

PERNILLE HEMMER

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PROFESSIONAL POSITIONS

- 2015- Executive Committee, Rutgers University Center for Cognitive Science
2014- Associate member, Institute for Health, Health Care Policy, and Aging Research, Rutgers
2012- Assistant Professor, Department of Psychology, Rutgers University
2011-2012 Postdoctoral fellow, Syracuse University

EDUCATION

- 2011 Ph.D. Psychology, University of California, Irvine
2009 M.A. Psychology, University of California, Irvine
2006 B.A. Psychology, University of California, Irvine - Summa cum Laude

HONORS AND AWARDS

- 2015 Nominated, Associate editor, Psychonomic Bulletin & Review
2015 Recipient, Women in Cognitive Science Mentoring Award
2012 Recipient, Women in Cognitive Science Networking Travel Award
Recipient, Society for Mathematical Psychology Post Doc Travel Award
2011 Recipient, Society for Mathematical Psychology Post Doc Travel Award
2010 Recipient, Graduate Dean's Dissertation Fellowship
Recipient, Jean-Claude Falmagne Research Award
2009 Recipient, John I. Yellott Scholar Award
2008 Recipient, *Cognitive Science* best paper on modeling higher-level cognition

RESEARCH GRANTS

External

- 2015-2020 NSF CAREER: *Applications of Bayesian Inference to Human Memory and Decision Making*. \$440,000. Award Id: 1453276. Role: PI
2015-2018 NSF: *Bayesian Modeling of Situated Communicative Goals*. \$ 499,945. Award Id: 1526723. Role: Co-PI
2013-2014 Rockefeller Philanthropy Advisors. *Priors and Memory Laboratory*. Role: PI

Internal

- 2013-2014 Rutgers University Research Council Grant. *Updating Beliefs over Time*. Role: PI

PROFESSIONAL AFFILIATIONS

- 2015- Organizing board member, Women in Mathematical Psychology
2014- Advisory board member, Women in Cognitive Science
2013- Board member, the Society of Mathematical Psychology
2012- Women in Cognitive Science
2011- Women of Mathematical Psychology
2011- Psychonomics Society

- 2009- Society for Mathematical Psychology
 2008- Cognitive Science Society
 2008- Association for Psychological Science

EDITORIAL POSITIONS

- 2016- Associate Editor for Behavior Research Methods

PROFESSIONAL ACTIVITIES

- 2016 Organizer, Annual Meeting of the Society for Mathematical Psychology, New Brunswick, NJ
 2016 Co-Organizer, Women of Mathematical Psychology Professional Development Workshop, New Brunswick, NJ
 2015 Co-Organizer, Women of Mathematical Psychology Professional Development Workshop, Newport Beach, California
 Member, graduate admissions committee, Cognitive area
 2014 Chair, Graduate requirements committee, Cognitive Psychology
 Co-Organizer, Women of Mathematical Psychology Symposium, Quebec City, Canada
 2013-2014 Member, the Office for the Promotion of Women in Science, Engineering, and Mathematics (SciWomen) *faculty learning community*, Rutgers University
 2013 Organizer, Women of Mathematical Psychology Symposium, Potsdam, Germany
 2013 Participant, Women Take Flight Leadership workshop, Rutgers University
 2013 Area Chair, graduate admissions committee, Department of Psychology, Rutgers
 2012-Current Member, Honors Major in Psychology Committee
 2012 Participant, the Office for the Promotion of Women in Science, Engineering, and Mathematics (SciWomen) OASIS Leadership & Professional Development Program, Rutgers University

AD-HOC REVIEWING

Journals

Journal of Memory and Language, Psychonomic Bulletin and Review, Memory & Cognition, Cognitive Science, Cognitive Psychology, Journal of Forensic Psychology Practice, Journal of Mathematical Psychology, Journal of Cognitive Psychology, Journal of experimental Psychology: Learning, Memory and Cognition, Quarterly Journal of Experimental Psychology, Behavior Research Methods.

Conferences/Organizations

Cognitive Science Society, French National Research Agency (ANR)

PUBLICATION LIST

(* indicates undergraduate student, underline indicates graduate student)

Journal Articles

Wang, L., Hemmer, P. & Leslie, A. (in review). Estimating inhibitory power in belief-desire reasoning between high and low demand false belief tasks.

Hemmer, P., Miller, B., & Steyvers, M. (in review). Assessing the Contribution of Prior Knowledge to Memory for Scripted Events.

Robbins, T., Hemmer, P., & Tang, Y.* (in review). Memory and Prediction in Changing Environments.

Hemmer, P., Criss, A.H. & Ahluwalia, D.* (in second review- invited revision). Distinctiveness Effects across Memory Tasks.

Trueblood, J. S. & Hemmer, P. (in second review- invited revision). The Generalized Quantum Episodic Memory Model of Additivity Violations in Recognition Memory.

Persaud, K. & Hemmer, P. (2016). The Dynamics of Fidelity over the Time Course of Long-Term Memory. *Cognitive Psychology*, 88, 1-21.

Hemmer, P., Tauber, S., & Steyvers, M. (2015). Moving beyond qualitative evaluations of Bayesian models of cognition. *Psychonomic Bulletin & Review*, DOI 10.3758/s13423-014-0725-z

Hemmer, P. & Persaud, K. (2014). Interactions between Categorical Knowledge and Episodic Memory across Domains. *Frontiers in Psychology* 5:584. doi: 10.3389/fpsyg.2014.00584.

Hemmer, P. & Criss, A. (2013). The Shape of Things to Come: Evaluating Word Frequency as a Continuous Variable in Recognition Memory. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 39(6):1947-52. doi: 10.1037/a0033744

Hemmer, P., Steyvers, M. (2009a). Integrating Episodic Memories and Prior Knowledge at Multiple Levels of Abstraction. *Psychonomic Bulletin & Review*, 16(1), 80-87

Hemmer, P. & Steyvers, M. (2009b). A Bayesian Account of Reconstructive Memory. *Topics in Cognitive Science*, 1, 189-202.

Brown, S.D., Steyvers, M., & Hemmer, P. (2007) Modeling Experimentally induced Strategy Shifts. *Psychological Science*, 18, 40-45.

Book Chapters

Steyvers, M. & Hemmer, P. (2012). Reconstruction from Memory in Naturalistic Environments. In Brian H. Ross (Ed), *The Psychology of Learning and Motivation*, (126-144). Elsevier Publishing

Papers in refereed conference proceedings

Hemmer, P., Persaud, K., McGovern, C., & Piantidosi, S. (2015). Shifting priors: Evaluating the cross-cultural influence of color expectations on episodic memory. In Noelle, D. C., Dale, R., Warlaumont, A. S., Yoshimi, J., Matlock, T., Jennings, C. D., & Maglio, P. P. (Eds.), *Proceedings of the 37th Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Macias, C.*, Yung, A.*, Hemmer, P. & Kidd, C. (2015). Memory strategically encodes externally unavailable information. In Noelle, D. C., Dale, R., Warlaumont, A. S., Yoshimi, J., Matlock, T., Jennings, C. D., & Maglio, P. P. (Eds.), *Proceedings of the 37th Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Persaud, K. & Hemmer, P. (2014). The influence of knowledge and expectations for color on episodic memory. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*, Quebec City, CA: Cognitive Science Society, pp 1162-1167. <https://mindmodeling.org/cogsci2014/papers/206/>

Hemmer, P., Persaud, K., Venaglia, R.*, & DeAngelis, J.* (2014). What's your source: Evaluating the effects of context in episodic memory for objects in natural scenes. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*, Quebec City, CA: Cognitive Science Society, pp 2765-2770. <https://mindmodeling.org/cogsci2014/papers/478/>

Robbins, T., Hemmer, P., & Tang, Y.* (2014). Bayesian Updating: A Framework for Understanding Medical Decision Making. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*, Quebec City, CA: Cognitive Science Society, pp1299-1304 <https://mindmodeling.org/cogsci2014/papers/229/>

Hemmer, P., Steyvers, M., & Miller, B. (2010). The Wisdom of Crowds with Informative Priors. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Hemmer, P. & Steyvers, M. (2009c). Integrating Episodic and Semantic Information in Memory for Natural Scenes. In N.A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31th Annual Conference of the Cognitive Science Society* (pp. 1557-1562). Austin, TX: Cognitive Science Society.

Steyvers, M., Lee, M.D., Miller, B., & Hemmer, P. (2009d). The Wisdom of Crowds in the Recollection of Order Information. In J. Lafferty, C. Williams (Eds.) *Advances in Neural Information Processing Systems*, 23. MIT Press.

Miller, B., Hemmer, P. Steyvers, M. & Lee, M.D. (2009e) The wisdom of crowds in rank ordering tasks. *Proceedings of the 9th International Conference of Cognitive Modeling*.

Hemmer, P. & Steyvers, M. (2008). A Bayesian Account of Reconstructive Memory. In V. Sloutsky, B. Love, and K. McRae (Eds.) *Proceedings of the 30th Annual Conference of the Cognitive Science Society*. Mahwah, NJ: Lawrence Erlbaum

Published Abstracts

Author A. & Author B. (2016). This is the title of the abstract [Abstract]. In In A. Papafragou, D. Grodner, D. Mirman, & J.C. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin TX: Cognitive Science Society.

Author A. & Author B. (2016). This is the title of the abstract [Abstract]. In In A. Papafragou, D. Grodner, D. Mirman, & J.C. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin TX: Cognitive Science Society.

Aue, W., Hemmer, P. & Criss, A. (2013). A Bayesian Analysis of Bias in Single Item Recognition for Continuous Word frequency [Abstract]. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.) *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (p. 3873). Austin TX: Cognitive Science Society.

Hemmer, P., Shi, J. & Steyvers, M. (2010). The influence of Real World Knowledge on Recall for Height [Abstract]. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (p. 2402). Austin, TX: Cognitive Science Society.

Presentations at conferences and meetings

(* indicates undergraduate student, underline indicates graduate student, unless otherwise indicated by italics first author was the presenter).

2016 Robbins, T. & Hemmer, P. (2016, August). *Optimal Predictions in Illness Cognition*. Poster presented at the 38th Annual Conference of the Cognitive Science Society. Philadelphia, Pennsylvania USA.

Persaud, K. & Hemmer, P. (2016, August). *Time Course of Fidelity and Contributing Factors to Long-Term Memory*. Poster presented at the 38th Annual Conference of the Cognitive Science Society. Philadelphia, Pennsylvania USA.

Hemmer, P. & Persaud, K. (2016, August). *Does Prior Knowledge Influence the Fragility of Associations in Memory?* Talk given at Annual Meeting of the Society for Mathematical Psychology, New Brunswick, NJ.

Persaud, K., Hemmer, P., & Ahluwalia, D*. (2016, August). *Does Prior Knowledge Influence the Fragility of Associations in Memory?* Poster given at Annual Meeting of the Society for Mathematical Psychology, New Brunswick, NJ.

- Robbins, T., Hemmer, P., Leyble, K., & Spencer, C. *. (2016, August). *Optimal Predictions in Illness Cognition*. Poster given at Annual Meeting of the Society for Mathematical Psychology, New Brunswick, NJ.
- Wall, D. G., Hemmer, P., Chapman, G., & Pei, K*_. (2016, August). *Mixing Risk With Time*. Talk given at Annual Meeting of the Society for Mathematical Psychology, New Brunswick, NJ.
- 2015 Hemmer, P. & Persaud, K. (2015, November). *The Time Course of Errors in Long-Term Episodic Memory for Color*. Talk given at the Annual Meeting of the Psychonomic Society, Chicago. Il.
- Robbins, T., Hemmer, P., Leyble, K.*, & Robbins, S.* (2015, November). *Assessing Prior Beliefs and Memory for Symptom and Illness Relationships*. Poster given at the Annual Meeting of the Psychonomic Society, Chicago. Il.
- Hemmer, P., Persaud, K., McGovern, C., & Piantidosi, S. (2015, July). *Shifting priors: Evaluating the cross-cultural influence of color expectations on episodic memory*. Talk given at Annual Conference of the Cognitive Science Society, Pasadena, CA.
- Macias, C.*, Yung, A.*, Hemmer, P. & Kidd, C. (2015, July). *Memory Strategically Encodes Externally Unavailable Information*. Poster given at Annual Conference of the Cognitive Science Society, Pasadena, CA.
- Hemmer, P. & Persaud, K. (2015, July). *Modeling the Time Course of Errors in Long-Term Episodic Memory for Color*. Talk given at Annual Meeting of the Society for Mathematical Psychology, Newport Beach, CA.
- Hemmer, P. & Persaud, K. (2015, July). *The Time Course of Errors in Long-Term Episodic Memory for Color*. Talk given at the Annual Summer Interdisciplinary Conference, Mammoth Lakes, CA.
- Hemmer, P. & Persaud, K. (2015, May). *Episodic Memory across Cultures: From Students in the US to the Tsimane' People of Bolivia*. Invited rebuttal given at the Context and Episodic Memory Symposium, Philadelphia, PA.
- 2014 Hemmer, P., Robbins, T., Persaud, K., & Tang, Y*. (2014, November). *The influence of belief states on memory and prediction*. Poster presented at the Annual Meeting of the Psychonomic Society, Long Beach, CA.
- Trueblood, J. & Hemmer, P. (2014, July). *Quantum refrigerators: A quantum model of conjoint recognition in natural scenes*. Talk given at the Annual Meeting of the Society for Mathematical Psychology, Quebec City, Canada.
- Persaud, K. & Hemmer, P. (2014, July). *Color Preferences and Sampling Behavior in Recall for Color*. Poster given at the Annual Meeting of the Society for Mathematical Psychology, Quebec City, Canada.
- Robbins, T. & Hemmer, P. (2014, July). *A Bayesian Model of Belief-Updating*. Poster given at the Annual Meeting of the Society for Mathematical Psychology, Quebec City, Canada.
- Hemmer P., Persaud K., DeAngelis, J.*, & Venaglia, R.* (2014, July). *What's Your Source: Evaluating the Effects of Context in Episodic Memory for Objects in Natural Scenes*. Poster presented at Annual Conference of the Cognitive Science Society, Quebec City, Canada.
- Persaud, K. & Hemmer, P. (2014, July). *The Influence of Knowledge and Expectations for Color on Episodic Memory*. Talk given at Annual Conference of the Cognitive Science Society, Quebec City, Canada.

- Robbins, T., Hemmer, P. & Tang, Y.* (2014, July). *Bayesian Updating: A Framework for Understanding Medical Decision Making*. Talk given at Annual Conference of the Cognitive Science Society, Quebec City, Canada.
- Hemmer, P. & Persaud, K. (2014, May). *The relative contribution of global versus local context on free recall for natural scenes*. Talk given at the Context and Episodic Memory Symposium, Philadelphia, PA.
- Persaud, K. & Hemmer, P. (2014, May). *The influence of knowledge and expectations for color on episodic memory*. Poster presented at the 10th Annual Context and Episodic Memory Symposium, Philadelphia, PA.
- DeAngelis J.*, Hemmer P., Persaud K., & Venaglia, R.* (2014, April). *The Effect of Random Context on Memory*. Poster presented at the National Conference on Undergraduate Research, University of Kentucky, Lexington KY.
- 2013 Persaud K., Hemmer P., DeAngelis, J.*, & Venaglia, R.* (2013, November). *Context effects in episodic memory for natural scenes*. Poster presented at the Annual Meeting of the Psychonomic Society, Toronto, Canada.
- Wang, L., Hemmer, P. & Leslie, A. M. (2013, October). *Two Bayesian models of the development of belief-desire reasoning*. Talk given at the Biannual Meeting of the Cognitive Development Society.
- Venaglia, R.*, Hemmer P., Persaud K., & DeAngelis, J.* (2013, August). *The Effect of Context on Recall of Objects in a Natural Scene*. Talk given at the Perceptual Science REU Symposium, Rutgers University, New Brunswick, NJ
- Hemmer, P. & Criss, A.H. (2013, August). *Modeling a non-monotonic relationship in single item recognition for continuous word frequency*. Talk given at the Annual Meeting of the Society for Mathematical Psychology, Potsdam, Germany.
- Aue, W. R., Hemmer, P. & Criss, A. H. (2013, August). *A Bayesian Analysis of Bias in Single Item Recognition for Continuous Word frequency*. Poster presented at Annual Conference of the Cognitive Science Society, Berlin, Germany.
- Hemmer, P. & Criss, A.H. (2013, July). *Evaluating Word Frequency as a Continuous Variable in Recognition Memory*. Talk given at the Annual Summer Interdisciplinary Conference, Cortina d'Ampezzo, Italy.
- DeAngelis,* J., Hemmer P., Persaud K., & Venaglia, R.* (2013, July). *The Effect of Random Context on Memory*. Poster presented at the Annual Aresty Summer Research Symposium, Rutgers University, New Brunswick, NJ
- Hemmer, P., Aue, W. R. & Criss, A. H. (2013, May). *The Relationship between Multiple Memory Tasks*. Talk given at the Context and Episodic Memory Symposium, Philadelphia.
- Persaud K., Hemmer P., & Reyes, J.* (2013, April). *The influence of knowledge and expectations for colors on episodic memory*. Poster presented at the 7th Annual Perceptual Science Forum, Rutgers University, New Brunswick, NJ
- 2012 Hemmer, P. & Criss, A.H. (2012, November). *The effect of continuous word frequency, context variability and OLD across memory tasks*. Poster presented at the Psychonomic Society meeting, Minneapolis, Minnesota.
- Hemmer, P. & Criss, A.H. (2012, July). *The effect of continuous word frequency, context variability and OLD across memory tasks*. Poster presented at the Annual Meeting of the Society for Mathematical Psychology, Columbus, OH

- Hemmer, P., Criss, A.H., Wyble, B. (2012, May). *Assessing a neural basis for differentiation accounts of recognition memory*. Poster presented at the Context and Episodic Memory Symposium, Bloomington, IN.
- 2011 Hemmer, P., Criss, A.H., & Wyble, B. (2011, November). *Assessing a neural basis for differentiation accounts of recognition memory*. Poster presented at the Psychonomic Society meeting. Seattle, WA.
- Hemmer, P. & Steyvers, M. (2011, July). *Estimating Individual Differences in a Rational Model of Memory*. Talk given at the Annual Meeting of the Society for Mathematical Psychology, Boston
- 2010 Steyvers, M. & Hemmer, P. (presenter). (2010, November). *The wisdom of crowds with informative priors*. Abstract given at the Annual Meeting of the Psychonomic Society, St. Louis.
- Hemmer, P., Steyvers, M. & Miller, B. (2010, July). *The Wisdom of Crowds with Informative Priors*. Poster presented at Annual Conference of the Cognitive Science Society, Portland, OR.
- Hemmer, P. & Steyvers, M. (2010, July). *Estimating Individual Differences in a Rational Model of Memory*. Talk given at the Annual Meeting of the Society for Mathematical Psychology, Portland, OR.
- Hemmer, P. & Steyvers, M. (2010, July). *Estimating Individual Differences in a Rational Model of Memory*. Talk given at the Annual Summer Interdisciplinary Conference, Bend, OR.
- Hemmer, P. & Steyvers, M. (2010, May). *The Influence of Prior Knowledge on Recall for Height*. Poster given at the Context and Episodic Memory Symposium, Philadelphia, PA.
- 2009 *Annual Meeting of the Society for Mathematical Psychology*, Amsterdam
Annual Conference of the Cognitive Science Society, Amsterdam
Annual Summer Interdisciplinary Conference, Valle d'Aosta, Italy
- 2008 *Annual Meeting of the Cognitive Science Society*, Washington DC
Annual Summer Interdisciplinary Conference, Madonna Di Campiglio, Italy
Context and Episodic Memory Symposium, Tampa, Florida
- 2007 *Annual Summer Interdisciplinary Conference*, Kalymnos, Greece.
Annual meeting of the Society for Mathematical Psychology, Costa Mesa, Ca
- 2005 *Annual Meeting of the Psychonomic Society*, Toronto.

INVITED TALKS

- 2016 *University of Copenhagen*, Center for Visual Cognition Colloquium
New York University, ConCats Colloquium
- 2013 *Rochester University*, Brain & Cognitive Science Colloquium
- 2012 *Rutgers University*, What is Cognitive Science Talk Series
- 2011 *Syracuse University*, Colloquium
Rutgers University. Colloquium
- 2010 *University of London, Birkbeck*. Cognitive Science Seminar Series

PANELIST

- 2014 Women of Mathematical Psychology Symposium, Quebec City, Canada. Workshop: *Negotiation: Data and Advice*.

2013 Annual Meeting of the Cognitive Science Society, Berlin, Germany. Workshop: *Professional Advancement Through real and Virtual International Collaboration.*

STUDENTS

Current Ph.D. Students

2012- Kimele Persaud (IGERT fellow, NSF GRFP fellow)
2013- Talia Robbins
2015- Daniel Wall

Former Ph.D. Students

2013-2014 Dominic Freschi

Current Masters Students

2013- Brian McMahan

Qualifying Exam Committee

2013 Neha Sinha
2015- Michelle Chang
2015- Nicholas Kleene
2015- Kimele Persaud, Chair

Masters Committee

2014 Kimele Persaud (IGERT fellow, NSF GRFP fellow), Chair
2014 Michelle Cheng
2014-2015 Jenna Herold
2015 Talia Robbins, Chair
2015- Jason Rubinstein
2016 Rachel Lerch

Ph.D. thesis Committee

2012-2014 Min Zhao
2013-2015 Neha Sinha

Undergraduate students supervised

2015- Kaitlin Leyble (Cooper Summer Research Fellow 2016; Arestry Rising Sophomore Summer Research Program Fellow 2014); Chrystal Spencer (McNair Scholar; research assistant); Kevin Pei (research assistant)
2015-2016 Jinal Parikh (McNair Scholar);
2014- Mie-Hawa Sumner (Arestry Rising Sophomore Summer Research Program Fellow 2014; research assistant); Sarah Robbins (research assistant)
2014 Emily Johnston (Perceptual Science summer REU Fellow)
2013- Daljit Ahluwalia (Cooper Summer Research Fellow 2015, 2016; research assistant; work study student)
2013-2016 Joseph DeAngelis (Honors in Psychology; Arestry Research Fellow 2014-2015; Cooper Summer Research Fellow 2014; 2015; Arestry Rising Sophomore Summer Research Program Fellow 2013); Yubei Tang (Arestry RA Fellow 2014-2015, research assistant)
2013-2015 Jacqueline Krychiw (Arestry RA Fellow 2013-2014; research assistant); Karan Jalundhwal (Arestry RA Fellow 2013-2014; research assistant)
2014 Nicole Gooden (research assistant)
2013-2014 Rachel Venaglia (Perceptual Science summer REU Fellow); Nelson Wu (work study student)
2012-2014 Jordan Watson (work study student, research assistant)
2012-2013 Josue Reyes (independent research project), Kelly Skovron (work study student),
2012 Sara Silverman (research assistant), Riley Kennedy (research assistant)
2010-2011 Mindy DeYoung (research assistant); Daniela Amado (research assistant).

2009-2011 Jenny Shi (mentored for SURP and UROP fellowships).
2008-2009 Stanton Mack (research assistant); Christina Maranhao (research assistant); Erin Horowitz (research assistant).

High school students supervised

2015 Lizbeth Lopez (summer intern)
2014- Tatjana Mustac (Saint Francis Preparatory School Science Research program)