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## Education

Ph.D., Cognitive Psychology, University of Massachusetts, Amherst (2011)  
Dissertation: Binary ROCs and their implications for the measurement of memory Advisor:  
Caren Rotello  
M.S., Cognitive Psychology, University of Massachusetts, Amherst (2009)  
Thesis: Dual-process theory and syllogistic reasoning: A signal detection analysis Advisor:  
Caren Rotello  
B.S., Psychology, Eastern Michigan University (2006) Advisor: Dennis Delprato

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Associate Professor, University of South Florida, August 2019 - Present  
Assistant Professor, University of South Florida. August 2013 – August 2019  
Post-Doctoral Research Fellow, Volen Center for Complex Systems, Brandeis University Sponsor:  
Robert Sekuler. July 2011 - August 2013  
Adjunct Professor, Babson College. September 2012 - May 2013

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- Recognition memory
- Alpha oscillations in attention and memory
- Signal Detection Theory and ROC analysis
- Visual short-term memory and visual perception
- Deductive reasoning and decision-making

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Annotation:

<sup>FS</sup>Accepted on first submission  
<sup>GA</sup>Graduate student author  
<sup>UA</sup>Undergraduate student author

7 "689(!:, & Malmberg, K. (under review). A convergence of theories of mind and brain.

Zepp, J., &(7 "689(!: (under review). The perceptual average in visual short-term memory: Neither perceptual nor an average.

7 "689(!: (under review). An information-theoretic approach to the retrieving effectively from memory (REM) model: Statistical information in short-

Aldegheri, G., 7 "689(!:, & Melcher, D. (under review) The sampling rate of face processing as measured by the flashed face distortion illusion.

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7 "689(!:, & Rotello, C.M. (2023). Signal detection theories of recognition memory. To appear in Mickes, L. et al. (Eds.), / "(%)-), '( ) \*'# "#\$&0'1'2\$#3%"4")5-6""7""")2" (3<sup>rd</sup> ed., pp'xx-yy). Elsevier.

+\$, )-.6"'>5&24\$:\$, &, 102, 21-40.

<sup>GA</sup>Annis, J., 7 "689(!:, & Malmberg, K.J. (2016). A Bayesian approach to discriminating between biased responding and sequential dependencies in binary choice data. O "2-5-\$), Advanced Online Publication.

<sup>FS</sup>Kellen, D., Erdfelder, E., Malmberg, K.J., 7 "689(!:, & Criss, A.H. (2016). The ignored alternative: An application of Luce's low-threshold model to recognition memory. ;\$9%) (: '\$7' ! (.4" # (.2 (: '>5&24\$:\$, &, 75, 86-95.

7 "689(!:, & Sekuler, R. (2015). Obligatory and adaptive averaging in visual short-term memory. ;\$9%) (: '\$7'P-5-\$), 15, 1-13.

Rotello, C.M., Heit, E., & 7 "689(!: (2015). When more data steer us wrong: Replications with the wrong dependent measure perpetuate erroneous conclusions. >5&24\$)\$#-2'E9::"-.)'() \*'M"6-"N, 22, 944-954.

Cassidy, B.S., 7 "689(!:, & Gutchess, A.H. (2015). Social influences on adaptive criterion learning. ! " # \$%&'() \*'+\$, )-.\$), 43, 695-708.

<sup>GA</sup>Kiselica, A.M., Rojas, E., Bornovalova, M.A., & 7 "689(!: (2015). Nomological network and predictive utility of distress tolerance. 155"55# " ), 1-15.

7 "68, C., Zhou, F., Kahana, M.J., & Sekuler, R. (2014). Similarity-based distortion of visual short-term memory is due to perceptual averaging. P-5-\$)'M"5" (%24, 96, 8-16.

7 "68, C., Payne, L., Sekuler, R., & Rotello, C.M. (2013). Paying attention to attention in recognition memory: Insights from models and electrophysiology. >5&24\$:\$, -2 (: 'H2-" )2", 24, 2398-2408.

<sup>FS</sup>7 "689(!:, Rotello, C.M., & Pazzaglia, A. (2013). The statistical accuracy and theoretical status of discrete-state MPT models: Reply to Batchelder and Alexander (2013). >5&24\$:\$, -2 (: 'E9::"-.)

7 "689(!:, Rotello, C. M., & Heit, E. (2010). Assessing the belief bias effect with ROCs: It's a response bias effect. >5&24\$:\$, -2(:'M"6-"N, 117(3), 831-863.

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"Capacity limits of human visual processing of moving-element stimulus displays." SOCOM J59. (PI; ~100k, not funded). Submitted 9/23/2021

"Understanding and controlling the prevalence effect in visual search: New insights from mathematical models and eyetracking." NIH R21. (PI; Resubmission; ~270K, not funded). Submitted 7/31/2018.

"Ensemble representation and exemplar matching in memory and categorization." NSF. (PI;\$482,985; not funded). Submitted 7/26/2018.

"Understanding and controlling the prevalence effect in visual search: New insights from mathematical models and eyetracking." NIH R21. (PI; ~270K, not funded). Scores: Impact 46, percentile (% above this) 39%. Submitted 9/26/2017.



Statistical Inference in Psychology I-II (graduate statistics; Fall 2009-Spring 2011).  
Supervisor: Caren M. Rotello

/(T<sup>B</sup>)5.92.\$%, University of Massachusetts  
Statistics in Psychology (undergraduate statistics; Fall 2006).  
Supervisor: Andrew L. Cohen

/(T<sup>B</sup>)5.92.\$%, Eastern Michigan University  
General Psychology. (Spring 2006).  
Supervisor: Dennis Delprato

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\*\* indicates APA Dissertation Award Recipient

Undergraduate Honors Thesis Committees:  
Emily Bauer (!2+##; 2015 – 2016).

Dissertation Committees:

Jeffrey Annis (Member; Major Prof: Ken Malmberg; 2014)  
Adam Ducey (Member; Major Prof: Mike Coover; 2014 – 2016)  
Holly Westfall (Member; Major Prof: Ken Malmberg; 2015)  
Patricia Johnson (Member; Major Prof: Cindy Cimino; 2015 – 2017)  
Ahmad Manasrah (Member; Major Prof: Kyle Reed, Mech. Eng.; 2015 – 2016)  
Yongqiang Huang (Dept. of Comp. Sci. & Eng.; Major Prof: Yu Sun; 2015 – 3/18/19)  
Mark Grichanik (Member; Major Prof: Mike Coover; 2016-2017)  
Tiffany Lee (Member; Major Prof: Mike Coover; 2016)  
Patrick Logan (Member; Major Prof: Mark Goldman; Fall 2016-Fall 2017)  
Heather Soder (Member; Major Prof: Geoff Potts; Fall 2016-Fall 2017)  
Hansapani Rodrigo (Dept. of Mathematics and Statistics; Outside Chair; Major Prof: Christopher Tsokos; Summer 2017)  
Carlos Perez (Dept. of Physics; Major Prof: Ghanim Ullah; Fall 2017-11/4/20)  
Sujala Maharjan (Brandeis University; Member; Major Prof: Robert Sekuler; Spring 2017-Fall 2017).  
Tanya DeDios (Member; Major Prof: Geoffrey Potts; 2017 – 5/30/19)  
Mark Lowry ( ! .G F +H . #(-# . I; Fall 2017-Spring 2019)  
Matthew Arborgast (Member; Major Prof: Mike Coover; 2018)  
Alaina Talboy (Member; Major Prof: Sandra Schneider; 2018 - 2019)  
Ena Begovich (Member; Major Prof: Jon Rottenberg; 2018 – 6/17/20)  
Sophy Yu (Member; Major Prof: Emanuel Donchin, Geoffrey Potts; 2018 – 6/3/20)  
Christina Verzijl (Member; Major Prof: Diana Rancourt; 2019 – 5/20/22)  
P. Scott Ramsay (Member; Major Prof: Walter Borman; 2018)  
Jaclyn Martin ( ! .G F +H . #(-# . I; Major Prof: Mike Coover; 2018 – 3/27/19)  
Emily Noyes (Member; Major Prof: Robert Schlauch; (5/1/19 – 11/13/20)  
Yile Sun (Brandeis University; Member; Major Prof: Robert Sekuler; 7/25/2020 – 9/11/2020).  
\*\*Ke Tong ( F +H . #(-# . I; 5/22/20 -10/7/20)  
H

Committees:



Vision Sciences Society (Member; 2015 – 2019)  
Cognitive Neuroscience Society (Member; 2015 – 2016)

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<sup>UA</sup>Mansour, S., <sup>GA</sup>Westfall, H., & Dubé, C. (2015, May). ROC curves in recognition memory: An empirical investigation of the relationships between response bias, sequential dependencies, and changes in zROC slopes. Poster presented by Salwa Mansour at the *H. ( )7\$\*U) \*''%, % ( \*9( . '' >5&24\$: \$, & ' + \$)7''%" )2''*, Stanford, CA.

<sup>UA</sup>Mansour, S., <sup>GA</sup>Westfall, H., & Dubé, C. (2015, April). ROC curves in recognition memory: An empirical investigation of the relationships between response bias, sequential dependencies, and changes in zROC slopes. Paper presented by Salwa Mansour at the 2015 *UHF'U) \*''%, % ( \*9( . '' M"5" (%24' ( ) \*' 1%.5'+ \$:: \$V9-9#*.

\*This presentation by Salwa was rated in the Top 5% for 14/16 merit criteria and the remaining 2 criteria were rated in the Top 25%.

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<sup>GA</sup>Zepp, J., **(7 " 689(!**: (2023, November). A model of feature encoding in ensemble representation. Poster presentation by Jacob Zepp at the *AD'"'1 )9(:' ! "" .-), '\$7'.4">5&24\$) \$ #-2' H\$2- ".&*, San Francisco, CA

<sup>GA</sup>Zepp, J., **7 " 689(!**: (2023, June). A transfer account of orientation ensemble averaging. Poster presentation by Jacob Zepp at the 2023 *1 )9(:' ! "" .-), '\$7'.4"'P-5-\$)'H2- " )2 "5'H\$2- ".&?'St. Pete Beach, FL.*

<sup>GA</sup>Starling, L., & **7 " 689(!**: (2023, June). Attentional differences predict ensemble coding and are moderated by probe effects. Poster presentation by Laramie Starling at the 2023 *1 )9(:' ! "" .-), '\$7'.4"'P-5-\$)'H2- " )2 "5'H\$2- ".&?'St. Pete Beach, FL.*

**7 " 689(!**: (2022, November).

<sup>GA</sup>Zepp, J., 7 "689(!:, & Melcher, D. (2020, June). Rapid ensemble averaging of orientation without individual item encoding. Poster presentation by Jacob Zepp at the 2020 1)9(:'! "".-), ' \$7'.4""'P-5-\$)'H2-" )2 "5'H\$2-."&'YF%5.'P%.9(:'! "".-),Z.

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7 "689(!:(2019, November). Models of visual short-term memory should include memory for prototypes. Spoken presentation at the AJ

Kellen, D., Erdfelder, E., Malmberg, K.J., **7 "689(!** :, & Criss, A.H. (2015, November). The ignored alternative: An application of Luce's low-threshold model to recognition memory. Paper presented at the symposium Computational Approaches to Cognition (Host: *H\$2-".&7\$%' ! (.4" # (-2 (:'* >5&24\$.\$, &), in conjunction with the *IA''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Chicago, IL.

Malmberg, K.J., <sup>GA</sup>Annis, J., **7 "689(!** :, & <sup>UA</sup>Erb, K. (2015, November). Reductions in sequential dependencies in recognition memory testing. Poster presented at the *IA''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Chicago, IL.

<sup>GA</sup>Annis, J., **7 "689(!** :, & Malmberg, K.J. (2015, November). A Bayesian approach to discriminating between biased responding and sequential dependencies in binary choice data. Poster presented at the *IA''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Chicago, IL.

Rotello, C.M., Heit, E., & **7 "689(!** ::(2015, November). Replications with the wrong dependent measure perpetuate erroneous conclusions. Paper presented at the *IA''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Chicago, IL.

<sup>GA</sup>Zobel, B.H., **7 "689(!** :, Sanders, L.D., & Rotello, C.M. (2014, November). A neurobehavioral test of discrete-state and continuous recognition memory models. Poster presented at the *II''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Long Beach, CA.

**7 "6,9(!** :9(Payne, L., Sekuler, R., & Rotello, C.M. (2013, November). Continuous recollection without unitization or familiarity. Poster presented at the *ID''1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Toronto.

Payne, L., **7 "6,9(!** :, & Sekuler, R. (2013, November). Attention-modulated alpha-band oscillations protect against memory encoding of irrelevant visual and auditory stimuli. Poster presented at the annual meeting of the *H\$2-".&7\$%^ "9\$52-")2""* San Diego, CA.

Zanto, T., Sekuler, R., **7 "6,9(!** :9(& Gazzaley, A. (2012, June) Age-related changes in expectation-based modulation of motion detectability. Poster presented at the annual meeting of the *Q%, (-)\(-.\$)7\$%C9#() 'E%(-)'! (33)* , Beijing.

**7 "6, , !** :, & Sekuler, R. (2012, May). On the nature of prototype effects in visual working memory for motion. Poster presented at the annual meeting of the *P-5-\$)'H2-")2"5'H\$2-".&* Naples FL.

**7 "6,9(!** :, Starns, J.J., Rotello, C.M., & Ratcliff, R. (2011, November). Binary ROCs in recognition memory: Signal detection, multinomial processing tree, and diffusion models. Poster presented at the *I\_&\$'1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& Seattle, WA.

**7 "6,9(!** :, & Rotello, C. M. (2010, November). Binary and rating ROCs in perception, reasoning, and memory are curved. Paper presented at the *IX5.'1))9(:' ! "".-)*, '\$7'.4"'>5&24\$)\$#-2'H\$2-".& St. Louis, MO.

**7 "6,9(!** :, Rotello, C. M., & Heit, E. (2009, November). Assessing the belief bias effect with ROCs: It's a response bias effect. Paper presented at the

Merrimack College, Nov. 14, 2011.

University of South Florida, Jan. 18, 2013.