

Miranda Scolari
Department of Psychological Sciences
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Education

- 2008-2012: Ph.D., Department of Psychology, University of California, San Diego (UCSD), La Jolla CA. Advisor: Dr. John Serences
- 2007-2008: Department of Cognitive Sciences, University of California, Irvine (UCI), Irvine CA. Advisor: Dr. John Serences
- 2005-2007: M.A., Department of Psychology, University of Oregon (UO), Eugene OR. Advisor: Dr. Edward Awh
- 2000-2004: B.A. with Magna Cum Laude, Department of Psychology, Willamette University, Salem OR. Advisor: Dr. Mark Stewart

Academic Positions

- 2016-present: Assistant Professor, Department of Psychological Sciences, Texas Tech University, Lubbock, TX
- 2011-2016: Postdoctoral research associate, Princeton Neuroscience Institute, Princeton University, Princeton NJ; Advisor: Dr. Sabine Kastner

Teaching Experience

Undergraduate Courses Taught

PSY 4324 Cognition
PSY 4328 Neuroscience of Vision

Graduate Courses Taught

PSY 5355 Neuroscience of Vision

Current Graduate Student Mentoring

Shinyoung Jung (1st year)
Ema Bidiwala (3rd year)
Anto Jude Rajesh Kumar Mohan (4th year)
Guangsheng (Carl) Liang (6th year)
Sean O'Bryan (7th year)

Chair of Doctoral Committees

Sean O'Bryan, Psychological Sciences, TTU

Thesis title: "Reconstructing population tuning functions to quantify the effects of category learning on visual perception."

Member of Doctoral Committees

Timothy Kelley, Psychological Sciences, TTU

Dmitrii Paniukov, Psychological Sciences, TTU

Othello Richards, Media & Communication, TTU

Member of Masters Committees

Kierstyn Evans, Forensics, TTU

Qualifying Exam Committees

Ema Bidiwala, Elizabeth Briones, Rogelio Carrillo, Timothy Kelley, Guanghseng Liang, Sean O'Bryan, Othello Richards

Undergraduate Student Mentoring

Research Assistants:

TTU: Bailee Alonzo, Toby Anderson, Jaqueline Barroso, Mariam Bashiti, Molly Croessmann, Karla de la Garza, JohnMark Kempthorne, Nikolay Kuzminas, Logan Lynskey, Brian Mbanefo, Michael Ssentongo Mugerwa, Hao Nguyen, Ashutosh Patil, John Poquiz, Shashidhar Sastry, Makenzie Woodruff

Support

2013-2015: NIH 2T32MH065214-11, NRSA Training Grant in Quantitative Neuroscience, Awarded by the Princeton Neuroscience Institute, Princeton University

2017-2020: Texas Tech Seed Grant for Interdisciplinary Research (SGIR), Co-Investigator (with Drs. Kimi Nakatsukasa (PI), Aaron Braver & Tommy Dang). Teaching Foreign Language Pronunciation Through Educational Avatars. \$100,000

2018-2020: Texas Tech Scholarship Catalyst Program, Co-Investigator (with Drs. Kimi Nakatsukasa, Aaron Braver & Tommy Dang). Computer Avatar Language Teacher: Improving Japanese and Arabic Learners' Pronunciation. \$3,500

Other Grant Submissions

*denotes student authors

- 2017: National Endowment for the Humanities: Digital Humanities Advancement Grants program, Co-Investigator (with Drs. Kimi Nakatsukasa (PI), Aaron Braver & Tommy Dang). Learning in the Digital Era: Gestures and Foreign Language Pronunciation. (Not funded)
- 2018: National Endowment for the Humanities: Digital Humanities Advancement Grants program, Co-Investigator (with Drs. Kimi Nakatsukasa (PI), Aaron Braver & Tommy Dang). Learning in the Digital Era: Gestures and Foreign Language Pronunciation. (Not funded)
- 2019: 6Verse (private company), Investigator. Optimizing 6Verse Devices and Software Applications Through User Experience Research. (Not funded)

Publications

- Liang, G.* & **Scolari, M.** (2020). Limited interactions between space- and feature-based attention in visually sparse displays. *Journal of Vision*. (5-yr Impact Factor: 2.533)
- Scolari, M.** & Awh, E. (2019). Object-based biased competition during covert spatial orienting. *Attention, Perception & Psychophysics*, *81*, 1366-1385. (5-yr Impact Factor: 1.968)
- Scolari, M.**, Seidl-Rathkopf, K. & Kastner, S. (2015). Functions of the human frontoparietal attention network: Evidence from neuroimaging. *Current Opinion in Behavioral Sciences*. (1-yr Impact Factor: 3.422)
- Scolari, M.**, Ester, E. F. & Serences, J. T. (2014). Feature- and object-based attentional modulation in the human visual system. In: *The Oxford Handbook of Attention* (A.C. Nobre & S. Kastner, Eds).
- Scolari, M.**, Byers, A. & Serences, J. T. (2012). The precision of top-down attentional gain in early visual cortex. *Journal of Neuroscience*, *32*, 22, 7723-7733. (5-yr Impact Factor: 6.485)
- Umemoto, A., **Scolari, M.**, Vogel, E. K. & Awh, E. (2010). Statistical learning induces discrete shifts in the allocation of working memory resources. *Journal of Experimental Psychology: Human Perception & Performance*, *36*, 6, 1419-1429. (5-yr Impact Factor: 2.976)
- Scolari, M.** & Serences, J. T. (2010). Basing perceptual decisions on the most informative sensory neurons. *Journal of Neurophysiology*, *104*, 4, 2266-2273. (5-yr Impact Factor: 2.700)

Williamson, K., **Scolari, M.**, Jeong, S. K., Kim, M.-S. & Awh, E. (2009). Experience-dependent changes in the topography of visual crowding. *Journal of Vision*, 9, 11, 1-9. (5-yr Impact Factor: 2.533)

Scolari, M. & Serences, J. T. (2009). Adaptive allocation of attentional gain. *Journal of Neuroscience*, 29, 38, 11933-11942. (5-yr Impact Factor: 6.485)

Serences, J. T., Saproo, S., **Scolari, M.**, Ho, T. & Muftuler, T. (2009). Estimating the influence of attention on population codes in human visual cortex using voxel-based tuning functions. *NeuroImage*, 44, 1, 223-231. (5-yr Impact Factor: 6.918)

Serences, J., **Scolari, M.** & Awh, E. (2009). Online response-selection and the attentional blink: Multiple-processing channels. *Visual Cognition*, 17, 4, 531-554. (5-yr Impact Factor: 1.626)

Scolari, M., Vogel, E. K. & Awh, E. (2008). Perceptual expertise enhances the resolution but not the number of representations in working memory. *Psychonomic Bulletin & Review*, 15, 1, 215-222. (5-yr Impact Factor: 3.780)

Scolari, M., Kohnen, A., Barton, B. & Awh, E. (2007). Spatial attention, preview, and popout: Which factors influence critical spacing in crowded displays? *Journal of Vision*, 7, 2, 1-23. (5-yr Impact Factor: 2.533)

Manuel, J. C., Sunseri, M. A., Olson, R. & **Scolari, M.** (2007). A diagnostic approach to increase reusable dinnerware selection in a cafeteria. *Journal of Applied Behavior Analysis*, 40, 2, 301-310. (5-yr Impact Factor: 2.429)

Forthcoming Manuscripts (data collection complete)

Submitted

Bidiwala, E. S.* & **Scolari, M.** (*in revision*). Automatic object-based spatial selection depends on the distribution of sustained attention.

Nakatsukasa, K., Braver, A., Liang*, G., Nguyen, V.*, Dang, T., & **Scolari, M.** (*in revision*). Pronunciation learning and attention in avatar-based language teaching.

O'Bryan, S. R.* & **Scolari, M.** (*revision under review*). Phasic pupillary responses modulate object-based attentional prioritization.

In preparation

Liang, G.* & **Scolari, M.** (*in preparation*). Cue reliability modulates interdependency between space- and feature-based attention during perceptual decision-making.

O'Bryan, S.*, Mohan, A. J.*, Nguyen, H.*, Davis, T. & **Scolari, M.** (*in preparation*). Category learning enhances visual perception at the boundary.

O'Bryan, S. R.*, Price, M. M.*, Alquist, J., Davis, T., & **Scolari, M.** (*in preparation*). The role of norepinephrine in self-control failure.

Serra, M. & **Scolari, M.** (*in preparation*). Animacy impairs paired-associates recall for both word-based and picture-based items.

Scientific Conference Abstracts

Scolari, M. & O'Bryan, S.* (June 2020). Phasic pupillary response modulates object-based attentional prioritization. Talk presented at virtual Vision Sciences Society annual meeting.

Liang, G.* & Scolari, M. (June 2020). Cue reliability modulates interdependency between space- and feature-based attention during perceptual decision-making. Poster presented at virtual Vision Sciences Society annual meeting.

Bidiwala, E. S.* & Scolari, M. (June 2020). Exploring pupil diameter as a cognitive spatial filter. Poster presented at virtual Vision Sciences Society annual meeting.

Bidiwala, E. S.* & Scolari, M. (Nov 2019). Evidence for norepinephrine modulating spatial attention. Poster presented at OPAM annual meeting, Montreal, QC, Canada.

Liang, G.*, Nguyen, V.*, Nakatsukasa, K., Braver, A., Dang, T. & Scolari, M. (May 2019). "Multisensory integration of visual and auditory signals during second language learning." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.

O'Bryan, S.*, Mohan, A. J.*, Nguyen, H.*, Davis, T. & Scolari, M. (May 2019). "Category learning enhances visual perception at the boundary." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.

Liang, G.* & Scolari, M. (May 2018). "Attentional deployment to space and features: Separate and together." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.

O'Bryan, S.* & Scolari, M. (May 2017). "Sequential sampling in visual attention." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.

Scolari, M. & Kastner, S. (Nov 2014). "Topographic subunits of the attentional control network are differentially modulated by cue validity." Talk presented at Society for Neuroscience annual meeting, Washington, DC.

- Scolari, M. & Kastner, S. (May 2014). "Cue validity differentially modulates subunits of the attentional control network." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.
- Scolari, M., Pinsk, M. A. & Kastner, S. (Nov 2013). "Dissociating the contributions of attentional control subunits during object-based spatial selection." Poster presented at Society for Neuroscience annual meeting, San Diego, CA.
- Scolari, M. & Kastner, S. (May 2013). "Mechanisms of attentional control in fronto-parietal cortex across spatial positions." Talk presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M., Abuyo, T. & Serences, J. T. (May 2012). "Switching between optimal feature-based attentional gain patterns based on task demands." Poster presented at Vision Sciences Society annual meeting, Naples, FL.
- Byers, A., Scolari, M. & Serences, J. T. (Nov 2011). "Filtering irrelevant information during perceptual decision-making." Poster presented at Society for Neuroscience annual meeting, Washington, DC.
- Scolari, M. & Serences, J. (May 2011). "Testing the flexibility of top-down attentional gain in early visual cortex." Talk presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M. & Serences, J. (Mar 2011). "Testing the flexibility of top-down attentional gain in early visual cortex." Talk presented at SoCal Cognitive Neuroscience meeting, UCI.
- Scolari, M. & Serences, J. (Aug 2010). "Perceptual decisions are based on the most informative sensory neurons." Talk presented at European Conference on Visual Perception annual meeting, Lausanne, Switzerland.
- Scolari, M. & Serences, J. (May 2010). "Gain in the most informative sensory neurons predicts task performance." Talk presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M., Wu, L., Panzer, N., Torres, L. & Serences, J. (Nov 2009). "Estimating sensory gain during the maintenance period of visual working memory." Poster presented at Psychonomics annual meeting, Boston, MA.
- Scolari, M. & Serences, J. (May 2009). "Assessing sensory gain during the maintenance of information in working memory." Poster presented at Vision Sciences Society annual meeting, Naples, FL.
- Awh, E., Scolari, M. & Ishikawa, J. (May 2008). "Object-based biased competition during covert spatial orienting." Talk presented at Vision Sciences Society annual meeting, Naples, FL.

Umemoto, A., Scolari, M., Vogel, E. & Awh, E. (May 2008). "Implicit knowledge biases encoding into visual working memory." Poster presented at Vision Sciences Society annual meeting, Naples, FL.

Scolari, M. & Serences, J. (May 2008). "Estimating the shape of the feature-based attentional gain function." Poster presented at Vision Sciences Society annual meeting, Naples, FL.

Scolari, M., Vogel, E. K. & Awh, E. (Nov 2007). "Perceptual expertise enhances the resolution but not the number of representations in working memory." Poster presented at Psychonomics annual meeting, Long Beach, CA.

Scolari, M., Ishikawa, J. & Awh, E. (Aug 2007). "Attention biases competition between individuated objects." Talk presented at Cognitive Science Association for Interdisciplinary Learning (CSAIL) annual meeting, Hood River, OR.

Scolari, M., Kohnen, A., Barton, B. & Awh, E. (May 2007). "Attention does not influence critical spacing." Poster presented at Vision Sciences Society annual meeting, Sarasota, FL.

Scolari, M., Kohnen, A., Barton, B. & Awh, E. (Aug 2006). "Spatial attention, preview, and popout: Can diminished crowding effects be explained by reductions in critical spacing?" Poster presented at CSAIL annual meeting, Hood River, OR.

Scolari, M.R., Schroeder, A. L. & Stewart, M. T. (Apr 2004) "The impact of synesthetic photisms on memory for words." Poster presented at the Western Psychological Association annual meeting, Phoenix, AZ.

Scolari, M.R., Schroeder, A. L. & Stewart, M. T. (Feb 2004) "Synesthesia and memory for colored words." Talk presented at the Oregon Academy of Science annual meeting, Portland State University, Portland, OR.

Other Presentations

Scolari, M. (Nov 2018). "An Introduction to Eye Tracking: The What, Why, and How." Invited workshop given at the Department of Classical & Modern Languages & Literatures at Texas Tech University, Lubbock, TX.

Scolari, M. (Oct 2018). "The Neuroscience of the Color Red." Invited lecture presented at The Psychology of Red Event, Museum of Texas Tech University, Lubbock, TX.

Scolari, M. (Jan 2015). "Guiding what we see: Top-down attention in the human visual system." Invited talk presented at the Department of Psychological Sciences Colloquium, Texas Tech University, Lubbock, TX.

Scolari, M. (Oct 2014). "Space-based attentional control in human frontoparietal cortex." Invited talk presented at the CogLunch seminar series, Department of Psychology/Princeton Neuroscience Institute, Princeton University, Princeton, NJ.

Scolari, M. (Aug 2014). "Space-based attentional control in topographic subregions of human frontoparietal cortex." Invited talk presented at the Cognitive Control Lab (PI: Andrew Leber) and the Vision & Cognitive Neuroscience Lab (PI: Julie Golomb) meeting, Department of Psychology, The Ohio State University, Columbus, OH.

Scolari, M., Pinsk, M. A. & Kastner, S. (Nov 2013). "Dissociating the contributions of attentional control subunits during object-based spatial selection." Talk presented at Imaging Meeting, Princeton University, Princeton Neuroscience Institute, Princeton, NJ.

Scolari, M. & Serences, J. (Jul 2011). "Testing the flexibility of top-down attentional gain." Talk presented at the Department of Psychology Graduate Talk Series, UCSD.

Scolari, M. & Serences, J. (Oct 2010). "Perceptual decisions are based on the most informative sensory neurons." Talk presented at Cognitive Neural Systems Seminar, UCSD.

Scolari, M. & Serences, J. (Sep 2010). "Perceptual decisions are based on the most informative sensory neurons." Invited talk presented at the Neuroimaging Lab (PI: Zoltán Vidnyánsky) meeting, Information Technology Department, Pázmány Péter Catholic University, Budapest, Hungary.

Scolari, M. & Serences, J. (Dec 2008). "Perceptual consequences of individual differences in attentional gain." Invited talk presented at the Systems Neurobiology Laboratory (PI: John Reynolds) meeting, Salk Institute, La Jolla, CA.

Scolari, M. & Serences, J. (Apr 2008). "Individual differences in attentional strategy based on modulation of the gain function." Talk presented at the Center for Cognitive Neuroscience quarterly meeting, UCI.

Department Service

Adhoc Parental Leave Committee, Department of Psychological Sciences, 2017

Undergraduate Program Committee, Department of Psychological Sciences, 2017-2019

Adhoc Internship Policy Committee, Department of Psychological Sciences, 2018-2019

Undergraduate Scholarships and Graduate Student Awards, Department of Psychological Sciences, 2020-2021

Ad-hoc Reviewer

Attention, Perception & Psychophysics

Frontiers in Cognitive Science

Human Brain Mapping

Journal of Experimental Psychology: General

Journal of Experimental Psychology: Human Perception & Performance

Journal of Neuropsychologia

Journal of Neuroscience

NeuroImage

Perceptual & Motor Skills

Psychonomic Bulletin & Review

Scientific Reports

Professional Affiliations

Association for Psychological Science

Society for Neuroscience

Vision Sciences Society