

Donna J. Bridge, Ph.D.

Date of Birth: September 30, 1983

Citizenship: U.S.A.

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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 SA, Templer J, Schuele SS, Rosenow J, Zelano C, **Bridge DJ**, (In prep). Hippocampal oscillatory signals are finely tuned to memory retrieval and novelty detection during visual exploration.

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, Probyn 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-present Admission Committee member, Interdepartmental Neuroscience Program (NUIN)

Trainees

Postdoctoral fellows and graduate students at Northwestern University

2014-Present Aneesha Nilakantan, Graduate Student

2018-Present James Kragel, Postdoctoral Fellow

Dissertation committee membership

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

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