

# Omar Jared Medina

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## Education

- 2006            **Ph.D., Cognitive Science**, Johns Hopkins University  
(advisor: Brenda Rapp)
- 2002            **M.A., Cognitive Science**, Johns Hopkins University
- 1998            **B.S., Psychology; B.A., Classics**, University of Florida (with  
honors).

## Academic Appointments

- 2023-            **Acting Associate Professor**, Department of Psychology,  
Emory University
- 2021-2023        **Associate Chair**, Department of Psychological and Brain  
Sciences, University of Delaware
- 2018-2023        **Associate Professor**, Department of Psychological and Brain  
Sciences, University of Delaware
- 2012-2018        **Assistant Professor**, Department of Psychological and Brain  
Sciences, University of Delaware
- 2011-2012        **Assistant Research Professor**, Department of Neurology,  
University of Pennsylvania
- 2009-2012        **Visiting Assistant Professor**, Department of Psychology,  
Haverford College
- 2006-2011        **Postdoctoral Fellow**, Department of Neurology, University  
of Pennsylvania (advisors: H. Branch Coslett, Roy Hamilton)

## **Publications**

Ambron, E. & **Medina, J.** (2023). Examining constraints on embodiment using the Anne Boleyn illusion. *Journal of Experimental Psychology: Human Perception & Performance*. Online in press.

**Medina, J.** (2022). Distinguishing body representations. In Alsmith, A. & Longo, M.R. (Eds.). *The Routledge Handbook of Bodily Awareness* (pp. 150-160). Routledge.

**Medina, J.** (2022). Using single case studies to understand visual processing: The magnocellular pathway. *Cognitive Neuropsychology*, 39, 106-108.

Leach, W.T. & **Medina, J.** (2022). Understanding components of embodiment: Evidence from the mirror box illusion. *Consciousness & Cognition*, 103, 103373.

Beisheim-Ryan, E.H., Hicks, G., Pohlig, R.T., **Medina, J.**, Sions, J.M. (2022). Body image and perception among adults with and without phantom limb pain. *PM&R: The Journal of Injury, Function and Rehabilitation*, 2022, 1-13.

Ambron, E., Liu, Y., Grzenda, M. & **Medina, J.** (2022). Examining central biases in somatosensory localization: Evidence from brain-damaged individuals. *Neuropsychologia*, 166, 108137.

Beisheim, E.H., Pohlig, R.T., Hicks, G.E., Horne, J.R., **Medina, J.**, & Sions, J.M. (2022). Mechanical Pain Sensitivity in Post-Amputation Pain. *Clinical Journal of Pain*, 38, 23-31.

Beisheim, E.H., Pohlig, R.T., **Medina, J.**, Hicks, G.E. & Sions, J.M. (2022). Body representation among adults with phantom limb pain: Results from a foot identification task. *European Journal of Pain*, 26, 255-269.

Liu, Y., & **Medina, J.** (2021). Visuoproprioceptive conflict in hand position biases tactile localization on the hand. *Journal of Experimental Psychology: Human Perception & Performance*, 47(3), 344-356.

Liu, Y., O'Neal, A., Rafal, R.D. & **Medina, J.** (2020). Intact tactile detection yet biased tactile localization in a hand-centered frame of reference: A case study. *Neuropsychologia*, 147, 107585.

**Medina, J.,** Jax, S.A., & Coslett, H.B. (2020). Impairments in action and perception after right intraparietal damage. *Cortex*, 122, 288-299.

**Medina, J.,** Theodoropoulos, N., Reyes, P. & Gherri, E. (2019). External coding and salience in the tactile Simon effect. *Acta Psychologica*, 198, 102874.

Erlikhman, G., Caplovitz, G.P., Gurariy, G., **Medina, J.** & Snow, J.C. (2018). Towards a unified perspective of object shape and motion processing in human dorsal cortex. *Consciousness and Cognition*, 64, 106-120.

Ambron, E., White, N., Faseyitan, O., Kessler, S.K., **Medina, J.** & Coslett, H.B. (2018). Magnifying the view of the hand changes its cortical representation: A transcranial magnetic stimulation study. *Journal of Cognitive Neuroscience*, 30(8), 1098-1107.

Shah-Basak, P.P., Chen, P., Caulfield, K., **Medina, J.** & Hamilton, R.H. (2018). The role of the right superior temporal gyrus in stimulus-centered spatial processing. *Neuropsychologia*, 113, 6-13.

Liu, Y., & **Medina, J.** (2018). Integrating Multisensory Information across External and Motor-based Frames of Reference. *Cognition*, 173, 75-86.

**Medina, J.,** & Cason, S. (2017). No Evidential Value in Samples of Transcranial Direct Current Stimulation (tDCS) Studies of Cognition and Working Memory in Healthy Populations. *Cortex*, 94, 131-141.

Liu, Y., & **Medina, J.** (2017). Influence of the Body Schema on Multisensory Integration: Evidence from the Mirror Box Illusion. *Scientific Reports*, 7: 5060.

**Medina, J.,** & Fischer-Baum, S. (2017). Single-case Cognitive Neuropsychology in the Age of Big Data. *Cognitive Neuropsychology*, 34, 440-448.

Brooks, J., & **Medina, J.** (2017). Perceived location of touch. *Scholarpedia*, 12(4):42285.

**Medina, J.,** & Duckett, C. (2017). Domain-general biases in spatial localization: Evidence against a distorted body model hypothesis. *Journal of Experimental Psychology: Human Perception and Performance*, 43(7), 1430-1443.

**Medina, J., & DePasquale, C.** (2017). Influence of the Body Schema on Mirror-Touch Synesthesia. *Cortex*, 88, 53-65.

**Medina, J., & Coslett, H.B.** (2016). Understanding body representations. *Cognitive Neuropsychology*, 33, 1-4.

**Medina, J., & Coslett, H.B.** (2016). What can errors tell us about body representations? *Cognitive Neuropsychology*, 33, 5-25.

**Medina, J., Drebing, D.E., Hamilton, R.H., & Coslett, H.B.** (2016). Phantoms on the hands: Influence of the body on brief synchiric visual percepts. *Neuropsychologia*, 82, 104-109.

**Medina, J., Khurana, P., & Coslett, H.B.** (2015). The influence of embodiment on multisensory integration using the mirror box illusion. *Consciousness and Cognition*, 37, 71-82.

**Medina, J., McCloskey, M., Coslett, H.B., & Rapp, B.** (2014). Somatotopic Representation of Location: Evidence from the Simon Effect. *Journal of Experimental Psychology: Human Perception and Performance*, 40, 2131-2142.

**Medina, J., & Rapp, B.** (2014). Rapid experience-dependent plasticity following somatosensory damage. *Current Biology*, 24, 677-680.

**Medina, J., Beauvais, J., Datta, A., Bikson, M., Coslett, H.B., & Hamilton, R.H.** (2013). Transcranial direct current stimulation accelerates allocentric target detection. *Brain Stimulation*, 6, 433-439.

**Medina, J., Norise, C., Faseyitan, O., Coslett, H.B., Turkeltaub, P., & Hamilton, R.** (2012). Finding the Right Words: Transcranial Magnetic Stimulation Improves Discourse Productivity in Non-fluent Aphasia After Stroke. *Aphasiology*, 26, 1153-1168.

Khurshid, S., Trupe, L.A., Newhart, M., Davis, C., Molitoris, J.J., **Medina, J., Leigh, R., & Hillis, A.E.** (2012). Reperfusion of Specific Areas is Associated with Improvement in Distinct Forms of Hemispatial Neglect. *Cortex*, 48, 530-539.

Coslett, H.B., **Medina, J., Klot, D., & Burkey, A.** (2010). Mental motor imagery indexes pain: The hand laterality task. *European Journal of Pain*, 14, 1007-1013.

- Medina, J., Jax, S.A., Brown, M.J., & Coslett, H.B.** (2010). Contributions of Efference Copy to Limb Localization: Evidence from Deafferentation. *Brain Research*, 1355, 104-111.
- Coslett, H.B., **Medina, J.**, Klotz, D., & Burkey, A. (2010). Mental Motor Imagery and Chronic Pain: The Foot Laterality Task. *Journal of the International Neuropsychological Society*, 16, 603-612.
- Medina, J., & Coslett, H.B.** (2010). From Maps to Form to Space: Touch and the Body Schema. *Neuropsychologia*, 48, 645-654.
- Medina, J., Kimberg, D.Y., Chatterjee, A., & Coslett, H.B.** (2010). Inappropriate usage of the Brunner-Munzel test in recent voxel-based lesion-symptom mapping studies. *Neuropsychologia*, 48, 341-343.
- Medina, J., Kannan, V., Pawlak, M., Kleinman, J., Newhart, M., Davis, C., Heidler-Gary, J., Herskovits, E., & Hillis, A.** (2009). Neural substrates of visuospatial processing in distinct reference frames: Evidence from unilateral spatial neglect. *Journal of Cognitive Neuroscience*, 21, 2073-2084.
- Medina, J., Jax, S.A., & Coslett, H.B.** (2009). Two-Component Models of Reaching: Evidence from Deafferentation in a Fitts' Law Task. *Neuroscience Letters*, 451, 222-226.
- Medina, J., & Rapp, B.** (2008). Phantom tactile sensations modulated by body position. *Current Biology*, 18, 1937-1942.
- Rapp, B., Hendel, S.K., & **Medina, J.** (2002). Remodeling of somatosensory hand representations following cerebral lesions in humans. *Neuroreport*, 13, 207-211.

### Grants

- 2022-2027    **National Science Foundation (OIA-2225805)**  
RII-BEC: Training Diverse Scholars in Data Science to Understand the Brain and Behavior  
PI: Jared Medina  
Total Costs: \$999,881

- 2022-2026 **National Institutes of Health (R01 EY032584)**  
Creating New Tactile Sensations for Tactile Aids with Designer Materials  
PI: Charles Dhong (Univ. of Delaware)  
Co-PI: Jared Medina  
Total Costs: \$1,524,986
- 2019-2023 **National Science Foundation (CMMI-1934650)**  
“Understanding and Enhancing Proprioception via Model-Based Human-Robot Interactions”  
PI: Jennifer Semrau (Univ. of Delaware)  
Co-PI: Jared Medina  
Total Costs: \$748,231
- 2019-2023 **Delaware Center for Neuroscience Research**  
“Functional reorganization of somatosensory and motor processing after stroke”  
Pilot project PI: Medina  
Total costs: \$18,000
- 2016-2022 **National Science Foundation (OIA-1632849)**  
“RII Track-2 FEC: Neural networks underlying the integration of knowledge and perception”  
PI: Jared Medina  
Total Costs: \$6,000,000
- 2016-2018 **National Institutes of Health, subcontract (U54 GM104941)**  
“Examining Somatosensory Plasticity After Stroke”  
PI: Stuart Binder-Macleod (Univ. of Delaware)  
Pilot project PI: Jared Medina  
Total Costs: \$85,000
- 2016-2017 **National Institutes of Health, subcontract (P50 DC012283)**  
“Neurobiology of Language Recovery in Aphasia: Natural History and Treatment”  
PI: Cynthia Thompson (Northwestern)  
Subcontract PI: Jared Medina  
Total Costs: \$15,000

- 2013-2015 **University of Delaware Research Foundation (13A00851)**  
“Understanding the Body Schema – The Cognitive Neuroscience of Body Representation”  
PI: Jared Medina  
Total costs: \$35,000
- 2011-2013 **University of Pennsylvania Institute of Aging**  
“Transcranial Direct Current Stimulation to Enhance Language Recovery in Patients with Aphasia after Subacute Stroke”  
PIs: Jared Medina & Roy Hamilton  
Total costs: \$50,000
- 2007-2009 **National Institutes of Health, subcontract (R24 HD050836)**  
“Neural Correlates of Kinematic Motor Learning”  
PI: John Whyte  
Co-PI: Jared Medina  
Total costs: \$12,000

**Invited Talks**

- 2023 Feb University of Pennsylvania (MindCORE Seminar)  
2020 Feb Harvard University (Caramazza Lab)  
2019 Nov University of Nevada - Reno  
2018 Mar Medical University of South Carolina  
2018 Feb Nemours Children’s Hospital  
2018 Jan National Institute on the Teaching of Psychology  
2017 Nov University of New South Wales  
2017 Nov Macquarie University  
2017 Apr Emory University  
2017 Jan Johns Hopkins University  
2016 Jun Beijing Normal University  
2014 Jun Universitat di Hamburg  
2014 Feb Rice University  
2014 Feb University of Pennsylvania, Department of Neuropsychiatry  
2014 Jan Center for Mind/Brain Sciences (CiMEC), University of Trento  
2012 Apr University of Chicago (Goldin-Meadow Lab)  
2012 Jan Johns Hopkins University  
2011 Feb Mount Holyoke College

## **Presentations**

### *Conference & Workshop Talks*

**Medina, J.** (2023). Sensorimotor reorganization in visual cortex in brain-damaged individuals with primary somatosensory damage. Talk given at the 2023 VSS Annual Meeting, St. Pete Beach, Florida.

**Medina, J.** (2023). The Delaware Bridge Program in Data Science and Psychology. Talk given at the 2023 NSF EPSCoR PI meeting, Alexandria, Virginia.

**Medina, J.** (2022). New Scalable EPSCoR Educational and Outreach Models as a result of the Global Pandemic: The Delaware BRIDGE program. Talk given at the 27<sup>th</sup> NSF EPSCoR National Conference, Portland, Maine.

**Medina, J.** (2022). (Mis)perceiving tactile location using the mirror box illusion: Examining the relationship between perceived touch and embodiment. Invited symposium talk given at the 20<sup>th</sup> International Multisensory Research Forum, Ulm, Germany.

**Medina, J.** (2018). Influence of stored body representations on multisensory integration. Talk given at the 18<sup>th</sup> International Multisensory Research Forum, Toronto.

**Medina, J.** (2018). Examining embodiment using the mirror box illusion. Talk given at Attention and Awareness, New York City.

**Medina, J.** (2017). Disembodying touch with the mirror box illusion. Talk given at the 58<sup>th</sup> annual meeting of the Psychonomic Society, Vancouver.

**Medina, J.** (2017). No evidential value in tDCS studies of cognition and working memory. Talk given at the University of Nebraska NSF EPSCoR Core Outreach Workshop, Lincoln.

**Medina, J.** (2017). Examining somatosensory plasticity and behavioral recovery after stroke. Talk given at the 4<sup>th</sup> Annual Meeting of the Delaware Clinical and Translational Research Program, Newark.



**Medina, J.** (2017). Sensory deficits and motor function after stroke: Evidence from single subject fMRI. Talk given at Stroke Recovery Research: From Translational Science to Community Based Research, Charleston.

**Medina, J.** (2016). Patterns of tactile localization after damage to somatosensory cortex. Talk given at the Tactile Research Group meeting, Boston.

Liu, Y., & **Medina, J.** (2016). Influence of the Body Schema on Multisensory Integration: Evidence from the Mirror Box Illusion. Talk given at the 57<sup>th</sup> Annual Meeting of the Psychonomic Society, Boston.

**Medina, J.** (2016). The landmark localization task and domain-general biases: evidence against a distorted body model hypothesis. Talk given at the 16<sup>th</sup> International Multisensory Research Forum, Suzhou, China.

**Medina, J.** (2016). Single case cognitive neuropsychology in the 21<sup>st</sup> century. Plenary session talk at the European Workshop in Cognitive Neuropsychology, Bressanone, Italy.

**Medina, J.** (2014). Mirror-touch synesthesia: Effects of body position on percept localization. Talk given at the 55<sup>th</sup> Annual Meeting of the Psychonomic Society, Long Beach.

**Medina, J.,** Baumert, E., & Ziegler, M. (2014). Knowledge of hand configuration without knowledge of hand location. Talk given at the 15<sup>th</sup> International Multisensory Research Forum, Amsterdam, the Netherlands.

**Medina, J.,** Jax, S.A., & Coslett, H.B. (2014). Impairments in action and perception after right intraparietal damage. Talk given at the European Workshop in Cognitive Neuropsychology, Bressanone, Italy.

**Medina, J.,** Khurana, P., & Coslett, H.B. (2013). Embodiment and the mirror box illusion. Talk given at the Tactile Research Group meeting, Toronto, Canada.

**Medina, J.** (2013). Dynamic shifts in tactile localization after stroke. Invited symposium talk given at the 14<sup>th</sup> International Multisensory Research Forum, Jerusalem, Israel.

**Medina, J.,** Khurshid, S., Hamilton, R.H., & Coslett, H.B. (2012). Examining tactile spatial remapping using transcranial magnetic stimulation. Talk given at the 13<sup>th</sup> International Multisensory Research Forum, Oxford, England.

**Medina, J.,** Hamilton, R.H., Norise C., Turkeltaub, P.E., & Coslett, H.B. (2011). Transcranial Magnetic Stimulation Improves Discourse Productivity in Nonfluent Aphasics. Talk presented at the 49<sup>th</sup> Meeting of the Academy of Aphasia, Montreal, Canada.

**Medina, J.,** Drebing, D.E., Hamilton, R.H., & Coslett, H.B. (2011). A case of phantom synchiric percepts in touch and vision. Talk presented at the 12<sup>th</sup> International Multisensory Research Forum, Fukuoka, Japan.

Rapp, B., & **Medina, J.** (2010). Somatosensory frames of reference. Invited plenary lecture presented at the European Workshop on Cognitive Neuropsychology, Bressanone, Italy.

**Medina, J.,** & Rapp, B. (2009). Dynamic shifts in tactile localization following stroke. Talk presented at the Tactile Research Group meeting, Boston.

**Medina, J.,** & Rapp, B. (2006). Somatosensory Frames of Reference: A Case of Tactile Synchiria. Talk presented at the Tactile Research Group meeting, Houston.

**Medina, J.,** Barker, P., Jacobs, M., Wityk, R., & Hillis, A. (2003). Neural Substrates of Specific Types of Unilateral Spatial Neglect: Evidence from MR Perfusion and Diffusion Imaging. Talk given by Argye Hillis at the 55<sup>th</sup> annual meeting of the American Academy of Neurology, Honolulu.

**Medina, J.,** & Hillis, A. (2003). Using MR perfusion and diffusion imaging to identify neural substrates of specific types of unilateral spatial neglect. Talk given at the 4<sup>th</sup> International Conference on Cognitive Science, Sydney, Australia.

**Medina, J.,** & Hillis, A. (2003). Identifying neural regions for distinct types of unilateral spatial neglect using MR perfusion and diffusion imaging. Talk given at the IGERT Student Research Symposium, Pittsburgh.

*Symposium Organizer*

**Medina, J.** & Yau, J. (2018). Multisensory Integration and the Body – International Multisensory Research Forum, Toronto. Speakers: Stephanie Badde, Sarah D’Amour, Marie Martel, Jared Medina, Luke Miller, Jeffrey Yau

**Medina, J.** & Fischer-Baum, S. (2016). Single-Case Cognitive Neuropsychology in the 21<sup>st</sup> century – European Workshop on Cognitive Neuropsychology. Speakers: Daniel Dilks, Simon Fischer-Baum, Marina Laganaro, Jared Medina, Michael McCloskey, Tim Shallice.

*Posters*

Nair, A., & **Medina, J.** (2022). Viewed Touch Influences Tactile Detection by Altering Decision Criterion. Poster presented at the 20<sup>th</sup> Annual Meeting of the International Multisensory Research Forum, Ulm, Germany.

O’Neal, A., & **Medina, J.** (2019). Vicarious Touch Influences Tactile Processing. Poster presented at the 60<sup>th</sup> Annual Meeting of the Psychonomic Society, Montreal, Canada.

Liu, Y., O’Neal, A. & **Medina, J.** (2019). Nonsomatotopic Spatial Biases in Tactile Localization with Normal Tactile Detection: A Case Study. Poster presented at the 37<sup>th</sup> European Workshop on Cognitive Neuropsychology, Bressanone, Italy.

Leach, W., & **Medina, J.** (2019). A Body You Couldn't Have: Eliciting Embodiment for Impossible Postures Using the Mirror Box Illusion. Poster presented at the 37<sup>th</sup> European Workshop on Cognitive Neuropsychology, Bressanone, Italy.

Liu, Y., Grzenda, M., & **Medina, J.** (2018). Modeling uncertainty to understand biases in tactile localization after brain damage. Poster presented at Hand, Brain and Technology 2018, Ascona, Switzerland.

**Medina, J.** & Liu, Y. (2018). Somatosensory and motor reorganization after stroke: Evidence from fMRI in humans. Poster presented at Hand, Brain and Technology 2018, Ascona, Switzerland.

Liu, Y., O'Neal, A., & **Medina, J.** (2018). Biased tactile localization with an intact somatosensory system: A case study. Poster presented at the 25<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, Boston.

Liu, Y., & **Medina, J.** (2017). Multiple mechanisms underlying shifts in perceived limb position in the mirror box illusion. Poster presented at the 58<sup>th</sup> annual meeting of the Psychonomic Society, Vancouver.

Liu, Y., Faseyitan, O., Coslett, H.B., & **Medina, J.** (2017). Motor and somatosensory reorganization in a patient with a somatosensory lesion. Poster presented at the 47<sup>th</sup> annual meeting of the Society for Neuroscience, Washington, D.C.

Liu, Y., & **Medina, J.** (2017). Two mechanisms for shifts in perceived limb position in the mirror box illusion. Poster presented at the 17<sup>th</sup> International Multisensory Research Forum, Nashville.

**Medina, J.**, & Katz, S. (2017). Disembodied touch: A mirror induced illusion. Poster presented at the 17<sup>th</sup> International Multisensory Research Forum, Nashville.

Liu, Y., & **Medina, J.** (2016). Corporeal constraints on multisensory integration: Evidence from the mirror box illusion. Poster presented at the 16<sup>th</sup> International Multisensory Research Forum, Suzhou, China.

Cason, S., & **Medina, J.** (2016). Examining the evidential value of tDCS studies using a p-curve analysis. Poster presented at the 23<sup>rd</sup> annual meeting of the Cognitive Neuroscience Society, New York.

Grzenda, M., & **Medina, J.** (2016). Biases in tactile localization subsequent to cortical damage. Poster presented at the 23<sup>rd</sup> annual meeting of the Cognitive Neuroscience Society, New York.

Liu, Y., & **Medina, J.** (2016). Beyond modalities: Integrating multisensory information across different reference frames. Poster presented at the 23<sup>rd</sup> annual meeting of the Cognitive Neuroscience Society, New York.

**Medina, J.**, Faseyitan, O., & Coslett, H.B. (2015). Post-stroke cortical reorganization subsequent to somatosensory lesion. Poster presented at the 22<sup>nd</sup> annual meeting of the Cognitive Neuroscience Society, San Francisco.

Liu, Y., & **Medina, J.** (2015). Examining spatial and motor congruence in a mirror box illusion. Poster presented at the 16<sup>th</sup> International Multisensory Research Forum, Pisa, Italy.

**Medina, J.**, & DePasquale, C. (2015). Visual interference and subtypes of mirror-touch synesthesia. Poster presented at the 16<sup>th</sup> International Multisensory Research Forum, Pisa, Italy.

**Medina, J.**, & DePasquale, C. (2014). Feeling your touch: Spatial frames of reference and subtypes of mirror-touch synesthesia. Poster presented at the 44<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington, DC.

**Medina, J.**, & DePasquale, C. (2014). Influences of the body schema on mirror-touch synesthesia. Poster presented at the 15<sup>th</sup> International Multisensory Research Forum, Amsterdam, the Netherlands.

Coslett, H.B., & **Medina, J.** (2014). Using TMS to examine visual contributions to the body schema. Poster presented at the 21<sup>st</sup> annual meeting of the Cognitive Neuroscience Society, Boston.

**Medina, J.**, Baumert, E., & Ziegler, M. (2014). Dissociating the body schema: Evidence from two case studies. Poster presented at the 66<sup>th</sup> annual meeting of the American Academy of Neurology, Philadelphia.

Coslett, H.B., & **Medina, J.** (2014). Apparent body size alters motor function. Poster presented at the 66<sup>th</sup> annual meeting of the American Academy of Neurology, Philadelphia.

Coslett, H.B., Faseyitan, O., **Medina, J.**, & Iannaccone, M. (2014). Effects of gaze, head and hand location on motor function: Evidence from TMS in normal subjects. Poster presented at the 66<sup>th</sup> annual meeting of the American Academy of Neurology, Philadelphia.

**Medina, J.**, Khurana, P., & Coslett, H.B. (2013). Action and embodiment in a mirror box illusion. Poster presented at the 14<sup>th</sup> International Multisensory Research Forum, Jerusalem, Israel.

Norise, C., Garcia, G., Beauvais, J., Faseyitan, O., Drebing, D., **Medina, J.**, & Hamilton, R. (2013). Individually-Targeted Transcranial Direct Current Stimulation Enhances Language Recovery in Patients with Chronic Non-Fluent

Aphasia. Data blitz presentation at the 65<sup>th</sup> Annual Meeting of the American Academy of Neurology, San Diego.

**Medina, J.**, Khurana, P., & Coslett, H.B. (2013). Manipulating Action in the Mirror Box Illusion. Poster presented at the 20<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco.

Norise C., Beauvais J., Drebing D., Faseyitan O., **Medina J.**, & Hamilton R.H. (2012). Individually-Guided Transcranial Direct Current Stimulation Facilitates Lasting Improvement in Patients with Non-Fluent Aphasia: A Pilot Study. Poster presented at the 50<sup>th</sup> Academy of Aphasia Annual Meeting, San Francisco.

Novick, A., Fiddes, N., Huber, T., & **Medina, J.** (2012). Response type and sex differences in a tactile temporal order judgment task with tools. Poster presented at the 13<sup>th</sup> International Multisensory Research Forum, Oxford, England.

Iannacone, M., & **Medina, J.** (2012). The rubber hand illusion and the tactile Simon effect. Poster presented at the 13<sup>th</sup> International Multisensory Research Forum, Oxford, England.

Drebing, D., **Medina, J.**, Coslett, B., Shenton, J.T., & Hamilton, R.H. (2012). An acquired deficit of intermodal temporal processing for audiovisual speech: A case study. Poster presented at the 13<sup>th</sup> International Multisensory Research Forum, Oxford, England.

**Medina, J.**, Drebing, D.E., Coslett, H.B., & Hamilton, R.H. (2012). Phantoms and the body schema: A case of tactile and visual synchiria. Poster presented at the 19<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, Chicago.

Khurshid, S., **Medina, J.**, Hamilton, R.H., & Coslett, H.B. (2012). Dissecting the body schema: Transcranial magnetic stimulation and the tactile temporal order judgment task. Poster presented at the 19<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, Chicago.

**Medina, J.**, Beauvais, J.C., Huber, E., Oliner, R., Coslett, H.B., & Hamilton, R.H. (2011). Transcranial direct current stimulation influences contralateral visual target detection. Poster presented at the 41st Annual Meeting of the Society for Neuroscience, Washington, DC.

**Medina, J.**, Greenberg, M.P., Coslett, H.B., & Hamilton, R.H. (2011). Somatotopic representation of visual stimuli – Evidence from the Simon effect. Poster presented at the 12<sup>th</sup> International Multisensory Research Forum, Fukuoka, Japan.

Norise, C., **Medina, J.**, Coslett, H.B., & Hamilton, R.H. (2011). Fostering Fluency: Transcranial Magnetic Stimulation Improves Fluency in Subjects with Chronic Nonfluent Aphasia. Poster presented at the 18<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco.

**Medina, J.**, Kliot, D., & Coslett, H.B. (2010). Effects of Perceived Limb Position on a Tactile Simon Effect Task. Poster presented at the 51<sup>st</sup> Annual Meeting of the Psychonomic Society, St. Louis.

**Medina, J.**, Jax, S.A., Prasad, S., & Coslett, H.B. (2010). Role of visual guidance in reaching after right intraparietal sulcus resection. Poster presented at the 10<sup>th</sup> Annual Meeting of the Vision Sciences Society, Naples.

**Medina, J.**, Benson, J., & Coslett, H.B. (2010). Differential Effects of Magnified Vision of the Arm on Tactile and Motor Tasks. Poster presented at the 17<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, Montreal, Canada.

**Medina, J.**, Jax, S.A., & Coslett, H.B. (2009). The neural correlates of kinematic motor learning: a transcranial magnetic stimulation study. Poster presented at the 39<sup>th</sup> Annual Meeting of the Society for Neuroscience, Chicago.

Jax, S.A., **Medina, J.**, & Coslett, H.B. (2009). Disrupted generalization of visuomotor rotation learning following cerebellar stroke. Poster presented at the 19<sup>th</sup> meeting of the Society for the Neural Control of Movement, Waikoloa, Hawaii.

Kannan, V.C., Pawlak, M.A., **Medina, J.**, Herskovits, E.H., & Hillis, A.E. (2008). Brain Voxels Associated with Distinct Neglect Subtypes. Poster presented at the 133<sup>rd</sup> Annual Meeting of the American Neurological Association, Salt Lake City.

Coslett, H.B., & **Medina, J.** (2007). Reaching with and without vision after deafferentation. Poster presented at the 37<sup>th</sup> Annual Meeting of the Society for Neuroscience, San Diego.

**Medina, J., & Rapp, B. (2007).** Multiple somatosensory frames of reference: Evidence from the Simon effect. Poster presented at the 48<sup>th</sup> Annual Meeting of the Psychonomic Society, Long Beach.

**Medina, J., Jax, S.A., & Coslett, H.B. (2007).** Reaching to moving targets after deafferentation. Poster presented at Progress in Motor Control VI, Santos, Brazil.

**Medina, J., Jax, S.A., & Coslett, H.B. (2007).** Representing Effector Location: Contributions of Predicted State and Sensory State Information. Poster presented at the 14<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, New York City.

**Medina, J., & Rapp, B. (2006).** Tactile Perception Modulated by Body Position. Poster presented at the 13<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, San Francisco.

**Medina, J., & Rapp, B. (2004).** A Case of Tactile Synchiria: Preserved Somatotopy? Poster presented at the 32<sup>nd</sup> Annual Meeting of the International Neuropsychological Society, Baltimore.

**Medina, J., & Hillis, A. (2003).** Neural Substrates of Distinct Patterns of Unilateral Spatial Neglect. Poster presented at the 10<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, New York City.

**Medina, J., & Rapp, B. (2002).** The plasticity of somatosensory representations following cerebral lesions in adult humans. Poster presented at the 9<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, San Francisco.

### **Professional and Editorial Service**

2022- Consulting Editor (masthead reviewer), *Journal of Experimental Psychology: General*

### ***Grant Reviewer***

Czech Science Foundation, European Research Council, Fonds de la Recherche Scientifique/Fund for Scientific Research (Belgium), Israel Science Foundation, Leverhulme Trust, National Science Foundation, Research Grants Council of Hong Kong, Swiss National Science Foundation, Wellcome Trust.



### ***Ad-hoc Reviewer***

*Acta Psychologica, Attention, Perception & Psychophysics, Behavioural Neurology, Brain and Language, Brain Stimulation, Cerebral Cortex, Clinical Psychology Review, Cognition, Cognitive and Behavioral Neurology, Cognitive Neuropsychology, Cognitive Neuroscience, Cognitive Processing, Consciousness & Cognition, Cortex, Current Biology, Developmental Medicine & Child Neurology, eLife, European Journal of Neuroscience, Experimental Brain Research, Frontiers in Human Neuroscience, Frontiers in Cognitive Science, Human Movement Science, Japanese Psychological Research, Journal of Cognitive Neuroscience, Journal of Cognitive Psychology, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Human Perception and Performance, Journal of the International Neuropsychological Society, Journal of Neurophysiology, Journal of Neuroscience, Multisensory Research, Nature Communications, Nature Reviews Psychology, Neuroimage: Clinical, Neurology, Neuropsychologia, Neurorehabilitation & Neural Repair, Neuroscience & Biobehavioral Reviews, Neuroscience Letters, PeerJ, Perception, PLOS One, Psychological Science, Quarterly Journal of Experimental Psychology, Scientific Reports, Social Cognitive and Affective Neuroscience, Stroke and Topics in Stroke Rehabilitation.*

### **Accomplishments**

#### ***Outreach and Service***

Member – Diversity Equity and Inclusion Committee, College of Arts and Sciences, Natural Sciences division, University of Delaware (2020-2023)

Member – SPARK Society Governing Board (2021-present)

Chair – Diversity Committee, Dept. of Psychological and Brain Sciences, University of Delaware (2017-2021)

Director - *Summer Undergraduate Workshop in Cognitive and Brain Sciences* (2017-2019, a two-week NSF-funded student workshop for STEM undergraduates interested in a career in the cognitive sciences, held at the University of Delaware).

Invited Speaker – Delaware Stroke Initiative Annual Meeting, 2013.  
Frequent speaker at local stroke support groups.

Instructor – Penn Neuroscience Boot Camp, August 2010, August 2011.

Invited Speaker – Penn Undergraduate Neuroscience Society, February 2011.

*Awards and honors*

Howard Hughes Medical Institute Post-Doctoral Teaching Fellowship,  
Haverford College (2009-2011).

National Science Foundation, Integrative Graduate Education & Research  
Training (IGERT) Fellowship (2000-2005).

National Hispanic Merit Scholarship (awarded to the top Hispanic high school  
students in the United States), University of Florida (1993-1997).

*Popular Press*

Research on evidential value in the tDCS literature covered in [The Scientist](#).

Research on the mirror box illusion and embodiment covered in [UDaily](#).

Our mirror-touch synesthesia research was covered by the [Huffington Post](#), the  
[Boston Herald](#), [Business Insider](#), [Vice](#), and [NSF Discovery Files](#).

Research on the tactile Simon effect covered in “[Rinks oder lechts?](#)” Article in  
Jan/Feb 2011 issue of *Gehirn & Geist* (sister publication to *Scientific American Mind*,  
in German).

Research on tactile synchiria featured in [Faculty of 1000](#) and [Science Blogs –  
Neurophilosophy](#).

*Professional Affiliations*

Member, Cognitive Neuroscience Society (2002-present)

Member, Tactile Research Group (2006-present)

Associate Member, Psychonomic Society (2007-present)

Member, Society for Neuroscience (2007-present)

## **Teaching Experience & Mentorship**

### *Courses Taught*

*Honors Introduction to Psychology*, University of Delaware, Fall 2012, Spring 2013, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Spring 2018, Fall 2018, Fall 2019, Fall 2020, Fall 2021.

*Honors Cognition*, University of Delaware, Fall 2014, Fall 2015, Spring 2016, Spring 2017, Fall 2017, Spring 2019, Spring 2020, Spring 2021.

*Advanced Topics in Psychology: Body and Space*, Haverford College, Spring 2012; University of Delaware, Spring 2014, Fall 2017, Fall 2020, Fall 2022.

*Introduction to Cognitive Neuroscience*, Haverford College, Fall 2009, Spring 2011.

*Foundations of Psychology*, Haverford College, Fall 2011, Spring 2012.

*Experimental Methods & Statistics Lab*, Haverford College, Fall 2011.

Co-organizer and guest lecturer, UD Study Abroad in Japan program, January 2020, January 2023.

**Nominated for Excellence in Teaching Award, Univ. of Delaware, 2014, 2016, 2020.**

**Nominated for Excellence in Honors Teaching Award, Univ. of Delaware, 2020.**

### *Dissertation/Master's Thesis Committees (Univ. of Delaware)*

Austin Moran, Social Psychology (M.S.)

Emma Beisheim, Physical Therapy

Greg Wade, Cognitive Psychology

Minwoo Kim, Cognitive Psychology

Morgan Sherer, Behavioral Neuroscience

Patrese Robinson-Drummer, Behavioral Neuroscience

Aude Cardona, Communication Sciences and Disorders

Ümit Daşdoğan, Communication Sciences and Disorders

Jennifer Barnes, Physical Therapy (M.S.)

Paria Fatollahkhani, Biomedical Engineering (M.S.)

*Lab Graduates*

Yuqi Liu (Ph.D.)

William Leach (M.A.)

Riwa Safa (M.A.)

Luisa Raigosa-Posada (M.S.)

*Other*

External examiner, Ph.D. thesis, University of Queensland

External examiner, Ph.D. thesis, Università degli Studi di Pavia

External examiner, Master's thesis, Macquarie University

**Additional activities**

*Mentorship*

Supervision of >70 undergraduates engaged in research in cognitive neuroscience at the University of Delaware, University of Pennsylvania and Johns Hopkins University.

Supervision of fourteen University of Delaware Summer Scholars, four NSF REUs, five summer SOURCE program students, one McNair Scholar, four undergraduate independent research projects and nine senior thesis projects.