
Academic Training

Postdoctoral Fellow

University of California, Berkeley; Helen Wills Neuroscience Institute 2017 – present

Advisor: Robert Knight, MD

Wayne State University; Life-Span Cognitive Neuroscience Program 2017 – 2020

Advisor: Noa Ofen, PhD

PhD, Psychology – Cognitive Neuroscience

University of California, Berkeley 2011 – 2016

Thesis: Spatiotemporal dynamics of working memory in humans

Advisor: Robert Knight, MD

AB (Honors), Psychology

University of Chicago 2005 – 2009

Thesis: How aging impairs autobiographical memory

Advisor: David Gallo, PhD

External Funding

NIH BRAIN Pathway to Independence Award (K99/R00)

Role: PI; NINDS K99NS115918 2020 – present

Title: Measuring electrical activity from the human brain to predict memory formation and behavior across the lifespan

Publications

*mentored student first author; **co-first author; ***senior author

Peer-Reviewed

20. Yin, Q*, **Johnson, EL**, Tang, L, Auguste, KI, Knight, RT, Asano, E, Ofen, N. Direct brain recordings reveal occipital cortex involvement in memory development. *Neuropsychologia* 148 (2020).
19. **Johnson, EL**, Kam, JWY, Tzovara, A, Knight, RT. Insights into human cognition from intracranial EEG: A review of audition, memory, internal cognition, and causality. *Journal of Neural Engineering* 17 (2020).
18. Jones, KT, **Johnson, EL**, Tauxe, ZS, Rojas, DC. Modulation of auditory gamma-band responses using transcranial electrical stimulation. *Journal of Neurophysiology* 123 (2020).
17. Jones, KT, **Johnson, EL****, Berryhill, ME. Frontoparietal theta-gamma interactions track working memory enhancement with training and tDCS. *NeuroImage* 211 (2020).
16. Ofen, N, Tang, L, Yu, Q, **Johnson, EL*****. Memory and the developing brain: From description to explanation with innovation in methods. *Developmental Cognitive Neuroscience* 36 (2019).
15. **Johnson, EL**, King-Stephens, D, Weber, PB, Laxer, KD, Lin, JJ, Knight, RT. Spectral imprints of working memory for everyday associations in the frontoparietal network. *Frontiers in Systems Neuroscience* 12 (2019).
14. **Johnson, EL**, Tang, L, Yin, Q, Asano, E, Ofen, N. Direct brain recordings reveal prefrontal cortex dynamics of memory development. *Science Advances* 4 (2018).

13. Radecki, DZ, **Johnson, EL**, Brown, AK, Meshkin, NT, Perrine, SA, Gow, A. Corticohippocampal dysfunction in the OBiden mouse model of primary oligodendroglipathy. *Nature Scientific Reports* 8 (2018).
12. **Johnson, EL**, Adams, JN, Solbakk, A-K, Endestad, T, Larsson, PG, Ivanovic, J, Meling, TR, Lin, JJ, Knight, RT. Dynamic frontotemporal systems process space and time in working memory. *PLoS Biology* 16 (2018).
11. **Johnson, EL**, Dewar, CD, Solbakk, A-K, Endestad, T, Meling, TR, Knight, RT. Bidirectional frontoparietal oscillatory systems support working memory. *Current Biology* 27 (2017).
10. Vendetti, MS, Starr, A, **Johnson, EL**, Modavi, K, Bunge, SA. Eye movements reveal optimal strategies for analogical reasoning. *Frontiers in Psychology* 8 (2017).
9. Foo, F, **Johnson, EL****. Music: The last thing we forget. *Frontiers for Young Minds* 5 (2017).
8. **Johnson, EL**, Helfrich, RF. How brain cells make memories. *Frontiers for Young Minds* 4 (2016).
7. **Johnson, EL**, Knight, RT. Intracranial recordings and human memory. *Current Opinion in Neurobiology* 31 (2015).
6. Vendetti, MS, **Johnson, EL****, Lemos, CJ, Bunge, SA. Hemispheric differences in relational reasoning: Novel insights based on an old technique. *Frontiers in Human Neuroscience* 9 (2015).
5. **Johnson, EL**, Miller Singley, AT, Peckham, AD, Johnson, SL, Bunge, SA. Task-evoked pupillometry provides a window into the development of short-term memory capacity. *Frontiers in Psychology* 5 (2014).
4. **Johnson, EL**, Munro, SE, Bunge, SA. Development of neural networks supporting goal-directed behavior, in *Minnesota Symposia on Child Psychology: Developing Cognitive Control Processes: Mechanisms, Implications, and Interventions, Vol. 37* (eds. P. D. Zelazo, M. Sera) (John Wiley & Sons, Inc., 2014).
3. Gallo, DA, Korthauer, LE, McDonough, IM, Teshale, S, **Johnson, EL**. Age-related positivity effects and autobiographical memory detail: Evidence from a past/future source memory task. *Memory* 19 (2011).
2. Gallo, DA, Foster, KT, **Johnson, EL**. Elevated false recollection of emotional pictures in young and older adults. *Psychology & Aging* 24 (2009).
1. Gallo, DA, Meadow, NG, **Johnson, EL**, Foster, KT. Deep levels of processing elicit a distinctiveness heuristic: Evidence from the criterial recollection task. *Journal of Memory & Language* 58 (2008).

Forthcoming

- Davoudi, S, Dezfouli, MP*, Knight, RT, Daliri, MR, **Johnson, EL*****. Prefrontal lesions disrupt posterior alpha-gamma coordination of visual working memory representations. *Journal of Cognitive Neuroscience* (invited – in revision).
- Dezfouli, MP*, Davoudi, S, Knight, RT, Daliri, MR, **Johnson, EL*****. Prefrontal lesions disrupt oscillatory signatures of spatiotemporal integration in working memory. *Cortex* (in revision).

Commentaries

- **Johnson, EL** Navigating your interests, your talents, and your local jail: Should you take time off? *APS Undergraduate Update* (2011).

Honors & Awards

Intersections Science Fellows Symposium Associate	2020
Sigma Xi: International Scientific Research Honor Society (Member)	2020
Society for Neuroscience Nanosymposium (Speaker)	2019, 2018
Wayne State University Postdoctoral Travel Award	2019
UC Berkeley Postdoctoral Association Professional Development Award	2019
Wayne State University Postdoctoral Research Award	2019
Cognitive Neuroscience Society Data Blitz (Speaker)	2017
UC Berkeley Psychology Department Travel Award	2016, 2016
UC Berkeley Conference Travel Grant	2016, 2015
UC Berkeley Psychology Department Summer Research Fellowship	2015, 2014, 2013
UC Berkeley Metro New York Leaders Fellowship Nominee	2015
UC Berkeley Psychology Honors Seminar (Instructor)	2014
UC Berkeley Rosenzweig Departmental Semester Fellowship	2013
University of Michigan/NIH Training Course in fMRI (Fellow)	2013
Association for Psychological Science Student Travel Award	2013
NSF Graduate Research Fellowship Honorable Mention	2012
American Psychological Association/Psi Chi Junior Scientist Fellowship	2011
UC Berkeley First Year Non-Resident Fellowship	2011
University Chicago Honors in Psychology	2009
University Chicago General Honors	2009
Psi Chi: International Honor Society in Psychology (Member)	2009
University Chicago College Research Opportunity Grant	2008

Invited Seminars & Colloquia

University of California, San Francisco	2021, 2019
Icahn School of Medicine at Mount Sinai	2021
Northwestern University	2020
University of California, Irvine	2020
University of California, Berkeley	2019
Wayne State University	2019, 2017
University of Oslo (Meeting on Neural Oscillations & Human Behavior)	2018
University of Nevada, Reno	2017

Public Talks

Brain Festival (<i>Frontiers for Young Minds</i>), Huntington Beach, CA	2018
Popping the Science Bubble, Berkeley, CA	2017
Grounds for Science, Emeryville, CA	2017
Bay Area Science Festival (<i>Frontiers for Young Minds</i>), Oakland, CA	2015

Professional Service

Editorial Board

<i>Frontiers for Young Minds – Understanding Neuroscience</i>	2016 – present
---	----------------

Guest Editor

Journal of Neuroscience Research 2020 – present
In Focus issue: Neural substrates of cognitive change in humans

Ad Hoc Reviewer – Journals

<i>Behavioural Brain Research</i>	<i>Frontiers in Psychology</i>
<i>Brain & Cognition</i>	<i>Journal of Neurophysiology</i>
<i>Brain Research</i>	<i>Journal of Neuroscience</i>
<i>Current Biology</i>	<i>Journal of Neuroscience Research</i>
<i>Cerebral Cortex</i>	<i>Nature Communications</i>
<i>Developmental Cognitive Neuroscience</i>	<i>Nature Neuroscience</i>
<i>eLife</i>	<i>Neurobiology of Learning & Memory</i>
<i>eNeuro</i>	<i>NeuroImage</i>
<i>European Journal of Neuroscience</i>	<i>Neuropsychologia</i>
<i>Experimental Brain Research</i>	<i>Proceedings of the National Academy of Sciences</i>
<i>Frontiers in Aging Neuroscience</i>	<i>Translational Issues in Psychological Science</i>
<i>Frontiers in Human Neuroscience</i>	<i>Yale Journal of Biology & Medicine</i>
<i>Frontiers in Pediatrics</i>	

Ad Hoc Reviewer – Grants

UKRI Biotechnology and Biological Sciences Research Council 2020 – present

Ad Hoc Reviewer – Conferences & Competitions

Society for Research in Child Development	2021
Cognitive Science Society	2017
Association for Psychological Science Student Caucus	2012 – 2014

Mentoring

Graduate & Postdoctoral Levels

Qin Yin (Wayne State University; MA, 2019)	2017 – present
Lingfei Tang (Wayne State University; PhD, 2019)	2017 – present
Mohsen P. Dezfouli (Iran University of Science and Technology; PhD, 2019)	2018 – present
Hector Arciniega (NIH D-SPAN F99/K00; PhD, 2020)	2019 – present
Jenna N. Adams (UC Berkeley)	2016

Undergraduate Level

Kaustav Chattopadhyay (UC Berkeley)	2018 – 2020
Vasanth Kommu (UC Berkeley)	2018 – 2019
Mohsyn Malik (Wayne State University)	2017
Callum D. Dewar (UC Berkeley)	2014 – 2015
Farida Valji (UC Berkeley)	2012 – 2014
Connor J. Lemos (UC Berkeley)	2011 – 2013
Se Ri Bae (UC Berkeley)	2012 – 2013
Erika L. Estrada (UC Berkeley)	2012

Teaching

University of California, Berkeley

Clinical Neuroscience (graduate seminar)	
Guest Lecturer: Physiology of human memory	2019
Human Neuropsychology (undergraduate lecture course)	
Guest Lecturer: Neuroimaging methods	2018
Graduate Student Instructor	2014, 2013
Designed and led discussions (75 students); wrote exams; graded exams and term papers	
Psychology Honors Seminar (undergraduate seminar)	
Guest Lecturer: Careers after graduation	2016, 2014
Graduate Student Instructor	2014 – 2015
Co-taught year-long seminar required for honors students (25 students); supervised theses	
The Developing Brain (undergraduate lecture course)	
Guest Lecturer: Episodic memory development	2012
Human Learning & Memory (undergraduate lecture course)	
Graduate Student Instructor	2012
Designed and led discussions (75 students); wrote exams; graded exams and term papers	
Human Happiness (undergraduate lecture course)	
Graduate Student Instructor	2012
Designed and led discussions (75 students); wrote exams; graded exams and term papers	
Basic Issues in Cognition (undergraduate lecture course)	
Graduate Student Instructor	2011
Designed and led discussions (75 students); wrote exams; graded exams and term papers	

Outreach

<i>Frontiers for Young Minds</i> (Science Mentor)	2016 – present
Roosevelt Middle School, Oakland, CA	2015
The Exploratorium, San Francisco, CA	2015
East Oakland Pride Academy, Oakland, CA	2014
California Cognitive Science Conference, Berkeley, CA	2014
Berkeley Arts Magnet School, Berkeley, CA	2013
Piedmont Middle School, Piedmont, CA	2012

Presentations

*mentored student first author; **co-first author; ***senior author

Conference Proceedings

- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Society for Research in Child Development. Virtual (submitted).
- **Johnson, EL**, Lin, JJ, King-Stephens, D, Weber, PB, Laxer, KD, Saez, I, Girgis, F, Knight, RT, Badre, D. Cognitive Neuroscience Society. Virtual (submitted).
- Arciniega, H*, **Johnson, EL**, Jones, KT, Kilgore-Gomez, A, Berryhill, ME. Cognitive Neuroscience Society. Virtual (submitted).

- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Society for Neuroscience. Virtual (2021, Jan). *Poster*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Bay Area Memory Meeting. Virtual (2020, Nov). *Talk*.
- Yin, Q*, **Johnson, EL**, Tang, L, Auguste, KI, Knight, RT, Asano, E, Ofen, N. Neuromatch 3.0. Virtual (2020, Oct). *Talk*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Neuromatch 3.0. Virtual (2020, Oct). *Talk*.
- Rau, EMB, **Johnson, EL**, Heinen, R, Yin, Q, Asano, E, Ofen, N, Axmacher, N. Single Units & Human Intracranial Conference. Birmingham, UK (2020, Apr). *Poster*.
- Dezfouli, MP*, Davoudi, S, Knight, RT, Daliri, MR, **Johnson, EL*****. Cognitive Neuroscience Society. Boston, MA (2020, Apr). *Poster*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Society for Neuroscience. Chicago, IL (2019, Oct). *Talk*.
- Tang, L*, **Johnson, EL**, Yin, Q, McCall, D, Ramesh, S, Thompson, B, Agarwal, P, Luat, AF, Asano, E, Ofen, N. Society for Neuroscience. Chicago, IL (2019, Oct). *Talk*.
- Yin, Q*, **Johnson, EL**, Tang, L, Auguste, KI, Knight, RT, Asano, E, Ofen, N. Society for Neuroscience. Chicago, IL (2019, Oct). *Talk*.
- Dezfouli, MP*, Davoudi, S, Knight, RT, Daliri, MR, **Johnson, EL*****. Cognitive Neuroscience Society. San Francisco, CA (2019, Mar). *Poster*.
- Yin, Q*, **Johnson, EL**, Tang, L, Asano, E, Ofen, N. Cognitive Neuroscience Society. San Francisco, CA (2019, Mar). *Poster*.
- Jones, KT, Tauxe, ZS, **Johnson, EL**, Rojas, DC. Cognitive Neuroscience Society. San Francisco, CA (2019, Mar). *Poster*.
- **Johnson, EL**, Jones, KT, Berryhill, ME. Society for Neuroscience. San Diego, CA (2018, Nov). *Talk*.
- **Johnson, EL**, Lin, JJ, Knight, RT. International Meeting on Human Single Neuron Recordings. Pasadena, CA (2018, Nov). *Poster*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. International Conference on Learning & Memory. Huntington Beach, CA (2018, Apr). *Talk*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Cognitive Neuroscience Society. Boston, MA (2018, Mar). *Poster*.
- Jones, KT, **Johnson, EL**, Cerreta, A, Peterson, DJ, Berryhill, ME. Cognitive Neuroscience Society. Boston, MA (2018, Mar). *Poster*.
- **Johnson, EL**, Yin, Q, Tang, L, Malik, M, Asano, E, Ofen, N. Society for Neuroscience. Washington, DC (2017, Nov). *Poster*.
- **Johnson, EL**, Knight, RT. International Conference for Cognitive Neuroscience. Amsterdam, NL (2017, August). *Poster*.
- **Johnson, EL**, Knight, RT. Cognitive Science Society. London, UK (2017, July). *Poster*.
- **Johnson, EL**, Dewar, CD, Solbakk, A-K, Endestad, T, Meling, TR, Knight, RT. Cognitive Neuroscience Society. San Francisco, CA (2017, Mar). *Talk and poster*.
- Yin, Q*, Tang, L*, **Johnson, EL**, Malik, M, Shafer, A, Chen, D, Asano, E, Ofen, N. Cognitive Neuroscience Society. San Francisco, CA (2017, Mar). *Poster*.
- **Johnson, EL**. Bay Area Memory Meeting. San Francisco, CA (2017, Jan). *Talk*.
- **Johnson, EL**, Adams, JN, Griffin, SM, Solbakk, A-K, Endestad, T, Larsson, PG, Parvizi, J, Lin, JJ, Knight, RT. International Meeting on Human Single Neuron Recordings. Pasadena, CA (2016, Nov). *Poster*.

- **Johnson, EL**, Adams, JN, Dewar, CD, Lin, JJ, Solbakk, A-K, Endestad, T, Knight, RT. Gordon Research Conference: Neurobiology of Cognition. Newry, ME (2016, Jul). *Poster*.
- **Johnson, EL**, Lin, JJ, Knight, RT. Cognitive Neuroscience Society. New York, NY (2016, Apr). *Poster*.
- **Johnson, EL**, Szczepanski, SM, Parvizi, J, Lin, JJ, Knight, RT. Society for Neuroscience. Chicago, IL (2015, Oct). *Poster*.
- **Johnson, EL**, Dewar, CD, Piai, V, Knight, RT. Bay Area Memory Meeting. Davis, CA (2015, Aug). *Poster*.
- Dewar, CD*, **Johnson, EL**, Knight, RT. California Cognitive Science Conference. Berkeley, CA (2015, May). *Poster*.
- Vendetti, MS, **Johnson, EL**, Lopez-Rosenfeld, M, Bunge, SA. Cognitive Neuroscience Society. San Francisco, CA (2015, Mar). *Poster*.
- Niebaum, JC, Miller Singley, AT, **Johnson, EL**, Bunge, SA. Flux Congress. Hollywood, CA (2014, Sept). *Poster*.
- **Johnson, EL**, Lemos, CJ, Valji, F. Association for Psychological Science. San Francisco, CA (2014, May). *Poster*.
- Valji, F*, **Johnson, EL**. Association for Psychological Science. San Francisco, CA (2014, May). *Poster*.
- **Johnson, EL**, Wendelken, C, Bunge, SA. Bay Area Memory Meeting. San Francisco, CA (2013, Aug). *Poster*.
- Vendetti, MS, **Johnson, EL**, Lemos, CJ, Bunge, SA. Bay Area Memory Meeting. San Francisco, CA (2013, Aug). *Poster*.
- **Johnson, EL**, Wendelken, C, Bunge, SA. Association for Psychological Science. Washington, DC (2013, May). *Poster*.
- **Johnson, EL**, Wendelken, C, Bunge, SA. Cognitive Neuroscience Society. San Francisco, CA (2013, Apr). *Poster*.

Academic Presentations

- Dezfouli, MP*, **Johnson, EL*****. University of Utah Noudoost Laboratory. Virtual (2020, Sept). *Talk*.
- **Johnson, EL**, Yin, Q, Tang, L, Asano, E, Ofen, N. Wayne State University Graduate & Postdoctoral Research Symposium. Detroit, MI (2019, Mar). *Poster*.
- Yin, Q*, **Johnson, EL**, Tang, L, Asano, E, Ofen, N. Wayne State University Graduate & Postdoctoral Research Symposium. Detroit, MI (2019, Mar). *Poster*.
- **Johnson, EL**. Wayne State University Translational Neuroscience Program Symposium & Research Day. Detroit, MI (2018, May). *Talk*.
- **Johnson, EL**, Yin, Q, Tang, L, Malik, M, Asano, E, Ofen, N. Wayne State University Lifespan Alliance Research Day. Detroit, MI (2018, Feb). *Poster*.
- **Johnson, EL**. UC Berkeley Cognitive Neuroscience Colloquium. Berkeley, CA (2017, May). *Talk*.
- **Johnson, EL**. UC Berkeley Neuroscience Research Conference. Tahoe City, CA (2013, Oct). *Talk*.
- **Johnson, EL**. Stanford-Berkeley Cognitive Science Talks. Palo Alto, CA (2013, June). *Talk*.
- Estrada, EL*, **Johnson, EL**, Bunge, SA. UC Berkeley Student Research Opportunity Program Symposium. Berkeley, CA (2012, July). *Poster*.
- **Johnson, EL**, Gallo, DA. University of Chicago Psychology Honors Symposium. Chicago, IL (2009, May). *Poster*.

Memberships

Psi Chi: International Honor Society in Psychology	2009 – present
Cognitive Neuroscience Society	2013 – present
NSF Spatial Intelligence & Learning Center	2014 – present
Society for Neuroscience	2015 – present
Society for Research in Child Development	2020 – present
Sigma Xi: International Scientific Research Honor Society	2020 – present
Association for Psychological Science	2011 – 2014

Additional Professional Experience

Associate Consultant

Bennett Midland LLC, New York, NY	2009 – 2011
Public and civic sector management consulting. Clients: NYC Administration for Children's Services, NYC Office of the Criminal Justice Coordinator, Common Ground Community	

References

Dr. Robert Knight

Professor of Psychology and Neuroscience
University of California, Berkeley
rtnight@berkeley.edu

Dr. Jack Lin

Professor of Neurology and Biomedical Engineering
Chief, Division of Epilepsy and Clinical Neurophysiology
University of California, Irvine
linjj@uci.edu

Dr. Noa Ofen

Associate Professor of Psychology
Wayne State University
noa.ofen@wayne.edu

Dr. Marian Berryhill

Associate Professor of Psychology
Associate Chair of Psychology
University of Nevada, Reno
mberryhill@unr.edu