

DAVID BRANG

CURRICULUM VITAE

September 2016

ADDRESS

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ACADEMIC POSITIONS

- 2016-Present 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

I investigate how the human brain integrates information from auditory, visual, and tactile modalities to generate computationally efficient estimates of the world, by way of three related lines of inquiry: Are multisensory networks utilized during unisensory tasks? How is auditory speech perception influenced by visual information and what are the underlying neural mechanisms? How is the perception of body integrity and ownership influenced by visual information and what are the underlying neural mechanisms? My research addresses these questions using psychophysical testing, ECoG in patients, EEG in typically developed individuals, as well as fMRI and DTI.

GRANT SUPPORT

Active Support

NIH/NIDCD K99/R00 DC013828, Brang (PI) Networks underlying visual modulation of speech perception	12/1/2014 – 8/31/2019 \$1,021,647
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Recent Past Support

University of Chicago Brain Imaging Center Research Grant, Brang (Co-I) Intracranial and fMRI investigations of speech perception	2/1/2013 – 1/1/2015 \$11,000
Interdisciplinary Collaboratories Fellowship, UC San Diego, Brang (PI) Multisensory processing across the lifespan	12/1/2010 – 6/12/2012 \$30,000

MANUSCRIPTS IN REVIEW & UNDER REVISION (AVAILABLE ON REQUEST)

1. **Brang D**, Grabowecky M, Sherman A, Towle VL, Dai Z, Tao J, Wu S, Rossi MA, Byrne R, Suzuki S (invited revision). Rapid auditory temporal dynamics are relayed to visual cortex: evidence from human electrocorticography. *NeuroImage*.
2. **Brang D**, Suzuki S, Grabowecky M (invited revision). Preparatory visual lip motion facilitates speech perception. *Journal of Experimental Psychology: Human Perception and Performance*.
3. Sherman A, **Brang D**, Noble C, Grabowecky M, Horton W, Towle VL, Suzuki S (invited revision). "On the same wavelength": Neural synchrony influences motor coordination. *Current Biology*.
4. Zweig LJ, Grabowecky M, Suzuki S, Towle VL, Tao J, Wu S, **Brang D** (in review). Silent lip reading generates speech signals in auditory cortex.

PEER-REVIEWED ARTICLES (GOOGLE SCHOLAR CITATION COUNT = **1086**; H-INDEX = **20**)

1. **Brang D**, Dai Z, Zheng W, Towle VL (in press). Registering imaged ECoG electrodes to human cortex: a geometry-based technique. *Journal of Neuroscience Methods*.
2. Honma M, Plass J, **Brang D**, Florczak SM, Paller KA (in press). Sleeping on the rubber-hand illusion: Memory reactivation during sleep facilitates multisensory recalibration. *Neuroscience of Consciousness*.
3. Case L, **Brang D**, Landazuri R, Ramachandran VS (in press). Altered White Matter and Sensory Response to Bodily Sensation in FTM Transsexual Individuals. *Archives of Sexual Behavior*.
4. **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):3023-8.
5. 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.
6. **Brang D**, Taich ZJ, Hillyard SA, Grabowecky M, Ramachandran VS (2013). Parietal connectivity mediates multisensory facilitation. *NeuroImage*, 78, 396-401.
7. **Brang D**, Ghiam M, Ramachandran VS (2013). Impaired acquisition of novel grapheme-color correspondences in synesthesia. *Frontiers in Human Neuroscience*, 7, 717.
8. **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.
9. Edelstein M, **Brang D**, Rouw R, Ramachandran VS (2013). Misophonia: physiological investigations and case descriptions. *Frontiers in Human Neuroscience*, 7, 296.
10. **Brang D**, Williams LE, Ramachandran VS (2012). Grapheme-color synesthetes show enhanced crossmodal processing between auditory and visual modalities. *Cortex*, 48(5), 630-637.
11. 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.
12. **Brang D** & Ramachandran VS (2011) Survival of the Synesthesia Gene: Why Do People Hear Colors and Taste Words? *PLoS Biology*, 9(11): e1001205.
13. 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.
14. **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.
15. **Brang D**, Rouw R, Coulson S, Ramachandran VS (2011). Similarly shaped letters evoke similar colors in grapheme-color synesthesia. *Neuropsychologia*, 49(5), 1355-1358.
16. Hubbard EM, **Brang D**, Ramachandran VS (2011). The Cross-Activation Theory at Ten. *Journal of Neuropsychology*, 5(2), 152-77.
17. **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.

18. **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.
19. 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.
20. Ramachandran VS, **Brang D**, McGeoch PD (2010). Dynamic reorganization of referred sensations caused by volitional movements of phantom limbs. *Neuroreport*, 21(10), 727-730.
21. **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.
22. Coulson S & **Brang D** (2010). Sentence Context Affects Processing of Masked Words: An ERP study. *Brain and Language*, 113, 149–155.
23. **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.
24. **Brang D** & Ramachandran VS (2010). Visual field heterogeneity, laterality, and eidetic imagery in synesthesia. *Neurocase*, 16(2), 169-74.
25. 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.
26. Ramachandran VS, **Brang D**, McGeoch PD (2009). Size reduction using mirror visual feedback (MVF) reduces phantom pain. *Neurocase*, 15(5), 357–360.
27. 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.
28. **Brang D**, McGeoch P, Ramachandran VS (2008). Apotemnophilia: a neurological disorder. *Neuroreport*, 19(13), 1305-6.
29. **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.
30. Ramachandran VS & **Brang D** (2008). Tactile-emotion synesthesia. *Neurocase*. 14(5), 390-9.
31. **Brang D** & Ramachandran VS (2008). Psychopharmacology of synesthesia; the role of serotonin S2a receptor activation. *Medical Hypotheses*, 70(4), 903-4.
32. 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.
33. McGeoch P, **Brang D**, Ramachandran VS (2007). Apraxia, Metaphor and Mirror Neurons. *Medical Hypotheses*, 69(6), 1165-8.

HONORS AND AWARDS

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, 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. Pete, 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*.

TEACHING EXPERIENCE

Assistant Professor, Department of Psychology, University of Michigan
The neuroscience of perception: 2016

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

Research Mentor, Department of Psychology, UCSD
27 undergraduate and post-bac research assistants, including direct supervision of 4 honors projects

Research Mentor, Department of Psychology, Northwestern University
8 undergraduate and post-bac research assistants

TEACHING INTERESTS

Sensation and Perception
Neurological Disorders
Multisensory Processes
Cognitive Neuroscience

Biological Psychology
Neural Communication
Research Methods and Design
Statistics

AD HOC REVIEWING (27 JOURNALS)

Acta Psychologica
American Journal of Psychology
Annals of Neurology
Attention, Perception, & Psychophysics
Brain

Brain and Cognition
Cerebral Cortex
Cognition
Cognitive and Behavioral Neurology
Cognitive Neuropsychology

Cognitive Neuroscience
Color Research and Application
Consciousness and Cognition
Cortex
Frontiers in Cognitive Science
Journal of Clinical Psychiatry
Journal of Cognitive Neuroscience
Journal of Experimental Psychology: HPP
Journal of Neuropsychology

Journal of Visualized Experiments
Neurocase
NeuroImage
Neuropsychologia
PLoS ONE
Proceedings of the National Academy of Sciences
Vision Research
Spanish Journal of Psychology

MEDIA AND PRESS

Summaries of Research

KPBS: <http://www.kpbs.org/news/2013/aug/21/why-does-sound-chewing-make-some-people-panic/>
Discover Magazine: <http://blogs.discovermagazine.com/discoblog/2010/04/02/the-rare-humans-who-see-time-have-amazing-memories/>
Lancet Neurology, News in brief: http://psy2.ucsd.edu/~dbrang/images/Supp/Lancet_2011_NewsBrief.pdf
New Scientist: <http://www.newscientist.com/article/dn16840-desire-to-amputate-healthy-limbs-shows-up-in-brain-scans.html>
New Scientist: <http://www.newscientist.com/article/dn18723-time-lords-discovered-in-california.html?DCMP=OTC-rss&nsref=online-news>
New Scientist: <http://www.newscientist.com/article/dn16298-first-cases-of-touchemotion-synaesthesia-discovered.html>
Scientific American: <http://www.scientificamerican.com/article.cfm?id=body-integrity-identity-disorder>

Print Interviews

LA Times: <http://www.latimes.com/health/la-he-synesthesia-brain-20120220,0,6760571.story>
CNN Health: <http://thechart.blogs.cnn.com/2010/11/17/on-the-brain-when-numbers-have-color-synesthesia/>
History: <http://www.history.com/news/2011/11/22/seeing-sounds-hearing-colors-good-for-survival/>
MSNBC: http://www.msnbc.msn.com/id/45408751/ns/technology_and_science-science/#.Ts2PUvLE485
National Geographic: <http://news.nationalgeographic.com/news/2011/11/11123-evolution-brain-synesthesia-taste-colors-sounds-creative-science/>
ScienceNews: http://www.sciencenews.org/view/generic/id/336404/title/Unraveling_synesthesia
TheScientist: <http://the-scientist.com/2011/11/22/seeing-sound-2/>

Audio Interviews

PLoS Biology Podcast: <http://blogs.plos.org/plospodcasts/2011/11/22/plos-biology-podcast-episode-01-ramachandran-synesthesia-and-phantom-limbs-2/>
NPR/CBC Podcast: <http://www.cbc.ca/asithappens/weekly/2011/11/28/featured-audio-two-plus-two-is-blue/>

TV Documentaries

National Geographic and Discovery Channel: *Taboo*, Season 2, Episode 6

BOOK CHAPTERS AND ENCYCLOPEDIA ARTICLES

1. Ramachandran VS & **Brang D** (2014). From molecules to metaphor: outlooks on synesthesia research. *Handbook of Synesthesia*.
2. Hubbard EM, **Brang D**, Ramachandran VS. (2013). "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].
3. McGeoch PD, **Brang DJ**, Ramachandran VS (2009). A new right parietal lobe syndrome? Stirn A, Thiel A, Oddo S (Eds.), *Body Integrity Identity Disorder: Psychological, Neurobiological, Ethical and Legal Aspects*. Lengerrich, Germany: Pabst Science Publishers.
4. **Brang D** (2009). Synesthesia. *Corsini Encyclopedia of Psychology*.
5. Ramachandran VS & **Brang D** (2009) Phantom touch. *Scholarpedia*, 4(10), 8244.
6. Ramachandran VS & **Brang D** (2008). Synesthesia; from molecules to metaphor. *Scholarpedia*, 3(6), 3981.

7. 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. Puckhaber, H.L. (Eds.), New Research on Biofeedback. New York: Nova Science.

REFEREED CONFERENCE ABSTRACTS

1. **Brang D**, Suzuki S, Grabowecky M (May, 2016). The Stolen Voice Illusion. Vision Sciences Society.
2. 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.
3. 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.
1. 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.
2. **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.
3. Edelstein M, **Brang D**, Monk B, Rouw R, Ramachandran VS (October, 2015). Misophonia: reflecting on self-generated trigger sounds. Society for Neuroscience
4. **Brang D**, Suzuki S, Towle VL, Wu S, Tao JX, Grabowecky M (June, 2015). Predictive visual motion facilitates speech perception. International Multisensory Research Forum.
5. 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.
6. **Brang D**, Suzuki S, Towle VL, Wu S, Tao JX, Grabowecky M (April, 2015). Predictive visual motion facilitates speech perception. Cognitive Neuroscience Society.
7. Zweig LJ, **Brang D**, Suzuki S, Grabowecky M (April, 2015). Angry faces reduce sensitivity for auditory-visual temporal asynchrony. Cognitive Neuroscience Society.
8. 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.
9. Grabowecky M, **Brang D**, Towle VL, Dai Z, Hillyard SA, Kohrman MH, Tao JX, Suzuki S (June, 2014). Electrographic (ECoG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex. International Multisensory Research Forum.
10. 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.
11. **Brang D**, Towle VL, Suzuki S, Dai Z, Hillyard SA, Kohrman MH, Tao JX, Grabowecky M (May, 2014). Electrographic (ECoG) recordings demonstrate that peripherally presented sounds activate extrastriate visual cortex. Vision Sciences Society.
12. 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.
13. 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.
14. Zweig LJ, **Brang D**, Satoru Suzuki (May, 2014). Angry faces reduce sensitivity for auditory-visual temporal asynchrony. Vision Sciences Society.
15. 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, Chicago, IL.
16. **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.
17. **Brang D**, Suzuki S, Grabowecky M (May, 2013). Multisensory redundancy gain partially mediated by stimulus detectability. Vision Sciences Society.

18. **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.
19. Edelstein M, **Brang D**, Ramachandran VS (November, 2012). Sensory modulation in misophonia. Society for Neuroscience.
20. **Brang D**, Taich Z, Hillyard SA, Ramachandran VS (March, 2012). Enhanced multisensory integration relates to increased parietal white matter connectivity. Cognitive Neuroscience Society.
21. Case L, **Brang D**, Groves HK, Ramachandran VS (November, 2011). Mirror visual feedback therapy helps arthritic pain. Society for Neuroscience.
22. **Brang D**, Coulson S, Huang MX, Song T, Ramachandran VS (April, 2011). Conceptual tasks activate perceptual networks between 150-250ms. Cognitive Neuroscience Society.
23. 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.
24. Coulson S & **Brang D** (November, 2010). Sentence context affects processing of masked words: an ERP study. Neurobiology of Language.
25. 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.
26. **Brang D** & Ramachandran VS (November, 2010). Synesthetes learn novel grapheme-color associations more quickly and accurately compared to controls. Society for Neuroscience.
27. Wagner K, **Brang D**, Ramachandran VS, Dobkins K (May, 2010). Color Input into Motion Processing in Grapheme-Color Synesthetes. Vision Sciences Society.
28. **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.
29. Miller L, **Brang D**, Ramachandran VS (April, 2010). Modulation of thermal pain from magnified and minimized visual feedback. Cognitive Neuroscience Society.
30. Ramachandran VS, **Brang D**, McGeoch PD (October, 2009). Shrinking phantom pain with lenses and shifting referred sensations through volition. Society for Neuroscience.
31. **Brang D** & Ramachandran VS (October, 2009). Visual field heterogeneity and eidetic imagery in synesthesia. Society for Neuroscience.
32. Coulson S & **Brang D** (March, 2009). Sentence Context Affects Processing of Masked Words: An ERP Study. CUNY.
33. **Brang D**, Williams LE, Ramachandran VS (March, 2009). Enhanced cross-modal processing in synesthesia. Cognitive Neuroscience Society.
34. 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.
35. Ramachandran VS, McGeoch PD, **Brang D** (November, 2008). Apotemnophilia; a neurological disorder with somatotopic alterations in SCR and MEG activation. Society for Neuroscience.
36. **Brang D**, Núñez R, Ramachandran VS (May, 2008). Using hemineglect to probe embodied space and time in the brain. Association for Psychological Science.
37. 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.
38. **Brang D**, Kanai S, Ramachandran VS, Coulson S (April, 2008). Synesthesia and Learned Contextual Priming - An event-related brain potential study. Cognitive Neuroscience Society Abstract.
39. Pineda JA, Hecht E, **Brang D**, Agmon E, Eifenbein 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 Abstract.
40. **Brang D** & Ramachandran VS (November, 2007). Tactile Textures Evoke Specific Emotions: a New Form of Synesthesia. Psychonomics Society Abstract.
41. McGeoch PD, **Brang D**, Ramachandran VS (November, 2007). Wernikes Aphasia: Exploring the Interface Between Language and Thought. Psychonomics Society Abstract.

42. 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 Abstract.
43. 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 Abstract.
44. **Brang D**, Ramachandran VS, Coulson S (April, 2007). Contextual Priming in Grapheme-Color Synesthesia - An event-related brain potential study. Cognitive Neuroscience Society Abstract.
45. 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 Abstract.
46. 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 Abstract.
47. 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 Abstract.

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 – Present)

REFERENCES

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Vernon L. Towle, Ph.D.
 Professor, Neurology, Psychiatry, and Pediatrics
 University of Chicago
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