabolism during the initial month of abstinence from chronic methamphetamine abuse. *Society for Neuroscience*, Atlanta, GA, USA. 2006
10. **Voytek B**. The Girls Scouts of the USA's Girls Go Tech initiative: Partnership in neuroscience outreach and education. *Society for Neuroscience*, San Diego, CA, USA. 2007
11. **Voytek B**, Yago E, Barceló F, Knight RT. Flexible reorganization of function after unilateral frontal damage in humans. *Society for Neuroscience*, San Diego, CA, USA. 2007
12. **Voytek B**, Secundo L, Flinker A, Manley G, Knight RT. Comparing signals: Electroencephalography, electromyography, and electrocorticography. *Bay Area Neuro Gathering (BANG): SfN Local Chapter Research Meeting*, San Francisco, CA, USA. 2008
13. LaHue S, **Voytek B**, Knight RT. Effects of verbal working memory on visual attention. *Psychology Undergraduate Research Conference, University of California, Los Angeles*, Los Angeles, CA, USA. 2008
14. Tseng L, **Voytek B**, Knight RT. Effects of aging and frontal lesions on posterior visual working memory. *Psychology Undergraduate Research Conference, University of California, Los Angeles*, Los Angeles, CA, USA. 2008
15. **Voytek B**, Dam C, Yago E, Vogel E, and Knight RT. Flexible reorganization of human prefrontal cortex following stroke. *International Conference on Cognitive Neuroscience X*, Bodrum, Turkey. 2008
16. Secundo L, Adeen F, **Voytek B**, Chang E, Barbaro NM, Kirsch HE, Stiver S, Gean AD, Manley G, and Knight RT. Subdural electrocorticographic and epidural electromyographic recording for brain machine interface. *International Conference on Cognitive Neuroscience X*, Bodrum, Turkey. 2008
17. **Voytek B**, Secundo L, Bidet-Caulet A, Scabini D, Stiver S, Gean AD, Manley G, Knight RT. A new model for high spatial and temporal resolution in human electrophysiology: Decompressive craniectomy. *Society for Neuroscience*, Washington, DC, USA. 2008

18. **Voytek B**, Secundo L, Bidet-Caulet A, Scabini D, Stiver S, Gean AD, Manley G, Knight RT. A new model for high spatial and temporal resolution in human electrophysiology: Decompressive craniectomy. *National Neurotrauma Society Symposium*, Orlando, FL, USA. 2008
19. **Voytek B**, Vogel EK, Knight RT. Human working memory deficits and cognitive recovery after prefrontal or basal ganglia lesions. *Society for Neuroscience*, Chicago, IL, USA. 2009
20. Løvstad M, Funderud I, Lindgren M, Endestad T, Due-Tønnessen P, Meling T, **Voytek B**, Knight RT, Solbakk AK. Auditory novelty processing in patients with orbitofrontal or lateral prefrontal lesions: An event-related potential (ERP) study. *The 20<sup>th</sup> Annual Rotman Research Institute Conference: The Frontal Lobes*, Toronto, ON, Canada. 2010
21. **Voytek B**, Knight RT. Top-down memory deficits after unilateral prefrontal or basal ganglia lesions. *The 20<sup>th</sup> Annual Rotman Research Institute Conference: The Frontal Lobes*, Toronto, ON, Canada. 2010
22. **Voytek B**, Secundo L, Manley GT, Knight RT. Hemispherectomy: A new model for semi-invasive BMI. *Fourth International BCI Meeting*. Asilomar, Pacific Grove, CA, USA. 2010
23. Cano ME, Shestyuk A, Flinker A, **Voytek B**, Paz-Alonso PM, Parvizi J, Crone NE, Knight RT. High gamma hippocampal response from human iEEG recordings predicts covert memory retrieval. *Society for Neuroscience*, San Diego, CA, USA. 2010
24. Funderud I, Løvstad M, Lindgren M, Endestad T, Due-Tønnessen P, Meling T, **Voytek B**, Knight RT, Solbakk AK. Contingent negative variation in patients with orbitofrontal and lateral lesions in the prefrontal cortex. *Society for Neuroscience*, San Diego, CA, USA. 2010
25. Liu Y, **Voytek B**, Knight RT, Ding M. Prefrontal lesion impairs visual attention mechanisms. *Society for Neuroscience*, San Diego, CA, USA. 2010
26. **Voytek B**, LaHue S, Davis M, Tseng L, Knight RT. Oscillatory network dynamics in human working memory and attention. *Society for Neuroscience*, San Diego, CA, USA. 2010
27. Voytek JB, **Voytek B**. brainSCANr: Mapping Brain Structure, Function, and Disease Relationships with PubMed. *Organization for Human Brain Mapping*, Quebec City, QC, Canada. 2011.
28. **Voytek B**, Knight RT. The Cognitive Role of Cross-frequency Coupling. *International Conference on Cognitive Neuroscience XI*, Mallorca, Spain. 2011
29. Voytek JB, **Voytek B**. Hypothesis generation and reconstruction of the connectome and cognome from the literature. *Society for Neuroscience*, Washington, DC, USA. 2011
30. Voytek JB, **Voytek B**, Warp E. User experience design for children's neuroscience education. *Society for Neuroscience*, New Orleans, LA, USA. 2012
31. **Voytek B**, Badre D, Kayser AS, Fegen D, Chang EF, Crone NE, Parvizi J, Knight RT, D'Esposito M. Phase/amplitude coupling supports network organization in human frontal cortex. *Society for Neuroscience*, New Orleans, LA, USA. 2012
32. **Voytek B**, Porat S, Chamberlain J, Balthazor J, Greenberg Z, Gill N, Gazzaley A. Examining the efficacy of the iPad and Xbox Kinect for cognitive science research. *Entertainment Software and Cognitive Neurotherapeutics Society*, Los Angeles, CA, USA. 2013
33. Greenberg Z, Gill N, Porat S, Samaha J, Kader T, **Voytek B**, Gazzaley A. Increased visual cortical noise decreases cued visual attention distribution. *Cognitive Neuroscience Society*, San Francisco, CA, USA. 2013
34. **Voytek B** & Gunduz A. Neuronal ensembles for BCI: Local field potentials and electrocorticography. *Fifth International BCI Meeting*, Asilomar, Pacific Grove, CA, USA. 2013.
35. **Voytek B**, Case J, Tempesta ZR, Knight RT, Gazzaley A. Aging increases neural noise in humans. *Society for Neuroscience*, San Diego, CA, USA. 2013
36. Reuter K, Daigre J, Chatterjee A, **Voytek B**. Spreading Research And Engaging Disease Communities – One Automated Tweet at a Time. *American Medical Informatics Association*, Washington, DC, USA. 2014

37. Haller M, Varma P, Noto T, Knight RT, Shestyuk A, **Voytek B**. Automated “spectrally fingerprinting” of electrophysiological oscillations. *Society for Neuroscience*, Washington, DC, USA. 2014
38. Noto T & **Voytek B**. Spectral whitening influences oscillatory dynamics and behavior in humans. *Cognitive Neuroscience Society*, San Francisco, CA, USA. 2015
39. 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
40. Gao R & **Voytek B**. Exploring the neural basis of the electrophysiological power spectrum. *Society for Neuroscience*, Chicago, IL, USA. 2015
41. 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
42. 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
43. Peterson E & **Voytek B**. Spike-field coupling does not imply spike-spike coupling. *Society for Neuroscience*, Chicago, IL, USA. 2015
44. Tran T, Hoffner N, **Voytek B**. Oscillatory visual cortical alpha disruptions in age-related working memory impairments. *Society for Neuroscience*, Chicago, IL, USA. 2015
45. 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
46. 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
47. Cole SR & **Voytek B**. Nonsinusoidal oscillatory shape can drive spurious cross-frequency coupling. *Society for Neuroscience*, San Diego, CA, USA. 2016
48. 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
49. Gao R & **Voytek B**. Spiking correlates and temporal variability of oscillatory frequency modulation. *Society for Neuroscience*, San Diego, CA, USA. 2016
50. 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
51. Izhikevich L, Peterson EJ, **Voytek B**. Neural oscillatory power is not Gaussian distributed across time. *Society for Neuroscience*, San Diego, CA, USA. 2016
52. Peterson EJ & **Voytek B**. Gain control across cortical layers can be mediated by balanced oscillatory coupling. *Society for Neuroscience*, San Diego, CA, USA. 2016
53. 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
54. 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
55. 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

56. 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
57. 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
58. Tran T, Gazzaley A, **Voytek B**. Spatial attention reduces visual cortical 1/f neural noise. *Cognitive Neuroscience Society*, San Francisco, CA, USA. 2017
59. 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
60. 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
61. 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
62. 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
63. Cole S & **Voytek B**. The waveform shape of hippocampal theta oscillations weakly informs local spiking statistics. *Society for Neuroscience*, Washington, DC, USA. 2017
64. Peterson E & **Voytek B**. The tradeoff between oscillatory communication and neural computation. *Society for Neuroscience*, Washington, DC, USA. 2017
65. 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
66. 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
67. Donoghue T & **Voytek B**. Assessing approaches for estimating the electrophysiological 1/f background spectrum. *Society for Neuroscience*, Washington, DC, USA. 2017

## REJECTIONS & FAILURES

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### Academic

- *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

### Professional

- Applied to two faculty jobs in 2010 and three in 2012; received one offer
- *Society for Neuroscience* Symposium, "Data-driven approaches for neuroscientific discovery": Denied, 2014

- *Society for Neuroscience Social Issues Roundtable, “Interplay between Culture and Neuroscience and the Effect on the Public Trust”*: Denied, 2014; denied, 2015

### Scientific peer-review

- Voytek *et al.* (2010), *J Cogn Neurosci* 2010: Rejected from 3 journals
- Voytek & Knight (2010), *Proc Natl Acad Sci USA*: rejected from 2 journals
- Voytek *et al.* (2010) *Neuron*: Rejected from 3 journals and twice from *Neuron*
- Voytek *et al.* (2012), *PLoS One*: Rejected from 7 journals
- Voytek & Voytek (2012), *J Neurosci Methods*: Rejected from 13 journals
- Voytek *et al.* (2013), *NeuroImage*: Rejected from 2 journals and once from *NeuroImage*
- Voytek *et al.* (2015), *Nature Neuroscience*: Rejected from 2 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
- Voytek *et al.* (2017), *J Cogn Neurosci*: Rejected from 3 journals
- Cole *et al.* (2017), *J Neurosci*: Rejected from 2 journals and once from *J Neurosci*

### Awards & Grants

- *University of California Berkeley*: Teaching Effectiveness Award, not awarded, 2005
- *National Science Foundation*: Graduate Research Fellowship, 2 failures, never awarded, 2004-2005
- *University of California President's Postdoctoral Fellowship Program*: Not awarded, 2010
- *Glushko Dissertation Prize*: Nominated, not awarded, 2010
- *Branco Weiss Fellowship*: Not awarded, 2011
- *AAAS Early Career Award for Public Engagement with Science*: twice-nominated 2011, 2013; not awarded
- *American Federation for Aging Research Grants for Junior Faculty*: denied, 2014, 2015
- *Simons Foundation Global Brain*: denied, 2014
- *Gordon and Betty Moore Foundation Data-Driven Discovery Investigator Competition*: denied, 2014
- *Searle Scholars Program*: denied, 2014
- *UC Multicampus Research Programs and Initiatives*: denied, 2014
- *Searle Scholars Program Application*: denied, 2014; advanced but denied, 2015
- *McKnight Memory and Cognitive Disorders Award*: denied, 2015, 2016, 2017
- *Klingenstein-Simons Fellowship Award in the Neurosciences*: denied, 2015, 2016, 2017
- *Pew Biomedical Scholars Award*: denied, 2016
- *Brain & Behavior Research Foundation (NARSAD) Award*: denied, 2016, 2017
- *NSF CAREER Award*: denied, 2016, 2017
- *Office of Naval Research Multidisciplinary University Research Initiative (MURI), Neural Basis of Symbolic Processing*: denied, 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*: Advanced but not awarded, 2016
- *INCF Seed Funding*: Not awarded, 2016
- *McKnight Scholar Award*: denied, 2017
- *NIMH R01*: denied, 2016; revised and denied 2017

## ERDÖS (4)

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1. **Ronald Graham** (Erdős 1) and *Paul Erdos*, *On Sums of Fibonacci Numbers*
2. **Shing Tung Yau** (Erdős 2) and *Ronald Graham*, *On Sampling Markov Chains*
3. Wang YL, Gu X, Hayashi KM, Chan TF, **Thompson PM** (Erdős 3), *Yau ST* (2005). Brain Surface Parameterization using Riemann Surface Structure. *Medical Image Computing and Computer Assisted Intervention*.
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*.

## BACON (3)

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1. **Tom Savini** (Bacon 1) with *Kevin Bacon*, *Friday the 13<sup>th</sup>* (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)