

Donna J. Bridge, Ph.D.

Date of Birth: September 30

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Training

- 2002-2006 B.A., Psychology/Women's Studies, Syracuse University, Syracuse, New York
- 2007-2012 Ph.D., Interdepartmental Neuroscience Program, Northwestern University, Evanston, Illinois
- 2012-2015 Postdoctoral Fellow, Department of Medical Social Sciences, Northwestern University Feinberg School of Medicine, Chicago, Illinois

Academic Appointments

- 2015-present Research Assistant Professor
Northwestern University Feinberg School of Medicine
Department of Medical Social Sciences

Honors and Awards

- 2014-2015 Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32NS087885)
- 2012-2014 Mechanisms of Aging and Dementia Postdoctoral Fellowship, Northwestern University Interdepartmental Neuroscience Program (T32AG20506)
- 2010-2012 Neuroscience of Human Cognition Predoctoral Fellowship, Northwestern University Interdepartmental Neuroscience Program (T32NS047987)
- 2009-2010 Cognitive Science Graduate Fellowship, Northwestern University
- 2006 Outstanding Research Achievement Award, Syracuse University
- 2006 Allport Research Scholar Award
- 2006 Allport Research Grant
- 2005 Academic Distinction in Women's Studies

Grant Awards

Principal Investigator:

- 2018-2019 NIH R21 Award (R21-MH115366)
Role: PI National Institute of Mental Health
Title: *Simultaneous eye tracking and hippocampal iEEG to identify oscillatory signals of memory retrieval and novelty detection in humans*
- 2017-2018 NUCATS Voucher Tier 1 – Clinical and Translational Science Award (UL1TR001422)
Role: PI National Center for Advancing Translational Sciences
Title: *Tracking memory and brain function following stimulation-based therapy for epilepsy*
- 2016-2017 Pilot Grant – Northwestern University Cognitive Neurology and Alzheimer's Disease Center (CNADC)

Role: PI CNADC and National Institute on Aging
 Title: *Noninvasive brain stimulation to modulate memory awareness in older adults*
 2014-2015 NIH F32 Award (F32-NS087885)
 Role: PI National Institute of Neurological Disorders and Stroke
 Title: *Neural mechanisms of memory stability and change*

Co-Investigator:

2016-2018 NIH R21 Award (R21-MH108863)
 Role: Co-I National Institute of Mental Health
 Title: *Noninvasive modulation of prefrontal contributions to the organization of episodic memories*
 Project PI: J. Voss

 2016-2020 NIH R01 Award (R01-MH111790)
 Role: Co-I National Institute of Mental Health
 Title: *Optimized dosing of repetitive transcranial magnetic stimulation for enhancement of hippocampal-cortical networks*
 Project PI: J. Voss

Invited Lectures and Symposium

2017 Symposium speaker, Memory Disorders Research Society Conference, Chicago, IL
 Title: *Hippocampus, viewing, and the dynamic use of memory*
 2017 Guest lecturer, Cognitive Psychology Seminar, University of Illinois Urbana-Champaign, Champaign, IL
 Title: *Memory dynamically shapes learning and exploration*
 2016 Guest lecturer, Loyola University Chicago, Chicago, IL
 Title: *Active retrieval shapes memory and exploration*
 2016 Symposium speaker, International Conference on Memory, Budapest, Hungary
 Title: *Active retrieval, binding, and the structure of episodic memories*
 2016 Symposium chair & speaker, Annual Cognitive Neuroscience Society Meeting, New York, NY
 Symposium title: *Memory retrieval as a guide along the winding road of memory formation*
 Talk title: *Active retrieval dynamically influences learning*
 2015 Symposium speaker, Context and Episodic Memory Symposium, Philadelphia, PA
 Title: *How are episodic memories structured?*
 2012 Symposium speaker, National Legal Aid and Defender Association Annual Conference, Chicago, IL
 Title: *The beneficial and detrimental effects of retrieval on long-term memory*

Publications

Original Investigations

1. Kragel J, VanHaerents S, Templer JW, Schuele S, Rosenow JM, Nilakantan AS, **Bridge DJ**, (2019). Hippocampal theta coordinates memory processing during visual exploration. *bioRxiv*. doi: <https://doi.org/10.1101/629451>
2. Nilakantan AS, **Bridge DJ**, VanHaerents SA, Voss JL (2018). Distinguishing the precision of spatial recollection from its success: Evidence from healthy aging and unilateral mesial temporal lobe resection. *Neuropsychologia*, 119:101-106.

3. Marin, MM, VanHaerents SA, Voss JL, **Bridge DJ** (2018). Prefrontal theta-burst stimulation disrupts the organization of episodic memories via active short-term retrieval. *eNeuro*, 5. PMID:29445769
4. Voss JL, **Bridge DJ**, Cohen NJ, Walker JA (2017). A closer look at the hippocampus and memory. *Trends in Cognitive Sciences*, 21:577-588. PMID:28625353
5. **Bridge DJ**, Cohen NJ, Voss JL (2017). Distinct hippocampal versus frontoparietal-network contributions to retrieval and memory-guided exploration. *Journal of Cognitive Neuroscience*, 29:1324-1338. PMID: 28471729.
6. Nilakantan AS*, **Bridge DJ***, Gagnon EP, VanHaerents SA, Voss JL (2017). Stimulation of the posterior cortical-hippocampal network enhances precision of memory recollection. *Current Biology*, 11. PMID: 28111154. *Contributed equally to this work.
7. **Bridge DJ**, Voss JL (2015). Binding among select elements is altered via active short-term retrieval. *Learning & Memory*, 22, 360-363. PMID: 26179229
8. **Bridge DJ**, Voss JL (2014). Active retrieval facilitates across-episode binding by modulating the content of memory. *Neuropsychologia*, 63, 154-164. PMID: 25173711
9. **Bridge DJ**, Voss JL (2014). Hippocampal binding of novel information with dominant memory traces can support both memory stability and change. *Journal of Neuroscience*, 34, 2203-2213. PMID: 24501360
10. Harada T, **Bridge DJ**, Chiao, JY (2013) Dynamic social power modulates neural basis of math calculation. *Frontiers in Human Neuroscience*, 6:350. PMID: 23390415
11. **Bridge DJ**, Paller KA (2012). Neural correlates of reactivation and retrieval-induced distortion. *Journal of Neuroscience*, 32, 12144-12151.
12. **Bridge DJ**, Chiao JY, Paller KA (2010) Emotional context at learning systematically biases memory for facial information. *Memory & Cognition*, 38:125-133. PMID:20173185
13. Chiao JY, Harada T, Oby ER, Li Z, Parrish TB, **Bridge DJ** (2009) Neural representations of social status hierarchy in human inferior parietal cortex. *Neuropsychologia*, 47:354-363. PMID:18992759

Abstracts

1. **Bridge DJ**, Zelano CM, Whitmore NW, Walker JA, Rosenow J, Schuele SS, Templer J, Voss JL, VanHaerents SA (2018). Hippocampal theta phase coherence signals binding during retrieval and novelty processing. *Presented at the annual meeting of the Cognitive Neuroscience Society, Boston, MA.*
2. **Bridge DJ**, Walker JA, Zelano CM, Whitmore NW, VanHaerents SA, Voss JL (2017). Hippocampal oscillatory signals of memory-related viewing behaviors. *Presented at the annual meeting of the Society for Neuroscience, Washington, DC.*
3. Nilakantan AS, **Bridge DJ**, VanHaerents SA, Voss JL (2017). Is memory precision supported by a hippocampal cortical network? Evidence from brain lesions and noninvasive stimulation. *Presented at the annual meeting of the Society for Neuroscience, Washington, DC.*
4. Walker JA, Hermiller MS, Nilakantan AS, Mesulam MM, Weintraub S, Ward M, VanHaerents SA, **Bridge DJ**, Voss JL (2017). Targeting hippocampal memory networks in elderly adults using noninvasive brain stimulation.

5. Hermiller MS, Green DJ, VanHaerents SA, Raij T, **Bridge DJ**, Voss JL (2017). Frequency-specific noninvasive modulation of hippocampal-cortical networks and memory. *Presented at the annual meeting of the Society for Neuroscience, Washington, DC.*
6. O'Young DR, **Bridge DJ**, VanHaerents SA, Voss JL (2017). Testing the role of dorsolateral prefrontal cortex in memory-related viewing behaviors using noninvasive stimulation. *Presented at the annual meeting of the Society for Neuroscience, Washington, DC.*
7. Nilakantan AS, Walker JA, VanHaerents SA, **Bridge DJ**, Voss JL (2017). Hippocampus is necessarily involved in recollection memory precision. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
8. Hermiller MS, Fatima Z, O'Neil J, Palumbo R, VanHaerents S, Raij T, **Bridge DJ**, Voss JL (2017). Frequency dependence of noninvasive brain stimulation effects on hippocampal-cortical networks. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
9. O'Young DR, **Bridge DJ**, Voss JL (2016). The role of dorsolateral prefrontal cortex in viewing behaviors guided by episodic memory. *Presented at the annual meeting of the Society for Neuroscience, San Diego, CA.*
10. Hermiller M, Raij T, VanHaerents S, **Bridge DJ**, Voss JL (2016). Identifying optimal transcranial magnetic stimulation sequences for enhancement of hippocampal-cortical network connectivity and memory. *Presented at the annual meeting of the Society for Neuroscience, San Diego, CA.*
11. Nilakantan AS, **Bridge DJ**, Gagnon E, Voss JL (2016). Long-term targeted enhancement of posterior-medial hippocampal network improves spatial memory precision. *Presented at the annual meeting of the Society for Neuroscience, San Diego, CA.*
12. Marin BM, Voss JL, **Bridge DJ** (2016). Prefrontal theta-burst stimulation modulates episodic memory organization. *Presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY.*
13. Nilakantan AS, **Bridge DJ**, Gagnon E, Wang JX, Kim S, Voss JL (2016). Improved precision of successful recollection 24 hours after targeted stimulation of posterior hippocampal-cortical networks. *Presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY.*
14. **Bridge DJ**, Voss JL (2015). Dominance provides structure to episodic memories. *Presented at the annual meeting of the Society for Neuroscience, Chicago, IL.*
15. Nilakantan AS, **Bridge DJ**, Gagnon EP, Wang JX, Voss JL (2015). Neural correlates of associative memory with targeted enhancement of the hippocampal network using transcranial magnetic stimulation. *Presented at the annual meeting of the Society for Neuroscience, Chicago, IL.*
16. **Bridge DJ**, Voss JL (2015). Dominant episode elements organize relational binding to shape cohesive memory representations. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
17. Gagnon EP, **Bridge DJ**, Voss JL (2015). Associative novelty binding in young and older adults. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
18. **Bridge DJ**, Voss JL (2015). Dominant episode elements organize relational binding to shape cohesive memory representations. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*

19. **Bridge DJ**, Voss JL (2014). Dominant elements are powerful memory cues for entire episodes. *Presented at the annual meeting of the Society for Neuroscience, Washington DC.*
20. **Bridge DJ**, Voss JL (2014). The hippocampus binds novel information to dominant memory traces to support both memory stability and change. *Presented at the annual meeting of the Cognitive Neuroscience Society, Boston, MA.*
21. **Bridge DJ**, Voss JL (2013). Retrieval-mediated learning enhances binding across time. *Presented at the annual meeting of the Society for Neuroscience, San Diego, CA.*
22. **Bridge DJ**, Voss JL (2013). Actively updating memory via retrieval overrides original event memory even when context is reinstated. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
23. **Bridge DJ**, Paller KA (2012). Enhanced memory for prior retrieval events underlies the testing effect. *Presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.*
24. **Bridge DJ**, Paller KA (2012). Neural correlates of reactivation and retrieval-induced forgetting. *Presented at the annual meeting of the Cognitive Neuroscience Society, Chicago, IL.*
25. **Bridge DJ**, Paller KA (2011). Brain potentials reveal featural/configural bias in face memory due to emotional context at encoding. *Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
26. **Bridge DJ**, Harada T, Chiao JY (2009) Contextual social power and the neurocognitive mechanisms of math performance. *Cognitive Neuroscience Annual Meeting, San Francisco, CA.*
27. Zhang Y, **Bridge DJ**, Wright BA (2009) Learning frequency discrimination while practicing temporal-interval discrimination with a different stimulus. *The Association for Otolaryngology MidWinter meeting, Baltimore, MD.*
28. **Bridge DJ**, Choo H, Chiao JY (2008) Can race enhance perceptual awareness? Evidence from the attentional blink paradigm. *Vision Sciences Society, Naples, FL.*
29. Chiao JY, Harada T, Oby ER, Li Z, Parrish T, **Bridge DJ** (2007) Distinct and overlapping neural responses to social status and number in human intraparietal sulcus. Talk presented at the *Society for Neuroscience meeting, San Diego, CA.*
30. **Bridge DJ**, Li Z, Tsao M, Chiao JY (2007) Universality and cultural specificity in perceived social dominance: Effects of gender and culture on facial judgments. *Vision Sciences Society, Sarasota, FL.*
31. **Bridge DJ**, Youker TE, Provyn JP, Venkatadass V, Zhang Y, Howard MW (2006) Memory and cognition: What difference does gender make? *Syracuse University SciMix Undergraduate Poster Session, Syracuse, NY.*

Professional Activities

Institutional Service

2016-2018 Admission Committee member, Interdepartmental Neuroscience Program (NUIN)

Trainees

Postdoctoral fellows and graduate students at Northwestern University

2014-2019 Aneesha Nilakantan, Graduate Student

2018-2019 James Kragel, Postdoctoral Fellow

Dissertation committee membership

2016-2018 Jessica Creery, Northwestern University, Department of Psychology

2017-Present Daniel O'Young, Northwestern University, NUIN

Other mentorship

2015-2017 Bianca Marin, Undergraduate Research Assistant

2011 Theodora Koumoutsakis, Summer Research Opportunity Program

Extramural Membership

Society for Neuroscience

Cognitive Neuroscience Society

Review Responsibilities

Grant peer review:

Academy of Medical Sciences, Springboard, ad hoc grant review (2016)

Manuscript peer review for:

Nature Neuroscience

Learning & Memory

Journal of Cognitive Neuroscience

NeuroImage

Scientific Reports

Journal of Experimental Psychology: Learning, Memory, and Cognition

Psychophysiology

Cognition & Emotion

Psychological Science

Hippocampus