

DAVID BRANG

CURRICULUM VITAE

October 2022

ADDRESS

mail: David Brang, Ph.D.
Associate Professor, Department of Psychology, University of Michigan
Affiliate Faculty, Michigan Institute for Data Science
Affiliate Faculty, Michigan Institute for Computational Discovery and Engineering
530 Church Street, Ann Arbor, MI 48109
phone: (734) 764-3617
email: djbrang@umich.edu
www: www.davidbrang.com

ACADEMIC POSITIONS

2022-Present Associate Professor (with tenure), Department of Psychology, University of Michigan
2016-2022 Assistant Professor, Department of Psychology, University of Michigan
2012-2016 Postdoctoral Scholar, Department of Psychology, Northwestern University
Advisors: Satoru Suzuki and Marcia Grabowecky
2012-2016 Postdoctoral Scholar, Department of Neurology, University of Chicago
Advisor: Vernon Leo Towle

EDUCATION

2007-2012 Ph.D. in Psychology, University of California San Diego
Dissertation: *When does 2 turn blue? The timing of and mechanisms underlying synesthesia and learned associations*
Advisor: Vilayanur S. Ramachandran
2002-2007 B.A. in Cognitive Science with Distinction, University of California San Diego
Honors Thesis: *Contextual priming in grapheme-color synesthesia*
Advisor: Seana Coulson

RESEARCH SUMMARY

My lab investigates how the human brain integrates sensory information to generate computationally efficient estimates of the external world. I pursue four related lines of inquiry: How does visual information remediate auditory speech perception deficits? How do sounds influence visual perception and what mechanisms support these processes? What is the relationship between synesthesia and more common forms of multisensory integration? And how can mapping these functional processes in patients minimize post-operative perceptual and cognitive deficits, while inspiring novel rehabilitation therapies based on the brain's own mechanisms for signal recovery? My research addresses these questions using psychophysical testing, EEG, and fMRI in typically developing individuals, as well as intracranial recordings (iEEG) and lesion mapping measures (VLSM) acquired from patients with epilepsy or an intrinsic brain tumor.

GRANT SUPPORT

Active Support

NIH NIBIB U01 EB026977, Noll (Co-I) High SNR functional brain imaging using oscillating steady state MRI	09/30/2018 – 06/30/2023 \$2,799,709
NSF CRCNS 2112773, Liu and Brang (Co-PI) Predictive coding network for human vision	10/01/2021 – 09/30/2026 \$1,046,000

Pending Support

NIH NIDCD R01 DC020717, Brang (PI) Characterizing the recovery of spectral, temporal, and phonemic speech information from visual cues Pending administrative approval (Percentile: 15%, ESI Eligible)	09/01/2022 – 08/31/2027 \$2,811,800
Mark Foundation, Hervey-Jumper (PI), Brang (Sub-Contract PI) Causal mechanisms of cortical information loss in adult glioma	07/01/2023 – 06/30/2026 \$600,000 (Sub-Contract)
Department of Defense, Hervey-Jumper (PI), Brang (Sub-Contract PI) Causal mechanisms of cortical information loss in adult cancer survivors	07/01/2023 – 06/30/2027 \$272,000 (Sub-Contract)

Past Support

NIH NIDCD K99/R00 DC013828, Brang (PI) Networks underlying visual modulation of speech perception	12/01/2014 – 08/31/2021 \$1,021,647
--	--

MANUSCRIPTS IN REVIEW & UNDER REVISION

*Underlined names indicate co-authors who were under my supervision while the research was conducted.

1. Krishna S, Choudhury A, Seo K, Ni L, Kakaizada S, Lee A, Aabedi A, Cao C, Sudharshan R, Egladyous A, Almeida N, Venkatesh HS, Findlay A, Nagarajan S, Raleigh D, **Brang D**, Monje M, Hervey-Jumper SL (invited revision). Glioblastoma remodeling of neural circuits in the human brain decreases survival. *Nature*. Available at <https://www.biorxiv.org/content/10.1101/2021.02.18.431915v1>
2. Karthik G, Cao CZ, Demidenko MI, Jahn A, Stacey WC, Wasade VS, **Brang D** (in review). Auditory cortex encodes lipreading information through spatially distributed activity. Available at <https://www.biorxiv.org/content/10.1101/2022.11.11.516209v1>
3. **Brang D**, Plass J, Kakaizada S, Hervey-Jumper SL (in review). Auditory-visual speech behaviors are resilient to left pSTS damage. Available at <https://www.biorxiv.org/content/10.1101/2020.09.26.314799v1>

PEER-REVIEWED ARTICLES (GOOGLE SCHOLAR CITATION COUNT = 3093, H-INDEX = 26)

1. Creery JD, **Brang D**, Arndt JD, Bassard A, Towle VL, Tao JX, Wu S, Rose S, Warnke P, Issa NP, Paller KA (2022). Electrical Markers of Memory Consolidation in the Human Brain when Memories are Reactivated during Sleep. *Proceedings of the National Academy of Sciences*. 119(44), e2123430119.
2. **Brang D**, Plass J, Sherman A, Stacey WC, Wasade VS, Grabowecky M, Ahn E, Towle VL, Tao JX, Wu S, Issa NP, Suzuki S (2022). Visual cortex responds to sound onset and offset during passive listening. *Journal of Neurophysiology*, 127(6), 1547-1563.
3. Kaur J, Egladyous A, Valdivia C, Daniel AGS, Krishna S, Aabedi A, **Brang D**, Hervey-Jumper SL (2022). Neuro-Oncology Patients as Human Research Subjects: Ethical Considerations for Cognitive and Behavioral Testing for Research Purposes. *Cancers*, 14(3), 692.
4. Aabedi AA*, Lipkin B*, Kaur J, Kakaizada S, Reihl SJ, Young JS, Lee AT, Krishna S, Chang EF, **Brang D***, Hervey-Jumper SL* (2021). Functional alterations in cortical processing of speech in glioma-infiltrated cortex. *Proceedings of the National Academy of Sciences*, 18(46), e2108959118. **Authors contributed equally to this work.
5. Plass J, **Brang D** (2021). Multisensory stimuli shift perceptual priors to facilitate rapid behavior. *Scientific Reports*, 11, 23052.
6. Karthik G, Plass J, Beltz AM, Liu Z, Grabowecky M, Suzuki S, Stacey WC, Wasade VS, Towle VL, Tao JX, Wu S, Issa NP, **Brang D** (2021). Visual speech differentially modulates beta, theta, and high gamma bands in auditory cortex. *European Journal of Neuroscience*, 54(9), 7301-7317.
7. Morshed RA, Young JS, Kroliczek AA, Berger MS, **Brang D**, Hervey-Jumper SL (2021). A neurosurgeon's guide to cognitive dysfunction in adult glioma. *Neurosurgery*, 89(1), 1-10.
8. Aabedi AA, Kakaizada S, Young JS, Wiese O, Valdivia C, Krishna S, Berger MS, Weissman DH, **Brang D***, Hervey-Jumper SL* (2021). Convergence of heteromodal lexical retrieval in the lateral prefrontal cortex. *Scientific Reports*, 11(1), 1-11. *Authors contributed equally to this work.
9. Zhang Y, Kim JH, **Brang D**, Liu Z (2021). Naturalistic stimuli: a paradigm for multi-scale functional characterization of the human brain. *Current Opinion in Biomedical Engineering*, 100298.

10. Krishna S, Kakaizada S, **Brang D**, Hervey-Jumper SL (2021). Central nervous system plasticity influences language and cognitive recovery in adult glioma. *Neurosurgery*, 89(4), 539–548.
11. Aabedi AA, Kakaizada S, Young JS, Ahn E, Weissman DH, Berger MS, **Brang D**, Hervey-Jumper SL (2021). Balancing task sensitivity with reliability for multimodal language assessments. *Journal of Neurosurgery*, 135(6), 1817-1824.
12. Zheng W, Reddy GKM, Dai F, Chandramani A, **Brang D**, Hunter S, Kohrman MH, Rose S, Rossi M, Tao JX, Wu S, Byrne R, Frim DM, Warnke P, Towle VL (2021). Chasing language through the brain: Successive parallel networks. *Clinical Neurophysiology*, 132(1), 80-93.
13. Kao H, Hu S, Mihaylova T, Ziobro J, Ahn E, Fine C, **Brang D**, Watson B, Wang Y (2021). Defining the latent period of epileptogenesis and epileptogenic zone in a focal cortical dysplasia type II (FCDII) rat model. *Epilepsia*, 62, 1268–1279.
14. Plass J, **Brang D**, Suzuki S, Grabowecky M (2020). Vision perceptually restores auditory spectral dynamics in speech. *Proceedings of the National Academy of Sciences*, 117(29), 16920-16927.
15. Aabedi AA, Ahn E, Kakaizada S, Young JS, Zhang E, Sagher O, Weissman DH, **Brang D***, Hervey-Jumper SL* (2020). Assessment of wakefulness during awake craniotomy to predict intraoperative language performance. *Journal of Neurosurgery*, 132, 1930-1937. *Authors contributed equally to this work.
16. Venkatesh HS, Morishita W, Geraghty AC, Silverbush D, Gillespie SM, Arzt M, Tam LT, Espenel C, Ponnuswami A, Ni L, Woo PJ, Taylor KR, Agarwal A, Regev A, **Brang D**, Vogel H, Hervey-Jumper S, Bergles D, Suvà ML, Malenka RC, Monje M (2019). Electrical and synaptic integration of glioma into neural circuits. *Nature*, 573, 539–545.
17. Lalwani P, **Brang D** (2019). Stochastic resonance model of synesthesia. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 374, 20190029.
18. **Brang D** (2019). The stolen voice illusion. *Perception*, 48(8) 649–667.
19. Plass J, Ahn E, Towle VL, Stacey WC, Wasade VS, Tao JX, Wu S, Issa NP, **Brang D** (2019). Joint encoding of auditory timing and location in visual cortex. *Journal of Cognitive Neuroscience*, 31(7), 1002-1017.
20. **Brang D**, Ahn E (2019). Double-blind study of visual imagery in grapheme-color synesthesia. *Cortex*, 117, 89-95.
21. Nair A, **Brang D** (2019). Inducing synesthesia in non-synesthetes: short-term visual deprivation facilitates auditory-evoked visual percepts. *Consciousness and Cognition*, 70, 70-79.
22. Dotterer HL, Waller R, Shaw DS, Plass J, **Brang D**, Forbes EE, Hyde LW (2019). Antisocial behavior with callous-unemotional traits is associated with widespread disruptions to white matter structural connectivity among low-income, urban males. *NeuroImage: Clinical*, 23, 101836.
23. Ren S, Gliske SV, **Brang D**, Stacey WC (2019). Redaction of false high frequency oscillations due to muscle artifact improves specificity to epileptic tissue. *Clinical Neurophysiology*, 130(6), 976-985.
24. Case L, **Brang D**, Landazuri R, Ramachandran VS (2017). Altered white matter and sensory response to bodily sensation in FTM transsexual individuals. *Archives of Sexual Behavior*, 46(5), 1223-1237.
25. **Brang D**, Dai Z, Zheng W, Towle VL (2016). Registering imaged ECoG electrodes to human cortex: A geometry-based technique. *Journal of Neuroscience Methods*, 273, 64-73.
26. Honma M, Plass J, **Brang D**, Florczak SM, Paller KA (2016). Sleeping on the rubber-hand illusion: Memory reactivation during sleep facilitates multisensory recalibration. *Neuroscience of Consciousness*. 2016(1).
27. **Brang D**, Towle VL, Suzuki S, Hillyard SA, Di Tusa S, Dai Z, Tao J, Wu S, Grabowecky M (2015). Peripheral sounds rapidly activate visual cortex: Evidence from electrocorticography. *Journal of Neurophysiology*, 114(5), 3023-3028.
28. McGeoch PD*, **Brang D***, Huang M, Ramachandran VS (2015). Primary somatosensory cortex hand representation dynamically modulated by motor output. *Neurocase*, 21(1), 103-105. *Authors contributed equally to this work.
29. **Brang D**, Taich ZJ, Hillyard SA, Grabowecky M, Ramachandran VS (2013). Parietal connectivity mediates multisensory facilitation. *NeuroImage*, 78, 396-401.
30. **Brang D**, Ghiam M, Ramachandran VS (2013). Impaired acquisition of novel grapheme-color correspondences in synesthesia. *Frontiers in Human Neuroscience*, 7, 717.

31. **Brang D**, Miller LE, McQuire M, Ramachandran VS, Coulson S (2013). Enhanced mental rotation ability in time-space synesthesia. *Cognitive Processing*, 14(4), 429-434.
32. Edelstein M, **Brang D**, Rouw R, Ramachandran VS (2013). Misophonia: Physiological investigations and case descriptions. *Frontiers in Human Neuroscience*, 7, 296.
33. **Brang D**, Williams LE, Ramachandran VS (2012). Grapheme-color synesthetes show enhanced crossmodal processing between auditory and visual modalities. *Cortex*, 48(5), 630-637.
34. Ramachandran VS, Miller LE, Livingstone MS, **Brang D** (2012). Colored halos around faces and emotion-evoked colors: A new form of synesthesia. *NeuroCase*, 18(4), 352-358.
35. **Brang D**, Ramachandran VS (2011) Survival of the synesthesia gene: Why do people hear colors and taste words? *PLoS Biology*, 9(11): e1001205.
36. McGeoch PD*, **Brang D***, Song T, Lee R, Huang MX, Ramachandran VS (2011). Xenomelia: A new right parietal lobe syndrome. *Journal of Neurology, Neurosurgery, and Psychiatry*, 82, 1314-1319. *Authors contributed equally to this work.
37. **Brang D**, Teuscher U, Miller LE, Ramachandran VS, Coulson S (2011). Handedness and calendar orientations in time-space synesthesia. *Journal of Neuropsychology*, 5(2), 323-32.
38. **Brang D**, Rouw R, Coulson S, Ramachandran VS (2011). Similarly shaped letters evoke similar colors in grapheme-color synesthesia. *Neuropsychologia*, 49(5), 1355-1358.
39. Hubbard EM, **Brang D**, Ramachandran VS (2011). The cross-activation theory at ten. *Journal of Neuropsychology*, 5(2), 152-77.
40. **Brang D**, Kanai S, Ramachandran VS, Coulson S (2011). Contextual priming in grapheme-color synesthetes and yoked controls: 400 milliseconds in the life of a synesthete. *Journal of Cognitive Neuroscience*, 23(7), 1681-1696.
41. **Brang D**, Hubbard EM, Coulson S, Huang MX, Song T, Ramachandran VS (2010). Magnetoencephalography reveals early activation of V4 in grapheme color synesthesia. *NeuroImage*, 53(1), 268-274.
42. Teuscher U, **Brang D**, Ramachandran VS, Coulson S (2010). Spatial cueing in time-space synesthetes: An event-related brain potential study. *Brain and Cognition*, 74(1), 35-46.
43. Ramachandran VS, **Brang D**, McGeoch PD (2010). Dynamic reorganization of referred sensations caused by volitional movements of phantom limbs. *Neuroreport*, 21(10), 727-730.
44. **Brang D**, Ramachandran VS (2010). Olfactory bulb dysgenesis, mirror neuron system dysfunction, and autonomic dysregulation as the neural basis for autism. *Medical Hypothesis*, 74(5), 919-21.
45. Coulson S, **Brang D** (2010). Sentence context affects processing of masked words: An ERP study. *Brain and Language*, 113, 149-155.
46. **Brang D**, Teuscher U, Ramachandran VS, Coulson S (2010). Temporal sequences, synesthetic mappings, and cultural biases: The geography of time. *Consciousness and Cognition*, 19, 311-320.
47. **Brang D**, Ramachandran VS (2010). Visual field heterogeneity, laterality, and eidetic imagery in synesthesia. *Neurocase*, 16(2), 169-74.
48. Ramachandran VS, **Brang D** (2009). Sensations evoked in patients with amputation from watching an individual whose corresponding intact limb is being touched. *Archives of Neurology*, 66(10), 1281-1284.
49. Ramachandran VS, **Brang D**, McGeoch PD (2009). Size reduction using mirror visual feedback (MVF) reduces phantom pain. *Neurocase*, 15(5), 357-360.
50. Ramachandran VS, **Brang D**, McGeoch P, Rosar W (2009). Sexual and food preference in apotemnophilia and anorexia: Interactions between "beliefs" and "needs" regulated by two-way connections between body image and limbic structures. *Perception*, 38(5), 775-7.
51. **Brang D**, McGeoch P, Ramachandran VS (2008). Apotemnophilia: A neurological disorder. *Neuroreport*, 19(13), 1305-6.
52. **Brang D**, Edwards L, Ramachandran VS, Coulson S (2008). Is the sky 2? Contextual priming in grapheme-color synesthesia. *Psychological Science*, 19(5), 421-9.
53. Ramachandran VS, **Brang D** (2008). Tactile-emotion synesthesia. *Neurocase*. 14(5), 390-9.
54. **Brang D**, Ramachandran VS (2008). Psychopharmacology of synesthesia; the role of serotonin 5-HT_{2A} receptor activation. *Medical Hypotheses*, 70(4), 903-4.

55. Pineda JA, **Brang D**, Hecht E, Edwards L, Carey S, Bacon M, Futagaki C, Suk D, Tom J, Birnbaum C, Rork A. (2008). Positive behavioral and electrophysiological changes following neurofeedback training in children with autism. *Research on Autism Spectrum Disorders*, 2(3), 557-81.
56. McGeoch P, **Brang D**, Ramachandran VS (2007). Apraxia, metaphor and mirror neurons. *Medical Hypotheses*, 69(6), 1165-8.

BOOK CHAPTERS AND ENCYCLOPEDIA ARTICLES

1. **Brang D**, Ramachandran VS (2020). How do crossmodal correspondences and multisensory processes relate to synesthesia? In Sathian K, Ramachandran VS (Eds.). Multisensory Perception: From Laboratory to Clinic (pp. 259-281). *Academic Press*.
2. Ramachandran VS, **Brang D** (2014). From molecules to metaphor: Outlooks on synesthesia research. Handbook of Synesthesia.
3. Hubbard EM, **Brang D**, Ramachandran VS. (2011). "Diez años de la teoría de la interactivación", In "Sinestesia. Los fundamentos teóricos, artísticos y científicos", a cura de M. José De Córdoba y Dina Riccò, Ediciones Fundación Internacional Artecittà, Granada, [ISBN-13: 978-84-939054-1-5].
4. McGeoch PD, **Brang DJ**, Ramachandran VS (2009). A new right parietal lobe syndrome? In Stirn A, Thiel A, Oddo S (Eds.), Body Integrity Identity Disorder: Psychological, Neurobiological, Ethical and Legal Aspects. Lengerrich, Germany: Pabst Science Publishers.
5. **Brang D** (2009). Synesthesia. Corsini Encyclopedia of Psychology.
6. Ramachandran VS, **Brang D** (2009) Phantom touch. Scholarpedia, 4(10), 8244.
7. Ramachandran VS, **Brang D** (2008). Synesthesia; from molecules to metaphor. Scholarpedia, 3(6), 3981.
8. Pineda JA, **Brang D**, Futagaki C, Hecht E, Grichanik M, Wood L, Bacon M, Carey S (2006). Effects of Neurofeedback Training on Action Comprehension and Imitation Learning. In Puckhaber, H.L. (Eds.), New Research on Biofeedback. New York: Nova Science.

TEACHING EXPERIENCE

Department of Psychology, University of Michigan

Perception (Undergraduate): FA 2017

Research methods in human electroencephalography (Undergraduate): FA 2020, WI 2021, WI 2022

Research methods in human electroencephalography (Graduate): FA 2018, WI 2021

The neuroscience of perception (Undergraduate): FA 2016, FA 2018, FA 2019

The neuroscience of perception (Graduate): FA 2016, FA 2017

Teaching Assistant, Department of Psychology, UCSD

Brain damage and mental function: FA 2007, FA 2008, WI 2010, WI 2011, SU 2011, SP 2012

Introduction to clinical neuropsychology: SU 2009, SU 2011

Introduction to statistics: FA 2011, WI 2012

Sensation and perception: WI 2008, SU 2009, SP 2011

TEACHING INTERESTS

Sensation and Perception

Human Electrophysiology

Cognitive Neuroscience

Research Methods and Design

Neuropsychology

Multisensory Processes

Biological Psychology

Neural Circuits

TEACHING PERFORMANCE

Formal metrics demonstrate positive experiences from students in my undergraduate and graduate courses. Across my courses, students provided median ratings to the prompts "Overall, this was an excellent course" and "Overall, David Brang was an excellent teacher" of 4.85 and 4.90 respectively out of a maximum possible value of 5.0; my scores have consistently exceed the average score for a course at the University of Michigan.

DISSERTATION COMMITTEES

EunSeon Ahn (2023), Department of Psychology, University of Michigan
Justin Craft (2023), Department of Linguistics, University of Michigan
Kuan Han (2023), Departments of Electrical Engineering and Computer Science, University of Michigan
Karthikeyan Ganesan (2022), Department of Psychology, University of Michigan
Poortata Lalwani (2022), Department of Psychology, University of Michigan
Yizhen Zhang (2021), Departments of Electrical Engineering and Computer Science, University of Michigan
Lauren Grant (2021), Department of Psychology, University of Michigan
Ian Calloway (2020), Department of Linguistics, University of Michigan
Fatemeh Noohi (2018), School of Kinesiology, University of Michigan

HONORS AND AWARDS

June 2022. University of Michigan, Provost's Neuroscience Scholar Award
October 2014. NIH NIDCD Pathway to Independence Award (K99/R00)
March 2014. Postdoc Professional Development Award, Northwestern University
June 2012. T32 Neuroscience of Human Cognition Postdoctoral Training Award, Northwestern University
June 2012. Student Award, International Multisensory Research Forum, Oxford, UK
March 2012. Dean of Social Sciences Travel Fund Award. UC San Diego
January 2012; March 2009; September 2008. Norman Anderson Travel Grants. UC San Diego
July 2011. Early Career Participant Award, Varieties of Cortical Colour Vision Conference, SFU
April 2009. NSF Graduate Research Fellows Program: Honorable Mention.
June 2007. BA awarded with Distinction in Cognitive Science, UC San Diego

SELECTED TALKS

June 2022. What crossmodal information is shared across the senses? Sight and Sound Workshop, Computer Vision and Pattern Recognition Conference (CVPR), *New Orleans*.
April 2020. Predictive coding of multisensory information using electrocorticography. Center for Cognitive Sciences, *University of Minnesota*.
August 2019. Predictive Coding of Multisensory Information Using Electrocorticography. Department of Neurology, *University of Chicago*.
October 2018. Synesthesia evoked through mild sensory deprivation. Bridging senses: New developments in synaesthesia. *The Royal Society, London, UK*.
August 2017. Visual modulation of auditory processing during speech. European conference on visual perception. *Berlin, Germany*.
June 2017. Visual signals predictively encode information in early auditory areas: Evidence from human electrocorticography. *University of California, San Diego*.
June 2015. Rapid multisensory activation of early sensory areas in non-synesthetes. University of Amsterdam, *Amsterdam, Netherlands*.
March 2015. Decoding the neurobiology of synaesthesia. Royal Netherlands Academy of Arts and Sciences, *Amsterdam, Netherlands*.
July 2014. The Menzies Foundation Symposium: A window into normal cognition: Insights from synaesthesia. International Conference on Cognitive Neuroscience, *Brisbane, Australia*.
May 2014. Electrocorticographic (ECoG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex. Vision Sciences Society, *St. Petersburg, FL*.
February 2014. Anatomical and functional networks underlying audio-visual interactions. Synesthesia in Perspective: Development, Networks, and Multisensory Processing, *University Medical Center Hamburg-Eppendorf*.
December 2013. Electrocorticographic (ECoG) examinations of auditory-visual interactions. Interdepartmental Neuroscience Program, *Northwestern University*.

June 2012. Task dependent anatomical connections underlie multisensory processing. International Multisensory Research Forum, *Oxford University*.

April 2012. Enhanced multisensory integration relates to increased parietal white matter connectivity. Cognitive Neuroscience Society: Slide Session, *Chicago, IL*.

July 2011. Cross-Talk among the Senses: Influence of connectivity on synesthesia and typical multisensory processes. Princeton Neuroscience Institute, *Princeton University*.

November 2010. Functional predictions made by the cross-activation theory. Mini-symposium on Synesthesia. Society for Neuroscience, *San Diego, CA*.

October 2010. Novel symbols show implicit associations in synesthesia. American Synesthesia Association, *Vanderbilt University*.

March 2010. The timing of activation in synesthesia: A magnetoencephalography study. UK Synesthesia Association, *Brighton University*.

March 2009. Heightened autonomic responses in body integrity identity disorder. Body Integrity Identity Disorder Congress, *Frankfurt, Germany*.

UNIVERSITY SERVICE

Executive Committee, Department of Psychology (2020 – 2021)
Executive Committee, Michigan Sensory Science Initiative (2020 – Present)
Student Academic Affairs Committee, Department of Psychology (2019)

GRANT REVIEW SERVICE

Department of Veterans Affairs, Neurobiology B Review Panel (NURB): May 2018
National Institutes of Health, Auditory System Study Section (AUD): October 2021
National Institutes of Health, Auditory System Study Section (LCOM): October 2022

AD HOC JOURNAL REVIEWER (40 JOURNALS)

<i>Acta Psychologica</i>	<i>Human Psychopharmacology</i>
<i>American Journal of Psychology</i>	<i>iScience</i>
<i>Annals of Neurology</i>	<i>Journal of Clinical Psychiatry</i>
<i>Attention, Perception, & Psychophysics</i>	<i>Journal of Cognitive Neuroscience</i>
<i>Brain</i>	<i>Journal of Experimental Psychology: HPP</i>
<i>Brain and Cognition</i>	<i>Journal of Neuropsychology</i>
<i>Cerebral Cortex</i>	<i>Journal of Visualized Experiments</i>
<i>Cognition</i>	<i>Multisensory Research</i>
<i>Cognitive and Behavioral Neurology</i>	<i>Nature Communications</i>
<i>Cognitive Neuropsychology</i>	<i>Neurocase</i>
<i>Cognitive Neuroscience</i>	<i>NeuroImage</i>
<i>Cognitive Science</i>	<i>Neuropsychologia</i>
<i>Color Research and Application</i>	<i>Neuroscience of Consciousness</i>
<i>Consciousness and Cognition</i>	<i>PLoS ONE</i>
<i>Cortex</i>	<i>Philosophical Transactions B</i>
<i>Current Biology</i>	<i>Proceedings of the National Academy of Sciences</i>
<i>Current Opinion in Biomedical Engineering</i>	<i>Psychological Science</i>
<i>eNeuro</i>	<i>Scientific Reports</i>
<i>European Journal of Neuroscience</i>	<i>Spanish Journal of Psychology</i>
<i>Frontiers in Cognitive Science</i>	<i>Vision Research</i>

SELECTED MEDIA AND PRESS

Summaries of Research
Popular Science, 2020: <https://www.popsci.com/story/science/senses-confused/>
Scientific American, 2019: <https://www.scientificamerican.com/article/cancer-cells-have-unsettling-ability-to-hijack-the-brains-nerves/>

Discover Magazine, 2019: <https://www.discovermagazine.com/mind/we-might-all-have-synesthesia-new-study-suggests>
Psychology Today, 2018: <https://www.psychologytoday.com/us/blog/sleepless-in-america/201809/understanding-misophonia>
KPBS, 2013: <http://www.kpbs.org/news/2013/aug/21/why-does-sound-chewing-make-some-people-panic/>
Lancet Neurology, News in brief, 2011: <https://goo.gl/KgZ3v5>
Discover Magazine, 2010: <https://www.discovermagazine.com/health/the-rare-humans-who-see-time-and-have-amazing-memories>
New Scientist, 2010: <http://www.newscientist.com/article/dn18723-time-lords-discovered-in-california.html?DCMP=OTC-rss&nsref=online-news>
New Scientist, 2009: <http://www.newscientist.com/article/dn16840-desire-to-amputate-healthy-limbs-shows-up-in-brain-scans.html>
Scientific American, 2009: <http://www.scientificamerican.com/article.cfm?id=body-integrity-identity-disorder>
New Scientist, 2008: <http://www.newscientist.com/article/dn16298-first-cases-of-touchemotion-synaesthesia-discovered.html>

Print Interviews

Atlantic, 2017: <https://www.theatlantic.com/science/archive/2017/01/synesthesia-lightning-lost-and-found/512264/>
LA Times, 2012: <http://www.latimes.com/health/la-he-synesthesia-brain-20120220.0.6760571.story>
National Geographic, 2011: <https://www.nationalgeographic.com/news/2011/11/111123-evolution-brain-synesthesia-taste-colors-sounds-creative-science/>
ScienceNews, 2011: <https://www.sciencenews.org/article/unraveling-synesthesia>
TheScientist, 2011: <https://www.the-scientist.com/news-opinion/seeing-sound-41677>
CNN Health, 2010: <http://thechart.blogs.cnn.com/2010/11/17/on-the-brain-when-numbers-have-color-synesthesia/>

Audio Interviews

NPR/CBC Podcast, 2011
PLoS Biology Podcast, 2011

TV Documentaries

History Channel, 2020: The UnXplained, Season 2, Episode 2
National Geographic and Discovery Channel, 2010: *Taboo*, Season 6, Episode 3

REFEREED CONFERENCE ABSTRACTS

1. **Ahn E, Brang D** (July 2022). Visual cortex responds to transient sound changes without encoding complex auditory dynamics. *International Multisensory Research Forum*.
2. **Ahn E, Brang D** (July 2022). Dissociating the involvement of posterior superior temporal region in audio-visual processing through transcranial magnetic stimulation. *International Multisensory Research Forum*.
3. **Ganesan K, Jahn A, Plass J, Fine C, Brang D** (April 2022). Decoding linguistic content from visual speech in the human auditory cortex. *Cognitive Neuroscience Society*.
4. **Fine C, Ren Y, Wasade V, Brang D** (April 2022). 'A' is lobster red: Intracranial EEG recordings show fast synesthetic conflict in the insula. *Cognitive Neuroscience Society*.
5. **Cao CZ, Plass J, Weissman D, Brang D** (April 2022). Listeners extract spectral and temporal information from the mouth during naturalistic audiovisual speech. *Cognitive Neuroscience Society*.
6. **Ahn E, Dark S, Wiese O, Fine C, Kakaizada S, Kaur J, Hervey-Jumper S, Brang D** (November 2021). Quantifying the causal impact of different sub-regions of tumor lesion on semantic naming ability. *Society for Neuroscience*.
7. **Ganesan K, Jahn A, Brang D** (November 2021). Successful decoding of lipreading information in auditory areas. *Society for Neuroscience*.
8. **Fine C, Brang D** (November 2021). Quick as a flash: Electrographic (ECoG) recordings show that sounds influence visual perception by speeding up visual responses in motion sensitive visual cortex (hMT+). *Society for Neuroscience*.
9. **Cao CZ, Karthik G, Stacey WC, Brang D** (November 2021). Auditory Cortex Uses Visual Timing Information to Enhance Auditory Speech Perception. *Society for Neuroscience*.

10. Lee A, Krishna S, Kakaizada S, Seo K, Raleigh D, Almeida N, **Brang D**, Nagarajan S, Berger M, Monje M, Hervey-Jumper S (April 2020). Glioma-neuronal interactions: a study of tumor integration and synaptogenesis mediated language plasticity in adult high-grade glioma. *American Association of Neurological Surgeons*.
11. Wiese OG, Kakaizada S, Valdivia C, Hervey-Jumper S, **Brang D** (October 2019). The causal role of the pSTS in auditory-visual speech integration: A voxel-based lesion-symptom mapping study. *Society for Neuroscience*.
12. Plass J, Ahn E, Sherman A, Towle VL, Stacey WC, Wasade V, Tao JX, Wu S, Issa N, Grabowecky M, Suzuki S, **Brang D** (October 2019). Characterizing auditory responses in human low-level visual cortex using ECoG. *Society for Neuroscience*.
13. Ganesan K, Beltz AM, **Brang D** (October 2019). Building generalizable cognitive models using ECoG: An improvised technique for group-level analysis. *Society for Neuroscience*.
14. Ahn E, Plass J, **Brang D** (October 2019). Continuous tracking of error-related negativity via electrocorticography in humans. *Society for Neuroscience*.
15. Lipkin B, Plass J, Kakaizada S, Valdivia C, Sagher O, Hervey-Jumper S, **Brang D** (October 2019). Electrocorticographic recordings enable intraoperative language network mapping. *Society for Neuroscience*.
16. Creery J, **Brang D**, Patel M, Towle VL, Tao J, Wu S, Paller K (March 2019). Hippocampal epileptic activity during sleep disrupts memory consolidation. *Cognitive Neuroscience Society*.
17. Ganesan K, Ahn E, Plass J, Stacey W, **Brang D** (March 2019). Silent lip reading generates speech signals in auditory areas: Evidence from intracranially implanted electrodes in humans. *Cognitive Neuroscience Society*.
18. Ahn E, **Brang D** (March 2019). Double-blind study of visual imagery in grapheme-color synesthesia. *Cognitive Neuroscience Society*.
19. Plass J, Ahn E, Sherman A, Towle VL, Stacey W, Wasade V, Tao J, Wu S, Issa N, Grabowecky M, Suzuki S, **Brang D** (March 2019). Spatiotemporal information conveyed by crossmodal phase reset: An electrocorticography approach. *Cognitive Neuroscience Society*.
20. Ahn E, Plass J, Rakochi A, Stacey W, **Brang D** (June 2018). Networks supporting auditory-visual speech: evidence from invasive neural recordings in humans. *International Multisensory Research Forum*.
21. Plass J, **Brang D**, Suzuki S, Grabowecky M (June 2018). Audiovisual Integration of subphonemic frequency cues in speech perception. *International Multisensory Research Forum*.
22. Ganesan K, Plass J, Ahn E, Rakochi A, Stacey W, **Brang D** (June 2018). A probabilistic model for modulated speech encoding in the McGurk effect. *International Multisensory Research Forum*.
23. Ganesan K, Zweig J, Grabowecky M, Suzuki S, Towle VL, Tao JX, Wu S, **Brang D** (March 2018). Silent lip reading generates speech signals in auditory cortex. *Cognitive Neuroscience Society*.
24. Nair A, **Brang D** (May 2017). Startling sounds presented under dark adaptation evoke synesthetic experiences in non-synesthetes. *International Multisensory Research Forum*.
25. Ahn E, Rakochi A, Zweig LJ, Suzuki S, Grabowecky M, Towle VL, Tao JX, Wu S, Stacey W, **Brang D** (May 2017). Lipreading primes auditory cortical networks prior to speech onset: Evidence from invasive neural recordings in humans. *International Multisensory Research Forum*.
26. Rakochi A, Ahn E, Nair A, Towle VL, Tao JX, Wu S, Stacey W, **Brang D** (May 2017). Peripherally-presented sounds facilitate early visual processing of spatially aligned visual targets: Evidence from intracranial electrophysiological recordings in humans. *International Multisensory Research Forum*.
27. Nair A, **Brang D** (April 2017). Startling sounds presented under dark adaptation evoke synesthetic experiences. *Cognitive Neuroscience Society*.
28. Creery J, **Brang D**, Towle VL, Tao J, Wu S, Paller K (April 2017). Memory replay during sleep in human intracranial recordings. *Cognitive Neuroscience Society*.
29. **Brang D**, Suzuki S, Grabowecky M (May 2016). The stolen voice illusion. *Vision Sciences Society*.
30. Zweig LJ, Grabowecky M, Suzuki S, Towle VL, Tao J, Wu S, **Brang D** (May 2016). Silent lip reading generates speech signals in auditory cortex. *Vision Sciences Society*.
31. Creery J, **Brang D**, Towle VL, Tao J, Wu S, Paller K (April 2016). Human hippocampal theta during feedback on a spatial learning task. *Cognitive Neuroscience Society*.

32. Zweig LJ, Grabowecky M, Suzuki S, Towle VL, Tao J, Wu S, **Brang D** (April 2016). Silent lip reading generates speech signals in auditory cortex. *Cognitive Neuroscience Society*.
33. **Brang D**, Suzuki S, Towle VL, Wu S, Tao JX, Grabowecky M (October 2015). Predictive visual motion facilitates speech perception. *Society for the Neurobiology of Language*.
34. Edelstein M, **Brang D**, Monk B, Rouw R, Ramachandran VS (October 2015). Misophonia: Reflecting on self-generated trigger sounds. *Society for Neuroscience*.
35. **Brang D**, Suzuki S, Towle VL, Wu S, Tao JX, Grabowecky M (June 2015). Predictive visual motion facilitates speech perception. *International Multisensory Research Forum*.
36. Plass J, Zweig LJ, **Brang D**, Suzuki S, Grabowecky M (June 2015). Auditory connections with early visual cortex: Diffusion MRI evidence. *International Multisensory Research Forum*.
37. **Brang D**, Suzuki S, Towle VL, Wu S, Tao JX, Grabowecky M (April 2015). Predictive visual motion facilitates speech perception. *Cognitive Neuroscience Society*.
38. Zweig LJ, **Brang D**, Suzuki S, Grabowecky M (April 2015). Angry faces reduce sensitivity for auditory-visual temporal asynchrony. *Cognitive Neuroscience Society*.
39. Minima-Reddy K, Dai Z, Zheng W, Papa H, Thimmapuram R, Hunter S, **Brang D**, Kohrman M, Marchecelli C, Tao JX, Frim D, Rossi M, Byrne M, Towle VL (August 2014). Chasing language through the brain: Five successive parallel networks. *Society for the Neurobiology of Language*.
40. Grabowecky M, **Brang D**, Towle VL, Dai Z, Hillyard SA, Kohrman MH, Tao JX, Suzuki S (June 2014). Electroencephalographic (EEG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex. *International Multisensory Research Forum*.
41. Grabowecky M, Sherman A, **Brang D**, Noble C, Horton W, Towle VL, Suzuki S (June 2014). "On the same wavelength": Neural synchrony influences motor coordination. *International Multisensory Research Forum*.
42. **Brang D**, Towle VL, Suzuki S, Dai Z, Hillyard SA, Kohrman MH, Tao JX, Grabowecky M (May 2014). Electroencephalographic (EEG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex. *Vision Sciences Society*.
43. Plass J, **Brang D**, Bryant A, Suzuki S, Taich Z, Ramachandran VS, Grabowecky M (May 2014). Frontoparietal connectivity supports dynamic body representation. *Vision Sciences Society*.
44. Sherman A, **Brang D**, Noble C, Grabowecky M, Horton W, Towle VL, Tao JX, Suzuki S (May 2014). "On the same wavelength": interpersonal alpha synchronization improves visual-motor coordination. *Vision Sciences Society*.
45. Zweig LJ, **Brang D**, Satoru Suzuki (wMay 2014). Angry faces reduce sensitivity for auditory-visual temporal asynchrony. *Vision Sciences Society*.
46. Minima-Reddy K, Dai Z, Zheng W, Papa H, Thimmapuram R, Hunter S, **Brang D**, Kohrman M, Marchecelli C, Tao JX, Frim D, Rossi M, Byrne R, Towle VL (May 2014). Following speech through the brain: Three successive parallel networks. *American Society of Neurophysiologic Monitoring*.
47. **Brang D**, Zweig J, Taich ZJ, Mishra J, Suzuki S, Hillyard SA, Ramachandran VS, Grabowecky M (November 2013). Anatomical and functional networks underlying audio-visual integration. *Society for Neuroscience*.
48. **Brang D**, Suzuki S, Grabowecky M (May 2013). Multisensory redundancy gain partially mediated by stimulus detectability. *Vision Sciences Society*.
49. **Brang D**, Zweig J, Mishra J, Suzuki S, Hillyard SA, Ramachandran VS, Grabowecky M (April 2013). Anatomical and functional networks underlying audio-visual integration. *Cognitive Neuroscience Society*.
50. Edelstein M, **Brang D**, Ramachandran VS (November 2012). Sensory modulation in misophonia. *Society for Neuroscience*.
51. **Brang D**, Taich Z, Hillyard SA, Ramachandran VS (March 2012). Enhanced multisensory integration relates to increased parietal white matter connectivity. *Cognitive Neuroscience Society*.
52. Case L, **Brang D**, Groves HK, Ramachandran VS (November 2011). Mirror visual feedback therapy helps arthritic pain. *Society for Neuroscience*.
53. **Brang D**, Coulson S, Huang MX, Song T, Ramachandran VS (April 2011). Conceptual tasks activate perceptual networks between 150-250ms. *Cognitive Neuroscience Society*.

54. Ramachandran VS, **Brang D**, Seckel E, Weerasura A (April 2011). Illusory cooling of the skin ('three coins illusion') decreases dermal temperature: Evidence for mind-body interactions. *Cognitive Neuroscience Society*.
55. Coulson S, **Brang D** (November 2010). Sentence context affects processing of masked words: An ERP study. *Neurobiology of Language*.
56. Case LK, **Brang D**, Ramachandran VS (November 2010). Unusual views of self cause illusory time-lag in visual perception of self-initiated motion. *Society for Neuroscience*.
57. **Brang D**, Ramachandran VS (November 2010). Synesthetes learn novel grapheme-color associations more quickly and accurately compared to controls. *Society for Neuroscience*.
58. Wagner K, **Brang D**, Ramachandran VS, Dobkins K (May 2010). Color input into motion processing in grapheme-color synesthetes. *Vision Sciences Society*.
59. **Brang D**, Hubbard EM, Coulson S, Huang MX, Song T, Ramachandran VS (April 2010). The timing of activation in synesthesia: A magnetoencephalography study. *Cognitive Neuroscience Society*.
60. Miller L, **Brang D**, Ramachandran VS (April 2010). Modulation of thermal pain from magnified and minimized visual feedback. *Cognitive Neuroscience Society*.
61. Ramachandran VS, **Brang D**, McGeoch PD (October 2009). Shrinking phantom pain with lenses and shifting referred sensations through volition. *Society for Neuroscience*.
62. **Brang D**, Ramachandran VS (October 2009). Visual field heterogeneity and eidetic imagery in synesthesia. *Society for Neuroscience*.
63. Coulson S, **Brang D** (March 2009). Sentence context affects processing of masked words: An ERP Study. *CUNY. Conference on Sentence Processing*.
64. **Brang D**, Williams LE, Ramachandran VS (March 2009). Enhanced cross-modal processing in synesthesia. *Cognitive Neuroscience Society*.
65. Teuscher U, Ruhl D, **Brang D**, Stone D, Coulson S, Ramachandran VS, Teuscher C (March 2009). Increased coherence in parietal cortices of time-space synesthetes: A high-density EEG study. *Cognitive Neuroscience Society*.
66. Ramachandran VS, McGeoch PD, **Brang D** (November 2008). Apotemnophilia; a neurological disorder with somatotopic alterations in SCR and MEG activation. *Society for Neuroscience*.
67. **Brang D**, Núñez R, Ramachandran VS (May 2008). Using hemineglect to probe embodied space and time in the brain. *Association for Psychological Science*.
68. Ramachandran VS, Pettigrew JD, McGeoch PD, **Brang D**, Rogers-Ramachandran D (May 2008). A solution to the problem of self awareness; clues from anosognosia. *Association for Psychological Science*.
69. **Brang D**, Kanai S, Ramachandran VS, Coulson S (April 2008). Synesthesia and learned contextual priming: An event-related brain potential study. *Cognitive Neuroscience Society*.
70. Pineda JA, Hecht E, **Brang D**, Agmon E, Elfenbein HA, Davis JB (April 2008). Mirroring and social cognition: Electrophysiological and transcranial magnetic stimulation evidence for dissociable subcomponents of theory of mind. *Cognitive Neuroscience Society*.
71. **Brang D**, Ramachandran VS (November 2007). Tactile textures evoke specific emotions: A new form of synesthesia. *Psychonomics*.
72. McGeoch PD, **Brang D**, Ramachandran VS (November 2007). Wernikes aphasia: exploring the interface between language and thought. *Psychonomics Society*.
73. Teuscher U, **Brang D**, Edwards L, McQuire M, Ramachandran VS, Coulson S (November 2007). Time-space synesthesia: An event-related brain potential study. *Psychonomics Society*.
74. Elfenbein H, **Brang D**, Hecht E, Pineda JA (November 2007). TMS of the inferior frontal gyrus inhibits mu rhythm suppression and decreases performance on social cognition tasks. *Society for Neuroscience*.
75. **Brang D**, Ramachandran VS, Coulson S (April 2007). Contextual priming in grapheme-color synesthesia: An event-related brain potential study. *Cognitive Neuroscience Society*.
76. Teuscher U, **Brang D**, Edwards L, McQuire M, Ramachandran VS, Coulson S (April 2007). Time-space synesthesia: An event-related brain potential study. *Cognitive Neuroscience Society*.

77. Pineda JA, Edwards L, **Brang D**, Suk D, Tom J, Birnbaum C, Kaye J, Rork A (April 2007). Positive changes following neurofeedback training in high functioning ASD children. *Cognitive Neuroscience Society*.
78. Pineda JA, Hecht E, **Brang D**, Bacon M, Carey S, Futagaki C, Suk D (April 2006). A pilot investigation of the effect of neurofeedback training on Autism Spectrum Disorders. *Cognitive Neuroscience Society*.

PROFESSIONAL SOCIETIES

American Synesthesia Association (2008 – 2012)
Cognitive Neuroscience Society (2006 – Present)
Int'l Multisensory Research Forum (2012 – Present)

Society for Neuroscience (2009 – Present)
UK Synaesthesia Association (2010 – 2011)
Vision Sciences Society (2012 – 2016)