

## Jessica R. Andrews-Hanna, Ph.D.

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### EDUCATION

**Harvard University (Cambridge, MA)** *Summer 2006 - Spring 2009*  
PhD, Department of Psychology (Ph.D. Advisor: Randy Buckner)  
**Washington University in St. Louis (St. Louis, MO)** *Fall 2003 – Spring 2006*  
Associate Masters in Neuroscience, Division of Biology and Biomedical Science (Advisor: Randy Buckner)  
**Duke University (Durham, NC)** *Fall 1999 – Spring 2003*  
B.S. in Biology (Neuroscience Concentration)  
B.S. in Psychology  
Graduated with Distinction (Honors Thesis Advisor: Michael Platt)  
**University of St. Andrews (St. Andrews, Scotland)** *Spring 2002*  
Visiting student

### PROFESSIONAL EMPLOYMENT

**University of Arizona (Tucson, AZ)** *Jan 2, 2017 - current*  
Director, Cognitive Science *Fall 2024-current*  
Associate Professor, Department of Psychology; Cognitive Science Program *Spring 2022-present*  
Assistant Professor, Department of Psychology; Cognitive Science Program *Spring 2017-Spring 2022*  
Director, Neuroscience of Emotion & Thought (NET) Laboratory  
Graduate Interdisciplinary Program in Cognitive Science  
Graduate Interdisciplinary Program in Neuroscience  
Evelyn F. McKnight Brain Institute  
Arizona Alzheimer Consortium  
**University of Colorado Boulder (Boulder, CO)** *Feb 1, 2014 – Dec 31, 2016*  
Research Associate / Scientist, Institute of Cognitive Science  
Director, Neuroscience of Emotion & Thought (NET) Laboratory  
**University of Colorado Boulder (Boulder, CO)** *Fall 2009 – Jan 31, 2014*  
NRSA Postdoctoral Research Fellow, Institute of Cognitive Science; Dept Psychology & Neuroscience  
Postdoc Advisors: Marie Banich & Tor Wager  
**Beth Israel Deaconess Medical Center / Harvard U. Medical School (Boston, MA).** *Summer 2002*  
Research Assistant, Center for Noninvasive Brain Stimulation (PI = Alvaro Pascual-Leone)

### GRANTS AND FELLOWSHIPS (active 2017 and beyond)

**International OCD Foundation** *Sept 01, 2024 - Aug 31, 2029*  
*Psilocybin Treatment for OCD in Individuals from Disadvantaged Communities: A randomized controlled double-masked trial to assess tolerability, safety, efficacy, and brain mechanisms of anti-obsession*  
Role: Co-Investigator (PI: Moreno)  
\$500,000  
**1R01AG068098-01A1** *Aug 15, 2022 – April 15, 2027*  
*Tracking autobiographical thoughts: a smartphone-based approach to identifying cognitive correlates of Alzheimer's disease biomarkers and risk factors in clinically normal older adults*  
Role: Multiple PI (PIs: Grilli & Andrews-Hanna)  
\$4,449,700

- 1R01 MH125414-01** April 01, 2021-Jan 31, 2026  
*Connected Lives - Overcoming the Self through Empathy (CLOSE): A dyadic, multi-method study*  
 Role: Multiple PI (PIs: Andrews-Hanna & Sbarra)  
 \$2,925,543
- R01 NS109819-01** July 1, 2020 – June 30, 2025  
*Precision and binding as two dimensions of medial temporal lobe amnesia*  
 Role: Co-I (Ekstrom)  
 \$2,769,521
- R01 AG061888-02** Jan 1, 2020 – Dec 31, 2024  
*Evaluating the neurocomputational mechanisms of explore-exploit decision making in older adults*  
 Role: Co-I (PI: Wilson)  
 \$1,765,250
- Openwater, LLC** July 11, 2022 – June 30, 2024  
*Altering Default Mode Network Activity to Reduce Depressive Symptoms.*  
 Role: Co-Investigator (PI: Allen)  
 \$298,305
- AZ Dept Health Services / Arizona Alzheimer's Consortium Match Projects** July 1, 2023 – June 30, 2024  
*Neural correlates of age-related alterations in imaginative thinking*  
 Role: Multiple PI (PIs: Grilli, Andrews-Hanna & Hovhannisyan)  
 \$30,000
- R56 AG068098** Sep 15, 2020 – Aug 31, 2022  
*Tracking autobiographical thoughts: a smartphone-based approach to the detection of cognitive and neural markers of Alzheimer's disease risk.*  
 Role: Multiple PI (Grilli & Andrews-Hanna)  
 \$642,211
- Canadian Institutes of Health Research, Neurosciences** April 1, 2020 -Mar 31, 2025  
*Investigating the dynamics of thought using brain connectivity and experience sampling.*  
 Role: Co-Applicant (PI: Christoff)  
 \$795,600 CAD
- Insight Development Grant, Social Sci & Humanities Research Council of Canada** June 2021 – May 2023  
*How does mind wandering impact affective well-being? A study on adults across the age spectrum with varying features of attention-deficit/hyperactivity disorder.*  
 Role: Collaborator (PI: Kam)  
 \$73,434 CAD
- 1R03 AG060271-01A1** April 15, 2019 – Mar 31, 2022  
*The episodic autobiographical memory hypothesis of preclinical Alzheimer's disease: Developing a new approach for early cognitive detection and measurement of Alzheimer's disease.*  
 Role: Co-I (PI: Grilli)  
 \$153,500
- Francisco Varela Grant: Mind & Life Foundation** Dec 20, 2019 – Dec 19, 2021  
*Overcoming the self: A multi-method investigation of trait mindfulness, self-other overlap, and egocentricity in romantic relationships.*  
 Role: Faculty Mentor (PI: Maresh)  
 \$20,000
- AZ Dept Health Services / Arizona Alzheimer's Consortium Match Projects** July 1, 2020 – June 30, 2021  
*Why is the glass half-full? Sources of the positivity effect in healthy aging and AD risk.*  
 Role: PI  
 \$20,000
- AZ Dept Health Services; Arizona Alzheimer's Consortium Match Projects** July 1, 2020 – June 30, 2021

- Autobiographical memory, future thinking, and neuropsychology in Hispanics*  
 Role: Co-I (PI: Grilli)  
 \$20,000
- AZ Dept Health Services / Arizona Alzheimer's Consortium Match Projects** July 1, 2019-Dec 31, 2020  
*Real-world markers and neural mechanisms of Alzheimer's disease risk in cognitively normal older adults*  
 Role: PI  
 \$22,143
- NIA R56 AG061888** Sept 30, 2018 – Aug 31, 2020  
*Evaluating the neurocomputational mechanisms of explore-exploit decision making in older adults*  
 Role: Co-I (PI: Wilson)  
 \$339,230
- Department of Psychology Pilot Grant** Mar 18, 2019 – Mar 17, 2020  
*Maladaptive repetitive thought and psychopathology: The mediating role of neural dyadic empathy.*  
 Role: PI (Andrews-Hanna, Sbarra)  
 \$10,000
- P30 AG019610 Arizona Alzheimer's Disease Core Center Pilot Funding Grant** July 1, 2018 – June 30, 2019  
*Uncovering neurocognitive links between Alzheimer's disease and depression in mid-life to early aging*  
 Role: PI  
 \$45,050
- NIA 1R01AG043452** Aug 1, 2014 – June 30, 2019  
*Enhancing function in later life: Exercise and functional network connectivity*  
 Role: Co-Investigator (PI: Bryan)  
 \$2,794,372
- White Rose Collaboration Fund, University of Leeds, Sheffield and York** Oct 2018 – Sept 2019  
*Assessing functional ability in older adults*  
 Role: International Collaborator  
 £9,619
- Arizona Dept. Health Services / Arizona Alzheimer's Consortium** July 1, 2017 – June 30, 2018  
*Daily thinking patterns in healthy and pathological aging*  
 Role: PI  
 \$15,000
- LuMind Research Down Syndrome Foundation** July 1, 2017 - June 30, 2018  
*Brain development, sleep and learning in Down syndrome*  
 Role: Co-Investigator (PI: Edgin)  
 \$215,000
- NIMH 1R21MH108848-01A1** June 20, 2016 – Mar 31, 2018  
*Clearing the contents of working memory: mechanisms and representations*  
 Role: Co-Investigator (PIs: Banich & Lewis-Peacock)  
 \$345,023
- Brain & Behavior Research Foundation Young Investigator Award** Jan 15, 2015 – Jan 14, 2018  
*Neurocognitive mechanisms of functional and dysfunctional self-generated thought: relevance for depression*  
 Role: PI  
 \$65,000
- Brain & Behavior Research Foundation Young Investigator Award** Jan 15, 2015 – Jan 14, 2018  
*Neural effects of mindfulness-based cognitive therapy in post-partum women with high vulnerability for depression relapse*  
 Role: Collaborator (PI: Lopez-Sola)  
 \$65,000
- Templeton Foundation – Imagination Institute (RFP-15-04)** July 1, 2015 – June 30, 2017  
*The Four Factor Imagination Theory (4FIT): Strategy, Methodology, & Anticipated Results*

Role: Co-Investigator and Postdoc mentor of PI (PI: Zabelina)  
\$215,000

### Alzheimer's Association

*Improving memory in aMCI with self-referencing*  
Role: Collaborator (PI: Gutchess)  
\$100,000

Sept 1, 2014 – Aug 31, 2017

### AWARDS & HONORS

Association for Psychological Science Fellow	2023
Research Leadership Institute Fellow, University of Arizona	2022-2023
Galileo Scholar Curie Award, University of Arizona	2020
Early Investigator Award, Society of Experimental Psychologists	2019
Elected member of Society of Experimental Psychologists	2019
Fellow of the Psychonomic Society	2018
Faculty/Staff Appreciation Award, University of Arizona	2018
University of Arizona Successful Scholars Program	2018
National Academy of Sciences Kavli Frontiers of Science Fellow	2017
<i>Neuroimage</i> Editor's Choice Award best paper	2016
John Templeton Foundation <i>Science of Prospection</i> Award	2015
<i>Neuron</i> 25 Year Anniversary: Featured influential paper from 2010	2013
Mind and Life Summer Research Institute Fellow	2013
Elected member of International Society for Behavioral Neuroscience	2012
Ruth L. Kirschstein National Research Service Award (NRSA) Postdoctoral Fellowship	2011-14
Summer Institute in Cognitive Neuroscience Fellow	2011
Harvard Psychology Department Teaching Award	2008
Thompson Reuter's Science Watch Award for Fast-Breaking Paper	2008
Harvard University Sosland Family Graduate Fellowship Award	2007-08
Washington University in St. Louis Alzheimer's Disease Research Center Travel Fellowship	2006
Washington University in St. Louis Cognitive, Computational, and Systems Neuroscience Fellowship	2004-06
Graduate with Distinction at Duke University	2003
Dean's List at Duke University	1999-03

### PUBLICATIONS (\* = shared first authorship)

# of citations = 35,615; h-index = 44

#### ***Published or In Press Only***

- 89) Knoff, A. W.; Bowles, B.; **Andrews-Hanna, J.R.**, & Grilli, M.D. (in press). Direct access to specific autobiographical memories is lower in healthy middle-aged to older adult Apolipoprotein E4 carriers compared to non-carriers. *J. Neuropsychology*
- 88) Stoica, T., Grilli, M.D., Andrews, E.S., Deffner, A.M., Griffith, C., & **Andrews-Hanna, J.R.** (2024). Speaking well and feeling good: older adults exhibit increased emotional linguistic precision during resting state cognition. *Affective Science*, 5(2):141-159.
- 87) Pfeifer, V., **Andrews-Hanna, J.R.**, & Lai, V. (in press). Can Irony Regulate Negative Emotion? Evidence from Behavior and ERPs. *Cognition & Emotion*
- 86) Hernandez, D.A., Griffith, C.X., Deffner, A.M., Hovhannisyan, M., Nkulu, H., Ruiz, J.M., **Andrews-Hanna, J.R.**, & Grilli, M.D. (in press). Retrieving autobiographical memories in autobiographical contexts: Are age-related differences in narrated episodic specificity present outside of the laboratory? *Psychological Research*, PsyArXiv. Preprint: <https://10.31234/osf.io/kuxv8>
- 85) De la Peña-Arteaga V, Cano M, Porta-Casteràs D, Vicent-Gil M, Miquel-Giner N, Martínez-Zalacaín I, Mar-Barrutia L, López-Solà M, **Andrews-Hanna JR**, Soriano-Mas C, Alonso P, Serra-Blasco M, López-Solà C,

- Cardoner N. (in press). Mindfulness-based cognitive therapy neurobiology in treatment-resistant obsessive-compulsive disorder: A domain-related resting-state networks approach. *European Journal of Neuropsychopharmacology*
- 84) Kam, J., Wong, A., Thiemann, R., Hasan, F., **Andrews-Hanna, J.R.**, & Mills, C. (2024). On the relationship between unprompted thoughts and mental health: A systematic review and meta-analysis. *Psychological Bulletin*, *150*(5), 621-641.
- 83) Raffaelli, Q., Malusa, R., de Stefano, N-A., Andrews, E., Grilli, M.D., Mills, C., Zabelina, D.L., **Andrews-Hanna, J.R.** (2024). The Creative Mind at Rest: Creative individuals are more associative and engaged with their idle thoughts. *Creativity Research Journal* (Invited submission for the Inaugural CRJ Issue of the Society for Neuroscience of Creativity), *36*(3):396-412.
- 82) Kucyi, A., Kam, J.W.Y, **Andrews-Hanna, J.R.**, Christoff, K., & Whitfield-Gabrieli, S. (2023). Recent advances in the neuroscience of spontaneous thought and off-task thought: implications for mental health. *Nature Mental Health*, *1*(11), 827-840.
- 81) Arizmendi, B. J., Seeley, S. H., Allen, J. J. B., Killgore, W. D. S., **Andrews-Hanna, J. R.**, Weihs, K. L., & O'Connor, M-F. (2023). A pull to be close: The differentiating effects of oxytocin and grief stimulus type on approach behavior in complicated grief. *European Journal of Trauma & Dissociation*, *7*(3), 100339.
- 80) Koban, L., **Andrews-Hanna, J.R.**, Ives, L., Wager, T.D., Arch, J.J., (2023). Brain mediators of biased social influences on self-perception in social anxiety disorder. *Translational Psychiatry*, *13*(1), 292.
- 79) Kim, J.\*, **Andrews-Hanna, J.R.\***, Eisenbarth, H., Lux, B.K, Kim, H.J., Lee, E., Lindquist, M., Reynolds Losin, R., Wager, T.D., (2023). A Dorsomedial Prefrontal Cortex-based Dynamic Functional Connectivity Model of Rumination. *Nature Communications*, *14*(1), 3540.
- 78) Raffaelli, Q.\*, Andrews, E.S.\*, Cegavske, C.C., Abraham, F.F., Edgin, J.O., & **Andrews-Hanna, J.R.** (2023). Dreams share phenomenological similarities with task-unrelated thoughts and relate to variation in trait rumination and COVID-19 concern. *Scientific Reports*, *13*(1), 7102.
- 77) Grossman, I., Rotella, A., Hutcherson, C.A., Sharpinskyi, K., Varnum, M.E.W., Achter, S., Dhami, M.K., Guo, X.E., Kara-Yakoubian, M., Mandel, D.R., Raes, L., Tay, L., Vie, A., Wagner, L., Adamkovic, M., Arami, A., Arriaga, P., Bandara, K., Baník, G., ... The Forecasting Collaborative, (2023). Insights into accuracy of social scientists' forecasts of societal change. *Nature Human Behavior*. *7*(4), 484-501. <https://doi.org/10.31234/osf.io/wdxxsb>
- 76) Seeley, S.H., **Andrews-Hanna, J.R.**, Allen, J.J.B., O'Connor, M.F. (2023). Dwelling in prolonged grief: Resting state functional connectivity during oxytocin and placebo administration. *Human Brain Mapping*, *44*(1), 245-257.
- 75) Acevedo-Molina, M.C., Thayer, S.C., Horn, K., Nkulu, H., Ryan, L., **Andrews-Hanna, J.R.**, & Grilli, M.D. (2023). Past and future episodic detail retrieval is reduced among clinically normal older adults at higher genetic risk for late-onset Alzheimer's disease. *Neuropsychology*, *37*(2), 194-203, Preprint. <https://doi.org/10.31234/osf.io/3sa56>
- 74) Miquel-Giner, N., Vicent-Gil, M., Martínez-Zalacaín, I., Porta-Casteras, D., Mar, L., López-Solà, M., **Andrews-Hanna, J.**, Soriano-Mas, C., Menchón, J.M., Cardoner, N., Alonso, P., Serra-Blasco, M., López-Solà, C. (2022). Efficacy and fMRI-based response predictors to mindfulness-based cognitive therapy in obsessive-compulsive disorder: study protocol for a randomised clinical trial. *Revista de Psiquiatria y Salud Mental*, S1888-9891(22)00127-6.
- 73) Lux, B.K, **Andrews-Hanna, J.R.**, Han, J., Lee, E., Woo, C.-W. (2022). When self comes to a wandering mind: Brain representations and dynamics of self-generated concepts in spontaneous thought. *Science Advances*, *8*(35), eabn8616.
- 72) Zhang, W., **Andrews-Hanna, J.R.**, Mair, R.W., Goh, J.O.S., & Gutchess, A. (2022). Functional connectivity with medial temporal regions differs across cultures during post-encoding rest. *Cogn Affect Behav Neurosci.*, *22*(6), 1334-1348.

- 71) Hart, C.M., Mills, C., Thiemann, R.F., **Andrews-Hanna, J.R.**, Tomfohr-Madsen, L., & Kam, J.W.Y. (2022). Task-unrelated thought increases after consumption of COVID-19 and general news. *Cogn Res Princ Implic.* 7(1), 69.
- 70) Gust, C.J., Moe, E.N., Seals, D.R., Banich, M.T., **Andrews-Hanna, J.R.**, Hutchison, K.E., Bryan, A.D. (2022) Associations between age and resting state connectivity are partially dependent upon cardiovascular fitness. *Frontiers in Aging Neuroscience*, 20(14), 858405
- 69) Skouras, S., **Andrews-Hanna, J.R.** & Koelsch, S. (2022). Tormenting thoughts: The posterior cingulate sulcus of the Default Mode Network regulates valence of thoughts and activity in the brain's pain network during music listening. *Human Brain Mapping*, 42(2), 773-786.
- 68) Matijevic, S., **Andrews-Hanna, J. R.**, Wank, A. A., Ryan, L. & Grilli, M. D. (2022). Individual differences in episodic detail generation relate to intrinsic functional connectivity between medial temporal lobe and posterior medial cortical regions among middle-aged to older adults. *Neuropsychologia*, 166, 108138.
- 67) **Andrews-Hanna, J. R.**,\* Woo, C-W.\*, Wilcox, R., Eisenbarth, H., Kim, B., Losin, E. A. R. & Wager, T. D. (2022). The conceptual building blocks of everyday thought: tracking the emergence and dynamics of ruminative and non-ruminative thinking. *Journal of Experimental Psychology: General*, 151(3):628-642.
- 66) Singh, A., Westlin, C., Eisenbarth, H., Reynolds Losin, E.A., **Andrews-Hanna, J.R.**, Wager, T.D., Satpute, A.B., Barrett, L.F., Brooks, D.H., & Erdoğmus, D. (2021). Variation is the Norm: Brain State Dynamics Evoked By Emotional Video Clips. *Annu Int Conf IEEE Eng Med Biol Soc.* 6003-6007. doi: 10.1109/EMBC46164.2021.9630852. PMID: 34892486; PMCID: PMC8784974.
- 65) Raffaelli, Q., Mills, C., de Stefano, N. A., Mehl, M., Chambers, K., Fitzgerald, S. A., Wilcox, R., Christoff, K., Andrews, E., Grilli, M. D., O'Connor, M-F., & **Andrews-Hanna, J. R.** (2021). The think aloud paradigm reveals differences in the content, dynamics and conceptual scope of resting state thought in trait brooding. *Scientific Reports*, 11(1):19362.
- 64) Kam, J. W. Y, Javed, J., Hart, C. M., **Andrews-Hanna, J. R.**, Tomfohr-Madsen, L. & Mills, C. (2021). Daily practice of brief mindfulness training reduces negative impact of COVID-19 news exposure on affective well-being. *Psychological Research*, June 24, 1-12.
- 63) Martin-Willett, R., Morris, B. A., Giordano, G. R., Wilcox, R., **Andrews-Hanna, J. R.**, Banich, M. T., & Bryan, A. T. (2021). The influence of a 16-week exercise program, APOE status, and age on executive function task performance. *Experimental Gerontology*, 152, 111431.
- 62) Ashar, Y., **Andrews-Hanna, J. R.**, Halifax, J., Dimidjian, S., & Wager, T. D. (2021). Effects of compassion training on brain responses to suffering others. *Social Cognitive Affective Neuroscience*, 16(10):1036-1047.
- 61) **Andrews-Hanna, J. R.**, & Grilli, M. D. (2021). Mapping the imaginative mind: Charting new paths forward. *Current Directions in Psychological Science*, 30(1), 82-89.
- 60) Mills, C., Porter, A. R., **Andrews-Hanna, J.R.**, Christoff, K., & Colby, A. (2021). How do task-unrelated thought and freely-moving thought relate to affective state? Evidence for dissociable patterns in everyday life. *Emotion*, 21(5):1029-1040.
- 59) Arch, J. J., Wilcox, R., Ives, L., Sroloff, A. & **Andrews-Hanna, J. R.** (2021). Off-task thinking among adults with and without social anxiety disorder. *Cognition & Emotion*, 35(2), 269-281.
- 58) Wank, A., **Andrews-Hanna, J. R.**, & Grilli, M. (2021). Searching for the Past: Exploring the Dynamics of Direct and Generative Autobiographical Memory Reconstruction Among Young and Cognitively Normal Older Adults. *Memory & Cognition*, 49(3), 422-437.
- 56) Maresh, E. L. & **Andrews-Hanna, J. R.** (2021). Putting the “me” in “mentalizing”: Constructs describing the interplay between self and other with implications for social anxiety disorder. In M. Gilead & K. Ochsner (Eds.), *The Neural Basis of Mentalizing*. New York, NY: Springer Press.
- Acevedo-Molina, M., Novak, A.W., Gregoire, L.M., Mann, L.G., **Andrews-Hanna, J.R.**, & Grilli, M.D. (2020). Emotion matters: The influence of valence on episodic future thinking in young and older adults. *Consciousness & Cognition*, 85, 103023.

- 55) Wank, A. A., Mehl, M. R., **Andrews-Hanna, J. R.**, Polsinelli, A. J., Moseley, S., Glisky, E. L., & Grilli, M. D. (2020). Eavesdropping on autobiographical memory: A naturalistic observation study of older adults' memory sharing in daily conversations. *Frontiers in Human Neuroscience*, 14, 238.
- 53) Doucet, G. E., Janiri, D., Howard, R., O'Brien, M., **Andrews-Hanna, J. R.**, & Frangou, S. (2020). Transdiagnostic and disease-specific abnormalities in the default-mode network hubs in psychiatric disorders: A meta-analysis of resting-state functional imaging studies. *European Psychiatry*, 63(1), e57.
- Andrews-Hanna, J.R.**, Christoff, K., & O'Connor, M.-F. (2020). Dynamic regulation of internal experience: Mechanisms of therapeutic change. In R. D. Lane & L. Nadel (Eds.), *The Neuroscience of Enduring Change: The Neural Basis of Talk Therapies*. (pp. 89–191). Oxford University Press, USA.
- 52) Walpola, I., Muller, A., Hall, J., **Andrews-Hanna, J.R.**, Lewis, S., Shine, J.L., O'Callaghan, C. (2020). Mind-wandering in Parkinson's disease hallucinations reflects primary visual and default network coupling. *Cortex*, 125, 233-245.
- 51) Losin, E.A.R., Woo, C.-W., Medina, N. A., Eisenbarth, H., **Andrews-Hanna, J. R.**, & Wager, T. D. (2020). Neural and sociocultural mediators of ethnic differences in pain. *Nature Human Behaviour*, 4, 517–530.
- 50) Raffaelli, Q., Wilcox, R. & **Andrews-Hanna, J. R.** (2020). The Neuroscience of Imaginative Thought: An Integrative Framework. In A. Abraham (Ed.), *The Cambridge Handbook of Imagination*. Cambridge, U.K.: Cambridge University Press.
- 49) **Andrews-Hanna, J.R.**, Grilli, M.D., & Irish, M. (2019). A review and reappraisal of the default network in normal aging and dementia. In *Oxford Research Encyclopedia of Psychology*. Oxford University Press. doi: <http://dx.doi.org/10.1093/acrefore/9780190236557.013.384>
- 48) Strickwerda-Brown C., Grilli M.D., **Andrews-Hanna, J.R.**, Irish M. (2019). “All is not lost” – Rethinking the nature of the self in dementia. *Ageing Research Reviews*, 54, 100932.
- 47) Irish, M., Goldberg, Z.L., Alaeddin, S., O'Callaghan, C. & **Andrews-Hanna, J.R.** (2019). Age-related changes in the frequency and content of spontaneous cognition during periods of low cognitive demand. *Psychological Research*, 83(4), 747-760.
- 46) O'Callaghan, C., Shine, M., **Andrews-Hanna, J.R.**, & Irish, M. (2019). Hippocampal atrophy and intrinsic brain network dysfunction relate to alterations in mind wandering in neurodegeneration. *PNAS*, 116(8), 3316-3321.
- 45) Zabelina, D., Friedman, N.P., **Andrews-Hanna, J.R.** (2019). Unity and diversity of executive functions in creativity. *Consciousness and Cognition*, 68, 47-56.
- 44) Christoff, K., Mills, C., **Andrews-Hanna, J.R.**, Irving, Z.C., Thompson, E., Fox, K.C.R., & Kam, J.W.Y. (2018). Mind-wandering as a scientific concept: Cutting through the definitional haze. *Trends in Cognitive Science*, 22(11), 957-959.
- 43) Arch, J.J., Landy, L., Schneider, R., Koban, L., & **Andrews-Hanna, J.R.** (2018). Self-compassion induction enhances recovery from social stressors: Comparing adults with social anxiety disorder and healthy controls. *Anxiety, Stress & Coping*, 31(5): 594-609.
- 42) Pelletier-Baldelli, A., **Andrews-Hanna, J.R.**, & Mittal, V. (2018). Resting state connectivity dynamics in individuals at risk for psychosis. *Journal of Abnormal Psychology*, 127(3), 314-325
- 41) Fox, K.C., **Andrews-Hanna, J.R.**, Mills, C., Dixon, M.L., Markovic, J., Thompson, E., & Irving, Z., Christoff, K., (2018). Affective neuroscience of self-generated thought. *Annals of NY Academy of Science (2018 Year in Cognitive Neuroscience)*, 14256, 25-51.
- 40) Dixon, M.L., De La Vega, A., Mills, C., **Andrews-Hanna, J.**, Spreng, R.N., Cole, M.W., & Christoff, K. (2018). Heterogeneity within the frontoparietal control network and its relationship to the default and dorsal attention networks. *PNAS*. 115(7), E1598-E1607.
- 39) **Andrews-Hanna, J.R.**, Fox, K.C., Irving, Z., Spreng, R.N., & Christoff, K. (2018). The Neuroscience of spontaneous thought: An evolving, interdisciplinary field. In K. Fox & K. Christoff *The Oxford Handbook of Spontaneous Thought: Mind-wandering, Creativity, & Dreaming*. New York City: Oxford University Press. (Invited chapter)

- 38) Ashar, Y., **Andrews-Hanna, J.R.**, Dimidjian, S., & Wager, T.D. (2017). Empathic care and distress: Predictive brain markers and dissociable brain systems. *Neuron*, *94*(6), 1263-1273.
- 37) Koban, L., Schneider, R., Ashar, J., **Andrews-Hanna, J.R.**, Landy, L., Wager, T.D., & Arch, J. (2017). Social anxiety is characterized by biased learning about performance and the self. *Emotion*, *17*(8), 1144-1155.
- 36) Dixon, M., **Andrews-Hanna, J.R.**, Spreng, R.N., Irving, Z.C., Mills, C. Girn, M. & Christoff, K. (2017). Interactions between the default network and dorsal attention network vary across default subsystems, time, and cognitive states. *Neuroimage*, *147*, 632-649.
- 35) Christoff, K., Irving, Z., Fox, K.C., Spreng, R.N., & **Andrews-Hanna, J.R.** (2016). Mind-wandering as spontaneous thought: a dynamic framework. *Nature Reviews Neuroscience*, *17*(11), 718-731.
- 34) Zabelina, D., & **Andrews-Hanna, J.R.** (2016). Dynamic network interactions supporting internally-oriented cognition. *Current Opinion in Neurobiology* (Special issue of “40 Systems Neuroscience”), *40*, 86-93.
- 33) Fox, K. C. R., **Andrews-Hanna, J. R.**, & Christoff, K. (2016). The neurobiology of self-generated thought from cells to systems: Integrating evidence from lesion studies, human intracranial electrophysiology, neurochemistry, and neuroendocrinology. *Neuroscience*, *335*, 134–150.
- 32) Ashar, Y., **Andrews-Hanna, J.R.**, Yarkoni, T., Sills, J., Halifax, J., J., Dimidjian, S., & Wager, T.D. (2016). Effects of compassion meditation on a psychological model of charitable donation. *Emotion*, *16*(5), 691-705.
- 31) Ashar, Y., **Andrews-Hanna, J.R.**, Dimidjian, S., & Wager, T.D. (2016). A neural process-content model of compassion and future directions for compassion research. In: J.D. Greene, I. Morrison, & M.E.P. Seligman (Eds.), *Positive Neuroscience*. New York, NY: Oxford University Press.
- 30) Godinez, D.A., McRae, K., **Andrews-Hanna J.R.**, Smolker, H., Banich, M.T. (2016). Differences in frontal and limbic brain activation in a small sample of monozygotic twin pairs discordant for severe stressful life events. *Neurobiology of Stress*, *5*, 26-36.
- 29) Spreng, R.N., & **Andrews-Hanna, J.R.** (2015). Social cognition and the brain’s default network. In: A.W. Toga (Eds.) *Brain Mapping: An Encyclopedic Reference* (165-169) London: Academic Press. (Invited chapter)
- 28) Kaiser, R.H., **Andrews-Hanna, J.R.**, Wager, T.D., & Pizzagalli, D. (2015). Large-scale network dysfunction in Major Depressive Disorder: Meta-analysis of resting-state functional connectivity. *JAMA Psychiatry*, *72*(6), 603-11.
- 27) Fox, K.C., Spreng, R.N., Ellamil, M., **Andrews-Hanna, J.R.**, & Christoff, K. (2015). The wandering brain: Meta-analysis of functional neuroimaging studies of mind-wandering and related spontaneous thought processes. *Neuroimage*, *111*, 611-21.
- 26) Kaiser, R.H., **Andrews-Hanna, J.R.**, Spielberg, J.M., Warren, S.L., Sutton, B.P., Miller, G.A., Heller, W., & Banich, M.T. (2015). Distracted and down: neural substrates and network dynamics of affective interference in subclinical depression. *Social Cognitive & Affective Neuroscience*, *10*(5), 654-63.
- 25) Reineberg, A., **Andrews-Hanna, J.R.**, Depue, B., Friedman, N.P. & Banich, M.T. (2015). Resting-state networks predict individual differences in common and specific aspects of executive function. *Neuroimage*, *104*, 69-78.
- 24) O’Callaghan, C, Shine, J.M., Lewis, S.J.G., **Andrews-Hanna, J.R.**, & Irish, M. (2015). Shaped by our thoughts: Frequency and content of spontaneous thought relate to distinct patterns of default network connectivity in healthy ageing. *Brain and Cognition*, *93*, 1-10.
- 23) Kaiser, R.H., **Andrews-Hanna, J.R.**, Metcalf, C., & Dimidjian, S. (2015). Dwell or decenter? Rumination and decentering predict working memory updating after interpersonal criticism. *Cognitive Therapy & Research*. *39*, 744.
- 22) Godinez, D., Wilcutt, E.G., Depue, B.E., Burgess, G.C., **Andrews-Hanna, J.R.**, & Banich, M.T. (2015). Familial risk and ADHD specific neural activity revealed by a case-control, discordant twin pair design. *Psychiatry Research: Neuroimaging*, *233*(3), 458-65.
- 21) **Andrews-Hanna, J.R.**, Smallwood, J.S., & Spreng, R.N. (2014). The default network and self-generated thought: Component processes, dynamic control, and clinical relevance. *Annals NY Acad Sci – Special*



Issue: The Year in Cognitive Neuroscience (Invited Review), *1316*, 29-52.

- 20) **Andrews-Hanna, J.R.**, Saxe, R., & Yarkoni, T. (2014). Contributions of episodic retrieval and mentalizing to autobiographical thought: evidence from functional neuroimaging, resting-state connectivity, and fMRI meta-analyses. *Neuroimage*, *91*, 324-35.
- 19) Fox, K., Thompson, E., **Andrews-Hanna, J.R.**, & Christoff, K. (2014). Is thinking really aversive? Commentary on Wilson et al.'s "Just think: The challenges of the disengaged mind." *Frontiers in Psychology*, *5*, 1427.
- 18) Woo, W., Koban, L., Kross, E., Banich, M.T., Ruzic, L., **Andrews-Hanna, J.R.**, & Wager, T.D. (2014) Separate neural representations for physical pain and social rejection. *Nature Communications*, *5*, 5380.
- 17) Dalwani, M., Tregellas, J.R., **Andrews-Hanna, J.R.**, Sakai, J.T., Banich, M.T., & Crowley, T.J. (2014). The effect of antisocial substance dependence on default mode network activity in male adolescents. *Drug and Alcohol Dependence*, *134*, 242-250.
- 16) **Andrews-Hanna, J.R.**, Kaiser, R., Turner, A., Reineberg, A., Godinez, D. & Banich, M.T. (2013). A penny for your thoughts: dimensions of self-generated thought content and relationships with individual differences in emotional well-being. *Frontiers in Psychology – Special Issue on Mind-Wandering*, *4*, 900.
- 15) Smallwood, J.S. & **Andrews-Hanna, J.R.** (2013). Not all minds that wander are lost: The importance of a balanced perspective on the mind-wandering state. *Frontiers in Psychology – Special Issue on Mind-Wandering*, *4*, 441.
- 14) Banich, M.T., De La Vega, A., **Andrews-Hanna, J.R.**, Mackiewicz Seghete, K., Du, Y., & Claus, E.D. (2013). Developmental trends and individual differences in brain systems involved in temporal choices regarding rewards during adolescence: Implications for substance abuse. *Psychology of Addictive Behaviors*, *27*(2), 416-30.
- 13) **Andrews-Hanna, J.R.** (2012). The brain's default network and its adaptive role in internal mentation. *The Neuroscientist (Invited Review)*, *18*(3), 251-70.
- 12) **Andrews-Hanna, J.R.**, Mackewicz, K., Claus, E., Burgess, G.C., Ruzic, L., & Banich, M.T. (2011). Cognitive control in adolescence: Neural underpinnings and relation to self-report behaviors. *PLOS One*, *6*(6), e21958.
- 11) Holt, D.J., Cassidy, B.S., **Andrews-Hanna, J.R.**, Lee, S., Goff, D.C., Gabrieli, J.D., & Moran, J.M. (2011). An anterior-to-posterior shift in midline cortical activity in schizophrenia during self-reflection. *Biological Psychiatry*, *69*, 415-423.
- 10) **Andrews-Hanna, J.R.**, Reidler, J., Huang, C., & Buckner, R.L. (2010). Evidence for the default network's role in spontaneous cognition. *Journal of Neurophysiology*, *104*(1), 322-335.
- 9) **Andrews-Hanna, J.R.**, Reidler, J., Poulin, R., & Buckner, R.L. (2010). Functional-anatomic fractionation of the default network. *Neuron*, *65*, 550-562.
- 8) Buckner, R.L., Sepulcre, J., Taldurkar, T., Krienen, F., Liu, H., Hedden, T., **Andrews-Hanna, J.R.**, Sperling, R.A. & Johnson, K.A. (2009). Cortical hubs revealed by intrinsic functional connectivity: mapping, assessment of stability, and relation to Alzheimer's disease. *Journal of Neuroscience*, *29*(6), 1860-1873.
- 7) Kahn, I., **Andrews-Hanna, J.R.**, Vincent, J., Snyder, A., & Buckner, R.L. (2008). Distinct cortical anatomy linked to subregions of the medial temporal lobe revealed by intrinsic functional connectivity. *Journal of Neurophysiology*, *100*(1), 129-139.
- 6) Buckner, R.L., **Andrews-Hanna, J.R.**, & Schacter, D.L. (2008). The brain's default network: anatomy, function, and relevance to disease. *Annals of the NY Academy of Science, Special Issue: The Year in Cognitive Neuroscience (Invited Review)*, *1124*, 1-38.
- 5) **Andrews-Hanna, J.R.**, Snyder A.Z, Vincent J.L., Lustig C., Head D, Fox M.D., Raichle M.E., & Buckner, R.L. (2007). Evidence for large-scale network disruption in advanced aging. *Neuron*, *56*(5), 924-935.
- 4) Roitman J.D., Brannon E.M., **Andrews J.R.**, & Platt, M.L. (2007). Nonverbal representation of time and number in adults. *Acta Psychologica*, *124*(3), 298-318.
- 3) Vincent, J.L., Snyder, A.Z., Fox, M.D., Shannon, B.J., **Andrews, J.R.**, Raichle, M.E., & Buckner, R.L. (2006). Coherent spontaneous activity identifies a hippocampal-parietal memory network. *Journal of Neurophysiology*, *96*, 3517-3531.

- 2) **Andrews, J.R.**, Wang, L, Csernansky, J.G., Gado, M.H., & Barch, D.M. (2006). Abnormalities of thalamic activation and cognition in schizophrenia. *American Journal of Psychiatry*, 163(3), 356-358.
- 1) Merabet L, Thut G, Murray B, **Andrews J.R.**, Hsiao S, & Pascual-Leone, A. (2004). Feeling by sight or seeing by touch? *Neuron*, 42(1), 173-179.

### **CONFERENCE ABSTRACTS / PRESENTATIONS (SELECTED RECENT)**

- 1) **Andrews-Hanna, J.R.** (2023). "Mind's at Rest: What Resting State Cognition Can Tell us about Creativity, Curiosity and Rumination." Oral symposium given at the 2023 Conference on Creativity, Curiosity & Complexity, Columbia University, New York City, N.Y.
- 2) **Andrews-Hanna, J.R.** (2023). "Minds at Rest: Characterizing clinical and demographic sources of variability in spontaneous cognition during unconstrained periods." Oral symposium given at the 2023 *International Society of Learning and Memory*, San Diego, C.A.
- 3) **Andrews-Hanna, J.R.** (2022). "The Explorative Mind: Measuring the Dynamics of Spontaneous Thought in Creative and Ruminative Individuals." Oral presentation given at the 2022 *Society of Experimental Psychologists Meeting*, Chicago, I.L.
- 4) **Andrews-Hanna, J.R.** (2022). "Measuring the Dynamics of Unprompted Thought in Creative and Ruminative Individuals." Oral presentation given at the 2022 *International Society of Behavioral Neuroscience Meeting*, St. John's, Newfoundland, Canada
- 5) Stoica, T., Grilli, M.D., Andrews, E.S., Burns, H., Wilcox, R., & **Andrews-Hanna, J.R.** (2022). "Resting State Connectivity of Affective Linguistic Expression during Naturalistic Speech." Poster presentation given at the 2022 Organization for Human Brain Mapping Meeting, Glasgow, Scotland.
- 6) Andrews, E.S., Grilli, M., Abraham, F.F., Mason, D.L. & **Andrews-Hanna, J.R.** (2022). "Thought in Everyday Life as Mediators of the Relationship between Age and Psychological Well-Being." Poster presentation given at the 2022 *American Psychological Society Convention*, Chicago, I.L..
- 7) Raffaelli, Q., Malusa, R., de Stefano, N., Fitzgerald, S., Keeney, A., Zabelina, D., & **Andrews-Hanna, J.R.** (2022). "The Eternal Busyness of the Creative Mind: Resting State Cognition of Original Thinkers" Poster presentation given at the 2022 *Psychonomics Society Meeting*, Boston, M.A.
- 8) Maresh, E.L., Coppola, A.M., Sbarra, D.A., & **Andrews-Hanna, J.R.** (2022). "Neural circuitry of empathy during incongruent affective states between the self and a romantic partner." Poster presentation given at the 2022 *Cognitive Neuroscience Society Meeting*, San Francisco, C.A.
- 9) Raffaelli, Q. Andrews, E., Cegavske, C., Abraham, F., Mason, D., Edgin, J. & **Andrews-Hanna, J.R.** (2022). Think productively, dream productively: Dreaming phenomenology associates with daydreaming and predicts individual differences in trait rumination and creativity. Poster presentation given at the 2022 *Cognitive Neuroscience Society Meeting*, San Francisco, C.A.
- 10) Coppola, A.M., Maresh, E.L., Sbarra, D.A., & **Andrews-Hanna, J.R.** (2021). "Individual Differences in Loneliness and Depression Modulate the Neural Response to Social Rejection." Oral presentation given at the 2021 *American Psychological Society Virtual Convention*, Virtual Meeting.

### **INVITED TALKS & SYMPOSIA (SELECTED RECENT)**

Minds at Rest: Characterizing clinical and demographic sources of variability in spontaneous cognition during the resting state <i>Symposium Speaker, International Neuropsychological Society Conference, San Diego, CA</i>	2023
Dynamics of Thought: A Window into Wandering and Creative Minds <i>Curiosity, Creativity and Complexity Conference, Columbia University, NY, NY</i>	2023
The Imaginative Mind <i>Cognitive Science Speaker Series, Dartmouth College, Hanover, NH</i>	2022
A Window into the Human Imagination <i>"Knowing Minds" Guest Lecturer, Princeton University, Princeton, NJ</i>	2022
The Imaginative Brain: Cognitive Manifestations, Lifespan Development, and Relevance to Mental Health	2021

<i>Cognitive Neuroscience of Development &amp; Aging (CoNDA) Center, U. Nebraska, Omaha, NE</i>	
The Universe Within: A Window into the Imaginative Brain	2021
<i>Montreal Neurological Institute (MNI) Feindel Brain and Mind Lecture Series, Montreal, CA</i>	
The Universe Within: A Window into Wandering and Sticky Minds	2021
<i>Cognitive Neuroscience Group, Queen's University, Ontario, Canada</i>	
Mental Health in the Time of COVID	2021
<i>Women in Science and Medicine Undergraduate Club, University of Arizona, Tucson, AZ</i>	
The Universe Within: A Window into Wandering and Sticky Minds	2020
<i>University of Colorado Boulder Cognitive Seminar Series, Boulder, CO.</i>	
Constructing and Deconstructing the Dynamics of Autobiographical Thought	2019
<i>Symposium speaker at the 60<sup>th</sup> Annual Meeting of the Psychonomic Society, Montreal, Canada.</i>	
Dynamic Regulation of Internal Thought: A Clinical Story	2019
<i>University of Virginia's Norms of Attention: A Conference in Interdisciplinary Cognitive Science, Charlottesville, VA</i>	
Dynamics of Thought: A Window into Wandering and Sticky Minds.	2019
<i>2019 Society of Experimental Psychologists Meeting, Rutgers University, NJ.</i>	
Inclusivity and the Balancing act of Work and Life in Academia	2019
<i>Intersectionality: The Nuances of Diversity Seminar Series, University of Arizona, Tucson, AZ</i>	
Mindfulness and Mental Health	2019
<i>Panelist, "Neuroscience and Society" seminar series, University of Arizona, Tucson, AZ</i>	
The Science of Imagination Workshop	2018
<i>Workshop Organizer &amp; Speaker, College Academy for Parents, University of Arizona, Tucson, AZ</i>	
<i>12 week program at UA for first generation elementary school children and their families to develop a plan to attend college</i>	
What's in a name? Definitions and current discourse on mind-wandering	2017
<i>Wandering Minds: Symposium on Spontaneous Thought in Science, Philosophy and Contemplative Traditions, Oslo, Norway</i>	
Dynamic regulation of internal experience	2017
<i>Neuroscience of Enduring Change Symposium, Tucson, AZ</i>	
Where's My Mind? Content, Correlates, and Consequences of Daily Thinking Patterns	2017
<i>Mind-Wandering Symposium, University of British Columbia, Vancouver, BC</i>	
The Costs and Benefits of an Untamed Mind	2017
<i>Department of Psychology Colloquium, University of Arizona</i>	
Precision Aging: Insight from Brain Network Science	2017
<i>UA Foundation Board of Trustees &amp; National Leadership Council</i>	

**TEACHING & MENTORSHIP (at the University of Arizona only)**

<b>Director, Neuroscience of Emotion &amp; Thought Laboratory</b>	Spring 2014 - Present
<b>University of Arizona (Course Instructor)</b>	Spring 2017 - Present
NSCS200: Fundamentals of Neuroscience and Cognitive Science	
PSY300: Cognitive Neuroscience: A Guide to Mind and Brain	
PSYS408: Imagination and the Brain	
PSY528: The Cognitive Neuroscience of Imagination	
NSCS399 & NSCS499: Independent Study; NSCS399H Honors Independent Study	
PSY299, PSY399 & PSY499: Independent Study; PSY299H & PSY399H: Honors Independent Study	
PSYS392 & PSYS492: Directed Research; PSYS392H: Honors Directed Research	
NSCS498H & PSY498H: Honors Thesis	
PSY599: Independent Study	
PSY900: Research (Independent Study)	

**GRADUATE STUDENTS & POSTDOCS MENTORED**

5 Postdocs mentored

6 graduate students mentored  
 18 Undergraduate Honors Students mentored  
 >75 Undergraduate Directed Research / Independent Study students

**PROFESSIONAL ACTIVITIES**

Member of Cognitive Neuroscience Society, International Society for Behavioral Neuroscience, Society for Experimental Psychologists, Social Affective Neuroscience Society, Association for Psychological Science, Psychonomic Society, Society for Personality and Social Psychology, Society for Neuroscience  
 Guest Editor, *Current Opinion in Behavioral Sci*, “Functions of the Default Network” special issue (2024-present)  
 Action Editor, *PNAS*, 2023-present  
 Consulting Editor, *Psychonomic Bulletin and Review*, 2020-present  
 Editorial Review Board, *Creativity Research Journal*, 2020-present  
 Guest Editor, organizer and editor of special issue of *Frontiers in Psychology* on mind-wandering (2012-2013)  
 Organizer, Cognitive, Affective, & Social Neuroscience departmental journal club (2014)  
 Organizer, Women in Science Young Professionals group (2013-2014)  
 Ad-hoc peer-reviewer (grant proposals)  
 National Science Foundation, European Research Council, Canada New Frontiers in Research Fund, Israel Science Foundation, German Research Foundation, Swiss National Science Foundation, University Research Council, Belgium, Netherlands Organization for Scientific Research, Sir Henry Wellcome Postdoctoral Fellowship  
 Ad-hoc peer-reviewer (50+ academic journals/books)

**UNIVERSITY SERVICE (SELECTED)**

Director, Cognitive Science Program, College of Science, UA	2024-present
Director, Diversity, Equity & Inclusion, Psychology Department, UA	2024-present
University Awards Selection Committee, Psychology Department, UA	2024-present
Chair, Diversity, Equity & Inclusion Committee, Psychology Department, UA	2023-present
College of Science Awards Selection Committee, UA	2023
Executive Committee, Cognitive Science, UA	2022-present
Committee Member, Graduate Interdisciplinary Program in Cognitive Science, UA	2022-present
Chair, Undergraduate Curriculum Committee	2020-2022
Director, Psychology Undergraduate Curriculum Committee, UA	2020-2022
Member, Diversity, Equity & Inclusion Committee, Psychology Department, UA	2020-2022
Steering Committee, Neuroscience and Cognitive Science Major, UA	2019-Present
Faculty Executive Advisory Committee, Department of Psychology, UA	2019
Faculty Member, Graduate Interdisciplinary Program in Neuroscience, UA	2018-Present
Diversity Committee, Department of Psychology, UA	2018-Present
Faculty Advisor, Women in Medicine and Science Club, UA	2018-current
Undergraduate Curriculum Committee, Department of Psychology, UA	2017-Present
Faculty Member, Graduate Interdisciplinary Program in Cognitive Science, UA	2017-Present
Undergraduate Curriculum Committee, Neuroscience Cognitive Science Major, UA	2017-2018

**MEDIA COVERAGE (SELECTED)**

<b>Time Magazine</b>	“How to be more spontaneous as a busy adult”	2024
<b>Arizona Science, NPR</b>	“How the mind keeps active during the brain's "down time"”	2024
<b>SciTechDaily</b>	“New study reveals how creativity can save you from boredom”	2023
<b>Earth.com</b>	“Creative people make the most out of their idle time”	2023
<b>PsyPost</b>	“Daytime mind wandering is linked to dream content while asleep, study finds”	2023

VeryWellHealth	<i>"This is what happens to your mind when you focus on the negative"</i>	2021
EurekAlert	<i>"What our wandering thoughts can teach us about mental health"</i>	2021
KVOA News 4 Tucson	<i>"UArizona psychologists study how difficulties in romantic relationships affect mental health"</i>	2021
The Conversation	<i>"Mindfulness meditation in brief daily doses can reduce negative mental health impact of COVID-19"</i>	2021
Elemental	<i>"A Simple Insight to Help Worriers Rein in Anxious Thoughts"</i>	2020
Arizona Daily Star	<i>"Mind Window: An App to See Inside the Mind"</i>	2020
ScienceDaily	<i>"Older adults share fewer memories as they age"</i>	2020
Arizona Illustrated	<i>"The Psychedelic Reset: Magic Mushrooms and OCD"</i>	2019
The Wall Street Journal	<i>"Why Camping Alone Can Make You a Mental Winner"</i>	2018
UA Alumni Magazine	<i>"Fitness tracker for your mind: Inside our thoughts and emotions"</i>	2018
KGUN-TV	<i>Interview about research for Tucson TV news station</i>	2018
Arizona Daily Star	<i>"UA researchers develop fitness tracker for your mind"</i>	2018
ScienceDaily	<i>"Brain imaging reveals roots of caring"</i>	2017
Scientific American	<i>"Toward an Imagination Science"</i>	2017
ScienceDaily	<i>"Understanding mind-wandering could shed light on mental illness"</i>	2016
Channel 7 News, Denver	<i>"Brain fitness tracker app could help scientists learn why people have negative, positive thoughts"</i>	2016
Universitas Newspaper, U. of Oslo	<i>"La Tankere Fare"</i>	2015
The Columbia Chronicle	<i>"Neuroscience advances highlight emotional network in brain"</i>	2012
The Dana Foundation	<i>"The Default Network: Your Mind on its Own Time"</i>	2010
Science Illustrated Magazine	<i>"Broken Dreams"</i>	2010
Scienceline	<i>"Contemplating Oneness: The Neuroscience of Meditation"</i>	2009
Boston Globe	<i>"Daydream Achiever"</i>	2008
Washington Post	<i>"Aging Gracefully – It's a Real Workout"</i>	2008
Harvard Magazine	<i>"The Aging Brain"</i>	2008
BBC News	<i>"Normal Ageing 'Can Addle Brain'"</i>	2007

# Genesis D. Arizmendi, Ph.D., CCC-SLP

Assistant Professor

University of Arizona

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## EDUCATION

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- 2019      **Ph.D., Speech, Language, and Hearing Sciences**  
Minor: Cognitive Science  
University of Arizona, Tucson, AZ  
Dissertation: *The Development and Validation of a Novel Task to Quantify Functional Language Proficiency in Spanish-English Learning School-Age Children*
- 2013      **M.S., Speech, Language, and Hearing Sciences**  
University of Arizona, Tucson, AZ
- 2011      **B.S., Speech, Language, and Hearing Sciences**  
Minors: Spanish and Special Education, Rehabilitation, and School Psychology  
University of Arizona, Tucson, AZ  
*Magna Cum Laude*

## ACADEMIC APPOINTMENTS

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- 2023 -      **Assistant Professor**, Department of Speech, Language, and Hearing Sciences, University of Arizona
- 2023 -      **Assistant Professor**, Cognitive Science Program, University of Arizona
- 2023 -      **Director**, Multicultural Bilingual Certificate Program, Department of Speech, Language, and Hearing Sciences, University of Arizona
- 2021 - 2023      **Provost Early Career Fellow**, Department of Special Education and the Texas Center for Equity Promotion, University of Texas at Austin, Austin, TX. Mentors: Drs. Sarah Powell and Doris Baker
- 2020 - 2021      **Lecturer**, Department of Speech and Hearing Sciences, University of New Mexico, Albuquerque, NM
- 2019 - 2021      **NSF Postdoctoral Fellow**, Department of Educational Psychology, University of New Mexico, Albuquerque, NM. Mentor: Dr. H. Lee Swanson

## PROFESSIONAL EXPERIENCE

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- 2021 - 2023      **Bilingual Speech-Language Pathologist**, Sonrisas Therapies, Austin, TX
- 2018 - 2019      **Graduate Research Assistant**, National Center for Interpretation, University of Arizona
- 2014 - 2019      **Graduate Research Associate**, L4 Lab, Department of Speech, Language, and Hearing Sciences, University of Arizona, Tucson, AZ. Director: Dr. Mary Alt
- 2014 - 2019      **Bilingual Speech-Language Pathologist**, Holy Cross Hospital and Outpatient Clinic, Carondelet Health Network, Nogales, AZ.
- 2013 - 2014      **Bilingual Speech-Language Pathologist – Clinical Fellow**, Santa Cruz Valley Unified School District, Rio Rico, AZ.

## FELLOWSHIPS AND AWARDS

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2024	<b>Advancing Academic Research Careers (AARC) Award</b> , American Speech, Language, Hearing Association
2024	<b>Latino Data Hub Action Lab Selected Participant and Awardee</b> , University of California - Los Angeles (UCLA) Latino Policy and Politics Institute
2024	<b>Mellon-Fronteridades Faculty Fellowship</b> , Mellon Foundation and Confluence Center for Creative Inquiry at the University of Arizona
2023	<b>Getting SMART: Comprehensive Program for Adaptive Interventions Training in Education (CATIE) Selected Participant &amp; Travel Awardee</b> , University of Michigan
2023	<b>Supporting Outstanding Academic Research (SOAR) Award</b> , Topic Area of Speech & Language Sciences - Honorable Mention, School of Behavioral and Brain Sciences, University of Texas at Dallas
2023	<b>Top Cited Article 2021- 2022</b> , Learning Disabilities Research and Practice
2021	<b>Distinguished Early Career Professional Award</b> , The American Speech-Language Hearing Association
2021	<b>Lecturer of the Year Nominee</b> , University of New Mexico
2019	<b>Outstanding Graduate Student in Scholarship/Research Award</b> , Department of Speech, Language, and Hearing Sciences, University of Arizona
2019, 2015 2012, 2011	<b>STAR NIH Travel Award</b> , Symposium on Research in Child Language Disorders, University of Wisconsin-Madison
2019	<b>Graduate College Fellowship</b> , University of Arizona
2018	<b>Grunewald Foundation Fellowship</b> , Speech, Language, and Hearing Sciences, University of Arizona
2018	<b>Louise Foucar Marshall Foundation Graduate Fellowship</b> , University of Arizona
2017	<b>Outstanding Graduate Student in Scholarship/Research Award</b> , Department of Speech, Language, and Hearing Sciences, University of Arizona
2017	<b>Department of Cognitive Science Travel Award</b> , University of Arizona
2015- 2018	<b>Galileo Circle Scholar</b> , College of Science, University of Arizona
2016, 2011	<b>Department of Speech, Language, and Hearing Sciences Travel Grant</b> , University of Arizona
2016	<b>Lessons for Success Selected Mentee</b> , American Speech, Language, and Hearing Association
2015	<b>Outstanding Research in Cognitive Science Award</b> , University of Arizona
2012	<b>Initiatives to Maximize Student Development (IMSD) Scholars Program</b> , National Institutes of Health
2012	<b>T-32 Pre-Doctoral Trainee</b> , National Institutes of Health
2011	<b>Graduate Access Fellowship</b> , University of Arizona

## REFEREED PUBLICATIONS

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Swanson, H.L., **Arizmendi, G.D.**, & Li, J. (Accepted). Mathematical problem-solving in emergent bilingual children: Is growth related to the navigation between two working memory systems? *Journal of Educational Psychology*.

Alt, M., Hunter, D., Levy, R., Neiling, S.L., Leon, K., **Arizmendi, G.D.**, Cowan, N., & Gray, S. (Accepted). Working memory structure in young Spanish-English bilingual children. *Bilingualism: Language and Cognition*.

**Arizmendi, G.D.**, Asencio Pimentel, M.F., Li, J., & Swanson, H.L. (2023). The phonological loop and dual language learning: Do variations exist across languages? *Bilingual Research Journal*, 1-18.

Swanson, H. L., **Arizmendi, G.D.**, & Li, J. (2023). Emergent math difficulties among English Learners: Can the odds be reduced? *Child Neuropsychology*, 1-29.

Kong, J., **Arizmendi, G.D.**, & Doabler, C. (2023). Implementing the Science of Math in a culturally sustainable framework for students with and at risk for math learning disabilities. *Teaching Exceptional Children*.

Li, J., **Arizmendi, G. D.** & Swanson, H. L. (2022). The role of language comprehension skills and instructional practices in the cross-language influence of Spanish-speaking dual language learners' calculation skills. *Early Childhood Research Quarterly*, 61, 90-105.

Li, J., **Arizmendi, G.D.**, & Swanson, H.L. (2022). The influence of teachers' math instructional practices on English Learners' reading comprehension and math problem-solving performance in Spanish and English. *International Journal of Bilingual Education and Bilingualism*, 1-17.

Swanson, H.L., **Arizmendi, G.D.**, & Li, J. (2022). What mediates the relationship between growth in math problem-solving and working memory in English language learners? *Journal of Educational Psychology*.

Colina, S., Rodriguez-Guerra, M., Marrone, N., Ingram, M., Navarro, K., **Arizmendi, G.**, & Coco, L. (2022). Research documents for populations with limited English proficiency: Translation approaches matter. *Ethics and Human Research*, 44(1), 29-39.

**Arizmendi, G.D.**, Li, J., Van Horn, M.L., Swanson, H.L., & Petcu, S.D. (2021) Language focused interventions on math performance for English learners: A selective meta-analysis of the literature. *Learning Disabilities Research and Practice*, 36(1), 56-75.

**\*Top Cited Article 2021-2022 in Learning Disabilities Research and Practice**

Swanson, H.L., **Arizmendi, G.D.**, & Li, J. (2021) The stability of learning disabilities among emergent bilingual children: A Latent Transition Analysis. *Journal of Educational Psychology*, 113(6), 1244–1268.

Swanson, H.L., **Arizmendi, G.D.**, & Li, J. (2021) Working memory growth predicts mathematical problem-solving among emergent bilingual children. *Journal of Experimental Child Psychology*, 201, 104988.

Alt, M., Mettler, H.M., Erikson, J.A., Figueroa, C., Etters-Thomas, S.E., **Arizmendi, G.D.**, & Oglivie, T. (2020). Exploring input parameters in an expressive vocabulary treatment with Late Talkers, *Journal of Speech, Language, and Hearing Research*, 1-18.



Alt, M., **Arizmendi, G.D.**, Gray, S., Hogan, T., Green, S., Cowan, N. (2019). Novel word learning in children who are bilingual: Comparison to monolingual peers. *Journal of Speech, Language, and Hearing Research*, 1-29.

**Arizmendi, G.D.**, Alt, M., Gray, S., Hogan, T., Green, S., Cowan, N. (2018). Do bilingual children have an executive function advantage? Results from inhibition, shifting, and updating tasks. *Language, Speech, and Hearing Services in the Schools*, 49(3), 356-378.

Plante, E., Tucci, A., Nicholas, K., **Arizmendi, G.D.**, & Vance, B. (2018). Effective use of auditory bombardment as a treatment adjunct for children with developmental language disorders. *Language, Speech, and Hearing Services in the Schools*, 1-14.

Alt, M., **Arizmendi, G.D.**, DiLallo, J.N. (2016). The role of socioeconomic status in the narrative story retells of school-aged English language learners. *Language, Speech, and Hearing Services in the Schools*, 47(4), 313-323.

Alt, M., **Arizmendi, G.D.**, & Beal, C. (2014). The relationship between mathematics and language: Academic implications for children with Specific Language Impairment and English language learners. *Language, Speech, and Hearing Services in the Schools*, 45(3), 220-233.

Alt, M., Meyers, C., Oglivie, T., Nicholas, K., & **Arizmendi, G.** (2014). Cross-situational statistically-based word learning intervention for late-talking toddlers. *Journal of Communication Disorders*, 52, 207-220.

Alt, M., **Arizmendi, G.D.**, Beal, C., & Hurtado, J.S. (2013). The effect of test translation on the performance of second grade English learners on the Keymath-3. *Psychology in the Schools*, 50, 27-36.

#### Under Review

**Arizmendi, G.D.** & Alt, M. (Under review). Leveraging cultural assets to develop the Functional Language Proficiency (FLiP) task for Spanish-English learning school-aged children.

**Arizmendi, G.D.**, Palma, J., Baker, D. (Revisions requested). Predicting science and social studies vocabulary learning in Spanish-English bilingual children.

Li, J., **Arizmendi, G.D.**, Swanson, H.L., & Van Horn, M.L. (Revisions requested). The relationship between linguistic knowledge and math performance across Spanish and English for English Learners: A meta-analysis study.

Li, J., Arizmendi, G.D., Swanson, H.L. (Under review). The impacts of math instructional practices on emergent bilingual students' math and language performance in Spanish and English.

#### Book chapters

**Arizmendi, G.D.**, Coco, L., & Alonzo, C. (under review) Is Implementation Research appropriate for... In Olswang, L., Feuerstein, J. & Douglas, N. (Eds.) Planning and Conducting Implementation Research in Communication Sciences and Disorders, Brookes.

**Arizmendi, G.D.** & Kong, J. (under review) Culturally adapted practices and interventions to support the mathematics needs of emergent bilingual students. In Vega, D. & Wolf, J. (Eds.) Culturally Responsive Intervention and Assessment Practices with Emergent Bilingual Youth, Springer.

Swanson, H.L., Kong, J., & **Arizmendi, G.D.** (2023). Learning Disabilities: Historical and Recent Perspectives. In A. O'Donnell, N. Barnes & J. Reeve (Eds.) Oxford Handbook of Educational Psychology, NY: Oxford University Press.

**ABSTRACTS and PRESENTATIONS ( \* denotes peer-reviewed, \*\*denotes student mentee )**

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\***Arizmendi, G.D.** (2025, February). The cultural and practical significance of language brokering and translanguaging in bilingual communities. Talk submitted to be presented at the National Association for Bilingual Education Conference – Atlanta, GA.

\***Arizmendi, G.D.** & \*\*Castillo, C. (2024, December). Porque no me creen: Understanding and elevating language brokering in bilingual communities across the lifespan. Talk to be presented at the American Speech, Language, Hearing Association Conference – Seattle, WA.

\*\*Romero, M. & **Arizmendi, G.D.** (2024, July). Development and refinement of semantic networks in Spanish-English bilingual children. Poster to be presented at the Undergraduate Research Opportunities Consortium, McNair Scholar Program, University of Arizona.

\*\*Tabanico, A. & **Arizmendi, G.D.** (2024, July). Developing culturally-responsive educational curriculum for high school students for promotion of careers in communication sciences & disorders. Poster to be presented at the Undergraduate Research Opportunities Consortium, Arizona's Science, Engineering, and Math Scholars Program, University of Arizona.

\***Arizmendi, G.D.** (2024, July). Assessing the influence of language and literacy on mathematical achievement in emergent bilingual students. Talk presented at the Society for the Scientific Study of Reading Conference – Copenhagen, Denmark.

\* **Arizmendi, G.D.** (2024, May). Functional language proficiency in bilingual children: A translanguaging-based conceptual framework and measurement approach. Talk presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

\***Arizmendi, G.D.** (2024, March). Investigating co-occurring challenges in heritage language preservation: Dispelling myths and enriching language in the classroom. Talk presented at the National Association for Bilingual Education Conference – New Orleans, LA.

\*Li, J., **Arizmendi, G.D.**, & Swanson, H.L. (2023, April). The cross-language influence of linguistic knowledge and calculation skills from Spanish to English. Poster presented at the American Educational Research Association Conference, Chicago, Illinois.

\***Arizmendi, G.D.** & Powell, S.R. (2023, February). Examining mathematics skills in emergent bilinguals with and without mathematics difficulties. Poster presented at the Pacific Coast Research Conference, San Diego, California.

\***Arizmendi, G.D.**, Asencio Pimentel, M. F, Li, J., Swanson, H.L. (2022, November). The phonological loop and dual language learning: Do variations exist across languages? Poster presented at the American Speech-Language-Hearing Association Conference, New Orleans, Louisiana.

\***Arizmendi, G.D.** & Baker, D. (2022, July). Predictors of science and social studies vocabulary word learning in Spanish-English learning students. Poster presented at the Society for the Scientific Study of Reading Conference, Newport Beach, California.

\*Li, J., **Arizmendi, G.D.**, Swanson, H.L. (2022, April). The longitudinal impacts of teaching practices on math word problem-solving accuracy of English learners at risk for math difficulties. Paper presented at the American Educational Research Association Conference, San Diego, California.

\*Baker, D., **Arizmendi, G.D.**, Kowalkowski, H. (2022, February). Supporting families and children in bilingual classroom. National Association for Bilingual Education Conference – Elementary School SIG, New York, NY. \*Online presentation due to COVID-19.

\***Arizmendi, G.D.** & Alt, M. (2022, March). The development and validation of the Functional Language Proficiency task for Spanish-English bilingual children. Paper presented at the Speech, Language, and Learning Intervention Virtual Research Symposium, virtual conference.

\*Li, J., **Arizmendi, G.D.**, Petcu, S., Van Horn, L., & Swanson, H.L. (2021, April). The effects of instructional practices on English learners' math word problem-solving accuracy. Paper presented at the American Educational Research Association Conference, virtual conference.

\*Li, J., **Arizmendi, G.D.**, Petcu, S., Van Horn, L., & Swanson, H.L. (2021, April). The role of two instructional practices in enhancing English learners' Spanish and English math performance. Paper presented at the American Educational Research Association Conference, virtual conference.

\***Arizmendi, G.D.**, Li, J., & Swanson, H.L. (2020, November). Considerations for Spanish-English dual language learners: Language proficiency or disorder? Talk presented at the La Cosecha Dual Language Education Conference, Santa Fe, New Mexico. \*Online dissemination due to COVID-19.

\***Arizmendi, G.D.**, Li, J., Van Horn, M.L., & Swanson, H.L. (2020, May). A meta-analysis of language-focused math interventions for English language learners. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin. \*Online dissemination due to COVID-19.

\*Colina, S., Marrone, N., Rodriguez, M., **Arizmendi, G. D.**, Navarro, K., & Ingram, M. (2020, April). Two approaches to the translation of a health survey: comparing their usability. Poster presented at the Conference of the American Translation and Interpreting Studies Association, University of Santa Barbara, Santa Barbara, California.

\***Arizmendi, G.D.** & Alt, M. (2019, June). The development and validation of a functional task for quantifying language proficiency in Spanish-English bilingual children. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin

**Arizmendi, G.D.** (2019, February). Understanding the role of language in Spanish-English bilingual children's lives. University of New Mexico - Educational Psychology Department, Albuquerque, New Mexico.

\***Arizmendi, G. D.**, Alt, M., Gray, S. Hogan, T., Green, S., & Cowan, N. (2017, June). Exploring the bilingual advantage in 2nd grade children: Monolingual and bilingual performance on central executive tasks

of working memory. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

**Arizmendi, G.D.** (2016, November). Development of a functional translation task to uncover language proficiency in bilinguals. Speech, Language, and Hearing Sciences Colloquium, University of Arizona, Tucson, AZ.

\***Arizmendi, G.D.**, Alt, M., Gray, S., Hogan, T., Green, S., & Cowan, N. (2015, June). Word learning in Spanish-English bilingual children. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

\*Meyers, C., Plante, E., Nicholas, K., Dailey, N., Aguilar, J., **Arizmendi, G.D.**, Oglivie, T., & Vance, B. (2014, June). Attention orienting or consolidation? Optimizing the use of an auditory stimulation phase for treatment of morpheme errors. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

\*Alt, M., Oglivie, T., Meyers, C., & **Arizmendi, G.D.** (2013, June). Learning-theory-based intervention for late-talking toddlers. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

\*Alt, M., and **Arizmendi, G. D.** (2012, June). The math skills of children with specific language impairment: Insight into the disorder. Talk presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

\***Arizmendi, G.D.**, Hurtado, J.S., and Alt, M. (2011, June). Test translation: The effect on test scores for English Language Learners. Poster presented at the Symposium on Research in Child Language Disorders, University of Wisconsin-Madison, Madison, Wisconsin.

## **INVITED PRESENTATIONS**

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**Arizmendi, G.D.** (2024, April). Navigating the doctoral path into postdoctoral fellowships and academia as a scholar of color. Initiatives to Maximize Student Development (IMSD) Colloquium, University of Arizona, Tucson, AZ.

**Arizmendi, G.D.** (2024, April). Bilingual development: Challenging myths and building equity through collaboration. Talk to be presented at the Bilingual Initiatives Symposium, University of Arizona, Tucson, Arizona.

**Arizmendi, G.D.** (2023, October). What are your individual needs in conducting D&I research? - panelist, National Institute on Deafness and Other Communication Disorders Workshop on Dissemination and Implementation Science, virtual.

**Arizmendi, G.D.** (2023, October). Bilingualism and Multiculturalism in the Health Professions, Speech, Language, and Hearing Cats of Color Forum at the University of Arizona.

**Arizmendi, G.D.** (2023, June). Language and Communication Access Highlight: Language Mediation Needs in Research, LIDERES Institute Project, University of Arizona, Tucson, AZ.

**Arizmendi, G.D.** (2023, March). Understanding the impacts of language on learning in Spanish-English bilingual students: An interdisciplinary perspective. Supporting Outstanding Academic Research in the Behavioral and Brain Sciences Symposium, University of Texas at Dallas, Dallas, TX.

**Arizmendi, G.D.** (2023, February). The development and validation of the Functional Language Proficiency task: Capitalizing on language brokering. National Association for Bilingual Education Conference – Elementary School SIG, Portland, OR.

**Arizmendi, G.D.** (2023, February). Bridging disciplines to improve educational and health outcomes for Spanish-English learning children. Communicative Sciences and Disorders Colloquium at New York University – New York, NY.

**Arizmendi, G.D.** (2023, January). Bridging disciplines to improve educational and health outcomes for Spanish-English learning children. Special Education Colloquium at The University of Texas at Austin – Austin, TX.

**Arizmendi, G.D.** (2022, December). Bridging disciplines to improve educational and health outcomes for Spanish-English learning children. Speech, Language, and Hearing Sciences Colloquium at The Ohio State University – Columbus, OH.

**Arizmendi, G.D.** (2022, September). Connecting the pieces: An interdisciplinary approach toward improving outcomes for Spanish-English learning children. Cognitive Science Colloquium at University of Arizona – Tucson, AZ.

**Arizmendi, G.D.** (2022, July). Executive function and learning during COVID-19: A call for trauma informed care. Bilingual Therapies Symposium, Austin, TX.

**Arizmendi, G.D.** (2022, February). Keeping dual language students from falling through the cracks: Improving student outcomes through early identification. National Association for Bilingual Education Conference – Elementary School SIG, New York, NY. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2022, January). Evidence-based practice for dual language learners: Considerations in teaching and assessment practices. Cleveland Metropolitan School District - Professional Development, Cleveland, OH. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2021, June). Speech, Language, and Hearing Research. Undergraduate Research Opportunities Consortium and Maximizing Access to Research Careers, Minimizing Health Disparities Summer Program, University of Arizona, Tucson, AZ. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2021, April). Bilingualism: Considerations in school-age assessment and intervention in speech-language pathology. Speech, Language, and Hearing Sciences Colloquium at California State University East Bay – Hayward, CA. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2020, October). The intersection of language development, cognition, and academics in Spanish-English learning children. Speech, Language, and Hearing Sciences Colloquium at Indiana University – Bloomington, IN. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2020, October). Broadening the lens in the study of the development of Spanish-English learning children. Speech and Hearing Sciences NSSLHA Forum at the University of New Mexico. \*Online presentation due to COVID-19.

**Arizmendi, G.D.** (2020, April). Navigating graduate school as an underrepresented minority in Speech-Language Pathology. Iona College Annual Student Conference, New Rochelle, NY. \*Online presentation due to COVID-19.

## **RESEARCH FUNDING**

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### **Funded:**

PI – University of Arizona Hispanic Serving Institution (HSI) Faculty Seed Grant, *Pathway for Underrepresented Education and Networking in Training and Empowerment (PUENTE) for Diversity in Speech-Language Pathology and Audiology* 2024

PI – NIH/NIMHD Loan Repayment Program (renewal), *Resolving inequities in Spanish-English learning children through science and math* 2024

PI – Mellon-Fronteridades Faculty Fellowship at the University of Arizona, *Porque no me creen: Elevating the overlooked cultural-linguistic wealth of the borderlands* 2024

Key Personnel – U.S. Department of Education, *Reading UArizona: An interprofessional personnel training program to train diverse personnel to serve multicultural/multilingual children with disabilities.* 2023

Key Personnel – U.S. Department of Education: Office of Special Education Programs, *Personnel Development to Improve Services and Results for Children with Disabilities: Preparation of Special Education, Early Intervention, and Related Services Leadership Personnel (ALN # 84.325D)* 2023

PI – NIH/NIMHD Loan Repayment Program, *Resolving inequities in Spanish-English learning children through science and math* 2022

PI – Council of Academic Programs in Communication Sciences & Disorders, PhD Scholarship *Development of a functional translation task to uncover language proficiency in bilinguals* 2017

NIH/NIDCD Diversity Supplement Award for “*Working memory and word learning in children with typical development and language impairment.*” (1R01DC010784) 2014

### **Submitted, not funded:**

PI – IES, *Growth in cognition, language, and academic achievement in Spanish-English learning children with and without Developmental Language Disorder* 2020

Co-PI – NIH, *Typical and atypical language function in middle childhood: A mixed-methods analysis of mono- and bilingualism, co-occurring difficulties, and the social environment* 2020

PI – NIH, Kirchstein-NRSA Individual Predoctoral Fellowship (F31), *Development of a functional translation task to uncover language proficiency in bilinguals* 2016

## **CLINICAL CERTIFICATION AND LICENSURE**

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Texas Department of Health Services Professional License – Speech-Language Pathologist #119156 2021

Certificate of Clinical Competence, American Speech-Language-Hearing Association 2015

Arizona Department of Health Services Professional License – Speech-Language Pathologist #8451 2014

Arizona Department of Education Certificate – Speech-Language Pathologist, Pre-K-12 2013

**TEACHING EXPERIENCE**

<b>Instructor</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 536 Assessment I	2024
<b>Instructor</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 435/535 Bilingualism, Multiculturalism, and Non-Mainstream Dialects	2024
<b>Guest Lecturer</b> , Special Education, University of Texas at Austin Graduate course: SED383 Special Education Bilingual Seminar Topic: Bilingual Language Development and Developmental Language Disorder	2024
<b>Guest Lecturer</b> , Speech, Language, Hearing and Hearing Sciences, University of Arizona Graduate course: SLHS 696A Preparing Researchers for in Early Intervention for Children with Disabilities from Multicultural Environments (PRIDE) Research Methods Topic: Postdoctoral Fellowships	2023
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS597 - Topics in Service Delivery for Bilingual Populations Topic: Clinical placement considerations, Developmental considerations in bilingualism	2023
<b>Guest Lecturer</b> , Special Education, University of Texas at Austin Graduate course: SED383 Special Education Bilingual Seminar Topics: 1) Terminology in Bilingualism and the Impacts on Research and Practice, 2) Bilingual Language Development and Developmental Language Disorder, 3) Interventions in Speech Language Pathology for School Age Children, 4) Language Facilitation Techniques	2023
<b>Guest Lecturer</b> , Curriculum and Instruction, University of Texas at Austin Undergraduate course: EDC370E Teaching English as a Second Language Topic: Bilingual Language Development and Language Disorders	2022
<b>Guest Lecturer</b> , Special Education, University of Texas at Austin Undergraduate course: EDC370E Elementary Mathematics Methods Topic: Mathematics Disabilities and Considerations for Emergent Bilingual Students	2022
<b>Guest Lecturer</b> , Curriculum and Instruction, University of Texas at Austin Undergraduate course: EDC370E Bilingual Reading Methods Topic: Early Markers of Developmental Language Disorder in Dual Language Children	2022
<b>Guest Lecturer</b> , Speech, Language, Hearing and Hearing Sciences, University of Arizona Graduate course: SLHS 696A Preparing Researchers for in Early Intervention for Children with Disabilities from Multicultural Environments (PRIDE) Research Methods Topics: Cultural Competence in Research, NIH Mock Grant Review Panelist	2022
<b>Guest Lecturer</b> , Curriculum and Instruction, University of Texas at Austin Undergraduate course: EDC370E Teaching English as a Second Language Topic: Markers of Developmental Language Disorder in Emergent Bilinguals	2021
<b>Instructor</b> , Speech and Hearing Sciences, University of New Mexico	2021

Graduate course: SHS 533 Child Language Evaluation	
<b>Instructor</b> , Speech and Hearing Sciences, University of New Mexico Undergraduate course: SHS 430 Language Development	2020
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Undergraduate and Graduate course: SLHS 441/541 Language Acquisition Topic: Language Sample Analysis	2019
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 596G Cochlear Implants Topic: Pediatric Speech and Language Evaluation – Birth to Five	2018
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 555 Developmental Language Disorders: Birth to Five Topics: Cultural and Linguistic Differences and Considerations, Neonatal Intensive Care Unit Case Study and Parent Considerations	2018
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 555 Developmental Language Disorders: Birth to Five Topics: Cultural and Linguistic Differences and Considerations	2017
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Undergraduate and Graduate course: SLHS 441/541 Language Acquisition Topic: Pre-linguistic Communication Behaviors	2017
<b>Certificate of College Teaching</b> , University of Arizona, Office of Instructional Assessment	2016
<b>Preceptor</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 596G Cochlear Implants Topic: Age of Implantation, Speech and Language Outcomes	2016
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 555 Developmental Language Disorders: Birth to Five Topics: Cultural Differences, Autism, Universals in Developmental Language Disorders	2016
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 512 Evaluation Processes in Speech Language Pathology Topic: Bilingual Evaluation in Speech-Language Pathology	2016
<b>Graduate Teaching Assistant</b> , University of Arizona Undergraduate and Graduate course: SLHS 441/541 Language Acquisition	2016
<b>Invited Panelist</b> , Speech, Language, and Hearing Sciences, University of Arizona Graduate course: SLHS 501 Professional Issues Topic: Work-Life Balance	2015
<b>Guest Lecturer</b> , Speech, Language, and Hearing Sciences, University of Arizona	2015



Undergraduate and Graduate course: SLHS 441/541 Language Acquisition  
 Topics: Language Variation, Second Languages

## **SERVICE**

LIDERES Institute Project Advisory Board Member, University of Arizona	2023
So You're Thinking About Graduate School... Texas Center for Equity Promotion Panel	2023
Lyndon B. Johnson Women's Campaign School Graduate	2022
Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin	
U.S.A. Raising Awareness for Developmental Language Disorder (RADLD) – Founding Member	2021 -
Implementation Science Study Group – Coordinator	2021 -
City of Albuquerque – Climate Task Force Member	2020
Raising Awareness for Developmental Language Disorder (RADLD) – Ambassador	2020 -
Climate Reality Leadership Corps – Climate Reality Leader	2020 -
Speak from the Heart Mentorship Program for Students in Speech- Language Pathology – Mentor	2020
Women in STEM: Women in Science and Engineering Program, University of Arizona – Panelist	2019
Doctoral Student Panel - 1 <sup>st</sup> Annual Southwestern NIH/IMSD Regional Symposium	2018
ArSHA Committee on Cultural and Linguistic Diversity - Member	2018
Language Experience and Proficiency Questionnaire – Spanish/ Child paper and pencil version	2017
Translation and adaptation for Northwestern University	
Speech, Language, and Hearing Sciences Search Committee – U of A Tenure-Track Position	2016

### Department

Spanish Language Interaction Collective in SLHS (SLIC) – Founder	2024 -
Speech, Language, and Hearing Cats of Color - Grad (Grad SHCC) Founding Advisor	2024 -
Speech, Language, and Hearing Cats of Color (SHCC) Faculty Advisor	2024 -
College of Science DEI Committee – SLHS tenure-track representative	2023-2024
Master of Science Curriculum Task Force	2023-2024
Undergraduate Curriculum Task Force	2023-2024
Multicultural Bilingual Certificate Program Task Force	2023-

### National - Journals

Editorial Board Member - Language, Speech, and Hearing Services in the Schools	2021-
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### National and International - Ad Hoc Journal Reviewer

Journal of Speech, Language, and Hearing Research	American Journal of Speech Language Pathology
Bilingualism: Language and Cognition	Journal of Learning Disabilities
Cognitive Development	International Journal of Psychophysiology
Infancy	Journal of Early Childhood Research
Teaching Exceptional Children	Perspectives of the ASHA Special Interest Groups
Teaching and Teacher Education	Exceptional Children
Learning and Instruction	Psychology in the Schools
Journal of Experimental Child Psychology	Applied Psycholinguistics
Child Neuropsychology	

Verified peer reviews: <http://www.webofscience.com/wos/author/record/AAB-3961-2021>

## **FORENSIC EVALUATION AND EXPERT WITNESS**

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<i>Jorge Galindo vs. State of Nebraska</i> – Spanish-English Cognitive-Linguistic Speech-Language Pathology Evaluation (post-conviction, capital punishment – evaluation June 2024)	2024
<i>Carlos Arellano-Ramirez vs. State of Florida</i> – Spanish-English Cognitive-Linguistic Speech-Language Pathology Evaluation (post-conviction, capital punishment – evaluation May 2024)	2024
<i>Gustavo Tijerina-Sádoval in the District Court 197<sup>th</sup> Judicial District, In and For Willacy County, Texas</i> – Spanish Cognitive-Linguistic Speech-Language Pathology Evaluation (post-conviction, capital punishment – evidence in review by courts)	2022
<i>Wilber Ernesto Martinez Guzmán vs. The Second Judicial District Court, In and For the County of Washoe, and the State of Nevada</i> – Spanish-English Cognitive-Linguistic Speech-Language Pathology Evaluation (pre-conviction, capital punishment – evidence led to state dismissal of capital punishment for my client)	2021

## **STUDENT MENTORSHIP**

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### **Doctoral Students:**

Genesis Hernandez, Capstone Context Expert, Rocky Mountain University of Health Professions	2022 –
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### **Master of Science Students:**

Camila Castillo, BABEL Lab, Supervisor, University of Arizona	2023 –
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### **Honors Theses:**

Ashley Mentor, SLHS, University of Arizona	2024 –
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### **Undergraduate Students:**

Abby Crandall, ADELANTE BABEL Lab Internship, University of Arizona	2024 –
Arianna Tabanico, Arizona's Science, Engineering, and Math Scholars Program (ASEMS)	2024 –
Melissa Romero, Independent Study – BABEL Lab, and McNair Mentor, University of Arizona	2024 –
Marissa Cintora, Independent Study – BABEL Lab, Mentor, University of Arizona	2024
Priscila Diaz, Independent Study – BABEL Lab, Mentor, University of Arizona	2024
Lindsey Sherman, Independent Study – BABEL Lab, Mentor, University of Arizona	2024
Noemi Durazo, Independent Study – BABEL Lab, Mentor, University of Arizona	2024
Luciana Antezana Delgado, Independent Study – BABEL Lab, Mentor, University of Arizona	2023-2024
Isaac Rodriguez, Independent Study – BABEL Lab, Mentor, University of Arizona	2023-2024
Amanda Feng, Independent Study – BABEL Lab, Mentor, University of Arizona	2023-2024
Andrea Lee-Cruz, Independent Study – BABEL Lab, Mentor, University of Arizona	2023-2024
Ariana Tapia, Independent Study – BABEL Lab, Mentor, University of Arizona	2023
Eli Marion, Independent Study – BABEL Lab, Mentor, University of Arizona	2023
Maliah Wilkinson, Summer Research Institute, Co-Mentor, University of Arizona	2019
Kimberly Leon, Independent Study – L4 Lab, Mentor, University of Arizona	2018-2019
Evelina Henderson, Independent Study – L4 Lab, Mentor, University of Arizona	2018-2019
Brianne Turnbull, Independent Study – L4 Lab, Mentor, University of Arizona	2018-2019
Raizel Esguerra-Wong, Independent Study- L4 Lab, Mentor, University of Arizona	2018-2019

### **Clinical Fellowship Supervision:**

Elisa Barraza, Holy Cross Hospital, Carondelet Health Network	2018-2019
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Alison Thomas, Holy Cross Hospital, Carondelet Health Network 2017-2018  
Maddy Heath, Holy Cross Hospital, Carondelet Health Network 2016-2017

## **PROFESSIONAL MEMBERSHIPS**

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National Association for Bilingual Education 2021- Present  
Society of the Scientific Study of Reading 2022 - Present  
Hispanic Caucus of the American Speech-Language Hearing Association 2019 - Present  
Arizona Speech-Language Hearing Association 2017 - Present  
American Speech-Language-Hearing Association 2015 - Present  
Special Interest Group Member: Cultural and Linguistic Diversity  
Special Interest Group Member: Language and Education

## **SKILLS**

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Languages: Native Spanish, Conversational American Sign Language  
Certifications: CPR/BLS, CITI, HIPAA, Arizona Dept. of Public Service Fingerprint Clearance,  
What Works Clearinghouse (WWC) Group Design Standards Certificate  
Software: SPSS, Winsteps, Statistica, JASP  
Professional Development: UArizona HSI Grant Development Institute, UArizona Faculty Learning  
Community, Culturally Responsive Curriculum Development Institute, UCLA Latino Policy and Politics  
Institute Latino Data Hub Training

## **ONLINE PRESENCE**

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Google Scholar: <https://tinyurl.com/ycxt6jmz>  
ResearchGate: <https://www.researchgate.net/profile/Genesis-Arizmendi-2>  
ORCID: <https://orcid.org/0000-0002-2406-1524>  
Bilingualism And the Brain in Education and Language (BABEL) Lab: [www.bit.ly/azbabel](http://www.bit.ly/azbabel)

# Sarah Cook, PhD

7401 S Pacific Willow Dr Tucson, AZ 85747

504-416-4579 sarahcook@arizona.edu

## Education

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<b>2015 – 2021</b> Doctoral Student – Psychology, Minor in Statistics	<b>University of Arizona</b>	<b>Tucson, AZ</b>
<b>2012 – 2015</b> Masters Student – General Psychology	<b>New York University</b>	<b>New York, NY</b>
<b>2010 – 2012</b> Bachelor of Science – Psychology	<b>Loyola University</b>	<b>New Orleans, LA</b>
<b>2007 – 2009</b> Coursework in Psychology	<b>Louisiana State University</b>	<b>Baton Rouge, LA</b>

## Teaching Experience

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**November 2021 – present**                      **University of Arizona**                      **Tucson, AZ**

Lecturer for NSCS 200, NSCS 320, NSCS 321, and NSCS 344, responsibilities included:

- Developing course materials for 7 week, online, asynchronous courses
- Utilizing new instructional technologies including H5P and Genially
- Constructing a course website in D2L and preparing a course syllabus
- Grading exams, discussion questions, and writing assignments
- Engage in continuing education such as faculty learning communities, and workshops aimed at improving diversity, equity, and inclusion.
- Serve on various committees including: hiring committee for a new Cognitive Science Program director, NSCS curriculum committee, and the NSCS APR self study committee

**Summer 2017 – Summer 2020**                      **University of Arizona**                      **Tucson, AZ**

Course Instructor for Research Methods Online (Winter 2020-2021, Summer 2020, Summer 2019, Winter 2017-2018, Summer 2017), responsibilities included:

- Preparing course materials appropriate for an accelerated summer/winter session
- Constructing a course website in D2L and preparing a course syllabus
- Constructing test questions and reading assignments aimed at teaching students how to be critical consumers of scientific research
- Grading exams, discussion questions, and writing assignments

**Fall 2017 - Spring 2021**                      **University of Arizona**                      **Tucson, AZ**

Teaching Assistant for Cognitive Neuroscience (Spring 2021), Introduction to Cognitive Development (Spring 2021), Modeling the Mind (Fall 2020), Introduction to Psychology (Spring 2020), The Structure of Mind and Behavior (Fall 2019), Advanced Methods in Psychological Research (Spring 2018), and Psychological Measurement and Statistics (Fall 2017, Fall 2018, Spring 2020), responsibilities included:

- Provided individual feedback during active learning assignments for Modeling the Mind, including teaching students the fundamentals of computer programming necessary to model data, teaching students how to debug any errors present in their code, and explaining key principals necessary to understand the fundamentals of computational modeling
- Overseeing group projects for Modeling the Mind, involving choosing a model appropriate for their dataset, debugging any errors present while coding the model, fitting the model to their data with the appropriate fitting procedure, and presenting their results to the larger class
- Providing weekly in-person lectures, and overseeing group projects for Advanced Methods in Psychological Research, involving teaching students how to develop a research question, construct a study design, construct study measures and materials, analyze the collected data, and present the results to the larger class
- Constructing exam questions for Cognitive Neuroscience
- Guest lecturing and creating exam questions for Psychological Measurement and Statistics
- Grading writing assignments, quizzes, and exams
- Attending weekly lectures and holding review sessions
- Holding weekly office hours and providing additional tutoring to students

**Fall 2015 – Spring 2021**

**University of Arizona**

**Tucson, AZ**

Mentor for undergraduate students in University of Arizona research labs, responsibilities included:

- Teaching the fundamentals of computer programming necessary to run experiments in MATLAB
- Teaching EEG experimental methodology, including how to code the experiments in MATLAB, and how to run participants through EEG procedures
- Teaching behavioral experimental methodology, data cleaning and analysis
- Teaching students how to present their research results in lab meetings

**Summer 2018 – Fall 2020**

**University of Arizona**

**Tucson, AZ**

Grader for Sensation and Perception (Fall 2020) and Psychology of Death and Loss (Summer 2018), responsibilities included:

- Grading writing assignments, discussion questions, and quizzes

**Fall 2014**

**New York University**

**New York, NY**

Class Grader for Introduction to Psychology, responsibilities included:

- Grading introduction to psychology course exams

**Spring 2013**

**New York University**

**New York, NY**

Teaching Assistant for Lab in Perception, responsibilities included:

- Grading weekly homework assignments
- Overseeing the methodological design of student research projects
- Providing additional tutoring to students

**Fall 2012, Fall 2013**

**New York University**

**New York, NY**

Recitation Leader for Introduction to Psychology, responsibilities included:

- Leading weekly in person lectures for subsections of introductory psychology students
- Synthesizing course material and lecturing on important concepts and main ideas
- Conducting review sessions and providing additional tutoring to students

## **Research Experience**

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**Spring 2017 – Spring 2021**

**University of Arizona**

**Tucson, AZ**

Graduate student researcher in a computational neuroscience lab Dr. Robert Wilson researching the role of top down influences on suboptimal perceptual decision making. Responsibilities included:

- Managing undergraduate RA's, ensuring an educational experience through research collaboration
- Developing novel experimental paradigms and coding experiments in Matlab
- Data analysis with expertise in psychophysical experimental techniques and computational modeling
- Regular presentations of research findings in both lab and departmental meetings
- Expertise in Electroencephalography recording (EEG) techniques and experimental design

**Fall 2015 – Spring 2017**

**University of Arizona**

**Tucson, AZ**

Graduate student researcher in a visual perception lab under Dr. Mary Peterson researching the influence of prior knowledge on visual perception. Responsibilities included:

- Managing undergraduate RA's, ensuring an educational experience through research collaboration
- Working in collaboration with fellow graduate students on the implementation of multiple research projects
- Developing novel experimental paradigms and coding experiments in Matlab
- Data analysis with expertise in psychophysical experimental techniques
- Regular presentations of research findings in both lab and departmental meetings
- Attending the Vision Sciences Society annual conference and presenting research findings.

**Fall 2013 – Fall 2014**

**New York University**

**New York, NY**

Research assistant in a cognitive neuroscience lab under Dr. Clayton Curtis researching visual working memory. Responsibilities included:

- Conducting literature reviews and designing research methodology in collaboration with graduate students
- Coding experimental stimuli in Matlab in collaboration with graduate students
- Preparing and analyzing eye tracker data
- Providing regular updates on research projects
- Attending weekly lab meetings

**Fall 2012 – Fall 2013**

**New York University**

**New York, NY**

Research assistant in a social psychology lab under Dr. Emily Balcetis researching the social and motivational influences on perception. Responsibilities include:

- Conducting experiments and guiding participants through experimental procedures
- Conducting literature reviews and designing research methodology in collaboration with graduate students
- Providing regular updates on research projects

- Recruiting and scheduling participants on SONA
- Encoding and preparing data for analysis
- Attending weekly lab meetings

**Spring 2013 – Summer 2013**

**New York University**

**New York, NY**

Research assistant in a social neuroscience lab under Dr. David Amodio researching the role of social cognition in the regulation of human behavior. Responsibilities included:

- Conducting experiments and guiding participants through experimental procedures
- Collecting electroencephalography recordings, and preparing this data for analysis
- Training fellow research assistants in electroencephalography techniques

**Summer 2011 – Summer 2012**

**Tulane University**

**New Orleans, LA**

Research assistant in a behavioral neuroscience lab under Dr. Gary Dohanich researching hormone mediated learning and memory strategies in rats. Responsibilities included:

- Conducting behavioral measures utilizing a water maze, Y-maze, water T-maze, open field, marble burying, elevated plus maze, light/dark box
- Scoring and observing both male and female sexual behaviors
- Performing surgery & tissue collections, including ovariectomies, castrations, brain collection, ischiocavernosus muscle and uteri extraction & measurement
- Obtaining brain slices using a Cryostat for use in golgi or autoradiography assays
- Preparing tissue for receptor binding assays with radioactive ligands
- Entering data using SPSS and excel
- Scoring video of behavioral measures

**Spring 2011 – Spring 2012**

**Loyola University**

**New Orleans, LA**

Senior Thesis, independent research with time perception and embodied cognition. Responsibilities included:

- Conducting literature reviews and synthesizing background literature
- Developing research methodology and survey measures
- Recruiting and scheduling participants
- Conducting experiment and collecting data
- Entering and analyzing data using SPSS

### **Professional Memberships**

Professional Development Committee, Summer 2017 – Fall 2019

### **Publications**

Grissom, E. M., W. R. Hawley, S. S. Bromley-Dulfano, S. E. Marino, N. G. Stathopoulos, & G. P. Dohanich. Learning strategy is influenced by trait anxiety and early rearing conditions in prepubertal male, but not prepubertal female rats. *Neurobiology of Learning and Memory*, 98:174-181, 2012.

Perez, D. C., Cook, S. M., & Peterson, M. A. (2020). Prior Experience Alters the Appearance of Blurry object Borders. *Scientific Reports*, 10(1), 1-13.

### **Poster Presentations**

Cook, S., Wilson, R. (2018). The Effect of High and Low Stakes on Perceptual Decision Making. *Society for Neuroscience Meeting*. San Diego, CA.

Cook, S., Perez, D., Peterson, M. (2017). An Investigation of the Effect of Prediction on Object Perception. *Vision Sciences Society Meeting*. St. Pete Beach, FL.

Cook, S., Flowers, C., & Peterson, M. (2016). Dichoptic Masking Interferes with Feedback to Early Visual Areas when Part-and Whole-Familiarity Conflict. *Vision Sciences Society Meeting*. St. Pete Beach, FL.

### **Paper Presentations**

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Marino, S. & Eskine, K. (2012, March). The effects of body movement and personality on the perception of time. Paper presented at the Louisiana Academy of Sciences Conference, Alexandria, LA.

### **References**

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Bob Wilson



Tzu yin Lai (also known as Vicky Tzuyin Lai)

## **CURRICULUM VITAE (March 2024)**

Vicky Tzuyin Lai (She/her/hers)

Associate Professor

Department of [Psychology](#) and [Cognitive Science](#) Program

University of Arizona

Lab: [Cognitive Neuroscience of Language Laboratory](#)

Email: [tzuyinlai@arizona.edu](mailto:tzuyinlai@arizona.edu), Phone: 720-323-6015

## **CHRONOLOGY OF EDUCATION**

- 2009 Dec Joint Ph.D., Cognitive Science and Linguistics, University of Colorado Boulder, Doctoral Dissertation title: Understanding Metaphorical Expressions: Conventuality, Mappings, and Comparison Processes  
Advisors: Tim Curran in Psychology and Bhuvana Narasimhan in Linguistics  
Major field: Neuroscience and Psychology of Language
- 2002 Jul M.A. Linguistics, National Taiwan University.  
Thesis title: Psycholinguistic Processing of Temporal Perspectives in Mandarin  
Advisor: Kathleen Ahrens  
Major field: Psycholinguistics
- 1999 Jul B.A. Languages and Literatures, Minor in German, National Taiwan University

## **CHRONOLOGY OF EMPLOYMENT**

- 2016-present Assistant Professor, Psychology Department (51%), University of Arizona  
Assistant Professor, Cognitive Science Program (49%), University of Arizona  
Affiliated Faculty, Linguistics, University of Arizona  
Affiliated Faculty, Second Language Acquisition & Teaching, University of Arizona  
Affiliated Faculty, BIO5  
Affiliated Faculty, Center for East Asian Studies (CEAS), University of Arizona
- 2013 – 2016 Postdoctoral Research Fellow, Concepts, Language, and the Brain Laboratory, Psychology, University of South Carolina. Postdoctoral supervisor: Rutvik Desai
- 2010 – 2013 Research Scientist, Neurobiology of Language Department, Max Planck Institute for Psycholinguistics | Donders Institute for Neuroimaging, The Netherlands.  
Institute director / supervisor: Peter Hagoort

## **HONORS AND AWARDS**

- 2023 Distinguished Mentoring Award, College of Science, University of Arizona
- 2020 George H. Davis Fellowship Award, University of Arizona
- 2018 Elected Fellow, Psychonomic Society
- 2009 Dean's Fund of Excellence, University of Colorado Boulder (Tuition & salary)
- 2008 Research Grant, Institute of Cognitive Science, University of Colorado Boulder
- 2004-2008 Various Travel Grants from the Institute of Cognitive Science, Department of Linguistics, and Graduate School, University of Colorado Boulder
- 2004 Research Grant, Linguistics Department, University of Colorado Boulder
- 2004-2005 Fellowship, Department of Linguistics, University of Colorado (Tuition & salary)
- 2002 Thesis writing grant, Linguistics, National Taiwan University (Tuition & salary)
- 2001 summer Fellowship, Summer Institute of Linguistic Society of America at the University of California, Santa Barbara (Tuition, fees, flights, and board)
- 1999 Undergraduate Research Grant, National Science Council, Taiwan. Title: "Sense and sense-ability: Words with multiple senses and meanings"

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**HONORS & AWARDS** (to my UArizona students resulted from my mentoring)

- 2023 Lindsay Krebs, Lynn Nadel Graduate Fellowship \$1,500, University of Arizona
- 2023 Laura Baiocco, Master Research award, Psychology Department, University of Arizona
- 2022 Li-Chuan Ku, William Orr Dingwall Foundation Dissertation Fellowship, Foundation of Language. \$40,000
- 2022 Li-Chuan Ku, NSF Linguistics Dissertation Improvement Grant, \$17,062
- 2022 Li-Chuan Ku, Taiwanese Overseas Pioneers Grants (TOP Grant), \$28,914
- 2022 Lindsay Krebs, ACCESS fellowship (\$8,000) and diversity grant (\$3,500), UA
- 2022 Valeria Pfeifer, College of Science Graduate Student Awards: Excellence in Service. Department of Psychology awardee & College of Science winner, UA
- 2021 Li-Chuan Ku, 2021 Galileo Circle Scholarship, College of Science, UA
- 2021 Li-Chuan Ku, Outstanding Research in Cognitive Science Award, UA
- 2021 Valeria Pfeifer, College of Science Graduate Student Awards: Excellence in Teaching. Department of Psychology awardee, UA
- 2021 Valeria Pfeifer, UA Research and Project (ReaP) Grant
- 2021 Valeria Pfeifer, Best Award, at 29th Annual GPSC Student Showcase, UA
- 2021 Miranda Diaz, Second place, National undergraduate conference of Western Alliance to Expand Student Opportunities (WAESO)
- 2021 Sophia Maytorena, Honorable mention, National undergraduate conference of Western Alliance to Expand Student Opportunities (WAESO)
- 2020 Valeria Pfeifer, Best Award at Annual Psychology Department Data Blitz, UA
- 2020 Alexa Garcia, Second place, National undergraduate conference of Western Alliance to Expand Student Opportunities (WAESO)
- 2020 Claudia Valenzuela, Second place, National undergraduate conference of Western Alliance to Expand Student Opportunities (WAESO)
- 2020 Anna Katikhina, Linda Waugh / SLAT Research Award, UA
- 2019 Li-Chuan Ku, University Fellows Professional Development Award, UA
- 2019 Valeria Pfeifer, Outstanding Research in Cognitive Science Award, UA
- 2019 Colin Tidwell, Honors Legacy Award, UA
- 2019 Anna Katikhina, Linda Waugh / SLAT Research Award, UA
- 2019 Valeria Pfeifer, Best Poster Award, Psychology Master Thesis Research Forum, UA
- 2019 Rachel Brown, Summer Dissertation Fellowship, SBSRI, UA
- 2018 Anna Katikhina, Linda Waugh / SLAT Research Award, UA
- 2018 Li-Chuan Ku, UA Research and Project (ReaP) Grant
- 2018 Stanley Donahoo, UA Research and Project (ReaP) Grant
- 2018 Emma Armstrong, Undergraduate Research Award, NSCS, UA
- 2018 Stanley Donahoo, Pre-doctoral Grant Award, Social and Behavioral Sciences Research Institute (SBSRI), UA
- 2018 Caleb Troncoso, Best award, National undergraduate conference of Western Alliance to Expand Student Opportunities (WAESO)
- 2017 Rachel Brown, UA Research and Project (ReaP) Grant
- 2017 Stanley Donahoo, Doctoral Candidates and Young Academics, Germany
- 2017 Stanley Donahoo, Studienstiftung des Abgeordnetenhaus von Berlin, Germany
- 2017 Li-Chuan Ku, University Fellows Award, UA (tuition and stipend for 1<sup>st</sup> year of PhD)

**SERVICE / OUTREACH** (limited to period in current rank)

**Local/State Outreach**

- 2024 May Scientist, Special exhibit on cool scientists, Flandrau Science Center
- 2024 Spring Coordinator, Brain and language station, weekly at "Psychology Discovery" for middle schoolers and high schoolers at the Flandrau Science Center
- 2023 April Director, Brain and language camp (3 weekly lab visits) for Tucson High students

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- 2021-present Member, UA Autism Collectives, a team of faculty and clinicians working on autism  
2021 Mentor, the UA Undergraduate Research Opportunities Consortium (UROC) at the Graduate College (<https://grad.arizona.edu/uroc/>)
- 2020 Director, Brainwave Lab tour (1 visit) for Basis High School students
- 2020-present Founder, website "[Psycholinguistics at UA](#)", which includes Psycholinguistics researchers from Psychology, Linguistics, Speech Language & Hearing Sciences, Department of Spanish & Portuguese, Second Language Acquisition & Teaching,
- 2018 summer Director, Workshop on brainwaves EEG/ERP analyses for graduate students

### **National/International Service**

- 2024 Apr Editorial Board, Frontier of Human Neuroscience
- 2024 Jan Grant reviewer, Social Sciences and Humanities Research Council of Canada
- 2023 Grant reviewer, National Science Foundation, Linguistics program, US
- 2022 Grant reviewer, National Science Council, Linguistics program, Poland
- 2022-2023 Business Committee, Society of Human Sentence Processing
- 2022 Session chair and speed mentor, Experiments in Linguistic Meaning (ELM2)
- 2022-present Reviewer for Experimental Pragmatics (ExPrag)
- 2020-2022 Meta-reviewer, the annual conferences of Society of Cognitive Science
- 2017, 2019 Grant reviewer, National Science Foundation, Linguistics program, US
- 2016 Guest Associate Editor, Journal "Frontiers in Human Neuroscience"
- 2010-present Reviewer for the annual meetings of Society of Neurobiology of Language
- 2010-present Reviewer for the annual conferences of Human Sentence Processing
- 2010-present Reviewer for the annual conferences of Architectures and Mechanisms for Language Processing (and AmLap-Asia 2023)
- 2010-present Reviewer for Research Journals (approximately 1 per month)  
Cognition, Cerebral Cortex, Emotion, Journal of Cognitive Neuroscience, Journal of Memory and Language, Cognitive Science, Brain and Language, Journal of Cognitive, Affective, Behavioral Neuroscience, Psychophysiology, Journal of Neuropsychology, Journal of Neurobiology of Language, Brain Research, Cognition and Emotion, Language, Cognition, and Neuroscience, Social Neuroscience, Neuropsychologia, Cognitive Linguistics, Language and Cognition, Frontiers in Language Sciences, Cognitive Neuroscience, Quarterly Journal of Experimental Psychology, Frontiers in Human Neuroscience, Comprehensive Psychiatry, Linguistics and Language Compass, Psychological Bulletin, Metaphor and Symbol

### **Departmental Committee(s) for Psychology**

- 2023-present Chair, Professional Development Committee, Psychology, UA
- 2023-present Member, Faculty Annual Review Committee, Psychology, UA
- 2021-present Member, Diversity Equity Inclusion Committee, Psychology, UA
- 2023 spring Member, Nadel Award Committee, Psychology, UA
- 2022-2023 Member, Sona Subject Pool Committee, Psychology, UA
- 2022 spring Member, Faculty Executive Advisor Committee (FEAC), Psychology, UA
- 2019-2023 Member, Professional Development Committee, Psychology, UA

### **Departmental Committee(s) for Cognitive Science**

- 2024 Member, Committee for the future of Cognitive Science at UA
- 2023 Member, Search Committee for Director, Cognitive Science program, UA
- 2021 Chair, Search Committee for a Career-Track Lecturer, Cognitive Science, UA
- 2016-present Undergraduate Curriculum Committee, Neuroscience & Cognitive Science, UA

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### **Departmental Committee(s) for Second Language Acquisition Teaching (SLAT)**

2022-2023 Executive Committee, Second Language Acquisition Teaching, UA

### **University Committee(s)**

2018-2019 The Arizona Language Sciences & Innovation Initiative Committee

### **Other Committees (Internal or External)**

2022-2023 Business Committee, Society of Human Sentence Processing

2022 Program Committee, Experimental Pragmatics

2010-present Program Committee, the annual meetings of Society of Neurobiology of Language

2010-present Program Committee, the annual conferences of Human Sentence Processing

2010-present Program Committee, the annual conferences of Architectures and Mechanisms for Language Processing

### **PUBLICATIONS / CREATIVE ACTIVITY** [# of citations = 1,524; h-index=17, i10 index=22]

\* Denotes publications substantially based on work done when I was a graduate student

° Denotes my undergraduate and graduate student advisees or postdoctoral mentees

### **Scholarly Books**

- 1 Coulson, S., & **Lai, V. T.** (2015). *The Metaphorical Brain*. E-book at Frontiers in Human Neuroscience.

### **Chapters in Scholarly Books**

- 2 **Lai, V. T.**, Ku, L., & Pfeifer, V. (2024). Emotional language processing: An individual differences approach. *Psychology of Learning and Motivation* volume 80.
- 3 **Lai, V. T.**, Hubbard, R., Ku, L., & Pfeifer, V. (2023). Electrophysiology of non-literal language. *Language Electrified: Principles, Methods, and Future Perspectives of Investigation*, 613-646.
- 4 **Lai, V. T.** & Narasimhan, B. (2014). Verb Representation and Thinking-for-speaking effects in Spanish-English Bilinguals. *Cognitive Science Perspectives on Verb Representation and Processing*. New York: Springer, pp.235-256.
- 5 Chen, A. & **Lai, V. T.** (2011). Comb or Coat: the Role of Intonation in Online Reference Resolution in a Second Language. In: Zonneveld, W., Quené, H., Heeren, W. (Eds.), *Sound and Sounds*, Utrecht: UiL OTS, pp. 57-68.
- 6 \***Lai, V. T.** & Frajzyngier, Z. (2009). Change of Functions of the First Person Pronouns in Chinese. In M. Dufresne, M. Dupuis, & E. Vocaj (Eds.), *Historical Linguistics*, Amsterdam: John Benjamins, pp. 223-232.

### **Referred Journal Articles**

6. Yu, Y., Krebs, L., Beeman, M., Lai, V. T. (In press). Exploring how generating metaphor via insight versus analysis affects metaphor quality and learning outcomes. *Cognitive Science*.
7. °Pfeifer, V. A., Andrews-Hanna, J. R., & **Lai, V. T.** (2024). Can irony regulate negative emotion? Evidence from behaviour and ERPs. *Cognition and Emotion*, 1-11.
8. °Pfeifer, V. A., Mehl, M. R., & **Lai, V. T.** (2024). That was clever of you! Perspectives and Verbal Irony. *Psychology of Language and Communication*.
9. Desai, R., Hackett, C., Johari, K., **Lai, V. T.**, & Riccardi, N. (2023). Spatiotemporal characteristics of the neural representation of event concepts. *Brain and Language*.
10. °Pfeifer, V. A., Weihs, K. L., & **Lai, V. T.** (2023). Narratives about cancer: What metaphors can tell us about depressive symptoms in breast cancer patients. *Health Communication*, 1-11.
11. °Hubbard, R., Bulkes, N. & **Lai, V. T.** (2023). Predictability and decomposability separately

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- contribute to compositional processing of idiomatic language. *Psychophysiology*, e14269.
12. °Johari, K., **Lai, V. T.**, Riccardi, N., & Desai, R. H. (2023). Temporal features of concepts are grounded in time perception neural networks: An EEG study. *Brain and Language*, 237, 105220.
  13. **Lai, V. T.**, Hagoort, P., & Van Berkum, J. (2022). Negative affect increases reanalysis on conflicts between discourse context and world knowledge. *Frontiers in Communication*.
  14. °Kamenetski, A., **Lai, V. T.**, & Flecken, M. (2022). Minding the manner: Attention to motion events in Turkish–Dutch early bilinguals. *Language and Cognition*, 1-23.
  15. °Ku, L., Allen, J., & **Lai V. T.** (2022). Attention and regulation during emotional word comprehension in older adults: Evidence from event-related potentials and brain oscillations. *Brain and Language*. 227, 105086.
  16. °Donahoo, S. A., Pfeifer, V. A., & **Lai, V. T.** (2022). Cursed Concepts: New insights on combinatorial processing from ERP correlates of swearing in context. *Brain & Language*, 226, 105079.
  17. °Pfeifer, V. A., Armstrong, E., & **Lai, V. T.** (2022). Do all facial emojis communicate emotion? The impact of facial emojis on text processing: An ERP study. *Computers in Human Behavior*, 107016.
  18. °Sendek, K., Herzmann, G., Pfeifer, V., & **Lai V. T.** (2021). Social acquisition context matters: Increased neural responses for native but not non-native taboo words. *Cognitive, Affective, & Behavioral Neuroscience*, 1-21
  19. °Pfeifer, V. A. & **Lai, V. T.** (2021). The comprehension of irony in high and low emotional contexts. *Canadian Journal of Experimental Psychology*, 75(2), 120.
  20. Hakim, Z., Ebner, N., Oliveira, D., Getz, S., Levin, B., Lin, T., Lloyd, K., **Lai, V.T.**, Grilli, M.D., & Wilson, R.C. (2020). The Phishing Email Suspicion Test (PEST) a lab-based task for evaluating the cognitive mechanisms of phishing detection. *Behavioral Research Methods*, 1-11.
  21. °Donahoo, S. & **Lai, V. T.** (2020). The mental representation and social aspect of expressives. *Cognition and Emotion*, 1-16.
  22. °Ku, L., Chan, S., & **Lai, V. T.** (2020). Personality traits and emotional word recognition: An ERP study. *Journal of Cognitive, Affective, & Behavioral Neuroscience*, 20(2), 371-386
  23. **Lai, V. T.**, Howerton, O., & Desai, R. H. (2019). Concrete Processing of Action Metaphors: Evidence from ERP. *Brain Research*, 1714, 202-209.
  24. Van Dam, W. O., Speed, L. J., **Lai, V. T.**, Vigliocco, G., & Desai, R. H. (2017). Effects of Motion Speed in Action Representations. *Brain and Language*, 168, 47–56.
  25. **Lai, V. T.** & Huettig, F. (2016). When Prediction is Fulfilled: Insight from Emotion Processing. *Neuropsychologia*, 85,110-117
  26. Desai, R. H. Choi, W. **Lai, V. T.**, & Henderson, J. M. (2016). Towards Semantics in the Wild: Activation to Manipulable Nouns in Naturalistic Reading. *Journal of Neuroscience*, 36(14): 4050-4055.
  27. **Lai, V. T.** & Desai, R. H. (2016). The Grounding of Temporal Metaphors. *Cortex*, 76, 43-45.
  28. Coulson, S., & **Lai, V. T.** (2016). Editorial: The Metaphorical Brain. *Frontiers in Human Neuroscience*, 9, 699.
  29. °Samur, D., **Lai, V. T.**, Hagoort, P., & Willems, R. (2015). Emotional Context Modulates Embodied Metaphor Comprehension. *Neuropsychologia*, 78 (2015), 108-114.
  30. **Lai, V. T.**, Willems, R. M., & Hagoort, P. (2015). Feel Between The Lines: Implied Emotion In Sentence Comprehension. *Journal of Cognitive Neuroscience*, 27(8), 1528–1541.
  31. **Lai, V. T.**, Conant, L., Binder, J., & Desai, R. (2015). Effects of Processing Difficulty on Metaphor Laterality. *Frontiers in Human Neuroscience*, 9, 44.
  32. **Lai, V. T.**, Rodriguez, G. G., & Narasimhan, B. (2014). Thinking-For-Speaking In Early And Late Bilinguals. *Bilingualism: Language and Cognition*, 17(01), 139–152.
  33. **Lai, V. T.**, & Curran, T. (2013). ERP Evidence for Conceptual Mappings and Comparison

Tzu yin Lai (also known as Vicky Tzuyin Lai)

Processes during the Comprehension of Conventional and Novel Metaphors. *Brain and language*, 127(3), 484-496.

34. **Lai, V. T.**, & Boroditsky, L. (2013). The Immediate and Chronic Influence of Spatio-temporal Metaphors on the Mental Representations of Time in English, Mandarin, and Mandarin-English speakers. *Frontiers in Cultural Psychology*, 4, 142.
35. **Lai, V. T.**, Hagoort, P., & Casasanto D. (2012). Affective Primacy vs. Cognitive Primacy: Dissolving the Debate. *Frontiers in Cognitive Science*, 3, 243.
36. Kim, A. & **Lai, V. T.** (2012). Rapid Interactions Between Lexical Semantic And Word Form Analysis During Word Recognition In Context: Evidence From Erps. *Journal of Cognitive Neuroscience*, 24(5), 1104–1112.
37. **Lai, V. T.**, Hagoort, P., & Casasanto, D. (2011). Affective and Non-Affective Meaning in Words and Pictures. In L. Carlson, C. Holscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Meeting of the Cognitive Science Society*, pp. 390-395. Austin, TX: Cognitive Science Society.
38. \***Lai, V. T.**, Curran, T., & Menn, L. (2009). Comprehending Conventional and Novel Metaphors: An ERP study. *Brain Research*, 1284, 145-155.

## OTHER SCHOLARSHIP

**Conference Proceedings** peer-reviewed only.

39. Munro, R., Bethard, S., Kuperman, V., **Lai, V. T.**, Melnick, R., Potts, C., Schnoebelen, T., & Tily, H. (2010). Crowdsourcing and Language Studies: The New Generation of Linguistic Data. In *Proceedings of the Workshop on Creating Speech and Language Data With Amazon's Mechanical Turk, North American Chapter of the Association for Computational Linguistics (NAACL)*, pp. 122-130.
40. Bethard, S., **Lai, V. T.**, & Martin, J. (2009). Topic Model Analysis of Metaphor Frequency for Psycholinguistic Stimuli. In *Proceedings of the Workshop on Computational Approaches to Linguistic Creativity, North American Chapter of the Association for Computational Linguistics (NAACL)*, pp. 9-16.
41. \***Lai, V. T.**, Chang, M., Duffield, C., Hwang, J., Xue, N., & Palmer, M. (2007). Defining a Methodology for Mapping Chinese and English Sense Inventories. In *Proceedings of the Chinese Lexical Semantics Workshop 2007 (CLSW-2007)*. pp. 59-65.
42. \***Lai, V. T.** (2005). Language Experience Influences the Conceptualization of TIME Metaphor. In *Proceedings of the II Conference on Metaphor in Language and Thought*. Universidade Federal Fluminense, Brazil.
43. \***Lai, V. T.** & Ahrens, K. (2002). The Processing of Temporal Perspectives in Mandarin Chinese. In *Proceedings of the 10<sup>th</sup> International Conference on Cognitive Processing of Chinese and Related Asian Languages*.
44. \***Lai, V. T.**, Ahrens, K., & Huang, C. (2001). Source Domains for Marriage in Mandarin Chinese. In *Proceedings of the 10th International Conference of the International Association of Chinese Linguistics (IACL-10) and the 13th North American Conference on Chinese Linguistics (NACCL-13)*.
45. \***Lai, V. T.** & Ahrens, K. (2001). Mappings From The Source Domain Of Plant In Mandarin Chinese. In *Proceedings of the 15<sup>th</sup> Pacific Asia Conference on Language Information and Computation*, pp 203-209.

## WORKS IN PROGRESS

- °Yu, Y., Krebs, L., Beeman, M., & **Lai, V. T.** (Submitted). Aha! moments in metaphor generation – implications for learning and creative output. *Cognitive Science*.
- Baiocco, L., Pfeifer, V., & **Lai, V. T.** (Submitted). Emotionality and task goals influence

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metaphor processing: evidence from ERPs. *Brain and Language*.

- **Lai, V. T.**, Lu, X., & Ku, L. (In prep). Writing about feelings metaphorically in English and Mandarin. *Language and Thought series*.
- °Ku, L. & **Lai, V. T.** (In prep). Context matters: Updating the affective representation of a word in younger and older adults. *Cognitive, Affective, & Behavioral Neuroscience*.
- °Ku, L. & **Lai, V. T.** (In prep). Prediction and emotional language in younger and older adults.
- °Katikhina, A. & **Lai, V. T.** (Revise and resubmit). Aspect-Obligatory Language Sensitizes Speakers' Conceptualization of Event Stages: Evidence from Russian and English Native and Non-Native Speakers.
- Hackett, C., **Lai, V. T.**, Van Dam, W. O., & Desai, R. H. (in prep). Temporal and spatial basis of event concepts.
- **Lai, V. T.**, Hagoort, P., & Casasanto D. (in prep). When does context shape word meaning? Evidence from EEG pattern classification.

## MEDIA

### Recordings (audio / video)

- 1/23/2023 NPR Science Friday (WNYC), [Mood and language](#)  
1/18/2023 AZPM/NPR, [Mood matters in the work place](#)  
6/12/2019 NPR, Arizona Spotlight: [Is it a piece of cake for the brain to interpret a metaphor?](#) 17-27 min  
6/14/2019 NPR Arizona Science: [How metaphors make language more colorful!](#)

### Online and Print Media (Selected)

- 8/22/2023- Nautilus: [Your brain on emoji](#)  
1/17/2023- How negative mood influences language comprehension, covered by [UA news](#), [Neuroscience News](#), [Science Daily](#), [AAAS](#), [Arizona Public Media](#), [NPR Science Friday \(WNYC\)](#), [WGMQ-Radio \(Somerset, New Jersey\)](#), [The Print](#), [Cracked](#), [Oneindia](#), [KTTV-TV \(Los Angeles, California\)](#), [KRIV-TV \(Houston, Texas\)](#), [WDAF-TV \(Kansas City, Missouri\)](#), [WGFB-Radio \(Rockford, Illinois\)](#), [Medium](#), [Entrepreneur](#), [WTAX-Radio \(Springfield, Illinois\)](#), [Asian News International](#), [Medical Xpress](#) (35 pickups), [Technology Networks](#), [Emirates 24/7 \(United Arab Emirates\)](#), [Study Finds](#) ... etc.  
3/27/2020 Medical Xpress: [As COVID-19 disrupts lives, words matter](#)  
4/21/2019 Arizona Daily Star: [UA researcher: Studying how brain processes metaphors could aid efficient learning](#)  
4/2/2019 Science Daily: [How the brain finds meaning in metaphor](#)

## CONFERENCES / SCHOLARLY PRESENTATIONS (limited to past 5 years)

### Invited Colloquia, International (limited to current period in rank; title italicized)

- 2024 Apr Thinking and feeling with figurative language, Max Planck Institute for Psycholinguistics, The Netherlands  
2022 Oct *Metaphors and emotion*, University of College London, United Kingdom  
2022 Oct *Metaphors and science concepts*, Newcastle University, United Kingdom  
2022 Oct *Metaphors in learning*, Department of Psychology Colloquium, Lancaster University, United Kingdom

### Invited Colloquia, Domestic (limited to current period in rank; title italicized)

- 2025 Jul **Keynote** speaker for RaAM (Research and Application of Metaphor)  
2023 Sep Cognitive and affective neuroscience of language in context, Psychology

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2023 April	Department Colloquium, UA <i>Mood and Language: Insights from Brain Data</i> , Women in Data Science (WiDS) Tucson
2023 April	<i>The role of emotional contexts in the cognitive/neural representations of words</i> , Cognitive Science Colloquium, UA
2023 March	<i>Effects of mood and emotion on language</i> , Second Language Acquisition & Teaching Colloquium, UA
2023 Jan	<i>The role of emotional contexts in the neural representations of words</i> , Brain and Language Talk Series, University of Florida
2022 Nov	<i>Emotion and language</i> , Neuroscience Data Blitz, UA
2022 Oct	<i>Metaphors for emotion in Mandarin and English</i> , Princeton University
2022 Feb	<i>Learning with figurative language</i> , University of California San Diego
2020 Feb	<i>Thinking and feeling with metaphors</i> , Speech Language Hearing Sciences Colloquium, UA
2017 Mar	<i>Language and Emotion: Probing the Stability of Language Architecture with Emotion</i> , Psychology Colloquium, UA
2016 Sep	<i>The Role of Metaphor in Embodied Cognition</i> , Cognitive Science Colloquium, University of Arizona
2016 Mar	Non-Literal Language, Concept, and the Brain, University of Alabama
2016 Jan	Metaphor, Concept, and the Brain, University of Southern Alabama
2015 Nov	Non-Literal Language, Psychology, University of Southern Mississippi
2014 Nov	Understanding Non-Literal Language, Psychology, Lehigh University
2012 Apr	Language and Emotion, Linguistics, National Taiwan University
2012 Apr	Flexible Conceptual Representation, Linguistics, National Taiwan University
2012 Jan	Metaphor Sense Frequency, Visual Metaphor Grant Meeting, a collaboration between the Amsterdam, Nijmegen, and Tilburg, funded by the NWO (Dutch National Science Council).
2011 Jan	Exploring ERP Effects of Metaphor via Crowdsourcing, Cognitive Science Colloquium, University of Arizona
2012 Apr	Understanding Metaphorical Expressions, Stanford Psychology of Language Tea (SPLAT), Stanford University, Stanford

### Conferences (limited to current period in rank)

- Baiocco, L. & **Lai, V. T.** (2024). Metaphor comprehension and production in healthy individuals with autistic traits. Talk to be presented at the annual meeting of the Association for Researching and Applying Metaphor, Macerata, Italy, June 6-7.
- Yu, Y., Krebs, L, Beeman, M., & **Lai, V. T.** (2024). Aha! moments in metaphor generation implications for learning and creative outputs. Poster presented at Society for the Neuroscience of Creativity (SfNC) Conference, Toronto, Canada, April 11-12.
- Yu, Y., Krebs, L, Beeman, M., & **Lai, V. T.** (2024). Hidden brain states as neural correlates of verbal creativity during metaphor generation. Blitz Talk at Society for the Neuroscience of Creativity (SfNC) Conference, Toronto, Canada, April 11-12, & Poster presented at Cognitive Neuroscience Society (CNS) Conference, Toronto, Canada, April 13-16.
- Pfeifer, V. A., Mehl, M., & **Lai, V. T.** (2024). Impact of Language and Self-Construal on Irony Perception in Spanish-English Bilinguals. Poster presented at Society for Personality and Social Psychology (SPSP) Annual Convention, San Diego, CA, February 8-10.
- Gabow, A., Tidwell, C.A., **Lai, V. T.** (2023). An unbeatable enemy or a conquerable challenge: Re-examining the role of metaphor in anxiety expression and regulation. University of Arizona Annual Research Symposium, Tucson, AZ, May 2023.



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- Baiocco, L., Pfeifer, V. A., & **Lai, V. T.** (2023). Emotionality and task goals influence metaphor processing: evidence from ERPs. Poster presented at the 36th Annual Conference on Human Sentence Processing (HSP), Pittsburgh, PA, March 9-11.
- Ku, L.-C., & **Lai, V. T.** (2023). A reduced negativity bias in older adults: Predicting affective features of a word in emotionally ambiguous sentences. Poster presented at the 36th Annual Conference on Human Sentence Processing (HSP), Pittsburgh, PA, March 9-11.
- Ku, L.-C., & **Lai, V. T.** (2022). Negativity bias in younger adults: Pre-activating negative features of a word in emotionally ambiguous contexts. Poster presented at the virtual 28th Architectures and Mechanisms for Language Processing Conference, York, UK, September 7-9, and the Fourteenth Meeting of the Society for the Neurobiology of Language, Pennsylvania, PA, October 6-8.
- Ku, L.-C., & **Lai, V. T.** (2022). Context matters: Changes in the affective representation of a word in younger and older adults. Poster presented at the 2nd Experiments in Linguistic Meaning (ELM) conference, May 18-20.
- Pfeifer, V. A., & **Lai, V. T.** (2022). Irony Regulates Negative Emotion - in Speakers and Listeners. Poster presented at the 2nd Experiments in Linguistic Meaning (ELM) conference, May 18-20.
- Delikishkina, E., Desai, R., & **Lai, V. T.** (2022). The effects of metaphoric instruction on neural representations of scientific concepts. Poster presented at the 29th Annual Meeting of the Cognitive Neuroscience Society (CNS), April 23-26.
- Ku, L.-C., & **Lai, V. T.** (2022). Context matters: Changes in the affective representation of a word in younger and older adults. Poster presented at the 35th Annual Conference on Human Sentence Processing (HSP), virtual, March 24-26, and at the 2nd Experiments in Linguistic Meaning (ELM) conference, May 18-20.
- Pfeifer, V. A., & **Lai, V. T.** (2022). Irony as a form of Emotion Regulation – Evidence from Behavior and ERPs. Poster presented at the 35th Annual Conference on Human Sentence Processing (HSP), virtual, March 24-26.
- Kamenetski, A., Misersky, J., **Lai, V. T.**, & Flecken, M. (2021). Better Memory for Complete Events in Russian: An Effect of Obligatory Aspect Marking. Poster presented at the 62nd Annual Meeting of the Psychonomic Society, November 4-7.
- Pfeifer, V., Maytorena, S., & **Lai, V.T.** (2021). What Irony Reveals about a Speaker's Mental State: Impact of Timing and Context Emotion, Poster presented at the 62nd Annual Meeting of the Psychonomic Society, November 4-7.
- Ku, L. C., & **Lai, V. T.** (2021). Changes in the affective representation of words in emotional contexts. Poster presented at the Thirteenth Meeting of the Society for the Neurobiology of Language, Virtual meeting, October 5-8.
- Ku, L. C., Allen, J.J.B. & **Lai, V. T.** (2021). Attention and regulation during emotional word comprehension in older adults: Evidence from event-related potentials and brain oscillations. Talk presented at the Cognitive Science Colloquium Student Showcase in Tucson, April 30.
- Diaz, M. E., Hernandez, L. A., Maytorena, S. R., Ku, L.C., & **Lai, V. T.** (2021). Emotional Words in Contexts and Health Aging: Behavioral experiment. Poster presented at the 15th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, virtual, March 19-20. **-Best Poster Award, 2nd place.**
- Maytorena, S. R., Diaz, M. E., Hernandez, L. A., Ku, L.C., & **Lai, V. T.** (2021). Emotional Words in Contexts and Health Aging: Introduction. Poster presented at the 15th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, virtual, March 19-20. **-Honorable Mention**
- Hernandez, L. A., Diaz, M. E., Maytorena, S. R., Ku, L.C., & **Lai, V. T.** (2021). Emotional Words in Contexts and Health Aging: EEG experiment. Poster presented at the 15th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, virtual,

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March 19-20. **-Honorable Mention**

- Katikhina, A. & **Lai, V.T.** (2021). Event Completion, Not Ongoingness, Is Language Dependent: Crosslinguistic Evidence from ERPs in English and Russian. Poster presented at the 34th Annual CUNY Conference of Human Sentence Processing, virtual, March 04-06.
- Pfeifer, V.A., Maytorena, S., & **Lai, V.T.** (2021). The Impact of Verbal Irony on Negativity over Time. Talk presented at the 29th Annual GPSC student showcase, virtual, February 26. **-Best in Category**
- Katikhina, A. & **Lai, V. T.** (2020). Semantic or Morphosyntax? Verb Aspect Processing Depends on Obligatoriness of Morphological Encoding. Poster presented at the 12<sup>th</sup> annual meeting of the Society for the Neurobiology of Language, virtual, October 21-24.
- Ku, L. C., Allen, J.J.B. & **Lai, V. T.** (2020). Positivity bias in low-arousing language in healthy older adults. Poster presented at the 12<sup>th</sup> Meeting of the Society for the Neurobiology of Language, Virtual meeting, October 21-24.
- Pfeifer, V.A., Armstrong, E. L., & **Lai, V. T.** (2020). An ERP Investigation of the Effects of Emoji Valence on Text Processing. Poster presented at the 12<sup>th</sup> annual meeting of the Society for the Neurobiology of Language, virtual, October 21-24.
- Katikhina, A. & **Lai, V. T.** (2020). Semantics or Morphosyntax? Verb Aspect Processing Depends on Obligatoriness of Morphological Encoding. Poster presented at the virtual 26th Architectures and Mechanisms for Language Processing Conference, Potsdam, Germany, September 3–5.
- Sendek, K., Herzmann, G., Donahoo, S., Pfeifer, V., & **Lai, V. T.** (2020). The impact of acquisition context on the affective perception of swear words. Poster presented at the virtual 2020 Annual Meeting of the Cognitive Neuroscience Society, Boston, May 2-5.
- Pfeifer, V.A., Armstrong, E. L., Fellous, J.-M. & **Lai, V. T.** (2020). Emojis and Text: An ERP study. Talk presented at the Cognitive Science Colloquium Student Showcase in Tucson, May 1st.
- Donahoo, S. A., Pfeifer, V. A., **Lai, V. T.** (2020) Composing expressive information in context is damn tricky. Poster presented at the 33rd Annual CUNY Human Sentence Processing Conference, Amherst, March 19-21.
- Valenzuela, C., Garcia, A., Lopez, M., Maytorena, S., Pfeifer, V. A. & **Lai, V. T.** (2020). Neural Correlates of Visual Metaphor Processing: Introduction. Poster presented at the 14th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, Phoenix, March 3, 2020. **-Best Poster Award, 2nd place.**
- Garcia, A., Valenzuela, C., Lopez, M., Maytorena, S., Pfeifer, V. A. & **Lai, V. T.** (2020). Neural Correlates of Visual Metaphor Processing: Design & Materials. Poster presented at the 14th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, Phoenix, March 3, 2020. **-Best Poster Award, 2nd place.**
- Lopez, M., Valenzuela, C., Garcia, A., Maytorena, S., Pfeifer, V. A. & **Lai, V. T.** (2020). Neural Correlates of Visual Metaphor Processing: Results. Poster presented at the 14th Annual Western Alliance to Expand Student Opportunities (WAESO) student conference, Phoenix, March 3, 2020.
- Pfeifer, V.A., Armstrong, E. L., Fellous, J.-M., & **Lai, V. T.** (2019). The Effects of Emoji on Text Processing. Poster presented at the 2019 Annual ASU/UA Cognitive Science Conclave, Tucson, December 7.
- Donahoo, S. A., Pfeifer, V. A., & **Lai, V. T.** (2019). Concepts be damned! New insights from expressive adjectives. Poster presented at the 2019 Annual ASU/UA Cognitive Science Conclave, Tucson, December 7.
- **Lai, V. T.**, Mehl, M., Bulkes, N., Kumar, A., Ku, L. (2019). The expressive and regulatory roles of metaphor for emotion. Talk presented at the 60th Annual Meeting of the Psychonomic Society in Montreal, Canada, from November 14-17, 2019

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- Katikhina, A. & **Lai, V. T.** (2019). Event Conceptualization in English and Russian Monolinguals and Bilinguals. Poster presented at the 60th Annual Meeting of the Psychonomic Society in Montreal, Canada, from November 14-17, 2019
- Pfeifer, V. A. & **Lai, V. T.** (2019). Emotion Regulation through Irony: Evidence from Behavior and ERPs. Poster presented at the 32nd Annual CUNY Sentence Processing Conference in Boulder, March 29-31.
- Ku, L.C. & **Lai, V. T.** (2019). Emotion language in healthy aging. Poster presented at the 26th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, March 23-26.
- **Lai, V. T.**, Bulkes, N., Troncoso, C., Morez T., Kumar, A. V., Armstrong, E. (2019). Changes in the neural representations of abstract science concepts after metaphoric reasoning. Poster presented at the 26th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, March 23-26.
- Bulkes, N. & **Lai, V. T.** (2018). Beating around the evergreen bush: Conventionality violations elicit semantic P600. Poster presented at the 31st Annual CUNY Sentence Processing Conference, Davis, March 15-16.
- Donahoo, S. & **Lai, V. T.** (2018). Brain potentials of expressive content: New evidence for semantic theory. Poster presented at the 31st Annual CUNY Sentence Processing Conference, Davis, March 15-16.
- Troncoso, C. & **Lai, V. T.** (2018). Learning with Figurative Language: Instruction, Assessment & Behavioral Data. Poster presented at the Thirteenth Annual Arizona WAESO (Western Alliance to Expand Student Opportunities) Student Research Conference, Phoenix, March 1. **-Best Poster Award. 1<sup>st</sup> place.**
- Morez, T. & **Lai, V. T.** (2018). Learning with Figurative Language: Data Analysis. Poster presented at the Thirteenth Annual Arizona WAESO (Western Alliance to Expand Student Opportunities) Student Research Conference, Phoenix, March 1.
- Donahoo, S. & **Lai, V. T.** (2017). What the hell? What swearing can tell us about conventional implicature. Poster presented at the 7th biannual Experimental Pragmatics Conference, Cologne, June 21-23.

#### **Community Presentations** (limited to current period in rank)

- 2023 April Invited speaker, Women in Data Science (WiDS) Tucson
- 2022 August Presenter and lead discussant on “How do we better mentor under-represented minority graduate students”, Faculty Retreat, Department of Psychology
- 2019 summer Invited speaker, “How the brain finds meaning in metaphors”. [\*Spirit of the Senses Salon: Social Experience of Art, Science, and Cultural\*](#), Phoenix

#### **AWARDED GRANTS & CONTRACTS** (limited to current period in rank)

- 2024 Title: Metaphor and embodiment  
Percent effort on grant: 100%  
Role: **PI**  
Source: 2024 Core Facilities Pilot Program, UA  
Funding amount: Total/Direct **\$9,840**
- 2023-2024 Title: Supplement for short-term travels for “Learning science concepts through metaphor comprehension, production, and conversation”.  
Percent effort on grant: 100%  
Role: **PI**  
Source: **NSF**

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Funding amount: Total **\$19,341**, Direct \$12,000, Indirect \$6,341

- 2023 fall Title: Metaphor and learning  
Percent effort on grant: 100%  
Role: **PI**  
Source: NSF/ASU (Arizona State University) "**West Alliance to Expand Student Opportunities**" for underrepresented minority undergraduates  
Funding amount: Total/Direct **\$3,400**
- 2023 spring Title: Neural correlates of verbal creativity  
Percent effort on grant: 100%  
Role: **PI**  
Source: NSF/ASU (Arizona State University) "**West Alliance to Expand Student Opportunities**" for underrepresented minority undergraduates  
Funding amount: Total/Direct **\$3,400**
- 2022-2025 Title: Learning science concepts through metaphor comprehension, production, and conversation - Behavioral, neural and artificial intelligence measures.  
Percent effort on grant: 95%  
Role: **PI** (Co-PIs: Steven Bethard, Molly Bolger)  
Source: **NSF**  
Funding amount: Total **\$574,705**, Direct \$394,947, Indirect \$179,758
- 2022-2024 Title: Doctoral Dissertation Research: Effects of context on emotional word processing in healthy younger and older adults.  
Percent effort on grant: 90%  
Role: **PI** (Co-PIs: Li-Chuan Ku)  
Source: **NSF**  
Funding amount: Total **\$17,062**, Direct \$11,840, Indirect 5,222
- 2022-2024 Title: REU - Research Experiences for Undergrads  
Percent effort on grant: 100%  
Role: **PI** (Co-PIs: Li-Chuan Ku)  
Source: **NSF**  
Funding amount: Total/Direct **\$2,080**
- 2020-2021 Title: Learning science concepts with metaphor and augmented intelligence.  
Percent effort on grant: 100%  
Role: **PI**  
Source: **RII Faculty Seed Grant** (Research Innovation and Impact Research), UA  
Funding amount: Total/Direct **\$14,972**
- 2020-2021 Title: Emotional language and healthy aging  
Percent effort on grant: 100%  
Role: **PI**  
Source: NSF/ASU (Arizona State University) "**West Alliance to Expand Student Opportunities**" for underrepresented minority undergraduates  
Funding amount: Total/Direct **\$5,800**
- 2019-2020 Title: Visual metaphors  
Percent effort on grant: 100%

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Role: **PI**  
Source: NSF/ASU (Arizona State University) "**West Alliance to Expand Student Opportunities**" for underrepresented minority undergraduates  
Funding amount: Total/Direct **\$6,800**

2018-2019 Title: Learning sciences through metaphor  
Percent effort on grant: 100%  
Role: **PI**  
Source: NSF/ASU (Arizona State University) "**West Alliance to Expand Student Opportunities**" for underrepresented minority undergraduates  
Funding amount: Total/Direct **\$6,800**

**SUBMITTED GRANTS & CONTRACTS** (limited to current period in rank)

2023 Sep Title: Intercultural pragmatics and communication  
Percent effort on grant: 50%  
Role: **Co-PI** (PI: Francesca Citron, Lancaster University, United Kingdom)  
Source: **UKRI-NSF**  
Funding amount: Total **\$640,000**

## BIOGRAPHICAL PROFILE

Massimo Piattelli-Palmarini is (since August 1999 to present) Professor of Linguistics, Psychology and Cognitive Science at the University of Arizona, member of the Cognitive Science Program, of the Department of Psychology, of the Department of Linguistics, and honorary member of the Department of Management and Organizations.

He obtained his doctorate in Physics at the University of Rome (Italy) in 1968.

He has been (in reverse chronology):

- From January 1994 to July 1999 founder and director of the Department of Cognitive Science (DIPSCO), of the Scientific Institute San Raffaele, in Milan (Italy), and then professor of Cognitive Psychology at the San Raffaele University.
- From September 1985 to December 1993 Principal Research Scientist at the Center for Cognitive Science of MIT (Cambridge, MA);
- Visiting professor at: MIT (Department of Linguistics, Fall 2013, Fall 2002 and Spring 1993), at Rutgers University, NJ (Center for Cognitive Science, Fall 1992), at Harvard University (Department of the History of Science, Spring 1988 and 1989, Linguistics Department, Spring 2007), at the University of Maryland College Park (Department of Linguistics, Fall 2006), at the Collège de France (Paris, France, May-June 2002) and at the University of Bologna (Spring 1997 and 1998).
- In 1990 chairman and organizer of the XII Annual Conference of the Cognitive Science Society, held at MIT in August, and the editor of the proceedings.
- From 1980 to 1985 director of the Florence Center for the History and Philosophy of Science (Florence, Italy).
- From 1974 to 1979 director of the Royaumont Center for A Science of Man in Paris (Chaired by the French geneticist and Nobel Laureate Jacques Monod), and lecturer at the Ecole des Hautes Etudes en Sciences Sociales (Paris-Sorbonne).
- From 1969 to 1971 chargé de recherche at the Pasteur Institute in Paris (under the supervision of Jacques Monod).
- From 1968 to 1969 post-doc researcher at the Institute of Physical Chemistry of the University of Rome (Italy), under the supervision of Prof. Alfonso Maria Liquori.

### **I - Member of:**

American Psychological Society, Cognitive Science Society, American Philosophical Association, Society for Judgment and Decision Making, Linguistic Society of America, European Association for Decision Making, Society for Philosophy and Psychology, European Society for Philosophy and Psychology, Italian Council for the Social Sciences, Italian Society for Logic and Philosophy of Science.

### **II - Member of the Editorial Boards of:**

"Behavioral and Brain Sciences", "Cognition", "Biolinguistics", "Trends in Cognitive Sciences" and "Lingue e Linguaggio"

### III - Principal Domains of Interest:

Cognitive Science, Judgment and Decision Making, Biological Foundations of Language, Language Evolution, Theoretical Linguistics, Philosophy of Mind, Philosophy of Science, Physics of Language.

### IV -Awards received:

1995. Accademia d'Abruzzo, Recipient of the prize Premio Il Rosone d'Oro, for the diffusion of science in the general public, Pescara, Italy
1996. Recipient of Premio Tevere for the best book of non-fiction (Item n. 4 here below), Rome (Italy)
2006. Recipient of the Medal of the Chambers of Representatives (Medaglia della Camera dei Deputati) (one of the two branches of the Italian Parliament, Rome), for the diffusion of science. Ceremony of award held in Rimini (Italy) October 29.

### V – Publications:

#### V.1. Books:

1. *S come Cultura; Protagonisti, Luoghi e Idee delle Scienze Contemporanee*, Saggi Mondadori, Mondadori, Milan, 1987 (paperback edition, March 1992).
2. *La voglia di studiare*, Saggi Mondadori, Milan 1991. [With eleven prints, this book became a stable feature of the 1991 national list of best sellers – always ranking in the top five, and for several weeks in 1991 rated number one for non-fiction. As of July 1997 the total sales in Italy had already exceeded 115,000 copies]. Translated into French, *Le gout des Etudes*. (Editions Odile Jacob, Paris (30,000 copies sold)), German *Lust am Lernen* (Campus Verlag, Frankfurt, 1994), Spanish *Las Ganas de Estudiar* (Barcelona, Editorial Cultura, 2004) and Portuguese.
3. *L'illusione di sapere*, Saggi Mondadori (March 1993). Ranking 3rd to 6th in the list of non-fiction best-sellers in Italy in the Spring of 1993, it has sold over 35,000 copies in one year. Translations into: English: *Inevitable Illusions*, (J. Wiley & Sons, 1994). French: *La réforme du jugement* (O. Jacob, Paris, 1995). Spanish: *Los tuneles de la mente*, Editorial Critica, Barcelona, 1995. Dutch: *Onvermijdelijke illusies*, Uitgeverij Het Spectrum, Utrecht, 1996. German: *Die Illusion zu Wissen*, Rowohlt, Renbeck bei Hamburg, 1997. Portuguese: *A ilusao de saber*, Difusau Cultural, Lisbon, 1997. Chinese (abridged edition) *Bukebimian de cuojue* (translated by Jiang Ouyang; Beijing: Central Compilation & Translation Press, 2005).
4. *Ritrattino di Kant ad uso di mio figlio* Piccoli Oscar Mondadori, 1994. Translation into French: *Petit traité sur Kant à l'usage de mon fils*. O. Jacob, 1996 (was awarded the Premio Tevere for non-fiction in 1996, see above).
5. *L'arte di persuadere* Saggi Mondadori (April 1995). French Edition: *L'art de persuader* (O. Jacob, Paris, March 1999)

6. *I linguaggi della scienza*. Milan (Italy): Mondadori. (2003) With a blurb by Noam Chomsky and one by Umberto Eco
7. *Psicologia ed economia delle scelte: Quattro lezioni al Collège de France* (in collaborazione con Jocelyn Raude). Torino: Codice Edizioni (2005). French edition *Choix, décisions et préférences: Quatre leçons au Collège de France*. Paris (France): Editions Odile Jacob (2006).
8. *Le Scienze Cognitive Classiche; Un Panorama* Einaudi, Torino (2008)
9. (with Jerry Fodor) *What Darwin Got Wrong* Farrar, Straus and Giroux in the US, Profile Books in the UK, Feltrinelli in Italy (February/April 2010). Paperback edition, with an update and replies to our critics February 2011
10. *Chi Crediamo di Essere* Mondadori, Milan (2012) (on better ways to know ourselves, based on recent developments in cognitive science)
11. *Il Nono Giorno della Creazione*, Mondadori, Milan (2015) (a popularization of several recent developments in Evo-Devo, human genetics, epigenetics and neuroscience)

## V.2. Edited books

1. E. Morin, M. Piattelli-Palmarini (Eds.) *L'unité de l'homme; Invariants biologiques et universaux culturels*, Éditions du Seuil, Paris, 1974 (paperback edition, in three volumes, 1978); Spanish transl. in two separate volumes, *La Unidad del Hombre* (vol. I), *El primate y el hombre*, (vol. II), Editorial Argos Vergara, S.A., Barcelona 1983; Japanese transl., Heibonsha, Ltd., 1979; abridged Greek translation, Alexandria Publ., Athens, 1995.
2. M. Piattelli-Palmarini (Ed.), *Théories du langage, théories de l'apprentissage: le débat entre Jean Piaget et Noam Chomsky*, Editions du Seuil, Paris 1979; American edition: *Language and Learning: the Debate between Jean Piaget and Noam Chomsky*, Harvard University Press, Cambridge MA, 1980; English edition, Routledge and Kegan Paul, London 1980; Spanish transl., Editorial Critica, Barcelona 1983; Portuguese transl., Editora Cultrix, Sao Paulo 1983. Rumanian translation: Bucharest, Politica 1988; Italian translation: Jaca Books, Milan 1991; Basque translation Bilbao, Klasikoak 2009.
3. M. Piattelli-Palmarini (Ed.), *Livelli di realta'*, Feltrinelli, Milan, 1984 (paperback edition, October 1987) (Contributors: Alfred J. Ayer, Thomas G. Bever, Italo Calvino, Nelson Goodman, André Green, Edmund Leach, Hilary Putnam, Giuliano Toraldo di Francia, Bas Van Fraassen)
4. G. Longobardi, M. Piattelli-Palmarini (Eds.), *La Conoscenza del Linguaggio*, Il Saggiatore - Mondadori, Milan, 1990 (Italian translation and adaptation of Noam Chomsky's *Knowledge of Language* -1986)



5. M. Piattelli-Palmarini (Ed.) *Proceedings of the XII Annual Conference of the Cognitive Science Society*, (MIT, July 1990), Lawrence Erlbaum Associates, Hillsdale, New Jersey (1990).
6. M. Motterlini and M. Piattelli-Palmarini (Eds.) *Critica della Ragione Economica. Tre Nobel: McFadden, Kahneman, Smith*. Milano (Italy): Il Saggiatore (2005).
7. Piattelli-Palmarini, M., J. Uriagereka and P. Salaburu, Eds. (2009). *Of Minds and Language: A Dialogue with Noam Chomsky in the Basque Country*. Oxford, UK, Oxford University Press. (Contributors: Noam Chomsky, Cedric Boeckx, Christopher Cherniak, Janet Dean Fodor, Gabriel Dover, Angela Friederici, Lila Gleitman, Charles R. Gallistel, Rochel Gellman, Marc Hauser, James Higginbotham, Wolfram Hinzen, Itziar Laka, Nuria Sebastian, Juan Uriagereka, Donata VerCELLI)
8. Piattelli-Palmarini M. and R. C. Berwick, Eds (2013) *Rich Languages from Poor Inputs* Oxford University Press (Contributors: Adriana Belletti, Robert Berwick, Thomas Bever, Noam Chomsky, Susan Curtiss, Janet Dean-Fodor, Lila Gleitman, Barbara Landau, Julie Legate, Merryl Goldberg, Itziar Laka, Jacques Mehler, Massimo Piattelli-Palmarini, Charles Read, Luigi Rizzi, Rebecca Treisman, Ken Wexler, Charles Yang)

**V.3. Articles and book chapters** (selection, in chronological order):

1. Piattelli-Palmarini, M. "Nec tecum nec sine te". Communications Vol **18**: pp. 128-131 (1972).
2. Piattelli-Palmarini, M. "Biological roots of the human individual". in: *Law and Ethics of A.I.D. and Embryo Transfer* (G. Wolstenholme & D. Fitzsimmons Eds.), CIBA Foundation Symposium n.17, Elsevier Excerpta Medica, Amsterdam/London, pp.19-41 (1973).
3. Piattelli-Palmarini, M. "Selected bibliography of works on science and ethics in Italy". in: Newsletter, n.16, Harvard Program on Public Conceptions of Science, Cambridge MA, pp. 52-67 (1976)
4. Piattelli-Palmarini, M. "Anticipazione". In: *Enciclopedia Einaudi*, Vol. I, Einaudi, Turin, pp.122-148 (1977).
5. Piattelli-Palmarini, M. "L'entrepot biologique et le démon comparateur". In: *Mémoires*, special issue of the Nouvelle Revue de Psychanalyse, Paris, pp.105-123 (1977).
6. Piattelli-Palmarini, M. (with G. Ramunni). "Catalisi". In: *Enciclopedia Einaudi*, Vol. II, Einaudi, Turin, pp. 771-788 (1978).
7. Piattelli-Palmarini, M. "Structure distale et sensation proximale: critères de co-traduisibilité". Communications Vol **31**: pp. 171-188 (1979).

8. Piattelli-Palmarini, M. "Structures cérébrales et entendement". In: Revue des Travaux de l'Académie des Sciences Morales et Politiques, Paris, pp.189-209 (1979).
9. Piattelli-Palmarini, M. "Equilibria, crystals, programs, energetic models and organizational models". In: *Boston Studies in the Philosophy of Science*, XLVII, (M. L. Dalla Chiara Ed.), D. Reidel, Dordrecht, pp. 341-359 (1981).
10. Piattelli-Palmarini, M. "Science et humilité". In: *Images de la Science* (A. Jacquard, Y. Pelicier, M. Tubiana Eds.), Economica, Paris, pp.189-193 (1984).
11. Piattelli-Palmarini, M. "On the possibility of applying biological laws to social phenomena: an epistemological point of view". in: *Population and Biology*, (N. Keyfitz Ed.), Ordina Editions, Liège (Belgium), pp. 53-67 (1984).
12. Piattelli-Palmarini, M. "The Waning of Parsimony". In: *La vita e la sua storia*, (L. Bullini, M. Ferraguti, F. Mondella & A. Oliverio Eds.), special issue of Scientia, Milano, pp. 265-292 (1985).
13. Piattelli-Palmarini, M. "The Rise of Selective Theories: a Case Study and Some Lessons from Immunology". In: *Language Learning and Concept Acquisition: Foundational Issues*, (A. Marras & W. Demopoulos Eds.), Ablex Publishing Co., Norwood, NJ, pp.117-130 (1987).
14. Piattelli-Palmarini, M. "Ten years later: more chance, less necessity. Language and learning in a selectivist framework". In: *From Enzyme Adaptation to Natural Philosophy: Heritage from Jacques Monod* (E. Quagliariello, G. Bernardi & A. Ullmann Eds.), Elsevier Scientific Editions, Amsterdam, pp. 197-215 (1987).
15. Piattelli-Palmarini, M. (Ed) (1988). *TEORII ALE LIMBAJULUI. TEORII ALE INVATARII. Dezbateri intre Jean Piaget si Noam Chomsky* Bucharest: Politica. (Rumanian translation of 'Language and Learning')
16. Piattelli-Palmarini, M. "Evolution, Selection and Cognition: From 'Learning' to Parameter Setting in Biology and in the Study of Language". Cognition Vol **31**: pp. 1-44 (1989).
17. Piattelli-Palmarini, M. "Sélection sémantique et sélection naturelle: le rôle causal du lexique". Revue de Synthèse (special issue on cognitive science) **IV** (1-2): pp 57-94 (1990).
18. Piattelli-Palmarini, M. "Evoluzione, selezione e cognizione: Dall'apprendimento al posizionamento di interruttori mentali". Sistemi Intelligenti, Vol **2** (3): pp. 277-322 (1990).
19. Piattelli-Palmarini, M. "Probability blindness: Neither rational nor capricious". *Bostonia* (2): pp. 28-35 (1991).

20. Piattelli-Palmarini, M. "Probability blindness: Neither rational nor capricious". In *Annual Editions Psychology 1992-1993* (Volume 22, K. G. Duffy Ed.), Dushkin Publishing Co., Guilford, Connecticut, pp. 114-121 (1992) (reprint in a psychology textbook of entry n. 18).
21. "Truth in dreaming". In: *So Human a Brain: Knowledge and Values in the Neurosciences*, (A. Harrington Ed.), Birkhäuser Press, Boston MA, pp.14-36 (1992).
22. "Ever since language and learning: afterthoughts on the Piaget-Chomsky debate". Cognition Vol **50**: pp. 315-346 (1994). Also reprinted in *Cognition on Cognition* (Elsevier Science Publisher): pp. 361-392 (1995).
23. Piattelli-Palmarini M. "Verso una scienza naturale del linguaggio", Lingua e Stile, **XXXI** / 3, Il Mulino, Bologna (1996).
24. Piattelli-Palmarini M. (with C. Cecchetto) "The Problem of Meaning in Generative Grammar". In *The Problem of Meaning: Behavioral and Cognitive Perspectives* (C. Mandell and A. McCabe Eds), pp. 415-469, Elsevier Science USA (1997).
25. Piattelli-Palmarini M. "Foreword" to *Rhyme and Reason: An Introduction to Minimalist Syntax* by J. Uriagereka, pp. xxi-xxxvi, The MIT Press, Cambridge, MA, (1998).
26. Piattelli-Palmarini M. "La difficile naturalizzazione della mente". In: *Introduzione al Naturalismo Filosofico* (Evandro Agazzi and Nicla Vassallo, Eds) Franco Angeli, Milan, Italy, (1999).
27. Piattelli-Palmarini M. (with Claudio de' Sperati) "Cognizione". In *Enciclopedia Italiana (L'Universo del Corpo)* (Vol. **II**, pp. 734-737). Roma (Italy): Istituto della Enciclopedia Italiana (1999).
28. Cappa, S. F., Moro, A., Perani, D., & Piattelli-Palmarini, M. "Broca's aphasia, Broca's area and syntax: A complex relationship (commentary of Grodzinsky's "The neurology of syntax: Language use without Broca's area"). Behavioral and Brain Sciences, **23**, pp. 27-28. (2000).
29. Piattelli-Palmarini M. "An 'irreducible' component of cognition" in *Thinking about Evolution: Historical, Philosophical and Political Perspectives (Essays in Honour of Richard Lewontin)* (R. S. Singh, C. Krimbas, D. Paul and J. Beatty Eds) Cambridge University Press, pp. 353-376 (2001).
30. Piattelli-Palmarini M. "The metric of open-mindedness", Natural Language & Linguistic Theory, **18**, pp. 859-862 (2000) (actually published in 2001).
31. Piattelli-Palmarini M. "Mente", in *Enciclopedia Italiana, "L'Universo del Corpo"*, Volume **IV**. pp. 413-422 (2000), Istituto dell'Enciclopedia Italiana, Roma. (actually published in 2001).

32. Piattelli-Palmarini M. "Portrait of a 'classical' cognitive scientist: What I have learned from Jacques Mehler", in Emmanuel Dupoux (Editor) *Language, Brain and Cognitive Development: Essays in Honor of Jacques Mehler*, Cambridge, MA, The MIT Press (pp. 3-21) (2001)
33. Piattelli-Palmarini M. (with Heidi Harley) "Innateness, abstract names, and syntactic cues in How Children Learn the Meanings of Words" (Peer Commentary of Bloom's article). *Behavioral and Brain Sciences*, pp.1107-1108 (2001)
34. Piattelli-Palmarini M. "Grammar: The barest essentials". *Nature*, **416** (14 March), p. 129 (2002).
35. Piattelli-Palmarini M. "To put it simply" (Basic concepts). *Nature*, **426** (11 December), p. 607 (2003).
36. Piattelli-Palmarini M. (with Heidi Harley) "Arguments in the syntactic straightjacket (Commentary on the article "The neural basis of predicate-argument structure", by James R. Hurford). *Behavioral and Brain Sciences*, **26** (3), pp. 297-298 (2003).
37. Piattelli-Palmarini M. (with Lynn Nadel) "What is cognitive science?" In L. Nadel (Ed.), *Encyclopedia of Cognitive Science* (Vol 1 -of 4) (Vol. 1, pp. xiii-xli). London UK: Macmillan (2003).
38. Piattelli-Palmarini M. "La cognizione dell'errore", *Networks* Vol. **5**, pp. 128-142 (2005).
39. Canessa, N., Gorini, A., Cappa, S. F., Piattelli-Palmarini, M., Danna, M., & Fazio, F. "The effect of social content on deductive reasoning: An fMRI study". *Human Brain Mapping*, **26**, pp. 30-43 (2005).
40. Piattelli-Palmarini M. (with Juan Uriagereka) "The Immune Syntax: The Evolution of the Language Virus". In L. Jenkins (Ed.), (Chapter 4 of) *Variation and Universals in Biolinguistics* (pp. 341-377). Amsterdam, Boston: Emerald Elsevier North-Holland (2004/2008).
41. Piattelli-Palmarini M. (with Juan Uriagereka) "The evolution of the narrow faculty of language: The skeptical view and a reasonable conjecture". *Lingue e Linguaggio*, **IV** (1), pp. 27-79. (2005).
42. Piattelli-Palmarini M. (with Matteo Motterlini) "Introduzione". In M. Piattelli-Palmarini & M. Motterlini (Eds.), *Critica della Ragione Economica. Tre Nobel: McFadden, Kahneman, Smith*. Milano (Italy): Il Saggiatore. (2005).
43. Piattelli-Palmarini M. (with Matteo Motterlini) "Galleria degli errori economici" (Capitolo 4). In M. Piattelli-Palmarini & M. Motterlini (Eds.), *Critica della Ragione*

*Economica. Tre Nobel: McFadden, Kahneman, Smith.* Milano (Italy): Il Saggiatore (2005).

44. Piattelli-Palmarini M. (with Cedric Boeckx) "Language as a natural object - linguistics as a natural science". *The Linguistic Review*, 22 (Special theme issue: "The Role of Linguistics in Cognitive Science" (Nancy Ritter Ed.)), pp. 447-466 (2005).
45. Boeckx, C. and M. Piattelli-Palmarini (2007). "Linguistics in cognitive science: The state of the art amended." *The Linguistic Review* 24: 421-433. (reply to critiques of item 43. Published in the same journal)
46. Piattelli-Palmarini M. (2007) "The return of the laws of form". In *Life on the Edge (La Vita in Bilico)*. C. P. Manzu'. Roma (Italy), Centro Pio Manzu'. Volume 2 (Workshop 1): pp. 45-57.
47. Smith, E. D., Son, Y. J., Piattelli-Palmarini, M., & Bahill, A. T. "Ameliorating mental mistakes on tradeoff studies". *Systems Engineering*, **10** (3), pp. 222-240 (2007).
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49. Piattelli-Palmarini M. (with Juan Uriagereka) (2008) "Still a bridge too far? Bilingual questions for grounding language on brains" *Physics of Life Reviews*, **5** (4): pp. 207-224
50. Piattelli-Palmarini M. "Events and Conservativity: Clues towards Language Evolution" in M. C. Amoretti and N. Vassallo (eds), *Knowledge, Language, and Interpretation. On the Philosophy of Donald Davidson*, Ontos Verlag, Frankfurt.: pp. 81-106 (2008)
51. Piattelli-Palmarini M. (with Roeland Hancock and Thomas Bever) "Language as ergonomic perfection" (commentary of Christiansen and Chater "Language as shaped by the brain") *Behavioral and Brain Sciences* Vol **31**, pp. 530-531. (2008)
52. Piattelli-Palmarini M. "What is language, that it may have evolved, and what is evolution, that it may apply to language" (Chapter 10 of) R. K. Larson, V. DePrez and H. Yamakido (eds) *The Evolution of Human Language: Bilingual Perspectives*. Cambridge University Press. Cambridge UK: pp. 148- 162; (2009)
53. Vercelli, D. and M. Piattelli Palmarini (2009). "Language in an epigenetic framework" (Chapter 7). In *Of Minds and Language: A Dialogue with Noam Chomsky in the Basque Country*. M. Piattelli-Palmarini, Uriagereka, J. and Salaburu, P., Eds. Oxford, UK, Oxford University Press: pp. 97-107.

54. Piattelli-Palmarini M. "Introduccion". *Hizkuntza eta ikastea. Piageten eta Chomskyren arteko eztabaida*. Bilbao, Klasikoak. "Introduccion (Introduction)", to the Basque translation of the volume "Language and Learning" (2009)
55. Fodor, J. and M. Piattelli-Palmarini (2010). " Survival of the fittest theory: Darwinism's limits " New Scientist Magazine (2746 (06 February)): 28-31.
56. Piattelli-Palmarini M. "Verso una fisica della mente (Lectio Magistralis)." Atti delle Inaugurazioni degli Anni Accademici dell'Università di Verona - Anno 2009-2010: pp. 39-75.
57. Piattelli-Palmarini, M. (2010). What is language, that it may have evolved, and what is evolution, that it may apply to language? The Evolution of Human Language: Biolinguistic Perspectives. R. K. Larson, Deprez, V. and Yamakido, H., Eds. Cambridge, UK, Cambridge University Press: 148-162.
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60. Piattelli-Palmarini, M. (2010). L'Illusione di Sapere. Enciclopedia Italiana XXI Secolo "Mente e Corpo". T. Gregory (Ed.). Roma (Italy), Istituto della Enciclopedia Italiana: 133-140.
61. A-M. Sciallo, M. Piattelli-Palmarini, K. Wexler, R. C. Berwick, C. Boeckx, L. Jenkins, J. Uriagereka, K. Stromswold, L. L.-S. Cheng, H. Harley, A. Wedel, J. McGilvray, E. v. Gelderen and T. G. Bever (2010). "The Biological Nature of Human Language " Biolinguistics 4(1), 04-034.
62. Piattelli Palmarini, M., & Uriagereka, Juan. (2011). A geneticist's dream, a linguist's nightmare: The case of FOXP2. In A. M. Di Sciallo & C. Boeckx (Eds.), *The Biolinguistic Enterprise: New Perspectives on the Evolution and Nature of the Human Language Faculty* (pp. 100-125). Oxford UK: Oxford University Press.
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65. Piattelli-Palmarini, M., & Berwick, R. C. (2013). Introduction. In M. Piattelli-Palmarini & R. C. Berwick (Eds.), *Rich Languages from Poor Inputs* (pp. 1-16). Oxford, UK: Oxford University Press.
66. Piattelli-Palmarini, Massimo. (2013). Narrowing, but not bridging, the brain-mind gap. Comment on “Dissipation of 'dark energy' by cortex in knowledge retrieval” by Antonio Capolupo, Walter J. Freeman and Giuseppe Vitiello. *Physics of Life Reviews*, 10, 108-109.
67. Piattelli-Palmarini, M. (2013). Chapter 13: On abstraction and language universals. In M. Sanz, I. Laka & M. Tanenhaus (Eds.), *Language Down the Garden Path: The Cognitive and Biological Bases for Linguistic Structure*. Oxford UK: Oxford University Press
68. Piattelli-Palmarini, M., & Vitiello, G. (2015). Linguistics and some aspects of its underlying dynamics. *arXiv.org > cs > arXiv:1506.08663 arXiv:1506.08663v1 [cs.CL] Cornell University Library*.
69. Piattelli-Palmarini, M., & Vitiello, G. (2015). Linguistics and Some Aspects of Its Underlying Dynamics. *Biolinguistics*, 9, 96–115.
70. Medeiros, D., Thomas G. Bever, & Piattelli-Palmarini, M. (2016). “Many important language universals are not reducible to processing or cognition.” Invited commentary on Christianen, Morten H., and Nick Chater, “The Now-or-Never Bottleneck: A Fundamental Constraint on Language.”. *Behavioral and Brain Sciences*, 39, 42-43.
71. Piattelli-Palmarini, M. (2017). Le intelligenti autocritiche di Darwin. *Rivista di Filosofia*, CVIII (1 (Aprile)), 99-107.
72. Piattelli-Palmarini, M. (2017). Normal language in abnormal brains. *Neuroscience and Biobehavioral Reviews*, 81 (October), 188-193. 10.1016/j.neubiorev.2017.02.008
73. Piattelli-Palmarini, M., & Vitiello, G. (2017). Third factors in language design: some suggestions from Quantum Field Theory. In J. McGilvray (Ed.), *The Cambridge Companion to Chomsky, 2nd Edition* (pp. 134-152). Cambridge, UK and New York: Cambridge University Press.
74. Piattelli-Palmarini, M., & Vitiello, G. (2017). Quantum field theory and the linguistic Minimalist Program: a remarkable isomorphism. *Journal of Physics: Conf. Series 880 (2017) 012016 doi :10.1088/1742-6596/880/1/012016, IOP Conference Series: 8th International Workshop DICE2016: Spacetime - Matter - Quantum Mechanics(880), 1-16. doi:doi :10.1088/1742-6596/880/1/012016*

75. Piattelli-Palmarini, M. (2018). Fodor and the innateness of all (basic) concepts (Chapter 6). In R. G. de Almeida & L. R. Gleitman (Eds.), *Concepts, Modules, and Language: Cognitive Science at its Core* (pp. 211-237). Oxford, UK: Oxford University Press.
76. Medeiros, D., & Piattelli-Palmarini, M. (2018). The Golden Phrase: Steps to the Physics of Language. In A. Gallego & R. Martin (Eds.), *Language, Syntax, and the Natural Sciences (Essays in Honor of Juan Uriagereka)*. Cambridge, UK and New York: Cambridge University Press. (pp. 333-350).
77. Piattelli-Palmarini, M. (2018 (in press)). From Zero to Fifty: Considerations on Eric Lenneberg's Biological Foundations of Language and Updates. *Biolinguistics*, 1-22.
78. Fodor, J., & Piattelli-Palmarini, M. (2018). *Blad Darwina (Polish translation of "What Darwin Got Wrong")*. Warsaw Wydawnictwo Naukowe PWN.
79. Karimi, S., & Piattelli-Palmarini, M. (2018). Introduction to the special issue on parameters. *Linguistic Analysis*, 41(3-4), 141-158.
80. Karimi, S., & Piattelli-Palmarini, M. (Eds.). (2018). *Special Issue on Parameters* (Vol. 41 (3-4)): *Linguistic Analysis*.
81. Piattelli-Palmarini, M. (2019). Reflections on Piaget Chomsky, Fodor, Epigenetics and the Baldwin Effect. *Paradigmi*, XXXVII (1), 23-52.
82. Piattelli-Palmarini, M. (2020). Minds with meanings (pace Fodor and Pylyshyn) *Rivista Internazionale di Filosofia e Psicologia* (Special Issue on Fodor) Vol. 11 Issue 1 Pages 1-18
83. Piattelli-Palmarini M. (2022) The language(s) of sailing. In: "The Sailing Mind" edited by R. Casati. Chapter 6. pp. 65-72. Springer Nature

#### **V.5. Book reviews** (selection):

1. Piattelli-Palmarini M. "The quest for animal language", Review of *The Clever Hans Phenomenon: Communication with Horses, Whales, Apes and People* (T. Sebeok and R. Rosenthal Eds.), Trends in Neurosciences, (June issue), pp. 213-214 (1982).
2. Piattelli-Palmarini M. "The new measure of man", Review of M. Konner, *The Tangled Wing*, The Times Literary Supplement, February 18 (1983).
3. Piattelli-Palmarini M. "The parliament of mind", Review of J. Fodor, *The Modularity of Mind*, The Times Literary Supplement, December 2 (1983).
4. Piattelli-Palmarini M. "The substance is one". Review of N. Malcolm and D. Armstrong, *Consciousness and Causality: A debate on the nature of mind*, The Times Literary Supplement, January 11 (1985).



5. Piattelli-Palmarini M. "(Chain) Reacting to Biogenetic Breakthroughs", Review of several books on bio-engineering, Bostonia, November/December (1989).
6. "Against whom the weapons of the night are blunted" Review of The Periodic Table, by Primo Levi, Bostonia, Fall issue (3): pp. 22-25 (1991).
7. "Whishful thinking?", review of D. Döner *The Logic of Failure: Why Things Go Wrong and What We Can Do to Make Them Right*, Nature, **382**, p. 505, August 8th (1996).
8. Piattelli-Palmarini M. "Evolution in mind", review of Henry Plotkin's book by the same title, Nature, **391**, pp. 138-139, January 8 (1998)
9. Piattelli-Palmarini M. "The Universal Structure of Babbling", review of Benedicte De Boysson-Bardies's *How Language Comes to Children*, Nature, **400**, pp. 829-830, August 26 (1999).
10. Piattelli-Palmarini M. "Tower of Babel", Review of Daniel Nettle's *Linguistic Diversity*, Trends in Ecology and Evolution, **15** (4), pp. 173-174, April (2000).
11. Piattelli-Palmarini M. Review of Fiona Cowie *What's Within? Nativism Reconsidered*, in Trends in Cognitive Science, **4**, p. 290, July (2000).
12. Piattelli-Palmarini M. "Speaking in too many tongues", Review of Philip Lieberman's *Human Language and our Reptilian Brain: The Subcortical Bases of Speech, Syntax and Thought*, Nature, **408**, pp. 403-404, November 23 (2000).
13. Piattelli-Palmarini M. "Speaking of learning: How do we acquire our marvelous facility for expressing ourselves in words?" Review of *Pathways to Language: From Fetus to Adolescent* by Kyra Karmiloff and Annette Karmiloff-Smith, Nature, **411**, 21 June, pp. 887-888 (2001)
14. Piattelli-Palmarini M. "Novel tools at the service of old ideas" (Commentary on the book *Evolution in Four Dimensions* MIT Press. 2005, by Eva Jablonka and Marion J. Lamb) Biolinguistics **2.2** (3) pp. 236-245 (2008)

#### **V - Courses taught at the University of Arizona:**

- Fall 1999 Graduate course on Rationality and Cognition (PSYCH 596 F).
- Fall 2000 Undergraduate course INDV 101 Section 003 (honors Section) The Nature of Mind and Behavior
- Fall 2000 (in a team) Graduate course LING 600 001 Explorations into the History of Generative Grammar
- Spring 2000, First-Year undergraduate colloquium The Nature of our Mind (UNVR195A)
- Spring 2000, Coordinator and teacher (in a team) of the graduate course

- Linguistic Theory: Concepts, Problems and Controversies (LING/PSY 696 F)
- Spring 2001 Graduate course on Rationality and Cognition (PSYCH 596 F).
- Spring 2001, First-Year undergraduate colloquium The Nature of our Mind (UNVR 195 A)
- Spring 2001, Coordinator and teacher (in a team) of the graduate course Linguistic Theory: Concepts, Problems and Controversies (LING/PSY 696 F)
- Fall 2001 Graduate course on Rationality and Cognition (PSYCH 596 F).
- Fall 2001, Coordinator and teacher (in a team) of the graduate course Linguistic Theory: Concepts, Problems and Controversies (LING/PSY 696 F)
- Spring 2002, Co-teacher (with Prof. Heidi Harley) of the graduate course Lexical Semantics: Linguistic and Philosophical Viewpoints (LING 522 F)
- Spring 2002, Undergraduate course Introduction to Cognitive Science (INDV 101) (Honors section)
- Fall 2002, Team, Master Seminar on The Foundations of Linguistic Theories, (PSYC/LING/PHIL 696E)
- Fall 2002, (with Prof. Thomas G. Bever) graduate course Biological Foundations of Language (PSYC/LING 496F/596F)
- Spring 2003, Undergraduate course Introduction to Cognitive Science (INDV 101) (Honors section)
- Spring 2003 Team, Master Seminar on Evolution Evolving (PSYC 596 F with multiple cross-listing in genetics and in evolutionary biology)
- Fall 2003, On leave (at MIT, Department of Linguistics and Philosophy, see below for a graduate course taught there)
- Spring 2004, Undergraduate course Introduction to Cognitive Science (INDV 101) (Honors section)
- Spring 2004, Team, Master Seminar on The Genetics of Complex Traits, Gene-Environment Interactions (PSYC 596 F with multiple cross-listings in genetics and in evolutionary biology)
- Spring 2004 (with Prof. Heidi Harley) graduate course Compositionality and the Semantics of Natural Language (LING/PHIL 596D)
- Fall 2004 Team, Master Seminar on The Foundations of Cognitive Science (LING/PSYC/PHIL 696E)
- Fall 2004 Graduate and senior undergraduate course On induction: Cognitive and Philosophical Aspects (PSYC 496F/596F)
- Spring 2005 Introduction to Language: Language, Mind and Brain (First-year plenary course INDV 101, also personally taught Section 58h – Honors Section)
- Spring 2005, (With Prof. Terry Connolly, Dept. of Management and Policy), Master Seminar on the Foundations of Judgment and Decision-Making (PSYC 596 F, with multiple cross-listing in Philosophy and in Management and Policy)
- Fall 2005, Graduate and senior undergraduate course Rationality and Cognition: Probabilistic Illusions and Choice over Time (PSYC 496F/595F)
- Fall 2005, Coordinator of the Master Seminar on The Foundations of Cognitive Science (LING/PSYC/PHIL 696 E)
- Spring 2006, First year undergraduate course Introduction to Language: Language, Mind and Brain (First-year plenary course INDV 101, 422 students enrolled. Also taught Section 9 – Honors Section)

- Spring 2006, (With Prof. Andrew Wedel) graduate course The Biological Foundations of Language and Cognition (LING/PSYCH/PHIL 696E)
- Fall 2006 and Spring 2007, On sabbatical (see below for courses taught at the University of Maryland and at Harvard)
- Fall 2007, (team) coordinator of and teacher in the Graduate course Master Seminar on the Foundations of Cognitive Science (LING/PSYCH/PHIL 696E)
- Fall 2007, Graduate and senior undergraduate course Biological foundations of language (PSYCH 496F/596F)
- Spring 2008 Undergraduate course (honor course) An Introduction to Cognitive Science (PSYCH 423H)
- Spring 2008, Graduate course “New approaches to evolution” (LING/PSYCH 696 F)
- Fall 2008, (in a team) coordinator of and speaker in the Graduate course Master Seminar on the Foundations of Cognitive Science (COGS/LING/PSYCH/PHIL 696E)
- Fall 2008, (with Heidi Harley and Andrew Barss) Graduate course Topics in Linguistics and Philosophy (merging LING 596D and LING/PHIL 696A)
- Spring 2009, Undergraduate course (honors course) “An Introduction to Cognitive Science” (PSYCH 424H)
- Spring 2009, Senior undergraduate and graduate course “Issues in the biology of language” (PSYCH/LING 496F/596F)
- Fall 2009, Undergraduate course (honors course) “An Introduction to Cognitive Science” (PSYCH 424H)
- Fall 2009, First activation of a new senior undergraduate and graduate course LING/PSYCH/PHIL 449A/549A “Biolinguistics”
- Spring 2010 On leave, no courses
- Fall 2010 (team) coordinator of and teacher in the Graduate course “Master Seminar on Natural Selection: Theory, Data, Models and Critiques” (LING/PSYCH/PHIL 696E)
- Fall 2010 (with Heidi Harley and Andrew Barss) Graduate course Topics in Linguistics and Philosophy (merging LING 596D and LING/PHIL 696A) “Compositionality and its limits”
- Spring 2011 LING/PSYCH/PHIL 449A/549A “Biolinguistics”
- Spring 2011 “Judgment and decision making” PSY 333
- Fall 2011 Organizer of the “Master Seminar: The evolution of mind and brain” (COGS 696E)
- Fall 2011 LING/PHIL 211 “Meaning in Language and Society”
- Fall 2011 Organizer of the Linguistic Colloquium LING 495A/595A
- Spring 2012 “Judgment and decision making” PSY 333
- Spring 2012 LING/PHIL 211 “Meaning in Language and Society”
- Spring 2012 Organizer of the Linguistic Colloquium LING 495A/595A
- Fall 2013 Co-organizer (with Prof. Terry Connolly) of the “Master Seminar on Foundations of Judgment and Decision Making” (COGS/PHIL/MGMG/PSY/LAW/PSY 696E)
- Fall 2013 LING/PHIL 211 “Meaning in Language and Society”
- Fall 2013 Organizer of the Linguistic Colloquium LING 495A/595A
- Spring 2013 LING/PSYCH/PHIL 449A/549A “Biolinguistics”
- Spring 2013 “Judgment and decision making” PSY 333
- Spring 2013 Organizer of the Linguistic Colloquium LING 495A/595A

(On sabbatical for the Fall of 2013)

- Spring 2014 LING/PSYCH/PHIL 449A/549A “Biolinguistics”
- Spring 2014 PSYCH 496F/596F Decision making and neuro-economics
- Fall 2014: Co-organizer (with Prof. Chris Robertson of the College of Law) of the Master Seminar “Cognitive Science, Ethics and the Law” COGS/PSY/MGM/LAW/LING/PHIL 696E
- Fall 2014 LING/PHIL 211 “Meaning in Language and Society”
- Spring 2015 LING/PSYCH/PHIL 449A/549A “Biolinguistics”
- Spring 2015 “Judgment and decision making” PSY 333
- Fall 2015 Organizer of the Linguistic Colloquium LING 495A/595A
- Fall 2015 Co-organizer (with Prof. Thomas G. Bever) of the “Master Seminar on Cognition, Language and the Brain” (COGS/PHI/LING/PSY 696E)
- Spring 2016 (with T. Bever and S. Karimi) “Biolinguistics” (special edition, with two lectures by Noam Chomsky) LING/PSYCH/PHIL 449A/549A
- Spring 2016 “Rationality, Cognition and Neuro-Economics” PSY/COGS/PHIL/MGMT 496F/596F Section 002
- Fall 2016 Organizer of the Linguistic Colloquium LING 495A/595A
- Fall 2016 Issues and Themes in Cognitive Science NSCS 320
- Fall 2017 Issues and Themes in Cognitive Science NSCS 320
- Spring 2018 “Biolinguistics” (with Thomas Bever and Noam Chomsky) COGS LING PHIL PSY 449A/549A
- Spring 2018 LING/PHIL 211 “Meaning in Language and Society” (with Elisabeth Kickham)
- Fall 2018 “On parameters” “Topics in Syntax and Semantics” (with Simin Karimi) LING 696A
- Fall 2018 “Language, Mind and Brain” (7 weeks course, with Thomas Bever and Noam Chomsky) LING/PHIL 211
- Fall 2019 “Language, Mind and Brain” (7 weeks course, with Thomas Bever and Noam Chomsky) LING/PHIL 211
- Fall 2019 “Issues and Themes in Cognitive Science” NSCS 320
- Fall 2020 “Language, Mind and Brain” (7 weeks course, with Thomas Bever and Noam Chomsky) LING/PHIL 211
- Spring 2020 “Thinking about Thinking” PSY 220 (7 weeks course)
- Spring 2020 “Meaning in Language and Society” LING/ PHIL 211
- Fall 2021 “Language, Mind and Brain” (7 weeks course, with Thomas Bever and Noam Chomsky) LING/PHIL 211
- Fall 2021 “Biolinguistics” (with Thomas Bever and Noam Chomsky) COGS LING PHIL PSY 449A/549A
- Spring 2021 “Thinking about Thinking” PSY 220 (7 weeks course)
- Spring 2021 “Biolinguistics” COGS LING PHIL PSY 449A/549A
- Fall 2022 “Biolinguistics” (with Thomas Bever and Noam Chomsky) COGS LING PHIL PSY 449A/549A
- Fall 2022 “Language, Mind and Brain” (7 weeks course, with Thomas Bever and Noam Chomsky) LING/PHIL 211
- Spring 2022 “Issues and Themes in Cognitive Science” NSCS 320

- Spring 2022 “Thinking about Thinking” PSY 220 (7 weeks course)
- Spring 2023 “Rationality and Cognition” CGSC 201 (7 weeks course)

ON SABBATICAL FOR THE FALL OF 2023

- Spring of 2024 “Thinking about Thinking” PSY 220 (7 weeks course)
- “Biolinguistics” COGS LING PHIL PSY 449A/549A

### **VII - Full semester courses taught in other universities**

- From 1973 to 1979 Lecturer (Chargé de cours) of the graduate course *Theory of Self-Organizing Systems*, École des Hautes Etudes en Sciences Sociales (Paris-Sorbonne).
- 1988 and 1989 (Spring sem.) (with Prof. Stephen Jay Gould) graduate course n. 212, on *Evolution and Cognition*, Department of the History of Science, Harvard University
- 1992 (Fall sem.) Graduate course on *Rationality and Cognition* (830/1635), Department of Psychology, Rutgers University, New Brunswick, NJ.
- 1993 (Spring sem.) Undergraduate course n. 9.66 on *Rationality and Cognition*, Dept. of Brain and Cognitive Sciences, MIT (Cambridge, MA)
- Fall 1995 to the Fall 2001 Graduate course *The Mind: A User’s Guide*, Duxx (formerly Integer), Graduate School of Business Leadership, Garza Garcia (Monterrey), Mexico.
- 1997 and 1998 (Spring sem.) *Introduzione alle Scienze Cognitive*, Dipartimento di Scienze della Comunicazione, The State University of Bologna (Italy).
- 1997 and 1998 (Spring sem.) Post-doctoral course *Metodi e tecniche quantitative in psicologia clinica*, Scuola di Specializzazione in Psicologia Clinica, Facoltà di Medicina e Chirurgia, The State University of Milan (Italy).
- 1997 (Fall sem.) *Psicologia Cognitiva* (with Prof. Paolo Legrenzi) Facolta’ di Psicologia, Università Vita Salute San Raffaele, Milan (Italy).
- 1998 (Fall sem.) *Psico-economia*, Facolta’ di Psicologia Università Vita-Salute San Raffaele, Milan.
- 1998 and 1999 (Spring semester) *Psicologia Cognitiva*, Facolta’ di Psicologia, Università Vita-Salute San Raffaele, Milan.
- 2003 (Fall sem.) *Issues in the Biology of Language*, Department of Linguistics and Philosophy, MIT (graduate and senior undergraduate course n. E51-393)
- 2006 (Fall sem.) *Seminar in Language and Biology*, Department of Linguistics, University of Maryland, College Park (graduate course LING 889A).
- 2007 (Spring sem.) *Biolinguistics*, Department of Linguistics, Harvard University (graduate and senior undergraduate course LING 188R)
- 2010 (Spring semester) *Introduzione alle Scienze Cognitive* IUAV (University of Venezia, Department of Architecture and Design, Italy) full senior undergraduate course
- 2010 (Spring semester) *Biolinguistics* (in English) Graduate School in Linguistics, Università Ca’ Foscari, Venezia, Italy. A course of 21 hours
- 2010 (Spring semester) *Facolta’ di Filosofia*, Università San Raffaele, Milan (Italy) *Ripensare l’evoluzione* Senior undergraduate course 21 hours.

## **VII -Institutions where short courses, lectures, conferences and seminars were given**

(in chronological order - selection)

Trinity College, Oxford, England;

Académie des Sciences Morales et Politiques, Paris;

Laboratoire de Neuropsychologie Expérimentale, INSERM, Bron, at Université de Lyon, France;

European Molecular Biology Organization, Pavia, Italy;

Département d'Ergonomie et Ecologie, Université de Paris, France;

Scuola Normale Superiore, Pisa, Italy;

McGill University, Department of Psychology, Montreal, Canada;

Department of Experimental and Applied Psychobiology, University of Geneva, Switzerland;

Department of Philosophy, Rutgers University, New Brunswick NJ;

Polytechnic of Zurich/Italian Institute of Zurich, Zurich, Switzerland;

Center for the Neurobiology of Learning and Memory, University of California, Irvine, CA;

Department of the History of Science, Harvard University, Cambridge, MA;

Department of Brain and Cognitive Science, MIT, Cambridge, MA;

Department of Linguistics and Department of Philosophy, University of Maryland, College Park, MD;

Department of Psychology, University of Rochester, Rochester, NY;

Boston Colloquia for the Philosophy of Science, Boston University, Boston, MA;

Department of Cognitive Science, Brown University, Providence, RI;

University Professors Program, Boston University, Boston, MA;

Department of Linguistics, University of Massachusetts at Amherst, Amherst, MA;

International Center for Theoretical Physics, Trieste, Italy;

Department of Psychology, University of Pennsylvania, Philadelphia, PA;

Department of Philosophy, George Washington University, Saint Louis, Missouri;

Società Italiana di Psicologia, XIII Convegno Nazionale Divisione Ricerca di Base, Padua, Italy (keynote speech);

Department of Economics, University of Trento, Italy;

Collegio Sant'Anna di Pisa, Italy;

Società Italiana di Terapia Comportamentale e Cognitiva, Lugano, Switzerland;

Accademia Nazionale dei Lincei, Rome, Italy;

Third Meeting of Studies in Generative Grammar, Universidade Federal do Rio de Janeiro, Brazil (a course in 5 lectures);

Institut des Sciences Cognitives (CNRS), Lyon (France);

Centre de Recherches en Epistémologie Appliquée, Ecole Polytechnique, Paris;

French National Convention of Cognitive Science Research (Projects funded by the CNRS over 5 years), Chinagora (Paris); (Conclusive "wrap-up" invited speech)

Scuola Normale Superiore, Pisa (Italy);

Centre Jean Nicod, Paris (France)

University of Amsterdam (Holland), A cycle of 5 lectures on "Biological Foundations of Language" taught as part of the Summer School "The Language of Thought" (June 2006)

Seoul National University (Seoul, Korea)

International Science Festival, Genova (Italy)  
City University of New York, Graduate Center, New York, NY.  
Department of Psychology, Harvard University.  
Department of Linguistics, University of Verona (Italy)  
Inaugural lecture (Lectio Magistralis) for the inauguration of the 2010-2011 academic year, University of Verona  
Centro Interdipartimentale Mente/Cervello e Dipartimento di Scienze Cognitive Rovereto (Italy)  
School of Doctorate in Linguistics, University of Venezia (Italy)  
URQUAM, McGill University, Montreal (Canada)  
School of Medicine, University of Milan (Italy)  
University of the Basque Country, San Sebastian (Spain)  
Barrow Neurological Institute, Arizona State University  
Department of Applied Linguistics, Arizona State University (Tempe AZ)  
Department of Linguistics, University of Kyoto (Japan)  
Italian Institute of Culture, Los Angeles  
Italian Institute of Culture, New York  
Department of Psychology, University of Pennsylvania  
Department of Cognitive Science, City University of New York Graduate School  
Department of Linguistics, University of Southern California  
Department of Psychology, University of California San Diego  
Department of Psychology, University of California Los Angeles  
Blue Brain Project (Geneva, Switzerland)  
Séminaire de Recherche en Linguistique, University of Geneva

**VIII - Lectures and short courses given in managerial-industrial organizations:**

*Gruppo Ambrosetti*, Milan, Italy; *Gruppo Ambrosetti*, Fabriano, Italy; *Gruppo Ambrosetti*, Rome, Italy; *Gruppo Ambrosetti* Pregonziol (Italy); *Observatoire Cidil*, Paris, France; *IBM*, Novedrate, Italy; *Glaxo Management School*, Rome, Italy; *Olivetti School for Managers*, Ivrea, Italy; *Young Presidents Organization*, annual meeting 1995 (Florence, Italy); *Associazione Italiana Fulbright*, Camera di Commercio, Milan, Italy; *Istituto Dalle Molle per l'Intelligenza Artificiale*, Lugano, Switzerland; *Graduate School of Business Leadership*, Monterrey, Mexico; *Air Liquide, Grandes Industries*, Bruges, Belgium.

**IX - Science Journalism**

From 2017 to the present, regular contributor to the daily newspaper *Il Foglio* (Rome, Italy). Previously, from 1995 to 2016, regular contributor to the daily *Il Corriere della Sera* (Milan, Italy) (an average of 12 articles a year, sometimes printed on the front page). From 1990 to 1995 regular contributor to the daily *La Repubblica* (Rome, Italy), and *La Stampa* (Turin, Italy).

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Patterson, Dianne

eRA COMMONS USER NAME (credential, e.g., agency login): DIANNEPAT

POSITION TITLE: Staff Scientist, Neuroimaging

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Arizona State University, Phoenix AZ	BA	05/1985	Philosophy
Arizona State University, Phoenix AZ	MA	05/1989	English Linguistics
University of Arizona, Tucson, AZ	MA	05/1991	Linguistics
University of Arizona, Tucson, AZ	PhD	05/1999	Psychology

**A. Personal Statement**

I am a neuroimaging staff scientist in the RII Core Facilities. Since 1999, I have supported MRI image acquisition and analysis with a focus on developing processing pipelines. I also developed and implemented new DWI analysis (Patterson et al., 2014) and fMRI visualization (Patterson et al., 2015) techniques. In recent years, I have been using the BIDS standard and containerized apps to improve consistency and reproducibility, and the U of A High Performance Computing cluster to optimize computing resources. In my current role, I provide the neuroimaging community with support, training, and online resources to facilitate learning best practices in MRI data processing. I develop and maintain centralized neuroimaging tools on the High Performance Computing Cluster, help individuals troubleshoot, teach regular workshops, and develop materials for asynchronous learning of core skills. I have also worked with colleagues to develop tools that facilitate quality control (qmtools: <https://github.com/hickst/qmtools-support>), and BIDS preprocessing (intend4: <https://github.com/hickst/intend4>).

**B. Positions and Honors****Positions and Employment**

1991-1998	Research Assistant Evolutionary Psychology, University of Arizona
1998-1999	Research Technician Database technician, University of Arizona
1999-2000	Research Specialist, Psychology, University of Arizona
2000	Lead Scientist Language Analysis, Personal Genie
2000-2011	Assistant Computing Manager MRI analysis, Psychology, University of Arizona
2011-2021	Research Scientist MRI analysis, Speech, Language and Hearing Sciences, University of Arizona
2021-Present	Staff Scientist, Neuroimaging, RII, University of Arizona

**C. Contributions to Science****1. Contribution to fMRI and DTI studies of language learning**

I have developed and documented scanning, preprocessing and analysis protocols since 2007. Scan sequences: I optimized scan sequences to take advantage of improved MR scanner hardware and software, and advanced image preprocessing techniques as they became available. Pipeline development: I developed automated self-documenting processing pipelines under revision control. Analysis techniques: I explored and implemented advanced analysis techniques (i.e., ICA, dynamic state analysis) to optimize extraction of accurate information from our fMRI datasets. Data curation: I curated our behavioral and neuroimaging data, documenting data provenance through all stages of acquisition, preprocessing and



analysis. This included backups, creation and maintenance of databases containing demographic and analysis data, and extensive documentation of preprocessing and analysis techniques. BIDS: More recently, I have customized DICOM to BIDS export with HeuDiConv, and run containerized quality assessment (fMRI, MPRAGE and DTI) and BIP analyses on the U of A High Performance Computing Cluster for the ~150 subjects collected over this 5 year project.

- a. Plante, E., Almryde, K., Patterson, D.K., Vance, C.J., Asbjørnsen, A.E., 2015. Language lateralization shifts with learning by adults. *Laterality* 20(3):302-25. PMID: PMC4318770
- b. Plante, E., Patterson, D.K., Dailey, N.S., Kyle, RA., Fridriksson, J., 2014. Dynamic changes in network activations characterize early learning of a natural language. *Neuropsychologia* 62, 77–86. PMID: PMC4167491
- c. Plante, E., Patterson, D.K., Gómez, R., Almryde, K.R., White, M.G., Asbjørnsen, A.E., 2015. The nature of the language input affects brain activation during learning from a natural language. *Journal of Neurolinguistics* 36, 17–34. PMID: PMC4525712
- d. Plante, E., Patterson, D. K., Sandoval, M., Vance, C. J., Asbjørnsen, A. E. 2017. An fMRI study of implicit language learning in developmental language impairment. *NeuroImage Clinical*,277-285. PMID: PMC5295640

## 2. Contribution to DWI studies of language in the brain

I have worked on DWI analysis of the language system since 2007. This has resulted in contributions to tract analyses (Wilson et al., 2011) and to the development of a novel technique, bidirectional iterative parcellation (Patterson et al., 2015), to extract not only information about the properties of each tract, but also information about the size and location of connected grey matter regions. Since its creation, I have converted the BIP tool into a dockerized BIDS app, and implemented it as a Singularity container with established GPU processing routines for the HPC.

- a. Wilson, S.M., Galantucci, S., Tartaglia, M.C., Rising, K., Patterson, D.K., Henry, M.L., Ogar, J., DeLeon, J., Miller, B.L., Gorno-Tempini, M.L., 2011. Syntactic processing depends on dorsal language tracts. *Neuron* 72, 397–403. PMID: PMC3201770
- b. Patterson, D.K., Van Petten, C., Beeson, P., Rapcsak, S.Z., Plante, E., 2014. Bidirectional iterative parcellation of diffusion weighted imaging data: separating cortical regions connected by the arcuate fasciculus and extreme capsule. *NeuroImage* 102 Pt 2, 704–716. PMID: PMC4253691
- c. Kielar A, Shah-Basak PP, Patterson DK, Jokel R, Meltzer JA (2022) Electrophysiological abnormalities as indicators of early-stage pathology in Primary Progressive Aph. *Neurocase*. <https://doi.org/10.1080/13554794.2022.2039207>

## 3. Contribution to fMRI analysis and presentation

My colleagues and I worked to improve fMRI analysis, display and data sharing options. Beginning with a web-based workbench designed for the dynamic exploration of map-based data, we developed brain maps that could be similarly explored, and demonstrated that this approach yielded results similar to those achieved by much more laborious and manual exploration techniques. This has improved our ability to streamline fMRI analyses, extract insights and share data online. More recently, with personnel from the University of Arizona Data Visualization Consulting team, we have moved our brain choropleth functionality to a JavaScript implementation on GitHub (<https://neuroimaging-core-docs.readthedocs.io/en/latest/pages/choropleths.html>)

- a. Patterson, D.K., Hicks, T., Dufilie, A., Grinstein, G., Plante, E., 2015. Dynamic Data Visualization with Weave and Brain Choropleths. *PLoS ONE* 10, e0139453. PMID: PMC4587848

## 4. Contribution to TMS Review

Development of new treatment approaches requires a thorough understanding of the parameters and their consequences. I was pleased to contribute to this comprehensive review of the role TMS could play in treating aphasia.



**MARY A. PETERSON**  
**CURRICULUM VITAE**  
September 2024

**PERSONAL**

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University of Arizona  
Tucson, AZ 85721  
Phones: Office: (520) 621 – 5365; Lab: (520) 621 - 5543  
Email: mapeters@u.arizona.edu  
Website: <http://www.u.arizona.edu/~mapeters>

**EDUCATION**

Ph.D. 1984 Columbia University, Psychology  
Dissertation title:  
Measures of selective components in perceptual organization  
Dissertation advisor: Julian Hochberg  
M. Phil. 1983 Columbia University  
M.A. 1978 - 1980 Columbia University  
B.A. 1968 - 1972 Marymount Manhattan College, English Literature,  
*summa cum laude*

**APPOINTMENTS**

2024 - Emerita Professor, Psychology and Cognitive Science, University of Arizona  
2011 – 2024 Professor, Department of Psychology; Professor, Cognitive Science Program  
University of Arizona  
Member Cognitive Science Graduate Interdisciplinary Program, UArizona  
Member Neuroscience Graduate Interdisciplinary Program, UArizona  
2011-2023 Director of the Cognitive Science Program, University of Arizona  
Chair Cognitive Science Graduate Interdisciplinary Program, UArizona  
June 2014 – present Member, Executive Committee of the School of Mind, Brain, and Behavior,  
University of Arizona (Chair, June 2012-June 2014)  
2000 – 2010 Professor, Department of Psychology, The University of Arizona  
Research Social Scientist, Cognitive Science Program, UA  
1995 – August, 2002 Director, Cognitive Psychology Program, Department of Psychology,  
University of Arizona  
1988 - 2000 Assistant through Full Professor, Department of Psychology, and Research  
Social Scientist, Cognitive Science Program, The University of Arizona  
1984 - 1988 Assistant Professor, Department of Psychology,  
State University of New York at Stony Brook.  
Fall, 1983 Instructor, Department of Psychology,  
State University of New York at Stony Brook.  
1978 - 1983 Graduate Faculty Fellow, Psychology Department,  
Columbia University.  
1980 and 1982 Research Assistant, Columbia University with Julian Hochberg.

**SABBATICAL APPOINTMENTS**

9/2002 – 5/2003 Visiting Scholar, University of California, Berkeley  
2/2010 – 6/2010 Visiting Professor, University of Toronto  
1/2017 - 7/2017 Visiting Professorial Fellow, University of New South Wales

## GRANTS

- 9/1/2023-8/31/2025 NSF BCS- 2333229, Females of Vision, et al. (FoVea): Increasing Success, Visibility, and Impact of Women in Vision Science, \$49,999. Co-PI.
- 12/1/2019-8/31/2024 NSF BCS-1946505, Females of Vision, et al (FoVea): Enhancing the Success, Visibility, and Impact of Women in Vision Science, \$49,95 . PI
- 1/1/2019-12/31/2023 Australian Research Council Discovery Project, A new look at perceptual expertise: the attentional Gestalt framework. Partner Investigator. Kim Curby, Macquarie University, Chief Investigator. \$268,054.
- 2/1/2021 - 6/30/ 2022 Supplement to “Top-down and bottom-up visual mechanisms at multiple spatial scales: Experimental investigations and Computational Modeling”, \$150,311 to University of Arizona
- 8/1/2016 - 12/31/2021 NSF BCS-1645442, Enhancing the Success of Women in Vision Science: Females of Vision, et al. (FoVea)," \$49,014. PI
- 7/2014 - 6/30/2022 ONR, “Top-down and bottom-up visual mechanisms at multiple spatial scales: Experimental investigations and Computational Modeling,” Co-PI. Fe-Fei Li (PI). Other Co-PIs: D. Beck, J. DiCarlo, J. Gallant, and J. Malik. To Peterson: \$1.275 M. Total grant: \$7.125 M.
- Fall 2017-Fall 2018 *Three* Western Alliance to Expand Student Opportunities (WAESO) Grants to support seven undergraduate students from underrepresented groups with \$1,000 stipends. Totals: Fall 2107: \$3,378; Spring 2018: \$3463.50; Fall 2018: \$1,460.50
- 7/2013 – 6/2014 Arizona Alzheimer’s Disease Core Center Grant, “Age-Related Changes in PRC and BA-38 Influences on Perceptual Processing, \$30,000. Co-PI (PI: P. Sclaf)
- 7/2011 – 7/2012 Confluence Collaboration and Innovation Grants, The University of Arizona, “*Effectively Employing Three-Dimensional Effects to Enhance Student Engagement in Online Learning.*” \$24,903. Co-PI (PI: H. Sun)
- 5/2010 – 5/2014 NSF BCS-0960529, “Iterative Models in Figure-Ground Perception: Tests and Challenges.” \$444,193.
- 8/2004 – 7/2008 National Science Foundation, “Implicit Measures of Shape Learning and Shape Perception.” \$343,396.
- 8/2004 – 7/2008 National Science Foundation, “Perceptual Organization in Visual Search: Context Effects, \$255,105. Sole PI yrs 2 & 3; co-PI w R. Rauschenberger, yr 1
- 8/15/99 - 7/30/2003 National Science Foundation, “Inhibitory and Facilitatory Processing in Image Segregation.” \$220,815.
- Summer, 1996 Social and Behavioral Sciences Research Institute, University of Arizona, Grant development award, \$2,500.
- 12/15/90 - 5/31/94 National Science Foundation, "Shape Recognition and Figure-Ground Organization," \$202,843. (Jointly funded by AFOSR.)
- 11/13/92-8/10/93 Social and Behavioral Sciences Research Institute, University of Arizona, "The Neuropsychology of Object Recognition," \$1,324.
- 3/1/92-9/30/93 Biomedical Research Support Grant Program, "The Neuropsychology of Visual Perception," \$3,500.

- 9/1/88 - 2/28/91 National Science Foundation, "Measures of Subjective Variables in Visual Cognition," \$85,000. (Jointly funded by AFOSR.)
- 1985 - 1986 Office of the Provost Non-Tenured Faculty Research Grant-in Aid, State University of New York at Stony Brook, \$3,000.
- 1985: New York State/United University Professions New Faculty Development Award, \$1,000.
- 1984: SUNY Stony Brook Psychology Dept. Research Incentive Award, \$990.
- 1983 - 1987 PHS Biomedical Research Support, The structure of sensory expectations and the limits of the effects of intention on perception, \$16,422.

## **AWARDS/HONORS**

- 2023 Davida Teller Award, Vision Sciences Society
- 2023 Woman of Impact, University of Arizona
- 2022 Sr. Colette Mahoney Award in honor of excellence in and commitment to the sciences.  
MMC Alumna Award
- 2019 Clifford T. Morgan Distinguished Leadership Award, Psychonomic Society
- 2019 Excellence in Mentoring Award (Office of Inclusion and Multicultural Engagement, UA Successful Scholars Faculty Mentoring Program)
- 2019 Early Career Psychologist Champion Award, American Psychological Association
- 2009 Elected Fellow, American Association for the Advancement of Science.
- 2008 University of Arizona, Honors College: Outstanding Honors Advisor
- 2007 University of Arizona, Honors College: Outstanding Honors Advisor
- 2004 Elected to the Society of Experimental Psychologists
- 2003 Elected Fellow, Association for Psychological Science
- 2001 Elected Fellow, Division 3, American Psychological Association
- 2000 Elected Member of the International Neuropsychological Symposium
- 2000 University of Arizona, Honors College: Outstanding Honors Advisor
- Fall, 1992 Research Professorship, College of Arts and Sciences, University of Arizona
- 1986-87 Stony Brook University Psychology Department: Teacher of the Year
- 1987-88 Stony Brook University Psychology Department: Teacher of the Year

## **PROFESSIONAL SERVICE**

***Females of Vision, et al (FoVea)***, Co-Founder and Active Organizer, 2015 - present

Activities to Advance the Success of Women in Vision Science supported by NSF (collaborators: D. Beck, K. Schloss, A. Sekuler)

2016: Organizational Meeting: What do you need/What would you like to hear?

2017: Workshop: Negotiation

2018: Workshop: Why still so slow? The advancement of women (Virginia Valian)

2019: Workshop: Navigating a Career in Science as a Woman

2020: Town Hall on Racism, Diversity and Inclusion (Co-convener with VSS BOD)

2021: Mentoring Envisioned Workshop

2022: Working During the pandemic

2023: Career Transitions

2024: Negotiation

***Human Cognition and Perception Panel Member***, National Science Foundation

2000 – 2002; Fall, 2014; Fall 2018

***Configural Processing Consortium***: Co-Founder (2005), President (2016-2019), Organizing Committee Member (2005 – present). Annual Meetings.

***Society of Experimental Psychologists***, Executive Committee Member, 2017 – present (elected: 2023- pres)

***Women in Cognitive Science, Advisory Board Member***, 2000 – present

**Psychonomic Society**

**Co-Chair** Racial Justice Task Force, 2020-2022

**Chair of the Governing Board, 2009** (Chair-Elect 2008; Past-Chair, 2010)

Governing Board Member, 2005 – 2010

Publications Committee, *Chair*, 2008; Member, 2005 – 2008.

Chair, Search Committee for Editor of *Perception & Psychophysics*, 2007

**Vision Sciences Society**, Governing Board Member, May 2005 – May 2009

Board of Abstract Reviewers, 2000 – 2005

Governing Board Nominating Committee, 2016-2018

Davida Teller Award Committee, 2019-2022

Co-organizer, co-moderator of VSS Town Hall on Diversity, Inclusion and Respect, 2020

**Rocky Mountain Psychological Association, Program Director** (for 1990 Meeting)

**Series Co-Editor**, with Gillian Rhodes, *Oxford Series in Visual Cognition*, Oxford University Press, 2003

– 2012

**Associate Editor**, *Wiley Interdisciplinary Reviews: Cognitive Science*, 2008 – 2014

**Associate Editor**, *Journal of Vision*, 2011 - 2015

**Associate Editor**, *Journal of Experimental Psychology: Human Perception and Performance*

July, 1996 – July, 1999

**Associate:** *Behavioral and Brain Sciences*

**Editorial Board Membership**

*Journal of Experimental Psychology: Human Perception and Performance*,

1991 – 1996 and 2000 – 2011

*Psychological Science*, 1999 – 2007

*Psychonomic Bulletin & Review*, 1993 – 1997; 2007 – 2011

*Journal of Vision*

**Ad hoc reviewer:** AFOSR, Israel Science Foundation, NSF, *Acta Psychologica*, *Brain Research*, *Cognitive, Affective & Behavioral Neuroscience*, *Cognitive Psychology*, *Current Directions in Cognitive Science*, *J. of Cognitive Neuroscience*, *J. of Experimental Psychology: General, Memory & Cognition*, *J. of General Psychology*; *J. of Neuroscience*, *J. of Vision*; *Neuropsychologia*, *Perception*, *Attention*, *Perception & Psychophysics*, *Proc. of the Natl. Academy of Sciences*, *Psychobiology*, *Psychological Bulletin*, *Psychological Review*, *Science*, *Symmetry*, *Visual Cognition*, *Vision Research*

**MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS:**

American Psychological Association, Association for Psychological Science, American Association for the Advancement of Science, Cognitive Neuroscience Society, International Neuropsychology Symposium, Psychonomic Society, Society of Experimental Psychologists, Society for Neuroscience, Vision Sciences Society, Association of Women Faculty, Women in Cognitive Science.

**SERVICE AT THE UNIVERSITY LEVEL (recent)**

2011 - 2023 Director, Cognitive Science Program, The University of Arizona

2011 - 2023 Chair, Cognitive Science Graduate Interdisciplinary Program, University of Arizona

2011 - 2023 Mind, Brain, and Behavior Executive Committee; **Chair 2012-2014**

2015 - present Member, Neuroscience and Cognitive Science Curriculum Committee

2015 - 2023 Member, Graduate Interdisciplinary Programs Advisory Council

2018 Search Committee Member for Chair of Political Economy and Moral Sciences

2018 - 2019 Search Committee Member for Assistant Professor, Department of Philosophy

2016 Member, Search Committee for Faculty Director of the GIDPs

2015 - 2016 Responsibility Centered Management Committee, College of Science

2013 - 2014 Innovation Committee Member (chair: Joaquin Ruiz, VP of Innovation and Strategy)

2013 Member, Academic Performance Review Committee for the Department of Speech, Language, and Hearing Sciences.

2003 - 2010 Cognitive Science Executive Committee Member

2007 Member, 5-year Review Committee for Psychology Department Head

2003 - 2006 Promotion and Tenure Committee, College of Social and Behavioral Science,  
University of Arizona (Chair, 2004)  
1999 - 2002 University of Arizona Committee on Ethics and Commitment  
1995 - 1998 Sabbatical Review Committee, College of Social and Behavioral Sciences (Chair,  
1998)

### **SERVICE AT THE DEPARTMENT LEVEL: PSYCHOLOGY (recent)**

2016 - 2020 Member, Psychology Department Diversity Committee  
2018, Fall Member, Faculty Executive Advisory Committee  
2015 - 2023 Faculty Advisor, Annual Graduate Student Data Blitz  
2015 - 2016 Chair, Psychology Department & Cognitive Science Joint Search Committee  
2013 - 2014 Chair, Psychology Department & Cognitive Science Joint Search Committee  
2010 - 2011 Chair, Faculty Executive Advisory Committee  
2010 - 2012 Member, Faculty Executive Advisory Committee  
2010 - 2011 Member, Cognition and Neural Systems, Faculty Search Committee  
1995 - 2011 Psychology Department Honors Advisor  
2007 - 2010 Promotion and Tenure Committee, Psychology Department  
2005 - 2007 Chair, Faculty Executive Advisory Committee  
2004 - 2005 Cognition and Neural Systems, Search Committee Member  
2000 - 2006 Faculty Annual Review Committee (Chair, 2003 – 2005)  
2000 - 2006 Psi Chi Advisor  
1999 - 2001 Chair, Cognitive Psychology Faculty Search Committee  
1999 - 2002 Colloquium Committee, Co-Chair  
1997 - 2002 Subject Pool Committee  
1997 - 2000 Technology Committee

### **PUBLICATIONS**

#### **Edited Books/Journal Issues**

6. Bernhard-Walther, D., Elder, J.H., Pasupathy, A., & Peterson, M.A. (2023). Special Issue Editors, *Perceptual Organization in Computer and Biological Vision. Frontiers in Neuroscience; Frontiers in Psychology; Frontiers in Computer Science.*
5. Barnes, C.A., Knierim, J. J., Ryan, L., & Peterson, M. A. (2020). Special Issue Editors, Commemorating the Contributions of Lynn Nadel to the Understanding Hippocampal Function. *Hippocampus, 30, 8*, pp. 771- 909, C4.
4. Tommasi, L., Peterson, M. A., & Nadel, L. (2009). *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain and Behavior.* Cambridge, MA: MIT Press.
3. Peterson, M. A., Gillam, B., Sedgwick, H. A. (2007). *In the Mind's Eye: Julian Hochberg's Contributions to Our Understanding of the Perception of Pictures, Films, and the World.* NY: Oxford University Press.
2. Peterson, M. A., & Rhodes, Gillian (2003). *Perception of Faces, Objects, and Scenes: Analytic and Holistic Processes.* New York: Oxford University Press.
1. Bloom, P., Peterson, M. A., Nadel, L., and Garrett, M. F. (1996). *Language and Space.* Cambridge, Mass: MIT Press.

## Journal Articles

105. Elder, J.H., Peterson, M.A., & Walther, D.B. (2024). Editorial: Perceptual Organization in Computer and Biological Vision," *Frontiers in Computer Science*, 6:1419831. DOI: 10.3389/fcomp.2024.1419831
104. Schellenberg, S., Fink, A. J. P., Shoenover, C. E., & Peterson, M. A. (2024). Block on Attribution, Discrimination, and Adaptation. *Philosophy and Phenomenological Research* as part of a symposium on Block's The Border between Seeing and Thinking, OUP.
103. Peterson, M. A. & Salvagio, E. M. (2023). Backward Masking implicates Cortico-cortical Recurrent processes in convex figure context effects and cortico-thalamic recurrent processes in resolving figure-ground ambiguity. *Frontiers in Psychology: Perception Science*. Research Topic: *Perceptual Organization in Computer and Biological Vision*. DOI: 10.3389/fpsyg.2023.1243405
102. Curby, K.M., Teichman, L., Peterson, M.A., Shomstein, S. S. (2023). Holistic processing is modulated by the probability that task-irrelevant stimulus parts will contain relevant information. *Attention, Perception, & Performance*, 896, 471-481. <https://doi.org/10.3758/s13414-023-02738-w>
101. Muller, A., Garren, J.D., Cao, K., Peterson, M.A., & Ekstrom, A.D. (2023). Understanding the encoding of object locations in small-scale spaces during free exploration using eye tracking . *Neuropsychologia*, 184, 108565
100. Cacciamani, L, Skocypec, R.M., Flowers, C.S., Perez, D.C., & Peterson, M.A. (2022). BOLD Activation on the Groundside of Figures: More Suppression of Grounds That Competed More for Figural Status. *Cortex*, 158 (96-109). <https://doi.org/10.1016/j.cortex.2022.10.011>
99. Skocypec, R.M. & Peterson, M.A. (2022). Semantic Expectation Effects on Object Detection: Using Figure Assignment to Elucidate Mechanisms. *Vision* 2022, 6, 19. <https://doi.org/10.3390/vision6010019>
98. Duran, G. & Peterson, M.A. (2022). Effects of Conceptual Titles on the Aesthetic Appreciation of Artistic Photography. *Empirical Studies of the Arts*, 1-31.
97. Ghose, T. & Peterson, M.A. (2021). Task Set and Instructions Influence the Weight of Figural Priors: A Psychophysical Study with Extremal Edges and Familiar Configuration. *Attention, Perception, & Psychophysics*. <https://doi.org/10.3758/s13414-021-02282-5>
96. Flowers, C.L., Palitsky, R., Sullivan, D., & Peterson, M.A. (2021). Investigating the Flexibility of Attentional Orienting in Multiple Modalities: Are Spatial and Temporal Cues Used in the Context of Spatiotemporal Probabilities? *Visual Cognition*, 29(2), pp 105-117.
95. Onie, S., Peterson, M. A., LePelley, M., & Most, S. (2021). Learned Value and Predictiveness Affect Eye Gaze but not Figure Assignment. *Attention, Perception, & Psychophysics*, 83, pp.156–172. <https://doi.org/10.3758/s13414-020-02125-9>
94. Flowers, C. S., Orsten-Hooge, K.D., Jannuzi, B.G.L, & Peterson, M.A. (2020). Normative Data for an Expanded Set of Stimuli for Testing High-Level Influences on Object Perception: OMEFA-II. *PLOS ONE*, 15(8): e0224471. <https://doi.org/10.1371/journal.pone.0224471>
93. Barnes, C.A., Ryan, L., & Peterson, M. A. (2020). Nadel Special Issue Introduction. *Hippocampus*, 30, 773–775. <https://doi.org/10.1002/hipo.23176>



92. Perez, D.C., Cook, S. M., & Peterson, M.A. (2020). Prior Experience Alters the Appearance of Blurry Object Borders. *Scientific Reports*, 10:5821 | <https://doi.org/10.1038/s41598-020-62728-y>.
91. Peterson, M.A. (2019). Past Experience and Meaning Affect Object Detection: A Hierarchical Bayesian Approach. In *Psychology of Learning and Motivation, Volume 70: Knowledge and Vision* (Eds., Diane Beck and Kara Federmeier), Chapter 8, pp. 224-257, Academic Press, Elsevier, Cambridge, MA. ISBN: 978-0-12-816868-4.
90. Isham, E.A., Ziskin, E. & Peterson, M. A. (2019). Limitations of Horel and McCormack's dual systems model of temporal consciousness. *Behavioral and Brain Sciences*, **42**, e256.
89. Flowers, C. and Peterson, M. A. (2018). Semantic Category Priming from the Groundside of Objects Shown in Non-Target Locations and at Unpredictable Times. *Journal of Vision*, 18(3), 1–18.
88. Peterson, M.A. (2018). High-level Influences on Perception: Then and Now. In Brown, J. (Ed.) *Pioneer Visual Neuroscience: A Festschrift for Naomi Weisstein*, pp. 151-166. NY: Taylor & Francis.
87. Kihlstrom, J. F., Peterson, M. A., McConkey, K. M., Cranney, J., Glisky, M. L., & Rose, P. M. (2018). Orientation and Experience in the Perception of Form: A study of the Arizona Whale-Kangaroo. *American Journal of Psychology*, Summer, 131 (2), pp. 129-139.
86. Cacciamani, L., Wager, E., Peterson, M.A., & Scalf, P. E. (2017). Age-related changes in the sensitivity of the perirhinal cortex to configuration and part familiarity and its connectivity to visual cortex. *Frontiers in Aging Neuroscience*, 9:291. doi: 10.3389/fnagi.2017.00291.
85. Lass, J. W., Bennett, P. J., Peterson, M.A., & Sekuler, A.B. (2017). Effects of Aging on Figure-Ground Perception: Convexity Context Effects and Competition Resolution. *Journal of Vision*, 17(2): 15, 1- 16.
84. Peterson, M.A., Mojica, A.J., Salvagio, E., & Kimchi, R. (2017). Figural Properties Are Prioritized for Search Under Conditions of Uncertainty: Setting Boundary Conditions on Claims that Figures Automatically Attract Attention. *Attention, Perception, & Psychophysics*, 79 (1): 180-199. <https://doi.org/10.3758/s13414-016-1223-3>
83. Sanguinetti, J. L. & Peterson, M.A. (2016). A Behavioral Task Sets an Upper Bound on The Time Required to Access Object Memories Before Object Segregation. *Journal of Vision*, 16(15): 26, 1-16. <https://doi.org/10.1167/16.15.26>
82. Anderson, J.A.E., Healey, M.K., Hasher, L. & Peterson, M. A. (2016). Age-Related deficits in Inhibition and Figure-Ground Assignment in Stationary Displays. *Journal of Vision*, 16(7): 6, 1-12.
81. Sanguinetti, J. L., Trujillo, L. T., Schnyer, D. M., Allen, J. J. B., & Peterson, M. A. (2016). Increased alpha band activity indexes inhibitory competition across a border during figure assignment. *Vision Research*, 126, pp. 120-130. <https://doi.org/10.1016/j.visres.2015.06.008>
80. Spanò, G., Peterson, M.A., Nadel, L., Rhoads, C., & Edgin, J.O. (2016). Seeing can be remembering: Interactions between memory and perception in typical and atypical development. *Clinical Psychological Science*, 4(2), pp. 254-271.
79. Cacciamani, L., Scalf, P. E., & Peterson, M. A. (2015). Neural evidence for competition-mediated suppression in the perception of a single object. *Cortex*, **72** (November), pp. 124-139.
78. Wager, E. E., Peterson, M. A., Folstein, J., & Scalf, P. E. (2015). Ground-based inhibition: suppressive perceptual mechanisms interact with top-down attention to reduce distractor

- interference. *Journal of Vision*, 15(8):9 (pp. 1-14).
77. Peterson, Mary A. (2015). Low-level and High-level Contributions to Figure-Ground Organization: Evidence and Theoretical Implications. In J. Wagemans (Ed.), *The Oxford Handbook of Perceptual Organization*. Section 4, pp. 259-280. NY: Oxford University Press.
  76. Cacciamani, L., Mojica, A.J., Sanguinetti, J. L., & Peterson, M.A. (2014). Semantic access occurs outside of awareness for the groundside of a figure. *Attention, Perception & Psychophysics*, 76(8), pp. 2531-2547.
  75. Cacciamani, L., Ayars, A.A., & Peterson, M. A. (2014). Spatially rearranged object parts can facilitate perception of intact whole objects. *Frontiers in Psychology (Perception Science)* special issue on "Zooming in on the big picture: Current issues in global versus local processing." Vol. 5, article 482. doi: 10.3389/fpsyg.2014.00482
  74. Mojica, A. J. and Peterson, M. A. (2014). Display-wide Influences on Figure-Ground Perception: The Case of Symmetry. *Attention, Perception, & Psychophysics*, 76(4), 1069-1084.
  73. Sanguinetti, J. L., Allen, J. J. B., & Peterson, M. A. (2014). The ground side of an object: perceived as shapeless yet processed for semantics. *Psychological Science*, 25(1), 256-264.
  72. Chan, D., Peterson, M. A., Barense, M.D., & Pratt, J. (2013). How Action influences Object Perception. *Frontiers in Psychology*, 4: 462. doi: 10.3389/fpsyg.2013.00462
  71. Nadel, L. & Peterson, M.A. (2013). The Hippocampus: Part of a Massively Interactive Representational System Spanning Perceptual and Memorial Systems. *Journal of Experimental Psychology: General*, 142(4), Special Section: Dialogues with Neuroscience: Memory. pp. 1242-1254. doi:10.1037/a0033690
  70. West, G.L., Pratt, J., & Peterson, M.A. (2013). Attention is Biased to Near Surfaces. *Psychonomic Bulletin & Review*. 20 (6), 1213-1220. DOI 10.3758/s13423-013-0455-7
  69. Peterson, M.A., & Cacciamani, L. (2013). Toward a dynamical view of object perception. In Dickinson, S. & Pizlo, Z. (Eds.) *Shape Perception in Human and Computer Vision: An Interdisciplinary Perspective*. Chapter 30, pp. 443-457. Springer London.
  68. Peterson, M. A., & Kimchi, R. (2013). Perceptual Organization. In D. Reisberg (Ed.) *Handbook of Cognitive Psychology*. Oxford University Press, pp. 9-31.
  67. Peterson, M. A. (2013). Borders, Contours, and Mechanisms. *Cognitive Neuroscience*, 4(1), 52-53. DOI:10.1080/17588928.2012.748026
  66. Peterson, M. A., Cacciamani, L., Mojica, A.J., & Sanguinetti, J. L. (2012). The Ground Side of A Figure: Shapeless but not Meaningless. *Journal of Gestalt Theory*, 34 (3/4), 297-314.
  65. Wagemans, J., Elder, J.H., Kubovy, M., Palmer, S.E., Peterson, M. A., Singh, M., & von der Heydt, R. (2012). A century of Gestalt psychology in visual perception I. Perceptual grouping and figure-ground organization. *Psychological Bulletin*, November, 138(6), 1172-1217. (\*After first author, alphabetical author order)
  64. Peterson, M. A., Cacciamani, L., Barense, M. D., & Sclaf, P. E. (2012.) The perirhinal cortex modulates V2 activity in response to the agreement between part familiarity and configuration familiarity. *Hippocampus*, 22, 1965-1977.
  63. Goldreich, D. & Peterson, M.A. (2012). A Bayesian Observer Replicates Convexity Context Effects. *Seeing and Perceiving*, 25 (3-4), 365-395.

62. Peterson, M. A. (2012). Plasticity, competition, and task effects in object perception. In Wolfe, J. M. & Robertson, L. (Eds.) *From Perception to Consciousness: Searching with Anne Treisman*. Ch. 11, pp. 253-262. (Accompanying article by Treisman, pp. 237-252.) NY: Oxford University Press.
61. Salvagio, E.M., Cacciamani, L., & Peterson, M. A. (2012). Competition-Strength-Dependent Ground Suppression in Figure-Ground Perception. *Attention, Perception, & Performance*, 74(5), 964-978.
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58. Peterson, M. A. & Salvagio, E. (2010). Figure-ground perception. *Scholarpedia*, 5(4):4320.
57. Trujillo, L. T., Allen, J. J. B., Schnyer, D., & Peterson, M. A. (2010). Neurophysiological Evidence for the Influence of Past Experience on Figure-Ground Perception. *Journal of Vision*, 10(2), 5, 1-21. <http://journalofvision.org/10/2/5/> doi:10.1167/10.2.5.
56. Peterson, M. A. & Salvagio, E. (2009). Attention and Competition in Figure-Ground Perception. In N. Srinivasan (Ed). *Attention*. Chapter 1, pp. 1-13. Elsevier Progress in Brain Research Series.
55. Tommasi, L., Peterson, M. A., & Nadel, L. (2009). Cognitive Biology: The New Cognitive Sciences? In *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain and Behavior*. L. Tommasi, L. Nadel, & M. A. Peterson (Eds). Cambridge, MA: MIT Press.
54. Gothard, K., Brooks, K., & Peterson, M. A. (2009). Multiple perceptual mechanisms of face processing in macaque monkeys. *Animal Cognition*, 12 (1), 155-167.
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47. Peterson, M. A. (2007). The Piecemeal, Constructive, and Schematic Nature of Perception. In M. A. Peterson, B. Gillam, H. A. Sedgwick (Eds). *In the Mind's Eye: Julian Hochberg's Contributions to Our Understanding of the Perception of Pictures, Films, and the World*. Pp. 419-428. NY: Oxford University Press.
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39. Peterson, M. A., & Rhodes, Gillian (2003). Analytic and holistic processing: The view through different lenses. In M. A. Peterson & G. Rhodes (Eds.), *Perception of Faces, Objects, and Scenes: Analytic and Holistic Processes*. pp. 3-19. New York: Oxford University Press.
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22. Peterson, M. A., and Gibson, B. S. (1994b). Object recognition contributions to figure-ground organization: Operations on outlines and subjective contours. *Perception & Psychophysics*, *56*, 551-564.
21. Peterson, M. A., and Gibson, B. S. (1994a). Must figure-ground organization precede object recognition? An assumption in peril. *Psychological Science*, *5*, 253-259.
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13. Peterson, M. A., Harvey, E. H., and Weidenbacher, H. L. (1991). Shape recognition inputs to figure-ground organization: Which route counts? *Journal of Experimental Psychology: Human Perception and Performance*, *17*, 1075-1089.
12. Schacter, D. L., Cooper, L. A., Delaney, S. M., Peterson, M. A., and Tharan, M. (1991). Implicit memory for possible and impossible objects: Constraints on the construction of structural descriptions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *17*, 3-19.
11. Peterson, M. A., and Gibson, B. S. (1991b). The initial identification of figure-ground relationships: Contributions from shape recognition routines. *Bulletin of the Psychonomic Society*, *29*, 199-202.
10. Peterson, M. A., and Gibson, B. S. (1991a). Directing spatial attention within an object: Altering the functional equivalence of shape descriptions. *Journal of Experimental Psychology: Human Perception and Performance*, *17*, 170-182.
9. Kihlstrom, J. F., Glisky, M. L., Peterson, M. A., Harvey, E. M., and Rose, P. M. (1990). Vividness and control of mental imagery: A psychometric analysis. *Journal of Mental Imagery*, *15*, 133-142.
8. Peterson, M. A., and Hochberg, J. (1989). Necessary considerations for a theory of form perception: A theoretical and empirical reply to Boselie and Leeuwenberg, *Perception*, *18*, 105-119.
7. Hochberg, J., and Peterson, M. A. (1989). Pictures in the mind's eye: Images in our perception of world and art. In M. Schuster and B. Wosc hek (Eds.), *Nonverbale Kommunikation durch Bilder*. (pp. 33 – 51) Stuttgart: Verlag fur Angewandte Psychologie.
6. Johnson, M. K., Peterson, M. A., Chua-Yap, E. and Rose, P. (1989). Frequency judgments: The problem of defining a perceptual event. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *15*, 126-136.
5. Peterson, M. A., and Shyi, G. C. -W. (1988). The perception of real and illusory concomitant rotation in a three-dimensional cube. *Perception & Psychophysics*, *44*, 31-42.
4. Hochberg, J., and Peterson, M. A. (1987). Piecemeal organization and cognitive components in object perception: Perceptually coupled responses to moving objects. *Journal of Experimental Psychology: General*, *116*, 370-380.
3. Peterson, M. A. (1986). Something for everyone: Four new sensation and perception texts [Review of *Sensation & Perception*, *Sensation and Perception*, *Introduction to Sensation/Perception*, *Perception*]. *Contemporary Psychology*, *31*, 137-138.
2. Peterson, M. A. (1986). Illusory concomitant motion in ambiguous stereograms: Evidence for non-sensory components in perceptual organization. *Journal of Experimental Psychology: Human Perception and Performance*, *12*, 50-60.

1. Peterson, M. A., and Hochberg, J. (1983). Opposed-set measurement procedure: A quantitative analysis of the role of local cues and intention in form perception. *Journal of Experimental Psychology: Human Perception and Performance*, 9, 183-193.

### Popular Press Article

Peterson, Mary A. There's more to seeing than meets the eye. **Arizona Daily Star**, Sunday, December 1, 2013.

### Papers Under Review

1. Xue, J., Peterson, M.A., & Wilson, R.C. A drift diffusion model reveals the mechanisms of semantic influences on object detection.
2. Sun, H., Li, Seth Siyuan, Tseng, Shih-Lun Allen, & Peterson, M. A. (under review, *MIS Quarterly*). Toward a Learning-Flow Model of Web-based Presentation Formats.

### Papers in Progress

3. Muller, A. L., Ekstrom, A. Peterson, M.A. Embodiment in memory: Reinstatement of movements made during learning enhances accurate memory retrieval.
4. Dudding, K.M., Carrington, J.M., Reed, P.G., Peterson, M.A., & Morrison, C.T. (under review, *Advances in Neonatal Care*). A Qualitative Descriptive Study: Nurses' Perceptions of Neonate to Nurse Communication of Pain.
5. Flowers, C.S. and Peterson, M.A. Varieties of prior experience: Assessing whether prior experience within an experiment modifies the effectiveness of the familiar configuration prior.
6. Flowers, C.S., Wilson, J. L., and Peterson, M.A. Temporal attention capture by portions of familiar objects unconsciously processed on the ground side of the edge of a perceived object.
7. Flowers, Colin S. & Peterson, Mary A. Image- and Task-Based Contributions to Human Object Localization in Natural Scenes.
8. Peterson, M.A. & Salvagio, E. T-junctions can't substitute for a second convex border in Convexity Context Effects.
9. Mojica, A. J., Salvagio, E. M., & Peterson, M. A. Small area alone doesn't operate as a figural cue.
10. Peterson, M. A. Mon, C., Raz, D., & Gerken, L. Perceptual Organization in infancy: The Configurational Cue of Convexity.
11. Roller, B., Mojica, A.J., Salvagio, E., Peterson, M.A. Grouping Eliminates Object based Attention Effects.

### INVITED TALKS (since 1997 only)

The visual perception of holes. (February, 1997). Commentator: Reasoning and Rationality Session. *Reasoning, Language, and Cognition Conference*, Tucson-Paris (CREA), Tucson, AZ.

Image segmentation, depth segregation, and object recognition. (May 29, 1997). Talk presented at the *First Conference of the Arizona Visionaries*.

Figure-ground illuminates object recognition. (June 16, 1998). *Language, Reasoning, and Cognition Conference*, Villard de Lans, France.

Figure-ground illuminates object recognition. (June 27, 1998). Object and Face Recognition Symposium at the *International Neuropsychological Symposium*, Jerusalem, Israel.

Figure-ground illuminates object recognition. (July 14, 1998). In the *Mind, Brain, and Behavior Symposium Series*, jointly sponsored by Divisions 3 and 6, *American Psychological Association Meeting*, San Francisco, CA.

Quick, unconscious object recognition effects on scene segmentation. (May 7, 1999) *Third Annual Vision Research Conference: Preattentive and Attentive Mechanisms in Vision*, Fort Lauderdale, FL.

Access to object memories in the course of figure-ground assignment: Inhibitory and facilitatory processes. (March 17, 2000). Invited Symposium Talk *The Symposium on Neural binding of space and time: Spatial and temporal mechanisms for feature-object binding*. University of Leipzig, Germany

Inhibition and facilitation in figure-ground assignment. (March 14, 2000). *Max Planck Institute, Tübingen*, Germany

On figures, grounds, and the perception of shape and relative depth. (June 2, 2000). *The 31<sup>st</sup> Carnegie Mellon Symposium on Cognition*.

Object Perception Workshop (June 13, 2001), *Institute Jean Nicod*, Paris, France.

A Parallel Interactive Approach to Figure Assignment. (October 5, 2001). Salk Institute, LaJolla, CA.

On Figure and Ground Assignment: The Role of Memory and Context. (December 10, 2001). *Concordia University*, Montreal, PQ.

On Figure and Ground Assignment: The Role of Memory and Context. (March 7, 2002). *University of Auckland*, Auckland, New Zealand.

On Figure and Ground Assignment: The Role of Memory and Context. (March 11, 2002). *University of Otago*, Dunedin, New Zealand.

On Figure and Ground Assignment: The Role of Past Experience (May 2, 2002). *University of California, Riverside*.

On Figure and Ground Assignment: The Role of Past Experience (June 6, 2002). *University College, London*.

Memory and Learning in Figure and Ground Perception. (September 13, 2002). **Irvin Rock Memorial Lecture**, *University of California, Berkeley*.

The Front End of Spatial Cognition: Figures and Grounds. (October 26, 2002). Spatial Thinking in Humanities and Sciences: From Perception to Meaning. Stanford University. Interdisciplinary Workshop sponsored by the Center for the Study of Language and Information and the Stanford Center for Innovative Learning.

Memory and Learning in Figure-Ground Perception (February 13, 2003). *Center for the Study of Language and Information, Stanford University*.

Rethinking Figure-Ground Perception (March 20, 2003). *NASA Ames Research Center*, Moffett Field, California.

Past experience and figure assignment (April 4, 2003), *Redwoods Neuroscience Institute*, Menlo Park, CA.

Rethinking figure assignment and the role of past experience. (May 20, 2003). Center For Neuroscience, *University of California, Davis*.

Rethinking figure assignment and the role of past experience. (September 12, 2003). Cognitive Science Program, *University of Arizona*.

Rethinking figure assignment with an emphasis on inhibitory processes. (November 10, 2003). *University of British Columbia*.

Past experience and competition in figure assignment. (February 20, 2004). *Department of Psychology, Rice University*.

Past Experience and Competition in Figure Assignment (Shape Perception). (May 16, 2005). *Center for Visual Science, University of Rochester*.

Behavioral and Electrophysiological Evidence of Competition in Figure Assignment. (June 21, 2005). Invited Symposium speaker, *International Neuropsychological Society*, Alghero.

Competition and Suppression in Figure-Ground Perception (aka Shape Perception). (October 19, 2005). *Princeton University*.

Partial Configurations: Less than an object, more than a feature. (May 5, 2006). *Invited Satellite Symposium speaker, Object Recognition – 20 Years Later, Vision Sciences Society Meeting*, Sarasota, FL.

Reexamining how innate versus learned factors contribute to shape perception. Invited talk in the *New Cognitive Sciences Symposium, at the Konrad Lorenz Institute*, Altenburg, Austria, June 16, 2006.

Context and Past Experience Effects on Shape Perception (October 8, 2006). Invited workshop talk, *Perceptual Expertise Network XIII Workshop*, Tucson, AZ.

Context and Past Experience Effects on Figure-Ground Perception (aka Shape Perception). Psychology Department, *Rutgers University, Newark, NJ*. (October 27, 2006).

Reconceptualizing figure-ground perception as biased competition. May 3, 2007. *Barrow Neurological Institute*, Phoenix, AZ.

Biased Competition in Figure-Ground Perception. **Invited Keynote Talk, Configural Processing Consortium**, Long Beach California, November, 2007.

Reconceptualizing Figure-Ground Segregation as Between-Shape Competition: Familiarity Led Me To It. Invited presentation in the 2008 *Second Annual Tufts University Conference on Emerging Trends in*



- Behavioral, Affective, Social, and Cognitive Neurosciences. Cognitive Neuroscience of Visual Knowledge: Where Vision Meets Memory*, May 29-31, 2008.
- Re-conceptualizing figure-ground perception. *International Congress of Psychology*, Berlin, Germany, July, 2008. (In invited symposium organized by Marlene Behrmann and Mary Peterson: Object Perception: New Views.)
- Figure-Ground Perception: From Familiarity to Competition. Invited Cognitive Science Colloquium, *Indiana University*, September 15, 2008.
- Context Affects Figure-Ground Perception: Global Effects on Local Competition. Invited Cognitive Colloquium, *Indiana University*, September 17, 2008.
- The Dynamics of Cross-Edge Competition & Amodal Completion in Figure-Ground Perception. Invited Presentation, *International Conference on Attention*, Centre of Behavioural and Cognitive Sciences, Allahabad, India, December 7-10, 2008.
- From “Figure-Ground” Perception to A New View of Shape Perception. Invited Ebbinghaus Empire Colloquium, *University of Toronto*, March 25, 2009.
- From “Figure-Ground” Perception to A New View of Shape Perception. Invited Colloquium, *McMaster University*, March 26, 2009.
- High-level and Contextual Influences on Figure-Ground Perception: A Case for Recurrent Processing. Invited Presentation, *2nd International Workshop on Shape Perception in Human and Computer Vision*, Regensburg, Germany, August 29, 2009.
- Perception and Memory: The “Figure-Ground” Perspective, *Rotman Institute*, Toronto, February 22, 2010.
- Context effects in figure assignment, *University of Toronto, Scarborough*, February 23, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? Cognitive Colloquium, *University of Delaware*, March 22, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? *Brown University*, April 7, 2010.
- Context effects in figure assignment, Cognitive Colloquium, *McMaster University*, April 9, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? Cognitive Colloquium, *York University*, June 10, 2010.
- The Probabilistic and Context-Dependent Nature of the Scene Segregation Cues of Convexity and Symmetry. *University of Toronto, Department of Computer Science*, June 28, 2010.
- The Cognitive Neuroscience of Object Perception. *University of Arizona, Neuroscience GIDP*, October 4, 2011.
- Peterson, M.A. (April 2012). Figure-Ground Segregation: A Dynamic Interactive Process. Tagung experimentell arbeitender Psychologen (Conference of Experimental Psychologists), Mannheim, Germany.
- Peterson, M.A. (April 2012). There’s more to vision than meets the eye. *University of Kaiserslautern, Germany*.
- Memory Influences on Figure-Ground Perception: Evidence for Reentrant Processing. *The University of New South Wales*, June 20, 2012
- Memory Influences on Figure-Ground Perception: Evidence for Reentrant Processing. *Attention & Perception Conference: Perceptual Organization, **Keynote Address***, Taiwan, June 24, 2012.
- On Figure Cues, Ground Cues, and Figure-Ground Context Effects. *Attention & Perception Conference: Perceptual Organization, **Keynote Address***, Taiwan, June 25, 2012.
- Figure-Ground Perception: The Case for Memory Influences, Competition, and Re-entrant Processes. *Ecole Polytechnique Federale Lausanne*, March 6, 2013.
- Object Perception: Erasing the Border Between Perception and Memory. *Smith-Kettlewell, San Francisco, CA*, May, 23, 2013.
- Nadel, L. & Peterson, M.A. (2013, June). What is long-term episodic memory for? Talk presented at the *International Neuropsychological Symposium, Nerja, SPAIN*, June 25-June 29.
- Peterson, M. A. (2014). Beyond the Classical Feed-forward View of Figure-Ground Segregation. **Invited Plenary Address**, *Toward A Science of Consciousness, Tucson, AZ*. April 25, 2014.
- Peterson, M. A. (2014). Beyond the Classical Feed-Forward View of Figure-Ground Perception (aka Object Perception). **Invited Symposium participant**, *International Neuropsychological Symposium, Versilia, Italy*, June 27, 2014.

Peterson, M. A. (July 8, 2016). A Tale of Perception and Memory. Colloquium presented at the Norwegian University of Science and Technology, Trondheim.

Peterson, M. A. (November, 2016). From A Serendipitous Finding To A New Understanding Of Object Detection. **Keynote Address**, Object Perception and Memory Meeting, Boston, MA.

Peterson, M.A. (December, 2016). Object Detection: Not So Feed-forward After All. Marketing Department, Eller College of Business, University of Arizona

Peterson, M.A. (March 17, 2017). Toward a New Understanding of Object Detection. University of New South Wales.

Peterson, M.A. (March 24, 2017). Toward a New Understanding of Object Detection. University of Queensland.

Peterson, M.A. (March 30, 2017). Toward a New Understanding of Object Detection. University of Newcastle.

Peterson, M. A. (March 31, 2017). Women in Science. University of Newcastle.

Peterson, M. A. (April 3, 2017). Toward a New Understanding of Object Detection. **Keynote Address**. Inaugural meeting of the Center for Elite Performance, Expertise and Training. Macquarie University.

Peterson, M. A. (June 1, 2017). Toward a New Understanding of Object Detection. Macquarie University.

Peterson, M.A. (June 1, 2017). Women in Science. Macquarie University.

Peterson, M. A. (June 2, 2017). Toward a New Understanding of Object Detection. University of Sydney

Peterson, M.A. (September, 2017). Toward a New Understanding of Object Detection. Cognitive Science Colloquium, University of Arizona.

Peterson, M.A. (April 27, 2018). Object Perception: Beyond a Feedforward View. **The Ian P. Howard Memorial Lecture**, Center for Vision Research at York University.

Peterson, M. (March 2019). Two Varieties of Semantic Influences on Object Detection. Talk presented at the Meeting of the Society of Experimental Psychologists, Rutgers University, NJ.

Peterson, M.A. (September 30, 2019). Figure-Ground Perception: *Simply One Outcome of a Dynamic, Interactive, Hierarchical Bayesian Perceptual Process*. University of Notre Dame.

Peterson, M. A. (November 4, 2019). Figure-Ground Perception: *Simply One Outcome of a Dynamic, Interactive, Hierarchical Bayesian Perceptual Process*. University of California, Merced.

Peterson, M. A. (February 26, 2020). Figure-Ground Perception: *Simply One Outcome of a Dynamic, Interactive, Hierarchical Bayesian Perceptual Process*. Columbia University

Peterson, M.A. (2020, November). Breaking Down the Border Between Perception and Semantics. Psychonomic Society Invited Address.

Peterson, M.A. (May 13, 2022). Inhibitory Competition in Figure assignment: Insights from brain and behavior. Invited Symposium: [Perceptual Organization - Lessons from Neurophysiology, Human Behavior, and Computational Modeling](#). Vision Sciences Society.

Peterson, M.A. (July 18, 2022). Complex Dynamic Interactions in Perceptual Organization: Context Effects and Recurrent Interactions. Kastner Lab, Princeton University.

Peterson, M. A. (September 23, 2022). Observing the Bayesian Nature of Object Perception. Brown University, Neuroscience Graduate Program.

Peterson, M. A. (September 25, 2022). The Resonance of Gestalt Ideas in the 21<sup>st</sup> Century. **Keynote Address**. Smith College Centennial Celebration.

Peterson, M.A. (May, 2023). Davida Teller Award Address. Vision Sciences Society.

Peterson, M.A. (September, 2023). Ambiguity and Recurrent Processing in Visual Object Detection. Kavli Research Institute, Trondheim, Norway.

Peterson, M.A. (November 8, 2023). Visual Ambiguity: Is it Really Rare? Distinguished Guest Lecturer, McPherson Eye Institute, University of Wisconsin, Madison.

Peterson, M.A. (November 27, 2023). Ambiguity and Recurrent Processing in Visual Object Detection. **Keynote Address**, Australasian Cognitive Neuroscience Society Meeting, Sydney, Australia.

Peterson, M.A. (2024). There's Much More to Object Detection than Meets the Conscious Eye. Cognitive Science Colloquium, April 19, 2024.

**CONFERENCE PRESENTATIONS AND POSTERS (since 1997 only) \*published abstract**

- Suzuki, S., Peterson, M. A., Moscovitch, M., and Behrmann, M. (1997, March). Viewpoint Specificity in the Identification of Simple Volumetric Objects (Geons) is Evident in Control Subjects and Very Exaggerated in Persons with Visual Object Agnosia. Poster presented at the Fourth Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- \* Suzuki, S., & Peterson, M. A. (1997, May). Intentional (Attentional) Control of Bi-Stable Apparent Motion Depends Upon Retinal Location. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Peterson, M. A., & Hector, J. E. (1997, November). Relative location-specificity of object Peterson, M. A., & deGelder, B. (1997, June). Preserved object recognition contributions to depth segregation in an agnosic patient. Poster presented at the McDonnell-Pew Cognitive Neuroscience Meeting, Oxford, UK
- \*Peterson, M. A. (1997, November). Shape recognition cues to depth segregation. Paper presented at the Annual Meeting of the Psychonomic Society, Philadelphia, PA.
- Peterson, M. A., Suzuki, S., Zemel, R. S., & Rapsack, S. Z. (1998, March). Intact and impaired object processing following dorsal visual system damage. Poster presented at the Fifth Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- \* Peterson, M. A., de Gelder, B., Rapsack, S. Z., Gerhardstein, P. C., and Bachoud-Lévi, A.-C. (1998, May). A double dissociation between implicit and explicit object recognition processes revealed by figure-ground segmentation. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- \*Peterson, M. A., & Zemel, R. S. (1998, November). Location specificity in memories of novel objects. Paper presented at the Annual Meeting of the Psychonomic Society, Dallas, TX.
- \* Peterson, M. A. & Gerhardstein, P. C. (1999, May). Object-centered attentional biases in the intact brain. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- \*Peterson, M. A. (1999, November). Inhibition and facilitation of object memories during image segregation. Paper presented at the Annual Meeting of the Psychonomic Society, LA, CA.
- \* Peterson, M. A. & Zemel, R. S. (2000, May). Location specificity in object learning. Paper presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL. Abstract published in: *Investigative Ophthalmology and Visual Sciences*, 41, 1725.
- Peterson, M.A., & Rapsack, S. Z. (2001, March). Task requirements and attention. Poster presented at the Eighth Annual Meeting of the Cognitive Neuroscience Society, NYC, NY.
- \* Lampignano, D. L., & Peterson, M. A. (2001, March). Are long term memories established for the shapes of grounds? Poster presented at the Eighth Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- \* Kim, J. H. & Peterson, M. A. (2001, May). Contextual modulation of the strength of the Gestalt configural cues. Poster presented at the first annual meeting of the Vision Sciences Society, Sarasota, FL. Abstract published in: *Journal of Vision*, 1, 3, 390.
- \*Payne, J.D. Peterson, M.A. Jacobs, W.J.& Nadel, L. (2001. November). Stress Effects On Perceptual Binding, Attention And False Memory. Poster presented at the Annual Society for Neuroscience Meeting, San Diego, CA.
- Schulz, M. F., Peterson, M. A., Sanocki, T., & Sellers, E. W. (2001, November). Time course of perceptual grouping: A priming study. Paper to be presented at the Annual Object Perception and Memory Meeting, Orlando, FL.
- \*Peterson, M. A., & Kim, J.H. (2001, November). Context Modulates the Gestalt Configural Cue of Convexity. Paper presented at the Annual Meeting of the Psychonomic Society, Orlando.
- Payne, J. D, Jacobs, W.J., Peterson, M. A., Lopez, C., Hardt, O., & Nadel, L. (2002, April). Stressing Memory: Effects on Spatial and Episodic Memory. Cognitive Neuroscience Meeting, San Francisco, CA.
- \* Peterson, M. A. & Lampignano, D. L. (2002, May). Memory for novel shapes of grounds? An alternative hypothesis. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 408.
- \* Peterson, M. A. & Enns, J. T. (2002, May). Memory for an edge includes figure and ground assignment. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 497.

- \* Rauschenberger, R. Peterson, M. A., Mosca, F., & Bruno, N. (2002, May). A modified search task investigates an alternative to the two-stage model of amodal completion. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 680.
- \* Skow Grant, E., Lampignano, D. W., Kim, J. H., & Peterson, M. A. (2002, May). Tests of a competitive interactive model of figure assignment. Vision Sciences Society Meeting, Sarasota, FL.
- \* Schulz, M. F., Rauschenberger, R., & Peterson, M. A. (2002, May). Amodal completion in passively viewed displays: A priming study. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 681.
- \* Kim, J.H., & Peterson, M.A. (2002, May). Contextual modulation of the strength of Gestalt configural cues. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 481.
- \* Peterson, M. A., & Rauschenberger, R. (2003, May). Context affects border assignment in the target stimulus in visual search. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 3, 9, 232.
- \* Skow-Grant, E. & Peterson, M. A. (2003, May). Where has object-based IOR gone? Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 3, 9, 335.
- \* Peterson, M. A., & Kim, J. H. (2003, October). Does context modulate the strength of the configural cue of symmetry? Fall Vision Meeting, Tucson, AZ. Abstract published in: *Journal of Vision*, 3, 12, 80.
- Kim, J.H., & Peterson, M.A. (2003, November). Long range interactions among local competitions for figural status. Object Perception, Attention, and Memory meeting, Vancouver, B.C.
- Skow-Grant, E., Rauschenberger, R., & Peterson, M. A. (2003, November). Attention, not Inhibition of Return, Tracks Objects. Object Perception, Attention, and Memory Meeting, Vancouver, B.C.
- \* Burge, J., Peterson, M. A., & Palmer, S. E. (May, 2004). Perceived depth is influenced both by binocular disparity and configural cues. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 193.
- \* Rauschenberger, R., & Peterson, M. A. (May, 2004). When unambiguous stimuli become ambiguous: Spatiotemporal context effects with nominally unambiguous stimuli. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 179.
- \* Skow-Grant, E., & Peterson, M. A. (May, 2004). Past experience in figural assignment: partial configurations are sufficient. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 725.
- Peterson, Mary A. (August, 2004). Past Experience and Competition in Figure Assignment. Talk invited for symposium, "Neo-Gestalt Contributions to the Understanding of Perceptual Organization," at the International Congress of Psychology, Beijing, China.
- \* Trujillo, L. T. & Peterson, M. A. (October, 2004). P100 and N170 ERP Components Reflect Differences Among Upright, Inverted, And Scrambled Mooney Faces. Poster presented at the Annual Society for Neuroscience Meeting, San Diego, CA.
- \* Peterson, M.A., & Skow, E. (May, 2005). Intermediate level medium-span configurations can mediate past experience effects on figure assignment. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 217.
- \* Kim, J.H., & Peterson, M.A. (May, 2005). The time course of the operation of bilateral symmetry as a configural cue. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 342.
- \* Landau, A., Aviezer, H., Robertson, L.C., Peterson, M.A., Soroker, N., Sacher, Y., Boneh, Y., & Bentin, B. (2005). Implicit object recognition in visual integrative agnosia: case SE. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 289.
- \* Skow, E., & Peterson, M.A. (May, 2005). Competing action memories can produce the appearance of memory-free visual search. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 418.
- \* Trujillo, L.T., Peterson, M.A., & Allen, J.B. (May, 2005). Electrophysiological evidence for early access to object memories during figure assignment in humans. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 910.
- \* Trujillo, L.T., Peterson, M.A., & Allen, J.B. (November, 2005). Human ERP Correlates of Cross-Edge Figure Competition During Figure-Assignment. Poster presented at the Annual Society for Neuroscience Meeting, Washington, D.C.

- \*Trujillo et al (May, 2006). ERP Components Index Unconscious versus Conscious Perception of Familiar Shape With Figure-Ground Reversal. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 6(6), 97.
- \*Schroeder, A. & Peterson, M. A. (May, 2006). Do Synesthetes Excel Under Object-Substitution Masking? Type of Attention Matters. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 6(6), 1075.
- \*Peterson, M. A., Kim, J. H., & Salvagio, E. (November, 2006). Psychonomic Society Meeting, Houston, TX.
- \* Salvagio, E., Kim, J.H., & Peterson, M.A. (May, 2007). Context determines figure-ground perception by suppressing competition. Vision Sciences Society Meeting, Sarasota, FL. Published Abstract: *Journal of Vision*, 7(9), 904.
- \* Skow, E., & Peterson, M. A. (2007, May). Identity, location, and direction can be learned quickly in repeated search. Vision Sciences Society Meeting, Sarasota, FL. Published Abstract: *Journal of Vision*, 7(9), 1058.
- \*Kimchi, R., & Peterson, M. A. (2007, November). Figure-ground perception can occur without attention. Talk presented at the Psychonomic Society meeting, Long Beach, FL.
- \* Salvagio, E. M., Mojica, A. J., & Peterson, M. A. (May, 2008). Context effects in figure-ground perception: The role of biased competition, suppression and long-range connections. Vision Sciences Society Meeting, Naples, FL. Published Abstract: *Journal of Vision*, 8(6), 1007.
- \* Kimchi, R. & Peterson, M. A. (May, 2008). Figure-ground segmentation can occur without attention. Vision Sciences Society Meeting, Naples, FL. Published Abstract: *Journal of Vision*, 8(6), 825.
- \*Peterson, M.A., Salvagio, E., & Mojica, A. J. (November, 2008). Context effects reveal that figure-ground perception is an instance of biased competition. Talk presented at the *Psychonomic Society* meeting, Chicago, IL
- \*Mojica, A., Salvagio, E. M., Kimchi, R., & Peterson, M. A. (2009). On the relationship between attention and figure-ground perception. *Vision Sciences Society Meeting*, Naples, FL. Published Abstract: *Journal of Vision*, 9(8), 937.
- \*Salvagio, E. M., & Peterson, M. A. (2009). The Dynamics of Cross-Edge Competition and Amodal Completion in Figure-Ground Perception. *Vision Sciences Society Meeting*, Naples, FL. Published Abstract: *Journal of Vision*, 9(8), 938.
- \*Peterson, M. A. (November, 2009). Between-Shape Competition in Figure-Ground Perception: Measurements at Multiple Levels. Psychonomic Society Meeting, Boston, MA.
- \*Barens, M.D., Ngo, K.W.J., Peterson, M.A. (May, 2010). Figure-ground perception is impaired in medial temporal lobe amnesia. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 749; doi:10.1167/10.7.749
- \*Cacciamani, L., Salvagio, E., & Peterson, M. A. (May, 2010). Target Discrimination Performance Reveals That Competition For Figural Status Entails Mutual Inhibition. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1195; doi:10.1167/10.7.1195
- \*Mojica, A., Roller, B., Salvagio, E., Peterson, M.A (May, 2010). Object-based attention benefits demonstrate surface perception in two-dimensional figure-ground displays. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1203; doi:10.1167/10.7.1203
- \*Salvagio, E., & Peterson, M.A. (May, 2010). Temporal Dynamics in Convexity Context Effects. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1214; doi:10.1167/10.7.1214
- \*Sawada, T., & Peterson, M.A. (May, 2010). The role of symmetry and volume in figure-ground organization. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1170; doi:10.1167/10.7.1170
- Peterson, M. A. & Barens, M. D. (June, 2010). Is there a dividing line between perception and memory? Invited participant: Unification Symposium: Brain, Behavior and Cognitive Sciences, Dalhousie University Halifax, Nova Scotia.
- Sanguinetti, J. L., Peterson, M. A., & Allen, J. J. B. (October, 2010). Electrophysiological Evidence for Cross-Edge Competition During Figure-Ground Perception. Poster presented at the Society for Psychophysiological Research.
- \*Sanguinetti, J. L., Allen, J. J. B., & Peterson, M. A. (November, 2010). A Repetition Paradigm With Figure-ground Stimuli Reveals that Both Semantic and Shape Representations Can Be Accessed Outside of Awareness. Poster presented at the Society for Neuroscience Meeting, San Diego, CA.

- Peterson, M. A. (November, 2010). Familiar Configuration Effects on Figure-Ground Perception Are Impaired by Perirhinal Cortex Damage. Talk presented at the Configural Processing Consortium, Washington University, St. Louis, MO.
- Cacciamani, L. & Peterson, M. A. (November, 2010). Holding Faces in Memory Interferes with Face Discrimination but not Object Discrimination. Talk presented at the Configural Processing Consortium, Washington University, St. Louis, MO.
- Cacciamani, L. & Peterson, M. A. (November, 2010). Holding Faces in Memory Interferes with Face Discrimination but not Object Discrimination. Poster presented at the Object Perception and Memory Meeting, St. Louis, MO.
- \*Peterson, M. A. & Barense, M. D. (November, 2010). Familiar Configuration Effects on Figure-Ground Perception Are Impaired by Perirhinal Cortex Damage. Talk presented at the Psychonomic Society Meeting, St. Louis, MO.
- \*Salvagio, E., Mojica, A.J., Kimchi, R., Peterson, M.A. (May 9, 2011). Reevaluating whether attention is drawn to figures. *Vision Sciences Society Meeting. Journal of Vision*, (11): 1104; doi:10.1167/11.11.1104
- \*Cacciamani, L., & Peterson, M.A. (May 9, 2011). Frontal lobe involvement in face discrimination. *Vision Sciences Society Meeting. Journal of Vision*, (11): 657; doi:10.1167/11.11.657
- \*Roller, B., Mojica, A.J., Salvagio, E., & Peterson, M.A. (May 7, 2011). Object based attention effects disappear when flanking objects are present. *Vision Sciences Society Meeting. Journal of Vision*, (11): 143; doi:10.1167/11.11.143
- \*Mojica, A.J. & Peterson, M. A. (May 9, 2011). On the relative effectiveness of symmetry and convexity as figural cues. *Vision Sciences Society Meeting. Journal of Vision*, (11): 1099; doi:10.1167/11.11.1099
- Peterson, M.A. (May, 2011). Abnormal shape memory influences on figure-ground perception in temporal lobe amnesia. Symposium Talk. That "other" part of the temporal lobe involved in perception and memory." *Spring Hippocampal Research Conference*, Verona, Italy.
- \*Peterson, M.A. (August, 2011). Rethinking Figure-Ground Segregation: Evidence From Brain-damaged Individuals. Invited symposium presentation at the European Conference on Visual Perception, Toulouse, France.
- \*Peterson, M.A., Sanguinetti, J.L., & Allen, J.J.B. (September, 2011). ERP Evidence for Semantic Access for Objects That are Suggested but Not Perceived on the Groundside of a Figure. Talk presented at the *European Conference on Visual Perception*, Toulouse, France.
- Peterson, M. A. (November, 2011). A Bayesian View of Convexity Context Effects. The Configural Processing Consortium, Seattle, WA.
- Peterson, M.A. (April 2012). Figure-Ground Segregation: A Dynamic Interactive Process. Tagung experimenteller Psychologen (Conference of Experimental Psychologists), Mannheim, Germany.
- Peterson, M.A. (April 2012). There's more to vision than meets the eye. University of Kaiserslautern, Germany.
- Peterson, Mary A. Aging and Competition Resolution in depth perception. Talk given at the McKnight Inter-institutional Meeting, University of Arizona.
- \*Cacciamani, L., Mojica, A. J., Sanguinetti, J. L. & Peterson, M. A. (May, 2012). Meaning can be Accessed for the Groundside of a Figure. *Journal of Vision*, August 13, 2012 12(9): 305; doi:10.1167/12.9.305
- \*Chan, D., Peterson, M. A., Qian, S., & Pratt, J. (May, 2012). The "Gist" of Visual Processing. *Journal of Vision*, August 13, 2012 12(9): 1058; doi:10.1167/12.9.1058
- \*Lass, J.W., Bennett, P.J., Peterson, A.A., & Sekuler, A.B. (May, 2012). The Effect of Context and Convexity on Figure Ground Perception in Aging. *Journal of Vision*, August 13, 2012 12(9): 1302; doi:10.1167/12.9.1302.
- \*Mojica, A.J., Salvagio, E., & Peterson, M. A. (May, 2012). Attention is allocated to figures only under conditions of uncertainty. *Journal of Vision*, August 13, 2012 12(9): 308; doi:10.1167/12.9.308

- \*Salvagio, E., & Peterson, M. A. (May, 2012). Revealing the Temporal Dynamics of Competitive Interactions in Figure-Ground Perception. *Journal of Vision*, August 13, 2012 12(9): 887; doi:10.1167/12.9.887
- \*Sanguinetti, J.L. & Peterson, M.A. (May, 2012). Ultra-Rapid Categorization Based on Perceptual Organization. Talk given at the Vision Sciences Society Meeting, Naples, FL.
- Viator, S., Gómez, R. L., Bishop, K., Peterson, M. A. (2012). Infants Can Use a Newly Learned Object Category for Scene Segregation. Poster presented at the International Conference on Infant Studies, Minneapolis, June.
- \*Cacciamani, L., Scalf, P.E., Barense, M.D., & Peterson, M.A. (2012, October). The perirhinal cortex modulates V2 activity in response to the agreement between part familiarity and configuration familiarity. Society for Neuroscience Conference, New Orleans, LA.
- \*Sanguinetti, J.L., Heshmati, S., Allen J.J.B., Peterson, M.A. (2012, October) Masked repetition priming with event-related potentials reveals that access to semantics can be dissociated from visual perception. Annual Meeting for the Society for Neuroscience, New Orleans, LA. 285.19/VV20
- \*Spanò, G., Peterson, M.A., Nadel, L., Edgin, J. O. (2012, October) Perceptual-mnemonic medial temporal lobe function in individuals with Down syndrome. Poster Presented at The 42<sup>nd</sup> annual meeting of The Society For Neuroscience in New Orleans, LA.
- Peterson, M. A., Cacciamani, L., Barense, M. D., & Scalf, P. (2012, November). On Parts, Wholes and Familiarity. Talk presented at the meeting of the Configural Processing Consortium, Minneapolis, MN.
- Peterson, M. A., Cacciamani, L., Barense, M. D., & Scalf, P. (2012, November). On Parts, Wholes and Familiarity: The Perirhinal Cortex Modulates V2 Activity In Response To The Agreement Between Part Familiarity And Configuration Familiarity. Talk presented at the meeting of the Psychonomic Society, Minneapolis, MN.
- \*Cacciamani, L., Mojica, A. J., Sanguinetti, J. L., & Peterson, M.A. (2013, May). Accessing meaning for the groundside of a figure: How long does it last? Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 71. doi:10.1167/13.9.71
- \*Chan, D., Peterson, M. A., Barense, M. D., & Pratt, J. (2013, May). Action influences object perception. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1007. doi:10.1167/13.9.1007
- \*Duran, G., & Peterson, M. A. (2013, May). Interaction between visual and conceptual processing in art appreciation. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1307. doi:10.1167/13.9.1307
- \*Lass, J. W., Bennett, P., Peterson, M. A., & Sekuler, A. (2013, May). The effects of aging on figure/ground perception: Reduced competition resolution in older observers. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 719. doi:10.1167/13.9.719
- \*Mojica, A. J., & Peterson, M. A. (2013, May). Semantic priming affects figure assignment. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 714. doi:10.1167/13.9.714
- \*Salvagio, E., & Peterson, M. A. (2013, May). Infants (5.5 months old) use shape regularity to segment objects from their backgrounds. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 716. doi:10.1167/13.9.716
- \*Sanguinetti, L., & Peterson, M. A. (2013, May). Unmasking the mask: semantic similarity produces disinhibition in a masked priming paradigm. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 47. doi:10.1167/13.9.47
- \*Scalf, P.E., Cacciamani, L., Barense, M. D., & Peterson, M. A. (2013, May). Representation of object parts and wholes in V2 modified by medial temporal lobe structures. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1002. doi:10.1167/13.9.1002
- \*Slugocki, M., Maurer, D., Peterson, M. A., & Lewis, T. (2013, May). Convexity as a cue to figure-ground segmentation in children. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 718. doi:10.1167/13.9.718
- \*Peterson, M. A., & Salvagio, E. (2013, May). Surprising evidence of competition in a classic figure-ground stimulus supports a role for background prior in figure assignment. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 717. doi:10.1167/13.9.717

- \*Wager, E., Peterson, M. A., Folstein, J. R., & Scalf, P. E. (2013, May). Automatic top-down processes mediate selective attention. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 137. doi:10.1167/13.9.137
- Cacciamani, L., Salf, P. S., & Peterson, M.A. (2013, November). Evidence of top-down mediated ground suppression in extrastriate cortex. Poster presented at the Society for Neuroscience meeting, San Diego, CA.
- Cacciamani, L., Salf, P. S., & Peterson, M.A. (2013, November). Inhibitory Competition And Feedback In Figure-Ground Perception: fMRI Evidence. Talk presented by MAP at the Psychonomic Society Meeting, Toronto, ON, CA.
- Sun, H. & Peterson, M.A. (2013, December). An Empirical Study of the Impact of Stereo 3D on User Learning in the Web Environment. Pre ICIS SIG-HCI Workshop; Thirty Fourth International Conference on Information Systems, Milan, Italy, December 15-18, 2013.
- \*Ayars, A. Mojica, A.J., Peterson, M.A. (2014, May). Looking Beyond the Means: Rapid Learning of Prime-Display Relationship in a Semantic Priming Experiment. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Burrola, M., & Peterson, M.A. (2014, May). Global Influences on Figure Assignment: The Role of the Border. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Cacciamani, L., Salf, P., & Peterson, M. A. (2014, May). Competition-based ground suppression in extrastriate cortex and the role of attention. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Duran, G. & Peterson, M. A. (2014, May). Implicit measures of whether conceptual knowledge increases interest in photographs. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Ghose, T. & Peterson, M. A. (2014, May). Using Extremal Edge to Decouple Closeness and Shape in Figure-Ground Perception. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Lass, J., Hashemi, A., Bennett, P., Peterson, M. A., & Sekuler, A. B. (2014, May). Neural Signals Underlying the Convexity Context Effect. Vision Sciences Society Meeting, St. Pete Beach, FL.
- Mura, K., Ghose, T, Peterson, M. A. (2014, May). Context Effects on Figure-Ground Perception with Both Convexity and Extremal Edge Cues. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Salvagio, E. Gomez, R., Peterson, M. A. (2014, May). Can infants (5.5 months-old) use object repetition to segment objects from their backgrounds? Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Sanguinetti, J., Trujillo, L. T., Schnyer, D., Allen, J.J.B., & Peterson, M. A. (2014, May). Increased alpha band activity indexes inhibitory competition across a border during figure assignment. Vision Sciences Society Meeting, St. Pete Beach, FL.
- Cacciamani, L., Wager, E., Peterson, M. A., & Scalf, P. (2014, October). Connectivity between the perirhinal cortex and V2 in young and older adults. Society for Neuroscience.
- Peterson, M.A. & Sanguinetti, J. L. (November, 2014). Increased Alpha Band Activity Indexes Inhibitory Competition Across A Border During Figure Assignment. Paper presented at the Annual Meeting of the Psychonomic Society.
- Spanò, G., Peterson, M.A., Nadel, L., Rhoads, C., Edgin, J. O. (2015). Interactions between Memory and Perception: Evidence from Typical and Atypical Development. *Society for Research in Child Development*.
- \*Ayars, A.A., Peterson, M. A., & Sanguinetti, J.L. (2105, May). Investigation of Semantic Unmasking Effect. Vision Sciences Society Meeting, St. Pete Beach, FL
- \*Burrola, M., Mathieson, D., Raymond, J., & Peterson, M. A. (2015, May). Gains and Losses: Is Figure Ground Perception Influenced by Motivation or Learned Value? Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Salvagio, E., Gomez, R., & Peterson, M.A. (2015, May). Is prior experience necessary for 5.5 month- old infants to use the statistical regularity of an unchanging object on an changing background for segmentation? Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Lass, J., Bennett, P., Peterson, M. A., & Sekuler A. B (2015, May). The effects of motion cues on figure-ground perception across the lifespan. Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Lass, J.W., Bennett, P.J., Peterson, M.A., & Sekuler, A.B. (June, 2015). The effects of motion cues on figure-ground perception in healthy aging. Poster presented at International Conference on Perceptual Organization, CVR, York University, Toronto, CA.



- Peterson, M.A., Anderson, J., Healey, M. K., & Hasher, L. (November, 2015). Age-Related Deficits in Inhibition in Figure-Ground Assignment in Stationary Displays. Paper presented at the Annual Meeting of the Psychonomic Society, Chicago IL.
- \*Flowers, C. & Peterson, M.A. (2016, May). "Peripheral Distracting Information That Does Not Reach Consciousness Can Capture Attention and Prime Categorization." Talk presented at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision* September 2016, Vol.16, 15. doi:10.1167/16.12.15
- \*Lass, J., Bennett, P., Peterson, M.A., & Sekuler, A. (2016, May). Reduced convexity context effects in elderly not attributable to reduced presumption of depth. Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Scotti, P. Malcolm, G., Peterson, M. A., & Shomstein, S. (2016, May). Reality vs. Simplicity: The Effects of Real-World Objects on Attentional Selection. Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Orsten-Hooge, K., Skocypec, R., & Peterson, M. A. (2016, May). Semantic Priming Facilitates Figure Assignment For Both Intact Familiar Objects And Their Parts (Despite Predictive Coding Error). Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Cook, S., Flowers, C., & Peterson, M. A. (2016, May). "Dichoptic Masking Interferes with Feedback to Early Visual Areas when Part- and Whole-Familiarity Conflict." Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*. 2016; 16(12): 1172. doi: 10.1167/16.12.1172
- Perez, Diana C., Cook, Sarah M., Peterson, Mary A. (August 2016). *Do Stimuli Appear Sharper When They Are Expected?* Poster presented at the Neuroscience and Cognitive Science Summer Research Program poster session in Tucson, Arizona.
- Orsten-Hooge, K.D., Skocypec, R.M., Jannuzi, B.G.L., & Peterson, M.A. (November, 2016). Semantic Priming Influences Object Detection. Poster presented at the Object Perception and Memory Conference, Boston, MA.
- Scotti, P. Malcolm, G. L., Peterson, M.A., & Shomstein, S. (November, 2016). Reality vs. Simplicity: The Effects of Real-World Objects on Attentional Selection. Poster presented at the Object Perception and Memory Conference, Boston, MA.
- Perez, D. C., Cook, S. M., & Peterson, M. A. (2017, January). Elucidating the mechanisms of object perception. UBRP Conference, University of Arizona, Tucson, AZ.
- Perez, Diana C., Cook, Sarah M., Peterson, Mary A. (March 2017). *Elucidating the Mechanisms of Object Perception*. Poster presented at the Western Alliance for Expanding Student Opportunities (WAESO) conference in Tempe, Arizona.
- \*Cook, S., Perez, D., & Peterson, M.A. (May, 2017). An Investigation of the Effect of Prediction on Object Perception. Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2017;17(10):1241. doi: 10.1167/17.10.1241
- \*Skocypec, R.M., Jannuzi, B.G.L., Orsten-Hooge, K.D., & Peterson, M.A. (May, 2017). Unmet Expectations May Impede Figure Assignment. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2017;17(10):1378. doi: 10.1167/17.10.1378.
- \*Flowers, C.S. & Peterson, M.A. (May, 2017). Past Experience Within an Experiment Does Not Alter Figure Assignment Pattern. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2017;17(10):1385. doi: 10.1167/17.10.1385.
- \*Sekuler, A.B., Lass, J., Hashemi, A., Bennett, P., Peterson, M. A. (May, 2017); Aging alters neural processing underlying figure-ground organization. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2017;17(10):305. doi: 10.1167/17.10.305.
- Peterson, M. A. & Salvagio, E. (November, 2017). Gestalt Demonstrations Don't Tell the Whole Story of Figure-Ground Perception. Part II: Convexity. Talk presented at the 58<sup>th</sup> Annual Meeting of the Psychonomic Society, Vancouver, B.C., Canada.
- Peterson, M. A. (March, 2018). A surprising Ambiguity in a Classic Figure-Ground Demo Resolved by Cortico-subcortical Interaction OR Why demonstrations are not enough. Talk presented at the annual meeting of the Society of Experimental Psychologists, Tucson, AZ.

- Perez, Diana C., Jernigan, Morgan A., Cook, Sarah M., Peterson, Mary A. (March 2018). *Does Familiarity Increase the Perceived Sharpness of an Object?* Poster presented at the Western Alliance for Expanding Student Opportunities (WAESO) conference in Tempe, Arizona.
- Perez, Diana C., Cook, Sarah M., Peterson, Mary A. (April 2018). *Object Memories Alter the Appearance of Blurry Object Borders.* Poster presented at the Neuroscience and Cognitive Science Senior Poster Forum in Tucson, Arizona.
- \*Flowers, C.S. & Peterson, M.A. (May, 2018). Human Object Detection in Natural Scenes: Evidence From a New Dot Probe Task. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2018;18(10):393. doi: 10.1167/18.10.393.
- \*Perez, D.C., Cook, S.M., & Peterson, M.A. (May, 2018). Object memories alter the appearance of blurry object borders. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision* 2018;18(10):1320. doi: 10.1167/18.10.1320.
- \*Skocypec, R.M. & Peterson, M.A. (May, 2018). Do Semantic Expectations Arising From Masked Word Primes Aid Object Detection At The Earliest Level? Now You See It, Now You Don't. Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL. *Journal of Vision*, 2018;18(10):1321. doi: 10.1167/18.10.1321.
- Colin S. Flowers, Roman Palitsky, Mary A. Peterson, & Daniel Sullivan. (15 November, 2018). Effect of trial-invariant conjoint spatial-temporal knowledge of target appearance on voluntary spatial and temporal cueing effects. Talk presented at the annual Object Perception, Attention, and Memory meeting, New Orleans, LA.
- Peterson, M.A. & Skocypec, R.M. (November, 2018). Semantic Priming of Figure-Assignment: Unmasked Primes, Masked Primes, and Task Set Effects. Talk presented at the Psychonomic Society Meeting, New Orleans, LA.
- Peterson, M. A. (December, 2018). A surprising Ambiguity in a Classic Figure-Ground Demo Resolved by Cortico-subcortical Interaction OR Why demonstrations are not enough. Talk presented at the UofA/ASU Cognitive Science Conclave, Tempe, AZ.
- Perez, Diana C., Cook, Sarah M., Peterson, Mary A. (December 2018). Object Memories Alter the Appearance of Blurry Object Borders. Poster presented at the ASU/UA Cognitive Science Conclave in Tempe, Arizona.
- Cacciamani, Laura, Skocypec, Rachel M., Flowers, Colin, Perez, Diana, Peterson, Mary A. (March 2019). Competition-dependent ground activation in object perception: Evidence for inhibitory competition and/or predictive coding? Poster presented at the Cognitive Neuroscience Society meeting, San Francisco, California.
- \*Flowers, C.S. & Peterson, M.A. (May, 2019). Does Semantic Priming affect Human Object Detection in Natural Scenes? Poster presentation at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- \*Perez, Diana C., Peterson, Mary A. (May, 2019). An investigation on the influence of prior experience on working memory representations. Poster presented at the Vision Sciences Society meeting, St. Pete Beach, Florida.
- \*Skocypec, R. M. & Peterson, M.A. (May, 2019). The Influence of Semantics on Figure Assignment: Unmasked Primes, Masked Primes, and Context. Poster presented the Vision Sciences Society Meeting, St. Pete Beach, FL.
- Cacciamani, Laura, Skocypec, Rachel M., Flowers, Colin, Perez, Diana, Peterson, Mary A. (June 2019). Ground activation in object perception: Evidence for inhibitory competition and predictive coding. Poster presented at the Organization for Human Brain Mapping annual meeting, Rome, Italy.
- Binda, P., Tortelli, C., Salvagio, E., Burr, D.C., & Peterson, M. A. (August 2019) Pupillometry provides new insights on figure-ground segregation and its covariation with autistic traits. Poster presented at the European Conference on Visual Perception, Leuven, Belgium.
- Peterson, M. A. (November, 2019). Figure-Ground Perception: Simply One Outcome of an Interactive Hierarchical Bayesian Predictive Perceptual Process. Talk presented at the Configural Processing Consortium, Montreal, CA.
- Peterson, M. A. & Perez, D. (November, 2019). Object memories alter the appearance of blurry borders. Talk presented at the Psychonomic Society Meeting, Montreal, CA.

- Skocypec, R.M. & Peterson, M. A. (November, 2019). Investigating the effect of basic-level predictions on figure assignment. Talk presented at the Object Perception and Memory Meeting, Montreal, CA.
- Flowers, C.S., Wilson, J.L., & Peterson, M.A. (November, 2019). Temporal attention capture by portions of unconsciously processed familiar objects. Poster presented at the Object Perception, Attention, and Memory Meeting, Montreal, CA.
- Peterson, M.A., Cacciamani, L., Skocypec, R. M., Flowers, C.S., & Perez, D. (November, 2020). BOLD Activation on the Groundside of Figures: Prediction Error or Competition-Induced Inhibition? Talk presented at the Meeting of the Psychonomic Society, Virtual.
- Flowers, Colin S. & Peterson, Mary A. (May, 2021). Image- and Task-Based Contributions to Human Object Localization in Natural Scenes. *Journal of Vision*, 21(9), 2851-2851.
- \*Skocypec, Rachel M. & Peterson, Mary A. (May, 2021). Do Semantic Expectations Influence Object Detection? A Stringent test using figure assignment responses. *Journal of Vision*, 21(9), 2892-2892.
- \*Ghose, T. & Peterson, M. A. (May, 2021). Task set and instructions influence the relative weight of figural priors in figure-ground organization. *Journal of Vision*, 21(9), 2427-2427.
- \*Xue, J., Peterson, Mary A., & Wilson, Robert C. (May, 2022). A drift diffusion model of figure- ground perception. Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- Muller, A. L., Garren, J., Cao, K. C., Peterson, M., & Ekstrom, A. (2022, November 12-16). *Visual contributions to navigating in real-world environments* [Poster presentation]. Society for Neuroscience, San Diego, CA, United States.
- \*Schloss, K., Thompson, C., & Peterson, M.A. (May, 2023). Color-object semantics affect object detection. Poster presented at the Vision Sciences Society Meeting, St. Pete Beach, FL.
- Peterson, M.A. & Campbell, E.S. (April, 2024). Backward Masking implicates Cortico-cortical Recurrent processes in convex figure context effects and cortico-thalamic recurrent processes in resolving figure-ground ambiguity. *Cognitive Neuroscience Society Meeting*, Toronto, CA.

## **TRAINING ACTIVITIES**

### **POST-DOCTORAL FELLOWS**

Gabriela Durán, Assistant Professor, Universidad Autónoma de Ciudad Juárez)  
 Peter C. Gerhardstein, Professor, Binghamton University, SUNY  
 Kimberly Orsten-Hooge (2015-2016), now Research Associate, University of Texas, Dallas  
 Robert Rauschenberger, Principal Scientist, Exponent Engineering and Scientific Consulting  
 Satoru Suzuki (Visiting post-doctoral fellow). Professor, Northwestern University

### **STUDENTS (Primary Advisor)**

#### **Ph.D. Advisor**

##### *Completed*

Gary Chon-Wen Shyi (1988) Professor Emeritus, National Chung Cheng University  
 Bradley S. Gibson (1992) Professor, University of Notre Dame  
 Logan T. Trujillo (2007) Associate Professor, Texas State University, San Marcos, TX  
 Emily Skow-Grant (2007) Research Scientist at Meta Reality Labs  
 Andrew J. Mojica (2014) KBR Wyle Science and Engineering Group, San Antonio, TX.  
 Laura Cacciamani (2014) Associate Professor, California State Poly University, San Luis Obispo, CA.  
 J. L. Sanguinetti (2014) Research Associate, University of Arizona  
 Elizabeth M. Salvagio (2016) College of Medicine, University of Arizona  
 Colin S. Flowers (2020) Post-doctoral Fellow, University of Minnesota  
 Rachel M. Skocypec (2021) Biostatistician, Nemours Children's Health

##### *Ph.D. In Progress*

Jingming Xue  
 Maomiao Peng

## **Masters Degrees: University of Arizona**

Rachel M. Skocypec,

Alisabeth Ayers, Assistant Professor, Philosophy, University of British Columbia

Sabrina Geoffrion, Online Instructor at DeVry University and Grand Canyon University

Erin M. Harvey, Associate Professor, Ophthalmology and Public Health, University of Arizona

Jee Hyun Kim, Chief Researcher at I&I Marketing. Seoul, South Korea

Elizabeth P. Merikle, Takeda Pharmaceuticals

Abrie Schroeder, Research Assistant at Healthwise Incorporated

Melissa F. Schulz

Brian Roller

## **Masters Degrees: SUNY, Stony Brook (completed)**

Elliot Sprecher (co-advisor with Robert Liebert)

Hollis Weidenbacher (Research Health Science Specialist, HR&D Department, Veteran's Health Administration, Raleigh-Durham, North Carolina)

## **RESEARCH IN PROGRESS:**

Investigating

- effects of semantic expectations on object detection
- the interaction between perception and memory
- recurrent processes in perception
- context effects in perceptual organization
- competition in object perception
- effects of intention and attention on perception
- the neural substrates of object perception and recognition using fMRI, EEGs, & tests of brain damaged individuals

## **COURSES TAUGHT**

### **Graduate**

Sensation and Perception

Neuropsychology of Visual Perception

Attention and Perception

Perception, Recognition, Attention

Perception and Memory

Theories of Object and Shape Recognition

Vision and the Brain

Object Recognition and Scene Perception

Language and Vision

Perceptual Learning

Visual Cognition

Interactive Processing in Vision

Presentation Skills (practicum)

Teaching Methods and Practicum

Cognitive Science: Current and Foundational Issues

Top-down Processing and Cross Modal Perception

Cognition and Neural Systems Core Seminar

### **Undergraduate**

Sensation and Perception

Attention and Perception

Advanced Perception

Vision and Art

Honors ProSeminar

Psychology Research Methods Laboratory

Advanced Research in Psychology

Teaching Methods and Practicum

Cognitive Science Research Methods

## **OUTREACH** (selected activities)

Expert Witness, Pima County Courthouse

2013: Science Café: Science of the Senses: Illusions of Awareness, September 17, 2013

2014: *Research highlighted in* National Geographic News, Huffington Post, Reddit, The David Pakman Show, Science Daily: <https://www.sciencedaily.com/releases/2014/09/140916142811.htm>, & the UA News: <https://uanews.arizona.edu/story/don-t-underestimate-your-mind-s-eye>

- 2017: Research highlighted in UA News: <https://uanews.arizona.edu/story/helping-computers-see-like-people>  
Interviewed by Dave Roos for “How Stuff Works”  
Appeared in: “Do you remember everything you see? Experts say that may not be the case”  
*Priscilla Casper, KGUN 9 News, 7* (November 9, 2017. <http://www.kgun9.com/news/local-news/do-you-remember-everything-you-see-experts-say-that-may-not-be-the-case>)
- 2018: Quoted in: “Scientists say misplaced Christmas tree on Holland Tunnel sign may distract drivers. The P.A. isn't so sure.” By Claude Brodesser-Akner and Larry Higgs. NJ Star-Ledger  
<https://www.nj.com/expo/news/erry-2018/12/8be9257b2c5440/port-authority-to-decide-monda.html>
- 2019: Emory-Tibet Science Institute, teaching Neuroscience at Sera Monastery, India, June 13-27.
- 2024: Consultant on visual perception for the Trondheim Science Museum interactive exhibit on September 28 and the upcoming University of Arizona Planetarium Exhibit.

# Robert C. Wilson

Department of Psychology, Georgia Institute of Technology  
[bob.wilson@gatech.edu](mailto:bob.wilson@gatech.edu)

## EMPLOYMENT

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2024 – Smithgall-Watts Chair, Georgia Institute of Technology  
2024 – Associate Professor of Psychology, Georgia Institute of Technology  
2023 – 2024 Interim Director, Cognitive Science Program, University of Arizona  
2023 – 2024 Interim Chair, Graduate Interdisciplinary Program in Cognitive Science, University of Arizona  
2021 – 2024 Associate Professor, Psychology Department, University of Arizona  
2021 – 2024 Associate Professor, Cognitive Science Program, University of Arizona  
2018 – 2024 Affiliated faculty, Neuroscience GIDP, University of Arizona  
2017 – 2024 Affiliated faculty, Evelyn F. McKnight Brain Institute  
2015 – 2021 Assistant Professor, Psychology Department, University of Arizona  
2015 – 2021 Assistant Professor, Cognitive Science Program, University of Arizona  
2009 – 2014 Postdoctoral Research Associate, Princeton Neuroscience Institute

## EDUCATION

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2009 PhD, Bioengineering, University of Pennsylvania  
Dissertation: Dynamic Bayesian Inference in the Brain  
Advisor: Leif Finkel  
2003 MSE, Bioengineering, University of Pennsylvania  
2002 MSci, Chemistry, Cambridge University  
2001 BA, Natural Sciences, Cambridge University

## FUNDING

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*Dollar amounts indicate direct costs*

### Federal

NIH/NIA	09/01/2023 - 08/31/2025
R21 MH134100	\$275,000
Characterizing the cognitive computations underlying spatial navigation	
Role: Principal Investigator (MPI Ekstrom)	
NIH/NIA	05/15/2023 - 01/31/2025
R21 AG081558	\$275,000
A neurocomputational model of age-related differences in navigation.	
Role: Co-Investigator (PI Ekstrom)	
NIH/NIA	03/01/2022 - 04/30/2027
R01 AG072658	\$2,100,000

8% effort

Characterizing and modulating neurocognitive processes of learning to trust and distrust in aging

Role: Multi-Principal Investigator with (Ebner and Lighthall)

NIH/NIA 01/15/2020-12/31/2024

R01 AG061888 \$1,149,160

25% effort

Evaluating the Neurocomputational Mechanisms of Explore-Exploit Decision Making in Older Adults

Role: Principal Investigator

NIH/NIA 09/30/2018-08/31/2020

R56 AG061888 \$225,000

25% effort

Evaluating the Neurocomputational Mechanisms of Explore-Exploit Decision Making in Older Adults

Role: Principal Investigator

Arizona Alzheimer's Disease Core Center pilot grant 07/01/2017-6/30/2019

P30 AG019610 \$30,000

4% effort

The neural substrates of explore-exploit decisions in old age

Role: Principal Investigator

### Private Foundation

Research Corporation for Science Advancement 01/01/2024-12/31/2024

0% effort \$50,000

Mapping Inner Worlds: Representational Spaces and Mental Life

Role: co-Principal Investigator (with Bainbridge & Burnstone)

Research Corporation for Science Advancement 01/01/2023-12/31/2023

0% effort \$50,000

Beyond Computational Behaviorism: The Structure of Thought in Naturalistic Behaviors

Role: co-Principal Investigator (with Peters & Baker)

McDonnell Foundation 05/01/2020-4/30/2026

8% effort \$2,500,000

Teachers as learners - teachers as thinkers: improving classroom communication in mathematics

Role: co-Principal Investigator (with Kersting)

McKnight Foundation 07/01/2018-04/30/2020

For research costs only, 0% effort \$120,000

Scam susceptibility in older adults

Role: Principal Investigator (with Grilli, Levin, Ebner, Oliveira and Getz)

## State

CEAS Pilot Core	09/01/2022-08/31/2023
For research costs only, 0% effort	\$30,000
Testing a working memory hypothesis for the cognitive effects of chronic pain	
Role: co-Principal Investigator and mentor to PI Phelps	
RII Accelerate for Success Grant	07/01/2022-07/31/2023
For research costs only, 0% effort	\$49,999
Personalized force guidance using reinforcement learning with learning optimization in surgical skills training	
Role: co-Principal Investigator (with Ghaderi, Lee, Sunchin, Rozenblit)	
Psychology Department Seed Grant	07/01/2022-06/30/2023
For research costs only, 0% effort	\$10,000
A new task to study the neural computations of explore-exploit decision making in rats and humans	
Role: Co-Principal Investigator (with Fellous)	
University of Arizona, Health Aging Seed Grant	06/01/2021-05/31/2022
Research, Discovery, and Innovation	\$25,000
For research costs only, 0% effort	
A neuroeconomic model of phishing email susceptibility: examining drivers of successful email attacks across middle to older age	
Role: Co-Principal Investigator (with Grilli)	
University of Arizona, Accelerate for Success pilot grant	07/01/2019-06/30/2020
Research, Discovery, and Innovation	\$15,000
For research costs only, 0% effort	
Thinking About Sweat: Sweat biomarker correlates of physical and mental effort	
Role: Co-Principal Investigator (with Runyon)	
University of Arizona Faculty Seed Grant Program	07/01/2017-6/30/2018
Research, Discovery, and Innovation	\$10,000
For research costs only, 0% effort	
The Neural Substrates of Exploration and Exploitation	
Role: Principal Investigator	
College of Science, University of Arizona	07/01/2017-06/30/2018
Dean's Innovation and Education Fund	\$10,000
For research costs only, 0% effort	
The High-Throughput Psychophysiology Lab — A cognitive neuroscience resource for research, education and outreach	
Role: Principal Investigator	
University of Arizona CIS Seed Grant	07/01/2017-6/30/2018
For research costs only, 0% effort	\$10,000
Integrative education mentoring in higher education	



Role: co-Investigator (PIs Kickuchi and Imad)

University of Arizona Improving Health TRIF

07/01/2017-6/30/2018

For research costs only, 0% effort

\$80,000

Building capacity for inferring facial communication from video data

Role: co-Investigator (PI Barnard)

## HONORS AND AWARDS

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2022	Scialog Fellow
2017	Excellence in Mentoring Award, Honors College, University of Arizona
2016	Fellow of the Psychonomics Society
2002	Thouron Award, National award from UK to University of Pennsylvania

## PUBLICATIONS

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\* based on research done as a graduate student

+ co-first authors

Student, postdoc and trainee co-authors underlined

### Refereed journal articles

1. Mizell, J.-M., Wang, S., Frisvold, A., Lily, A., Farrell-Skupny, A., Keung, W., Sundman, M., Franchetti, M.-K., Chou, Y., Alexander, G. E., & **Wilson, R. C.** (2024). Differential impacts of healthy cognitive aging on directed and random exploration. *Psychology and Aging*, 39(1), 88.
2. Wyly, S., Jinon, N., Francis, T., Evans, H., Kao, T. L., Lambert, S., ... & **Wilson, R. C.** (2024). The psychophysiology of Mastermind: Characterizing response times and blinking in a high-stakes television game show. *Psychophysiology*, e14485.
3. Xu, Y., Harms, M. B., Green, C. S., **Wilson, R. C.**, & Pollak, S. D. (2023). Childhood unpredictability and the development of exploration. *Proceedings of the National Academy of Sciences*, 120(49), e2303869120.
4. Du, Y. K., Liang, M., McAvan, A. S., **Wilson, R. C.**, & Ekstrom, A. D. (2023). Frontal-midline theta and posterior alpha oscillations index early processing of spatial representations during active navigation. *Cortex*, 169, 65-80.
5. Pehlivanoglu, D., Lin, T., Lighthall, N. R., Heemskerk, A., Harber, A., **Wilson, R. C.**, ... & Ebner, N. C. (2023). Facial Trustworthiness Perception Across the Adult Life Span. *The Journals of Gerontology: Series B*, 78(3), 434-444.
6. Wang, S., Gerken, B., Wieland, J. R., **Wilson, R. C.**, & Fellous, J. M. (2023). The effects of time horizon and guided choices on explore-exploit decisions in rodents. *Behavioral Neuroscience*.
7. Harootyan, S. K., Ekstrom, A. D., & **Wilson, R. C.** (2022). Combination and competition between path integration and landmark navigation in the estimation of heading direction. *PLoS computational biology*, 18(2), e1009222.
8. Smith, R., Taylor, S., **Wilson, R. C.**, Chuning, A. E., Persich, M. R., Wang, S., & Killgore, W. D. (2022). Lower levels of directed exploration and reflective thinking are

- associated with greater anxiety and depression. *Frontiers in Psychiatry*, 12, 782136.
9. Chase, H. W., **Wilson, R. C.**, & Waltz, J. A. (2022). Computational accounts of reinforcement learning and decision making in psychiatric disorders. *Frontiers in Psychiatry*, 13.
  10. Grilli, M. D., McVeigh, K. S., Hakim, Z. M., Wank, A. A. L., Getz, S. J., Levin, B., Ebner, N. C., & **Wilson, R. C.** (2021). Is this phishing? Older age is associated with greater difficulty discriminating between safe and fraudulent emails. *Journal of Gerontology: Series B*, 76(9), 1711-1715.
  11. **Wilson, R. C.**, Bonawitz, E., Costa, V. D., & Ebitz, R. B. (2021). Balancing exploration and exploitation with information and randomization. *Current Opinion in Behavioral Sciences*, 38, 49-56
  12. Feng, S. F., Wang, S., Zarnescu, S., & **Wilson, R. C.** (2021). The dynamics of explore-exploit decisions reveal a signal-to-noise mechanism for random exploration *Scientific Reports* 11 (1), 1-15
  13. Yu, L. Q., **Wilson, R. C.**, & Nassar, M. R. (2021). Adaptive learning is structure learning in time. *Neuroscience and Biobehavioral Reviews* 128, 270-281
  14. Prat-Carrabin, A., **Wilson, R. C.**, Cohen, J. D., & Da Silveira, R. A. (accepted). Human inference in changing environments with temporal structure. *Psychological Review* 128(5), 879
  15. Hakim, Z. M., Ebner, N. C., Oliveira, D. S., Getz, S. J., Levin, B. E., Lin, T., Lloyd, K., Lai, V. T., Grilli, M. D., & **Wilson, R. C.** (2020). The Phishing Email Suspicion Test (PEST) a lab-based task for evaluating the cognitive mechanisms of phishing detection. *Behavior Research Methods* 53, 1342-1352
  16. Waltz, J. A.<sup>+</sup>, **Wilson, R. C.**<sup>+</sup>, Albrecht, M. A., Frank, M. J., & Gold, J. M. (2020). Differential effects of psychotic illness on directed and random exploration. *Computational Psychiatry* 4, 18-39
  17. Keung, W., Hagen, T., & **Wilson, R. C.** (2020). A divisive model of evidence accumulation in perceptual decision making. *Nature Communications* 11(1), 1-9
  18. Harootyan, S., **Wilson, R. C.**, Hejtmanek, L., Ziskin, E., & Ekstrom, A. (2020). Path integration in large-scale space and with novel geometries: Comparing Vector Addition and Encoding-Error Models. *PLoS Computational Biology* 16(5), e1007489.
  19. Sadhegiyeh, H., Wang, S., Kyllo, H. M., Alberhasky, M. R., Savita, S., Kellohen, K. L., & **Wilson, R. C.** (2020). On the psychology of the psychology subject pool: an exploratory test of the good student effect. *Journal of Individual Differences*
  20. Sadhegiyeh, H., Wang, S., Alberhasky, M. R., Kyllo, H. M., Shenhav, A., & **Wilson, R. C.** (2020). Temporal discounting correlates with directed exploration but not with random exploration *Scientific Reports* 10(1), 1-10
  21. **Wilson, R. C.** & Collins, A. G. E. (2019). Ten simple rules for the computational modeling of behavioral data. *eLife* 8, e49547
  22. Kane, G. A., Bornstein, A. M., Shenhav, A., **Wilson, R. C.**, Daw, N. D., & Cohen, J. D. (2019). Rats exhibit similar biases in foraging and intertemporal choice tasks. *eLife* 8, e48429
  23. **Wilson, R. C.**, Shenhav, A., Straccia, M., & Cohen, J. D. (2019). The Eighty Five Percent Rule for Optimal Learning. *Nature Communications* 10, 4646
  24. Keung, W., Hagen, T., & **Wilson, R. C.** (2019). Regulation of evidence accumulation

- by pupil-linked arousal processes. *Nature Human Behavior* 3, 636-645
25. Zhang, F., Sagi, J.-D., **Wilson, R. C.**, & Emberson, L. (2018) Prediction in infants and adults: A pupillometry study. *Developmental Science*, e12780
  26. Zajkowski, W., Kossut, M., & **Wilson, R. C.** (2017) A causal role for right frontopolar cortex in directed, but not random, exploration. *eLife* 6, e27430
  27. Kane, G. A., Vazey, E. M., **Wilson, R. C.**, Shenhav, A., Daw, D., Aston-Jones, G., & Cohen, J. D. (2017) Increased locus coeruleus tonic activity causes disengagement from a patch foraging task. *Cognitive, Affective, and Behavioral Neuroscience* 1-11
  28. Warren, C. M., **Wilson, R. C.**, van der Wee, N. J., Giltay, E. J., van Noorden, M. S., Nystrom, L. E., Cohen, J. D., and Nieuwenhuis, S. (2017) The effect of atomoxetine on random and directed exploration in humans. *PLoS ONE* 12(4), e0176034
  29. Krueger, P. K.<sup>+</sup>, **Wilson, R. C.**<sup>+</sup>, & Cohen, J. D. (2017) Directed and random exploration in the domain of losses. *Judgment and Decision Making* 12(2), 104
  30. Somerville, L. H., Sasse, S. F., Garrad, M. C., Drysdale, M. T., Abi Akar, N., Insel, C. & **Wilson, R. C.** (2017) Charting the expansion of strategic exploratory behavior during adolescence. *Journal of Experimental Psychology: General* 146(2), 155-164
  31. Schuck, N. W., Cai, M., **Wilson, R. C.**, & Niv, Y. (2016) Human Orbitofrontal Cortex Represents a Cognitive Map of State Space. *Neuron* 91(6), 1402-1412
  32. Warren, C. M., Eldar, E., van den Brink, R. L., Tona, K. D., van der Wee, N. J., Giltay, E. J., van Noorden, M. S., **Wilson, R. C.**, Nystrom, L. E., Cohen, J. D., and Nieuwenhuis, S. (2016) Catecholamine-Mediated Increases in Gain Enhance the Precision of Cortical Representations. *Journal of Neuroscience* 36(21), 5699-5708
  33. Mortezapouraghdam, Z., **Wilson, R. C.**, Schwabe, L., & Strauss, D. J. (2016). Bayesian Modeling of the Dynamics of Phase Modulations and their Application to Auditory Event Related Potentials at Different Loudness Scales. *Frontiers in computational neuroscience*, 10.
  34. Niv, Y., Daniel, R., Geana, A., Gershman, S. J., Leong, Y. C., Radulescu, A., & **Wilson, R. C.** (2015). Reinforcement learning in multidimensional environments relies on attention mechanisms. *Journal of Neuroscience*, 35(21), 8145-8157.
  35. **Wilson, R. C.**, & Niv, Y. (2015) Is Model Fitting Necessary for Model-Based fMRI? *PLoS Computational Biology* 11(6): e1004237. doi: 10.1371/journal.pcbi.1004237
  36. **Wilson, R. C.**, Geana, A., White, J. M., Ludvig, E. A., & Cohen, J. D. (2014). Humans use directed and random exploration to solve the explore-exploit dilemma. *Journal of Experimental Psychology: General*, 143(6), 2074-2081. doi:10.1037/a0038199
  37. **Wilson, R. C.**, Takahashi, Y. K., Schoenbaum, G. & Niv, Y. (2014). Orbitofrontal cortex as a cognitive map of task space. *Neuron*, 81(2), 267-279
  38. **Wilson, R. C.**, Nassar, M. R., & Gold, J. I. (2013). A Delta-rule approximation to Bayesian inference in change-point problems. *PLoS Computational Biology*, 9(7), e1003150
  39. **Wilson, R. C.**, & Niv, Y. (2012). Inferring relevance in a changing world. *Frontiers in Human Neuroscience*, 5:189
  40. Nassar, M. R., Rumsey, K. M., **Wilson, R. C.**, Parikh, K., Heasley, B., & Gold, J. I. (2012). Rational regulation of learning dynamics by pupil-linked arousal systems. *Nature Neuroscience*, 15, 1040-1046
  41. Takahashi, Y. K., Roesch, M. R., **Wilson, R. C.**, Toreson, K., O'Donnell, P., Niv, Y., &

- Schoenbaum, G. (2011). Expectancy-related firing of midbrain dopamine neurons depends on orbitofrontal cortex. *Nature Neuroscience*, 14, 1590-1597
42. \* **Wilson, R. C.**, Nassar, M. R., & Gold, J. I. (2010). Bayesian online learning of the hazard rate in change-point problems. *Neural Computation*, 22(9), 2452-2476
43. \* Nassar, M. R., **Wilson, R. C.**, Heasley, B., & Gold, J. I. (2010). An approximately Bayesian Delta-rule model explains the dynamics of belief updating in a changing environment. *Journal of Neuroscience*, 30(37), 12366-12378
44. \* **Wilson, R. C.** (2009). Parallel Hopfield networks. *Neural Computation*, 21(3), 831-850
45. \* Das, S. R., Lazarewicz, M. T., **Wilson, R. C.**, & Finkel, L. H. (2009). Sensitivity to motion features in point light displays of biological motion. *Spatial Vision*, 22(2), 105-125
46. \* Das, S. R., **Wilson, R. C.**, Lazarewicz, M. T., & Finkel, L. H. (2006). Two-stage PCA extracts spatiotemporal features for gait recognition. *Journal of Multimedia*, 1(5), 9-17
47. \* **Wilson, R. C.**, & Hürlimann, M. D. (2006). Relationships between internal field gradients, diffusion & relaxation in porous media. *Journal of Magnetic Resonance*, 183(1), 1-12

## Book chapters

1. Schuck, N. W., **Wilson, R. C.**, & Niv, Y. (2018). A state representation for reinforcement learning and decision-making in the orbitofrontal cortex. In *Goal-Directed Decision Making* (pp. 259-278). Academic Press.

## TALKS

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### Colloquia/Seminars

- 2024 *invited* UT Dallas
- 2023 *invited* Ghent University, Belgium
- 2023 *invited* NIA Workshop: Harnessing computational approaches to advance aging and AD/ADRD research
- 2023 *invited* University of Central Florida
- 2023 *invited* Georgia Tech
- 2022 *invited* Trinity College Dublin
- 2022 *invited* Brain Meetings, Wellcome Centre for Human Neuroimaging, University College London, UK
- 2021 *invited* Microsoft Research NYC
- 2021 *invited* McDonnell Foundation
- 2021 *invited* Data Learning Working Group, Imperial College London
- 2020 *invited* PDP group meeting, Princeton University
- 2020 *invited* Brown University
- 2019 *invited* Oxford University, United Kingdom
- 2019 *invited* University of Birmingham, United Kingdom
- 2018 *invited* Neuroscience seminar, University of Minnesota Twin Cities

- 2017 *invited* Neuroscience seminar, UC Berkeley
- 2016 *invited* Neuroscience group, Google DeepMind
- 2016 *invited* Neurotheory group, Oxford University, United Kingdom
- 2016 *invited* Gatsby group, University College London, United Kingdom
- 2016 *invited* CNI Chalk Talk, University of Pennsylvania

### **University and affiliated program talks**

- 2020 *invited* Marketing Department, Eller School of Business, University of Arizona
- 2018 *invited* Neuroscience GIDP, University of Arizona
- 2016 *invited* Neuroscience data blitz, University of Arizona
- 2015 *invited* Psychology colloquium data blitz, University of Arizona
- 2015 *invited* MARC program, University of Arizona
- 2015 *invited* Economics department seminar, University of Arizona
- 2015 *invited* Psychology colloquium, University of Arizona
- 2015 *invited* Cognitive Science Seminar, University of Arizona

### **Conference Talks**

- 2023 *invited* NIA Workshop on Computational Science and Aging Research
- 2021 *invited* Workshop on Choice Process Data in Experimental Economics
- 2020 *invited* International Society for Behavioural Neuroscience 28th Annual meeting
- 2019 *invited* Curiosity, Explanation, and Exploration Workshop, Princeton University
- 2019 *invited* Winter Conference on Neural Plasticity, Moorea, French Polynesia
- 2018 *invited* Third Interdisciplinary symposium on the emerging sciences of curiosity. University of Pennsylvania.
- 2018 *invited* Workshop Understanding Exploration-Exploitation Trade-offs at Cog Sci 2018
- 2018 *invited* Arizona Alzheimer's Association annual meeting
- 2017 50th Annual Meeting of the Society for Mathematical Psychology

### **Tutorials**

- 2024 Workshop on Cognitive Modeling in Aging, University of Pennsylvania
- 2024 Computational modeling of behavioral data, University of Florida

## **SERVICE/OUTREACH**

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### **Department Committees**

- 2023- Interim Director, Cognitive Science Program
- 2023- Interim Chair, Cognitive Science Graduate Interdisciplinary Program
- 2023 Faculty Search Committee in Neuroscience
- 2022 College of Science Research Strategic Planning Committee
- 2021 Teaching Faculty Search Committee for Cognitive Science (hired Sarah Cook)

2021	Innovations in Healthy Aging Research Advisory Working Group
2020-2022	Faculty Executive and Advisory Committee
2019-2023	Director, Psychological Science Major
2019-	Undergraduate Curriculum Committee
2016-	Subject Pool Committee
2015-2021	Psi Chi Faculty advisor
2017	Faculty Search Committee (hired Arne Ekstrom & Eve Isham)
2017	Teaching Faculty Search Committee (hired Jean-Marie Bianchi)
2016	Teaching Faculty Search Committee (hired Cynthia Erickson)

### External service

2023	Organizer. Curiosity, Creativity and Complexity conference [ <a href="#">link</a> ]
2019	Invited faculty, Methods In Neuroscience at Dartmouth (MIND) summer school
2015 – 2020	Undergraduate Travel Grant chair, Computational and Systems Neuroscience (Cosyne) conference
2015	Guest Editor, PLoS Computational Biology
2015	Organizer. Workshop on 'Random walk models across decision-making domains,' Computational and Systems Neuroscience (Cosyne) conference

### Talks given to community groups

Nov 2019	The Neural Basis of Curiosity. Spirit of the Senses Art Salon, Phoenix
Feb 2019	Decision making under uncertainty. La Posada retirement community
Feb 2019	<a href="#">Dopamine and Decisions Science Café @ Magpie's Gourmet Pizza</a>
Feb 2017	Making sound financial decisions. Annual Conference on Successful Aging, University of Arizona
Nov 2017	There's something inside of me ... what is it? Decision making and the brain. City High School, Tucson
Nov 2016	Decision making and the brain. City High School, Tucson

### Ad Hoc Journal/Conference Reviewing

Behavioral Neuroscience • Cerebral Cortex • Cognitive Affective and Behavioral Neuroscience • Computational and Systems Neuroscience (Cosyne) conference • Current Opinion in Behavioral Sciences • eLife • Journal of Experimental Psychology: General • Journal of Neuroscience • Mathematical Psychology • Nature Communications • Nature Scientific Reports • Neural Computation • Neuron • Neuropsychopharmacology • PLoS Biology • PLoS Computational Biology • Reinforcement Learning and Decision Making (RLDM) conference • Trends in Cognitive Science

### Ad Hoc Grant Reviewing

European Research Council Starting Grant • Human Frontiers in Science Program (HFSP) • Israel Science Foundation (ISF) • Leverhulme Trust • McKnight Brain Research Foundation • National Institute of Mental Health (NIMH) • Natural Sciences and Engineering Research Council of Canada (NSERC) • Swiss National Science Foundation (SNSF) • Wellcome Trust Postdoctoral Fellowship

## MEDIA

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- 2023 [BBC Radio 4 — All in the Mind What Mastermind can tell us about blinking, how music shapes memory and why anger can be a useful emotion](#)  
[Ars Technica BBC quiz show with Gestapo-inspired design offers study on stress responses](#)  
[Wall Street Journal Try Hard, but Not That Hard. 85% Is the Magic Number for Productivity](#)  
[The Times of London Giving it only 85% is key to avoiding burnout — just ask Jackman](#)
- 2022 [PsyPost Depression and anxiety symptoms linked to reduced information-seeking behavior](#)
- 2021 [ABC-15 Lottery psychology: Why do people take chances even though winning is so rare?](#)  
[Brain Inspired podcast](#)  
[Psychonomic Society Blog Were you phished? Read this post immediately to discover how](#)  
[Newsweek Failing this many times could help us learn new things more efficiently](#)  
[NBC's "Today" What's the best way to learn? The 85% rule says it's OK to make mistakes](#)  
[Inverse Scientists pinpoint the fastest way to learn something new](#)  
[Daily Mail \(UK\) Failing 15 per cent of the time is the best recipe for success as it poses just the right amount of challenge without putting people off, study finds](#)  
[Telegraph \(UK\) 'The 85% rule' - or how being wrong 15% of the time is secret to learning](#)  
[Independent \(UK\) Failing 15% of the time is the best way to learn, say scientists](#)  
[The Times \(UK\) Want to be a success? Fail 15% of the time](#)  
[Psychology Today The Right Level of Struggle for Learning](#)  
[Cosmos Magazine To maximise learning, find the sweet spot](#)  
[UPI Learning requires a little bit of failure, research shows](#)  
[Science Daily Learning is optimized when we fail 15% of the time](#)  
[Study Finds Study: If You Want To Learn Efficiently, Plan On Failing 15% Of The Time](#)  
[The Huffington Post \(UK\) What Failing 15% Of The Time Actually Looks Like](#)

Inc. [There's a Right Amount of Failing You Need to Do to Succeed and These Researchers Think They've Found It](#)

International Business Times [The 85% Rule: Be Correct, But Not Too Correct](#)

CBS Radio News (picked up by 78 affiliates)

Consumer Affairs [Occasional failures could make learning new things more effective](#)

The Ladders [To really learn, you must fail exactly this much of the time](#)

Tech Explorist [What's the right amount of failure?](#)

Psych Central [To Optimize Learning, Fail 15 Percent of the Time](#)

Science Alert [Failing 15% of The Time Is The Best Way to Learn, if AI Is Anything to Go By](#)

Times of India

MindBodyGreen [To Learn Best, Psychologists Say You Need To Fail 15% Of The Time](#)

Scientific American, [How Wrong Should You Be?](#)

Futurity [Our eyes show when we make certain mistakes](#)

UA News, [Are Eyes the Window to Our Mistakes?](#)

2017

Arizona Daily Star, [Brain makes mistakes on purpose so we can learn](#)

UA News, [Research Says Teens, Young Adults Explore Differently](#)

Science Daily, [Teens, young adults explore differently](#)

The Daily Wildcat, [Psychologists learn strategies of teen learning and exploration](#)

2016

AirTalk with Larry Mantle. [Why you might think twice before jumping in that \(Powerball\) pool](#)

Tucson News Now. [The psychology behind buying a lottery ticket.](#)