
MARK STEYVERS

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PROFESSIONAL POSITIONS

- 2009 - Full Professor, Department of Cognitive Sciences, University of California, Irvine.
- 2005 - Joint faculty appointment with Computer Science Department, University of California, Irvine.
- 2005 - Joint faculty appointment with Department of Psychology and Social Behavior, University of California, Irvine.
- 2005 - 2009 Associate Professor, Department of Cognitive Sciences, University of California, Irvine.
- 2002 - 2005 Assistant Professor, Department of Cognitive Sciences, University of California, Irvine.

EDUCATION

- 2000 - 2002 Postdoctoral fellow. Stanford University
- 1995 - 2000 PhD, Indiana University, Joint degree in Cognitive Psychology and Cognitive Science.
- 1994 BA, University of Amsterdam, Psychology (Cum Laude).

AWARDS AND HONORS

- 2005 Early Investigator Award from Society for Experimental Psychologists (SEP)
- 2004 New Investigator Award. American Psychological Association Division 3 – Journal of Experimental Psychology, Learning, Memory & Cognition.

- 2011 Best paper award at 2011 Cognitive Science Conference. Category: Applied Cognition.
- 2011 Faculty Mentor of the Month award (Feb 2011) from UROP (Undergraduate Research Opportunities Program).
- 2008 Best paper award at 2008 Cognitive Science Conference. Category: computational modeling of high-level cognition.
- 2002 Research Achievement Award. Indiana University, Cognitive Science Program.
- 2000 J.R. Kantor Graduate Award for accomplished graduate careers.
- 1999 - 2000 Research Fellowship of Indiana University College of Arts and Sciences.

PROFESSIONAL AFFILIATIONS

- 2015 - Center for Cognitive Neuroscience & Engineering
- 2007 - Program Leader in Cognitive Science, Center for Machine Learning and Intelligent Systems, University of California, Irvine.
- 2006 - Society for Mathematical Psychology
- 2005 - Elected Fellow for the Society of Experimental Psychologists (SEP)
- 2002 - IMBS, Institute of Mathematical Behavioral Sciences, University of California, Irvine (member).
- 2000 - Psychonomics Society
- 2000 - Cognitive Science Society

EDITORIAL POSITIONS

- 2015 - Consulting Editor for Psychological Review
- 2014 - Associate Editor for Psychonomic Bulletin & Review.
- 2014 - Editorial Board Member of Behavior Research Methods
- 2010 - Consulting Editor for Journal of Mathematical Psychology
- 2007 - 2009 Editorial Board Member for Psychonomic Bulletin & Review.

2006 Editorial Board Member for Journal of Experimental Psychology: Learning, Memory, and Cognition.

PROFESSIONAL SERVICE

2016- Advisory Council Member for Central China Normal University School of Psychology

2016- Executive Committee (School of Social Sciences)

2012 - 2014 President of the Society of Mathematical Psychology

2015 - Advisory Council Member for Indiana University Cognitive Science Program

2014 - Faculty advisory board member for UCI Center in Data Science

2009 - Executive board member of Society of Mathematical Psychology

2010 - Conflict of Interest Oversight Committee, UC Irvine.

GENERAL SERVICE

2017 Special Award Judge for Intel Science and Engineering Fair, Los Angeles (May 16-17)

2004 Briefing on text mining techniques at the White House Office of Science and Technology Policy, Washington, D.C.

CONFERENCE ORGANIZATION

2015 Text and Data Mining for Interactive Learning Symposium. UCI Data Science Initiative. Co-Chair. May 8.

2013 Program Committee CrowdConf 2013

2013 Program Committee UAI conference (Uncertainty in Artificial Intelligence)

2013 Co-organizer of IMBS conference on Wisdom of Crowds (Apr 18-19)

2007 Area Chair for NIPS 2007 (Neural Information Processing Systems)

2007 Conference Chair for meeting of the Society of Mathematical Psychology (with Michael Lee). Meeting held in Irvine.

- 2006 AAAI-06 Program Committee Member (National Conference on Artificial Intelligence)
- 2003 Co-organizer of NIPS (Neural Information Processing Systems) workshop on “Syntax, Semantics, and Statistics” with Rich Shiffrin, David Blei and Tom Griffiths.
- 2003 Session Chair: National Academy of Sciences Colloquium “Mapping Knowledge Domains”.

Ad-hoc reviewing (Journals)

Psychological Review, Proceedings of the National Academy of Sciences, Cognition, Cognitive Science, Psychonomic Bulletin & Review, Memory & Cognition, Journal of Memory and Language, Behavior Research Methods, Instruments, & Computers, BMC Bioinformatics, Trends in Cognitive Sciences, Journal of Mathematical Psychology Journal of Experimental Psychology: Learning, Memory, and Cognition, Journal of Learning and Memory, Journal of Artificial Intelligence Research, Journal of Experimental Psychology: Human Perception and Performance, Journal of Experimental Psychology: General, topiCS, Psychological Science, Acta Psychologica, Transactions on Multimedia Computing Communications and Applications, Journal of Problem Solving, Marketing Science, International Journal of Computer Games Technology, Decision Analysis, Decision, PLOS Computational Biology.

Ad-hoc reviewing (Conferences/Organizations)

Neural Information Processing Systems (NIPS), Cognitive Science Society, Air Force Office of Scientific Research, International Conference of Machine Learning (ICML), NSF Perception, Action, and Cognition Program, Austrian Science Fund, Uncertainty in Artificial Intelligence (UAI), CrowdConf.

CONSULTING AND BUSINESS ACTIVITIES

- 2015 - Consultant for Gimbal
- 2014 - Scientific Advisory Board for CrowdSmart.io
- 2013 - 2014 Consultant for Rubicon
- 2009 - 2010 Consultant for eBay
- 2009 - 2010 Partner in Data Analytics, LLC, Irvine, CA.
- 2008 Consultant for PeopleBest

2006 - 2008 Consultant for Yahoo!
2007 Consultant for Merriam Webster
2006 Consultant for Netflix
2005 – 2008 Partner in TopicSeek, LLC, Irvine, CA.
2004 Consultant for Institute of Defense Analysis, Washington, D.C.
2004 - Scientific Advisory Board of Medical Care Corporation in Irvine.

STUDENTS

Postdocs

Brandon Turner (2011-2012) – Asst Professor at Ohio State University
Tracy Holsclaw (Partial supervision; 2012-2013)
Mike Yi (2011-2013)

Current PhD students

Garren Gaut (2013 – present)
Percy Mistry (2013 – present)
Stephen Bennet (2014 – present)

Former PhD students

Brent Miller (2008-2014) – Postdoc at Vanderbilt University
Sean Tauber (2008-2013) – Postdoc at University of Adelaide
Miles Munro (2007) – Visiting Asst. Professor Wesleyan University, now at Nuance Communications
Pernille Hemmer (2011) – Asst Professor at Rutgers University
Mike Yi (2011) -- Coursera
Tim Rubin (advanced to candidacy 2009) – Postdoc at Indiana University / SurveyMonkey

PhD Thesis Committees (member)

Joetta Goebel (2003; CogSci), Michelle Miller (2005; CogSci), Colleen Nilson (2005; CogSci), Kayoko Okada (2005; CogSci), Chaitanya Chemedugunta (2009; CS). Matt Zeigenfuse (2010; CogSci), Shunan Zhang (June 4 2012; CogSci). America Chambers (Sept, 2013; ICS). James Pooley (Dec 2013; CogSci). James Foulds (May 2014; ICS). Grant Walker (March 1 2016; CogSci)

PhD Candidacy Committees

Colleen Nilson (2003; CogSci), Michele Miller (2003; CogSci), Kayoko Okada (2004; CogSci), Bozhena Bidyuk (2005; ICS), Keita Fujii (2005; ICS), Miles Munro (2005; Cogsci; Chair) Jared Smith (2006; CogSci), Doug Grimes (2006; ICS), Chaitanya Chemudugunta (2006; ICS), Mike Yi (2007; CogSci; Chair), Matt Zeigenfuse (2009; CogSci), Shunan Zhang (2009; CogSci), Brian Marion (2010; CogSci), Sean Tauber (2010; CogSci), America Chambers (2010; ICS), James Pooley (2011; CogSci), Jennifer Lindsay (2011; CogSci), Robin Kaplan (Aug 23 2011; PSB), Chris Dubois (Nov 16 2011; ICS), Matthew Glass (Jun 22 2012; LPS), Grant Walker (Feb 25, 2015; CogSci), Michael Nunez (March 9, 2015; CogSci concentration exam); Padma Sharma (Sept 1, 2016; Economics advancement exam, outside member); Maime Hongyang (March 1, 2016, CogSci advancement, member); Tamara Tate (March 16, 2017, Education, outside member).

Masters Students supervised

Archana Raghunathan (2006), Michael Bacon (2008), Nicole Beckage (2011)

Undergraduate Students Supervised

Golnoosh Farzaneh (2003; independent study project), Angela Nelson (2003-2004; independent study project; summer undergraduate research program), Uyen Lee (2003; research project), Mercedes Lavoy (2004; independent study project; summer undergraduate research program; undergraduate research opportunities program), Pooja Reddy (2004; independent study project), Michelle Clark (2004; independent study project), Nick Punt (2004-2005; independent study project), Pernille Hemmer (2005; summer undergraduate research program), Steve Meissner (2006-2007; undergraduate research opportunities program), Amir Ali Habibi (2007; research project), Surina Ramirez (2007; research project), Hao-Ting Wu (2007; research project), Christina Maranhao (2009; research project), Michael Baumm (2009; UROP), Jenny Shi (2009; SURP; UROP), Annie Ditta (2010; research project). Sarah Hunt (2011-2012; research project).

RESEARCH GRANTS

2017 - 2021 IARPA (Intelligence Advanced Research Projects Activity). Title: *SAGE: Synergistic Anticipation of Geopolitical Events*. This is a collaborative effort with two other universities and ISI. **Role: PI (UC Irvine team).**

2017 - 2018 ABC Visiting Professor (VIP) grant from the University of Amsterdam, the Netherlands. This grant supports travel and accommodations for innovative international researchers to engage in long-term collaborations with one of the research programs of ABC (Amsterdam Brain and Cognition). Approx \$8000.

2017 - 2020 ARC (Australian Research Council) Discovery Project. Title: *Modelling trajectories of cognitive control in adolescents and young adults*. This project aims to (1)

develop an innovative modelling framework that will jointly model multiple measures of behavior, brain function and brain structure in order to characterize developmental trajectories of cognitive control in typically-developing young people, and (2) test the model's ability to predict future psychosocial outcomes. This is a collaborative effort with the Un. of Newcastle, Australia, University of Amsterdam, the Netherlands, and UC Irvine. Total budget: Approx \$492K AUD. Budget for Steyvers supports travel (\$11K AUD). Role: **Partner Investigator**.

- 2015 – 2018 NSF, NCS-FO. Title: *Understanding Individual Differences in Cognitive Performance: Joint Hierarchical Bayesian Modeling of Behavioral and Neuroimaging Data*. The aim of the project is to improve our understanding of individual differences through the development and application of a hierarchical Bayesian framework to jointly model data from behavioral performance, task fMRI, resting state fMRI, MRI, and DTI. This is a collaborative effort with the Ohio State University. Budget: Approx \$300K. **Role: PI**.
- 2013 – 2016 NIH, NIDA (National Institute on Drug Abuse). Title: *Development and feasibility of computer based fidelity monitoring for Motivational Interviewing*. The general goal of the proposed project is to develop new methodologies to automatically score the MI fidelity of therapists by analyzing the text and speech in therapy transcripts. This is a collaborative effort with the Un. of Utah, Un. of Washington, and the Un. of Southern California. R34 DA034860-01. UCI Budget: Approx \$126K. **Role: PI**.
- 2013 – 2015 IARPA (Intelligence Advanced Research Projects Activity) and the Good Judgment Project. Title: *Aggregative Contingent Estimation System*. Within the larger forecasting project directed by the Good Judgment Team, my goal as a consultant is to develop and apply Bayesian signal detection analyses to measure AUC (Area Under the Curve) for individual forecasters and for aggregates as well as individual difference correlates of the AUC and other measures of forecasting expertise. The primary for this contract is the Good Judgment Team. **Role: Consultant**.
- 2011- 2016 National Institute of Mental Health (NIMH). Title: *Adaptive experimental method for evaluating computational models of cognition*. Collaborative grant with Ohio State University to develop novel adaptive design optimization methods to maximize the informativeness of the experimental results. Approx \$1.25M in direct costs. PI: Jay Myung. **Role: Consultant**.
- 2011 - 2013 IARPA (Intelligence Advanced Research Projects Activity). Title: *Aggregative Contingent Estimation System*. We investigate novel approaches to aggregate forecasting judgments across experts in the intelligence community. This is a collaborative effort with six other universities and a defense contractor (Applied Research Associates; ARA). Total budget approx \$4.5M over two years. UC Irvine budget approx. \$500K. **Role: PI (UC Irvine team)**.

- 2010 - 2011 IARPA (Intelligence Advanced Research Projects Activity), Knowledge Discovery and Dissemination Program. Title: *Probabilistic Alignment and Distributed Analysis*. This is a collaborative effort with seven other universities and a defense contractor (Science Applications International Corporation; SAIC). UC Irvine budget \$330K. **Role: Co-I.**
- 2010 - 2016 National Institute on Alcohol Abuse and Alcoholism (NIAAA). Title: *Automating Behavioral Coding via Text-Mining and Speech Signal Processing*. In this research, we use probabilistic topic models and speech signal processing to automatically analyze therapy sessions. The models learn the associations between text, acoustic features, and behavioral codes assigned by therapists with the goal to automate the coding of the therapy transcripts and predict the effectiveness of therapy. This is a collaborative effort with the Un. of Washington and the Un. of Southern California. Total Amount: \$3.1M. Amount for UC Irvine: \$830K. **Role: co-PI (entire team).**
- 2010 – 2011 NAVY SBIR/STTR program (Solicitation STTR 2010.A: Topic - N10A - T029). Title: *Using Stylistic Topic Models to Detect Deception Through Unusual Linguistic Activity*. A small grant to collaborate with a small business (KitWare) for the development of a system to identify deceptive behavior in unstructured documents, particularly behavior signaled by deviations from an author's usual linguistic patterns. Amount: \$39,590. (Co-PI: Pearl). **Role: PI.**
- 2009 - 2010 Council on Research, Computing and Library Resources (CORCLR). Title: *Linguistic Cues to Social Information*. A small seed grant designed to develop the large-scale database and the computational techniques to automatically identify social information available in text. Amount: \$13,000. (PI: Pearl). **Role: Co-PI**
- 2008 AFRL/AFOSR supplemental grant. Title: *Modeling Exploration and Exploitation in Structured Environments, 7/1/2008 – 9/30/2008*. Amount: \$60,000. (PI Michael Lee). **Role: Co-PI.**
- 2008 – 2009 NSF-DARPA-NSA consortium, Knowledge Discovery and Dissemination Program. Title: *Statistical Topic Modeling of Documents, Entities, and Network Data*. In this research, we develop fast and scalable algorithms that can generate interpretable topical summaries of documents in time on the order of minutes or less. We also develop statistical principles and algorithms for social network models that incorporate both document content and entity attributes, e.g., as in sets of emails and blogs. Finally, we develop new statistical models that leverage ontologies for topic extraction from noisy blogs and email. Amount: \$391,000. (PI Smyth). 8/1/2008-7/31/2009. **Role: Co-PI.**
- 2008 – 2012 Australian Research Council Discovery Project DP0878858 . Title: A new kind of dynamics for psychology. Amount: \$657,000. (PI Scott Brown). **Role: Consultant**

- 2007 – 2009 AFRL/AFOSR. Title: *Modeling Exploration and Exploitation in Structured Environments*. In this research, we study dynamic decision-making tasks where people must choose between a set of alternatives, each with different unknown reward rates, to maximize the total reward. A key feature of the task is that it challenges people to balance the exploration of unfamiliar choices with the exploitation of familiar ones. We use a Bayesian model of optimal decision-making on the task, in which how people balance exploration with exploitation depends on their assumptions about the distribution of reward rates. 1/1/2007 – 11/30/2009. Amount: \$456,031. (PI Michael Lee). **Role: Co-PI.**
- 2006 – 2007 NSF-DARPA-NSA consortium, Knowledge Discovery and Dissemination Program. Title: *Entity-Topic Modeling, Querying, and Analysis*. This research centers on a novel statistical modeling framework that relates entities, documents, and words via a set of latent topics. We demonstrate how statistical entity-topic modeling can provide a powerful set of new techniques for information retrieval on entities across multiple text sources and relational databases. Amount: \$300,000. (PI Smyth). **Role: Co-PI.**
- 2005 – 2006 NSF-ARMY consortium. Title: *Online Topic Extraction and Change Detection from Massive Multilingual Text Streams*. 9/1/2005 – 8/31/2006. We develop a new generation of statistical topic modeling algorithms that are able to handle massive streaming text sources. We demonstrate the capabilities of these algorithms by developing a prototype system that monitors and extracts topics over time from online news sources in a variety of languages. Amount \$120,000. (PI Smyth). **Role: Co-PI**
- 2005 NSF-DARPA-NSA consortium. Title: *Knowledge Discovery and Dissemination (KDD) evaluation, 7/1/2005-8/1/2005*. In this proposal we will use the topic model as a common component in our approach to three different prediction tasks of the KDD challenge. We will use the author-topic model for predicting edges in networks and the standard topic model for predicting changes in topics over time, and information retrieval. Amount: \$55,000. (PI Smyth). **Role: Co-I**
- 2004 – 2007 AFRL/AFOSR. Title: *Inference in dynamic environments, 7/1/2004 – 12/31/2007*. An empirical and theoretical investigation into dynamic decision making environments. We develop simple dynamic signal detection models to measure the trial-by-trial changes in decision processes in lexical decision, recognition memory, various perceptual tasks as well as simulated battle field environments. Amount: \$371,616. (Co-PI: Brown). **Role: PI**
- 2003 – 2004 Council on Research, Computing and Library Resources (CORCLR). Title: *The Dynamics of Decision Making and Criterion Setting: Data and Theory, 7/1/2003 – 6/30/2004*. This small seed grant served to purchase initial equipment to collect pilot data for the AFRL/AFOSR grant. Amount: \$11,950. (PI Brown). **Role: Co-PI**

2002 – 2006 NSF-DARPA-NSA consortium, Knowledge Discovery and Dissemination Program.
Title: *Entity-Based Data Mining from Spatiotemporal and Text-Based Data Streams*, 10/1/2002 – 5/1/2007. Amount: \$726,600. (PI Smyth). **Role: Co-I**

PRESS COVERAGE/PUBLICITY

- Jan, 2017 Commented on Nature article ("*How to find the right answer when the 'wisdom of the crowd' fails*", Nature, 541, 2017):
<http://www.nature.com/news/how-to-find-the-right-answer-when-the-wisdom-of-the-crowd-fails-1.21370>
- March, 2016 Trends in Cognitive Sciences Spotlight article "Cognitive Models and Bridge between Brain and Behavior" by Brad Love. Discusses the joint modeling research papers by Turner, Rodriguez, Norcia, McClure, & Steyvers (2016) and Turner, Forstmann, Wagenmakers, Brown, Sederberg, and Steyvers (2013).
- Oct 10, 2012 BBC's Future column: "*Intelligence agencies turn to crowdsourcing*". Reports on new forecasting site developed in ACES-IARPA project in which UC Irvine collaborates with ARA, the research firm mentioned in the article.
<http://www.bbc.com/future/story/20121009-for-all-of-our-eyes-only>
- Aug 21, 2012 Los Angeles Times: *U.S. intelligence tests crowd-sourcing against its experts*.
<http://www.latimes.com/news/nationworld/nation/la-na-cia-crowds-20120821,0,6743396.story>
- Sept 19, 2011 UCI Campus News: "*Crowd Mentality: UCI cognitive scientists are aggregating people's opinions to forecast the future*". The news story was also picked up by www.physorg.com (Sept 21) and was featured in UCI Social Science News (Aug 31).
http://www.uci.edu/features/2011/09/feature_forecast_110919.php
<http://www.physorg.com/news/2011-09-crowd-mentality.html>
<http://www.socsci.uci.edu/node/9285>
- Dec 2010 Communications of the ACM (Dec 2010, Vol 53, No. 12, p. 17). "*Topic models vs. Unstructured data*". Discusses the promise of topic modeling to explore and understand huge collections of unlabeled information.
- Aug 2011 C4ISR Journal (Aug p. 24-25). "*Crowd wisdom: U.S. Intelligence researchers seek public help with forecasting experiment*". Discusses the forecasting system that is built by a team of universities, including UC Irvine, under the IARPA ACES grant
<http://www.c4isrjournal.com/index.php>
- July, 2011 Wired Magazine: "*Spy Agency's Next Top Analyst: You*". Discusses the forecasting system that is built by a team of universities, including UC Irvine, under the IARPA ACES grant
<http://www.wired.com/dangerroom/2011/07/spy-agencys-next-top-analyst-you/>

- Dec 8, 2007 New Scientist (issue 2633, page 27). *“Do our brains work like Google?”*. A report on the article by Griffiths, Steyvers, Firl (2007) in Psychological Science. <http://www.newscientist.com/channel/health/brain/mg19626335.500-do-our-brains-work-like-google.html>
- Dec 1, 2007 New Scientist (issue 2632). *“Monitoring email could spot alienated employees”*. A report on how the Author-Topic model can be used to monitor company email.
- Nov 13, 2007 NRC Handelsblad: *“Human memory googling for words”* (original title: *“Menselijk geheugen ‘googlet’ naar woorden”*). A summary of results from the Griffiths, Steyvers, Firl (2007) paper in Psychological Science. http://www.nrc.nl/wetenschap/article818657.ece/Menselijk_geheugen_googlet_naar_woorden
- June 22, 2007 Science (Vol 316, p. 1693). *“Congress Splits Over Plan to Consolidate Intelligence Research”*. Contains brief excerpts from interviews with scientists about the synergy between intelligence agencies and the scientific community.
- March 27, 2007 OC Register: *“Air Force gives UC Irvine \$456,000 to study how people make decisions”*
- July 26, 2006 UCI News release: *“UCI Researchers ‘Text Mine’ The New York Times, Demonstrating Ease And Evolution Of Potent New Technology”*. Reported by OC Register, United Press International, ScienceDaily, Medical News Today, Daily India, Malaysian Sun, PhysOrg, Chronicle of Higher Education, Top Tech News, Supercomputing online.
- June 2004 APA Science Policy Insider News: *“Data Mining at the White House”*.
- April 6, 2004 NSF Press release: *“Here There Be Data: Mapping the Landscape of Science”*.

PUBLICATION LIST (14,272 citations, h index of 41 via Google Scholar as of April 2017)

Journal Articles

- (J1) Van Leeuwen, C., Steyvers, M., & Nooter, M. (1997). Stability and intermittency in large-scale coupled oscillator models for perceptual segmentation. *Journal of Mathematical Psychology*, 41, 319-344.
- (J2) Shiffrin, R.M. & Steyvers, M. (1997). A model for recognition memory: REM: Retrieving Effectively from Memory. *Psychonomic Bulletin & Review*, 4 (2), 145-166.
- (J3) Steyvers, M. (1999). Morphing techniques for generating and manipulating face images.

Behavior Research Methods, Instruments, & Computers, 31, 359-369.

- (J4) Goldstone, R.L., & Steyvers, M. (2001). The sensitization and differentiation of dimensions during category learning. *Journal of Experimental Psychology, General*, 130, 116-139.
- (J5) Malmberg, K. J., Steyvers, M., Stephens, J. D., & Shiffrin, R.M. (2002). Feature-frequency effects in recognition memory. *Memory & Cognition*, 30(4), 607-613.
- (J6) Goldstone, R., Steyvers, M., & Rogosky, B.J. (2003). Conceptual Interrelatedness and Caricatures. *Memory and Cognition*, 31(2), 169-180.
- (J7) Steyvers, M., Tenenbaum, J., Wagenmakers, E.J., Blum, B. (2003). Inferring Causal Networks from Observations and Interventions. *Cognitive Science*, 27, 453-489.
- (J8) Steyvers, M., & Malmberg, K. (2003). The effect of normative context variability on recognition memory. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 29(5), 760-766.
- (J9) Wagenmakers, E.J.M., Steyvers, M., Raaijmakers, J.G.W., Shiffrin, R.M., van Rijn, H., & Zeelenberg, R. (2004). A Model for Evidence Accumulation in the Lexical Decision Task. *Cognitive Psychology*, 48, 332-367.
- (J10) Griffiths, T., & Steyvers, M. (2004). Finding Scientific Topics. *Proceedings of the National Academy of Sciences*, 101 (suppl. 1), 5228-5235.
- (J11) Wagenmakers, E.-J., Zeelenberg, R., Steyvers, M., Shiffrin, R. M., & Raaijmakers, J. G. W. (2004). Nonword repetition in lexical decision: Evidence for two opposing processes. *The Quarterly Journal of Experimental Psychology A*, 57(7), 1191-1210.
- (J12) Steyvers, M., & Tenenbaum, J.B. (2005). Graph Theoretic Analyses of Semantic Networks: Small Worlds in Semantic Networks. *Cognitive Science*, 29, 41-78.
- (J13) Brown, S.D., & Steyvers, M. (2005). The Dynamics of Experimentally Induced Criterion Shifts. *Journal of Experimental Psychology: Learning, Memory & Cognition*, 31(4), 587-599.
- (J14) Navarro, D.J., Griffiths, T.L., Steyvers, M., & Lee, M.D. (2006). Modeling individual differences using dirichlet processes. *Journal of Mathematical Psychology*, 50, 101-122.
- (J15) Wagenmakers, E.J., Grünwald, P., & Steyvers, M. (2006). Accumulative prediction error and the selection of time series models. *Journal of Mathematical Psychology*, 50, 149-166.

- (J16) Steyvers, M., Griffiths, T.L., & Dennis, S. (2006). Probabilistic inference in human semantic memory. *Trends in Cognitive Sciences*, 10(7), 327-334.
- (J17) Newman, D., Smyth, P., & Steyvers, M. (2006). Scalable Parallel Topic Models. *Journal of Intelligence Community Research and Development*.
- (J18) Brown, S.D., Steyvers, M., & Hemmer, P. (2007). Modeling Experimentally Induced Strategy Shifts. *Psychological Science*, 18(1), 40-45.
- (J19) Griffiths, T.L., Steyvers, M., & Tenenbaum, J.B.T. (2007). Topics in Semantic Representation. *Psychological Review*, 114(2), 211-244.
- (J20) Griffiths, T.L., Steyvers, M., & Firl, A. (2007). Google and the mind: Predicting fluency with PageRank. *Psychological Science*, 18(12), pp. 1069-1076.
- (J21) Hemmer, P., & Steyvers, M. (2009). Integrating Episodic Memories and Prior Knowledge at Multiple Levels of Abstraction. *Psychonomic Bulletin & Review*, 16, 80-87.
- (J22) Rosen-Zvi, M., Chemudugunta, C., Griffiths, T., Smyth, P., & Steyvers, M. (2010). Learning Author-Topic Models from Text Corpora. *ACM Transactions on Information Systems*, 28(1), 1-38.
- (J23) Brown, S.D., & Steyvers, M. (2009). Detecting and Predicting Changes. *Cognitive Psychology*, 58, 49-67.
- (J24) Steyvers, M., Lee, M.D., & Wagenmakers, E.J. (2009). A Bayesian analysis of human decision-making on bandit problems. *Journal of Mathematical Psychology*, 53, 168-179.
- (J25) Hemmer, P. & Steyvers, M. (2009). A Bayesian Account of Reconstructive Memory. *Topics in Cognitive Science*, 1, 189-202. [17th most downloaded paper from the journal in 2009]
- (J26) Brown, S.D., Steyvers, M., & Wagenmakers, E.J. (2009). Observing Evidence Accumulation During Multi-Alternative Decisions. *Journal of Mathematical Psychology*, 53(6), 453-462.
- (J27) Steyvers, M., Chemudugunta, C., & Smyth, P. (2011). Combining Background Knowledge and Learned Topics. *Topics in Cognitive Science*, 3, 18-47.
- (J28) Steyvers, M (2010). Combining Feature Norms and Text Data with Topic Models. *Acta Psychologica*, 133(3), 234-342.
- (J29) Yi, S.K.M., Steyvers, M., & Lee, M.D. (2009). Modeling Human Performance in Restless Bandits with Particle Filters. *Journal of Problem Solving*, 2(2), 33-53.

- (J30) Lee, M.D., Zhang, S., Munro, M.N., & Steyvers, M. (2011). Psychological models of human and optimal performance on bandit problems. *Cognitive Systems Research*, 12, 164-174.
- (J31) Pearl, L., Goldwater, S., & Steyvers, M. (2011). Online Learning Mechanisms for Bayesian Models of Word Segmentation. *Research on Language and Computation*, 8(2), 107-132.
- (J32) Hawkins, G., Brown, S.D., Steyvers, M., & Wagenmakers, E.J. (2012). Context effects in multi-alternative decision making: empirical data and a Bayesian model. *Cognitive Science*, 36(3), 498-516.
- (J33) Yi, S.K.M., Steyvers, M., & Lee, M.D. (2012). The Wisdom of Crowds in Combinatorial Problems. *Cognitive Science*, 36(3), 452-470.
- (J34) Lee, M.D., Steyvers, M., de Young, M., & Miller, B.J. (2012). Inferring expertise in knowledge and prediction ranking tasks. *Topics in Cognitive Science*, 4, 151-163.
- (J35) Rubin, T., Chambers, A., Smyth, P., & Steyvers, M. (2012). Statistical Topic Models for Multi-Label Document Classification. *Machine Learning*, 88(1), 157-208.
- (J36) Hawkins, G., Brown, S.D., Steyvers, M., & Wagenmakers, E.J. (2012). Decision speed induces context effects in choice. *Experimental Psychology*, 59(4), 206-215.
- (J37) Shankle, W.R., Pooley, J.P., Steyvers, M., Hara, J., Mangrola, T., Reisberg, B., Lee, M.D. (2013). Relating Memory To Functional Performance In Normal Aging to Dementia Using Hierarchical Bayesian Cognitive Processing Models. *Alzheimer Disease & Associated Disorders*, 27(1), 16-22.
- (J38) Hawkins, G., Brown, S.D., Steyvers, M., & Wagenmakers, E.J. (2012). An optimal adjustment procedure to minimize experiment time in decisions with multiple alternatives. *Psychonomic Bulletin and Review*, 19(2), 339-348.
- (J39) Pearl, L., & Steyvers, M. (2012). Detecting Authorship Deception: A Supervised Machine Learning Approach Using Author Writeprints. *Literary and Linguistic Computing*, 27(2), 183-196.
- (J40) Pearl, L., & Steyvers, M. (2013). "C'mon – You Should Read This": Automatic Identification of Tone from Language Text. *International Journal of Computational Linguistics (IJCL)*, 4(1), 1-30.
- (J41) Atkins, D.C., Rubin, T., Steyvers, M., Doeden, M., Baucom, B., & Christensen, A. (2012). Topic models: A novel method for modeling couple and family text data. *Journal of Family Psychology*, 26, 816-827.

- (J42) Ditta, A.S., & Steyvers, M. (2013). Collaborative Memory in a Serial Combination Procedure. *Memory*, 21(6), 668-674.
- (J43) Turner, B.M., Forstmann, B.U., Wagenmakers, E.J., Brown, S.D., Sederberg, P.B., and Steyvers, M. (2013). A Bayesian framework for simultaneously modeling neural and behavioral data. *NeuroImage*, 72, 193-206.
- (J44) Turner, B.M., S.D., Sederberg, P.B., Brown, S.D., and Steyvers, M. (2013). A Method for Efficiently Sampling from Distributions with Correlated Dimensions. *Psychological Methods*, 18(3), 368-384.
- (J45) Turner, B.M., Steyvers, M., Merkle, E.C., Budescu, D.V., and Wallsten, T.S. (2014). Forecast Aggregation via Recalibration. *Machine Learning*, 95(3), 261-289.
- (J46) Merkle, E.C., and Steyvers, M. (2013). Choosing a strictly proper scoring rule. *Decision Analysis*, 10(4), 292-304.
- (J47) Steyvers, M., Wallsten, T.S., Merkle, E.C., and Turner, B.M. (2014). Evaluating Probabilistic Forecasts with Bayesian Signal Detection Models. *Risk Analysis*, 34(3), 435-452.
- (J48) Imel, Z.E., Steyvers, M., and Atkins, D.C. (2015). Computational Psychotherapy Research: Scaling up the evaluation of patient-provider interactions. *Psychotherapy*, 52(1), 19-30.
- (J49) Atkins, D.C., Steyvers, M., Imel, Z.E., and Smyth, P. (2014). Scaling up the evaluation of psychotherapy: Evaluating motivational interviewing fidelity via statistical text classification. *Implementation Science*, 9:49, 1-11.
- (J50) Lee, M.D., Steyvers, M., and Miller, B.J. (2014). A cognitive model for aggregating people's rankings. *PLOS ONE*, 9(5).
- (J51) Dunn, C., Darnell, D., Yi, S.K.M., Steyvers, M., Bumgardner, K., Lord, S.P., Imel, Z., Atkins, D.C. (2014). Should we trust our judgments about the proficiency of Motivational Interviewing counselors? A glimpse at the impact of low inter-rater reliability. *Motivational Interviewing: Treatment, Research, Implementation, and Policy*, 1(3), 38-41.
- (J52) Lord, S. P, Can, D., Yi, M., Marín, R. A., Dunn, C. W., Imel, Z. E., Georgiou, P. G., Narayanan, S. S., Steyvers, M., & Atkins, D. C. (2015). Advancing methods for reliably assessing motivational interviewing fidelity using the Motivational Interviewing Skills Code. *Journal of Substance Abuse Treatment*, 49, 50-57,
- (J53) Kim, W., Pitt, M.A., Lu, Z.L., Steyvers, M., and Myung, J.I. (2014). A Hierarchical Adaptive Approach to Optimal Experimental Design. *Neural Computation*, 26(11), 2465-2492.

- (J54) Hemmer, P., Tauber, S., and Steyvers, M. (2015). Moving beyond qualitative evaluations of Bayesian models of cognition. *Psychonomic Bulletin and Review*, 22(3), 614-628.
- (J55) Merkle, E.C., Steyvers, M., Mellers, B., and Tetlock, P.E. (2016). Item Response Models of Probability Judgments: Application to a Geopolitical Forecasting Tournament. *Decision*, 3(1), 1-19.
- (J56) Holsclaw, T., Hallgren, K. A., Steyvers, M., Smyth, P., & Atkins, D. C. (2015). Measurement error and outcome distributions: Methodological issues in regression analysis of behavioral coding data. *Psychology of Addictive Behaviors*, 29(4), 1031-1040.
- (J57) Gaut, G., Steyvers, M., Imel, Z., Atkins, D.C., & Smyth, P. (2017). Content Coding of Psychotherapy Transcripts Using Labeled Topic Models. *IEEE Journal of Biomedical and Health Informatics*, 21 (2), 476-487.
- (J58) Turner, B.M., Rodriguez, C.A., Norcia, T.M., McClure, S.M., & Steyvers, M. (2016). Why More Is Better: Simultaneous Modeling of EEG, fMRI, and Behavioral Data. *NeuroImage*, 128, 96-115.
- (J59) Weusthoff, S., Gaut, G., Steyvers, M., Atkins, D.C., Hahlweg, K., Hogand, J., Zimmermann, T., Fischer, M.S., Baucom, D.H., Georgiou, P., Narayanan, S., & Baucom, B.R. (in press). The Language of Interpersonal Interaction: An Interdisciplinary Approach to Assessing and Processing Vocal and Speech Data. *European Journal of Counselling Psychology*.
- (J60) Pace, B.T., Tanana, M., Xiao, B., Dembe, A., Soma, C.S., Steyvers, M., Narayanan, S., Atkins, D.C., Imel, Z.E. (2016). What about the words? Natural language processing in psychotherapy. *Psychotherapy Bulletin*, 50(1), 14-18.
- (J61) Cassey, P.J., Gaut, G., Steyvers, M., & Brown, S.D. (2016). A generative joint model for spike trains and saccades during perceptual decision making. *Psychonomic Bulletin & Review*, 23, 1757-1778.
- (J62) Tauber, S., Navarro, D.J., Perfors, A., & Steyvers, M. (2017). Bayesian models of cognition revisited: Setting optimality aside and letting data drive psychological theory. *Psychological Review*, XX, XX-XX.
- (J63) Merkle, E.C., Steyvers, M., Mellers, B., & Tetlock, P.E. (in press). A neglected dimension of good forecasting judgment: The questions we choose also matter. *International Journal of Forecasting*.

Books

- (F1) Turner, B. M., Forstmann, B. U., and Steyvers, M. (submitted). Joint models of neural and behavioral data. Springer: New York.

Edited Books

- (E1) J.G.W. Raaijmakers, A.H. Criss, R.L. Goldstone, R.M. Nosofsky, and M. Steyvers (Eds.), *Cognitive Modeling in Perception and Memory: A Festschrift for Richard M. Shiffrin*. New York: Psychology Press. 2014

Book Chapters

- (B1) Shiffrin, R. M., & Steyvers, M. (1998). The effectiveness of retrieval from memory. In M. Oaksford & N. Chater (Eds.), *Rational models of cognition*. (pp. 73-95), Oxford, England: Oxford University Press.
- (B2) Steyvers, M., & Busey, T. (2000). Predicting Similarity Ratings to Faces using Physical Descriptions. In M. Wenger, & J. Townsend (Eds.), *Computational, geometric, and process perspectives on facial cognition: Contexts and challenges*. Lawrence Erlbaum Associates.
- (B3) Goldstone, R., Steyvers, M., Kersten, A., & Spencer-Smith, J. (2000). Interactions between perceptual and conceptual learning. In Dietrich, E., & A. Markman (eds.), *Cognitive Dynamics: conceptual and representational change in humans and machines*. Cambridge, MA: MIT Press.
- (B4) Steyvers, M. (2002). Multidimensional Scaling. In: *Encyclopedia of Cognitive Science*. Nature Publishing Group, London, UK.
- (B5) Steyvers, M., Shiffrin, R.M., & Nelson, D.L. (2004). Word Association Spaces for Predicting Semantic Similarity Effects in Episodic Memory. In A. Healy (Ed.), *Experimental cognitive psychology and its applications*, 237-249: American Psychological Association.
- (B6) Steyvers, M., & Griffiths, T.L. (2007). Probabilistic Topic Models. In T. Landauer, D. McNamara, S. Dennis & W. Kintsch (Eds.) *Handbook of Latent Semantic Analysis*, pp. 427-448. Erlbaum. Mahwah, New Jersey.
- (B7) Steyvers, M. & Griffiths, T.L. (2008). Rational Analysis as a Link between Human Memory and Information Retrieval. In N. Chater and M Oaksford (Eds.) *The Probabilistic Mind: Prospects from Rational Models of Cognition*. Oxford University Press, pp. 327-347.

- (B8) Steyvers, M. & Hemmer, P. (2012). Reconstruction from Memory in Naturalistic Environments. In Brian H. Ross (Ed.) *The Psychology of Learning and Motivation*, Vol 56. Elsevier Publishing, pp. 126-144.
- (B9) Steyvers, M. (2014). The Collective Memory Performance in a Recognition Memory Task. In Raaijmakers, Criss, Goldstone, Nosofsky, and Steyvers (Ed.) *Cognitive Modeling in Perception and Memory*. Routledge / Taylor & Francis, pp. ??-??.
- (B10) Steyvers, M., Miller, B. (2015). Cognition and Collective Intelligence. In Bernstein, M. and Malone, T.W. (Eds.) *Handbook of Collective Intelligence*. MIT Press, pp. 119-138.

Papers in Refereed Conference Proceedings

- (C1) Steyvers, M. & Grünwald, P. (1996). A recurrent network that performs a context-sensitive task. In: *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society* (pp. 335-339). La Jolla, CA. Lawrence Erlbaum Associates.
- (C2) Goldstone, R.L., Steyvers, M. & Larimer, K. (1996). Categorical Perception of Novel Dimensions. In *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society* (pp. 243-248). La Jolla, CA. Lawrence Erlbaum Associates.
- (C3) Steyvers, M., Wagenmakers, E.J.M., Shiffrin, R.M., Zeelenberg, R., & Raaijmakers, J.G.W. (2001). A Bayesian model for the time-course of lexical processing. In: *Proceedings of the Fourth International Conference on Cognitive Modeling*. George Mason University, Fairfax, VA.
- (C4) Griffiths, T.L., & Steyvers, M. (2002). A probabilistic approach to semantic representation. In Gray W. and Schunn, C. (eds): *Proceedings of the Twenty-Fourth Annual Conference of Cognitive Science Society*, pp. 381-386. Erlbaum.
- (C5) Griffiths, T.L., & Steyvers, M. (2002). Prediction and semantic association. In: *Advances in Neural Information Processing Systems, 15*, pp. 11-18. MIT Press.
- (C6) Rosen-Zvi, M., Griffiths T., Steyvers, M., & Smyth, P. (2004). The Author-Topic Model for Authors and Documents. In *20th Conference on Uncertainty in Artificial Intelligence*, pp. 487-494. AUAI Press, Arlington, Virginia. (29% acceptance rate).
- (C7) Steyvers, M., Smyth, P., Rosen-Zvi, M., Griffiths T. (2004). Probabilistic Author-Topic Models for Information Discovery. In W. Kim, R. Kohavi, J. Gehrke, and W. DuMouchel (Eds.) *The Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pp. 306-315, ACM, New York. (12% acceptance rate for full papers).

- (C8) Griffiths, T.L., & Steyvers, M., Blei, D.M., & Tenenbaum, J.B. (2005). Integrating Topics and Syntax. In: *Advances in Neural Information Processing Systems, 17* (Saul, L.K et al., eds), 537-544. MIT Press.
- (C9) Navarro, D. J., Griffiths, T. L., Steyvers, M. & Lee, M. D. (2005). Modeling individual differences with Dirichlet processes. In B. G. Bara, L. W. Barsalou & M. Bucciarelli (Eds.) *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 1594-1599). Mahwah, NJ: Lawrence Erlbaum
- (C10) Steyvers, M., & Brown, S. (2006). Prediction and Change Detection. In Y. Weiss, B. Scholkopf, and J. Platt (Eds.) *Advances in Neural Information Processing Systems, 18*, pp. 1281-1288. MIT Press. (27% acceptance rate).
- (C11) Newman, D., Chemudugunta, C., Smyth, P., & Steyvers, M. (2006). Analyzing entities and topics in news articles using statistical topic models. In: Springer Lecture Notes in Computer Science (LNCS) series -- *IEEE International Conference on Intelligence and Security Informatics*. (31% acceptance rate).
- (C12) Newman, D., Chemudugunta, C., Smyth, P., & Steyvers, M. (2006). Statistical entity-topic models. *The Twelfth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*. Philadelphia (23% acceptance rate).
- (C13) Chemudugunta, C., Smyth, P., & Steyvers, M. (2007). Modeling General and Specific Aspects of Documents with a Probabilistic Topic Model. In: *Advances in Neural Information Processing Systems, 19*. (24% acceptance rate)
- (C14) 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. (30% acceptance rate for oral presentation) [BEST PAPER AWARD IN COMPUTATIONAL MODELING OF HIGH-LEVEL COGNITION]
- (C15) Chemudugunta, C., Holloway, A., Smyth, P., & Steyvers, M. (2008). Modeling Documents by Combining Semantic Concepts with Unsupervised Statistical Learning. In: *7th International Semantic Web Conference*. (16% acceptance rate)
- (C16) Chemudugunta, Smyth, P., & Steyvers, M. (2008). Combining Concept Hierarchies and Statistical Topic Models. In: *ACM 17th Conference on Information and Knowledge Management*. (34% acceptance rate)
- (C17) Lee, M.D., Grothe, E., & Steyvers, M. (2009). Conjunction and Disjunction Fallacies in Prediction Markets. In N. Taatgen, H. van Rijn, L. Schomaker and J.Nerbonne (Eds.) *Proceedings of the 31th Annual Conference of the Cognitive Science Society*, pp. 1639-1644. Mahwah, NJ: Lawrence Erlbaum.

- (C18) Hemmer, P. & Steyvers, M. (2009). Integrating Episodic and Semantic Information in Memory for Natural Scenes. In N. Taatgen, H. van Rijn, L. Schomaker and J. Nerbonne (Eds.) *Proceedings of the 31th Annual Conference of the Cognitive Science Society*, pp. 1557-1562. Mahwah, NJ: Lawrence Erlbaum.
- (C19) Rubin, T., & Steyvers, M. (2009). A Topic Model For Movie Choices and Ratings. In: *Proceedings of the Ninth International Conference on Cognitive Modeling*. Manchester, UK.
- (C20) Lee, M.D., Zhang, S., Munro, M., & Steyvers, M. (2009). Using Heuristic Models to Understand Human and Optimal Decision-Making on Bandit Problems. In: *Proceedings of the Ninth International Conference on Cognitive Modeling*. Manchester, UK.
- (C21) Miller, B., Hemmer, P., Steyvers, M., & Lee, M.D. (2009). The Wisdom of Crowds in Ordering Problems. In: *Proceedings of the Ninth International Conference on Cognitive Modeling*. Manchester, UK.
- (C22) Steyvers, M., Lee, M.D., Miller, B., & Hemmer, P. (2009). The Wisdom of Crowds in the Recollection of Order Information. In Y. Bengio and D. Schuurmans and J. Lafferty and C. K. I. Williams and A. Culotta (Eds.) *Advances in Neural Information Processing Systems*, 22, pp. 1785-1793. MIT Press. (24% acceptance rate).
- (C23) Pearl, L., Goldwater, S., & Steyvers, M. (2010) How Ideal Are We? Incorporating Human Limitations into Bayesian Models of Word Segmentation, *BUCLD 34: Proceedings of the 34th annual Boston University Conference on Child Language Development*, Somerville, MA: Cascadilla Press, 315-326.
- (C24) Pearl, L., & Steyvers, M. (2010). Identifying Emotions, Intentions, and Attitudes in Text Using a Game with a Purpose. *NAACL-HLT 2010 Workshop on Computational Approaches to Analysis and Generation of Emotion in Text*. Los Angeles, CA.
- (C25) Hemmer, P., Steyvers, M., & Miller, B. (2010). The Wisdom of Crowds with Informative Priors. In S. Ohlson, and R. Catrambone (Eds.) *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*, pp. 1130-1135. Mahwah, NJ: Lawrence Erlbaum.
- (C26) Yi, S.K.M., Steyvers, M., Lee, M.D., & Dry, M. (2010). Wisdom of Crowds in Minimum Spanning Tree Problems. In S. Ohlson, and R. Catrambone (Eds.) *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*, pp. 1840-1845. Mahwah, NJ: Lawrence Erlbaum.
- (C27) Holloway, A., Smyth, P., & Steyvers, M. (2010). Learning concept graphs from text with stick-breaking priors. *Advances in Neural Information Processing Systems*, 23 (24%

acceptance rate).

- (C28) Merkle, E.C., & Steyvers, M. (2011). A Psychological Model for Aggregating Judgments of Magnitude. In J. Salerno, S.J. Yang, D. Nau, S.-K Chai (Eds.), *Social Computing, Behavioral Modeling, and Prediction, Lecture Notes in Computer Science 6589* (pp. 236-243). Heidelberg: Springer.
- (C29) Lee, M.D., Steyvers, M., de Young, M., & Miller, B. (2011). A model-based approach to measuring expertise in ranking tasks. In L. Carlson, C. Hölscher, & T.F. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society. [BEST PAPER AWARD IN APPLIED COGNITION CATEGORY OF THE COMPUTATIONAL MODELING PRIZE]
- (C30) Miller, B., & Steyvers, M. (2011). The Wisdom of Crowds with Communication. In L. Carlson, C. Hölscher, & T.F. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- (C31) Tauber, S., & Steyvers, M. (2011). Using inverse planning and theory of mind for social goal inference. In L. Carlson, C. Hölscher, & T.F. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- (C32) Rubin, T., Zeigenfuse, M., & Steyvers, M. (2011). A Model of Concept Generalization and Feature Representation in Hierarchies. In L. Carlson, C. Hölscher, & T.F. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- (C33) Turner, B., & Steyvers, M. (2011). A Wisdom of the Crowd Approach to Forecasting. *2nd NIPS workshop on Computational Social Science and the Wisdom of Crowds*.
- (C34) Beckage, N., Steyvers, M., & Butts, C. (2012). Route choice in individuals—semantic network navigation. In N. Miyake, D. Peebles, and R.P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society*. Cognitive Science Society (pp. 108-113).
- (C35) Warnaar, D. B., Merkle, E. C., Steyvers, M., Wallsten, T. S., Stone, E. R., Budescu, D. V., Yates, J. F., Sieck, W. R., Arkes, H. R., Argenta, C. F., Shin, Y., & Carter, J. N. (2012). The aggregative contingent estimation system: Selecting, rewarding, and training experts in a wisdom of crowds approach to forecasting. *Proceedings of the 2012 Association for the Advancement of Artificial Intelligence Spring Symposium Series (AAAI Technical Report SS-12-06)*, 75–76.
- (C36) Tauber, S., Steyvers, M. (2013). Inference of Subjective Prior Knowledge: An Integrative Bayesian Approach. In M. Knauff, M. Pauen, Sebanz, N., and Wachsmuth (Eds.),

Proceedings of the 35th Annual Conference of the Cognitive Science Society. Cognitive Science Society. (pp. 3510-3515).

- (C37) Qiang, L., Steyvers, M., & Ihler, A. (2013). Scoring Workers in Crowdsourcing: How Many Control Questions are Enough? *Advances in Neural Information Processing Systems, 26* (25% acceptance rate).
- (C38) Kim, W., Pitt, M., Lu, Z.L., Steyvers, M., Gu, H., & Myung, J.I. (2014). A Hierarchical Adaptive Approach to the Optimal Design of Experiments. *Proceedings of the 36th Annual Conference of the Cognitive Science Society.* Cognitive Science Society (pp 749-754).
- (C39) Lee, M.D., Liu, E.C., & Steyvers, M. (2015). The roles of knowledge and memory in generating top-10 lists. In D.C. Noelle & R. Dale (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*, pp. 1267-1272. Austin, TX: Cognitive Science Society.

Published Abstracts

- (W1) Turner, B. & Steyvers, M. (2013). A Bayesian framework for simultaneously modeling neural and behavioral data. *Neuroscience, 2013*. Program Number: 9331. Online.
- (W2) Qiang, L., Steyvers, M., Fisher, J.W., & Ihler, A. (2013). On Reliable Crowdsourcing and the Use of Ground Truth Information. CrowdScale at HCOMP 2013: The 1st Conference on Human Computation & Crowdsourcing.

Technical Reports

- (T1) Chemudugunta, C., Smyth, P., & Steyvers, M. (2008). Text Modeling using Unsupervised Topic Models and Concept Hierarchies. *Technical Report*.
- (T2) Rubin, T.N., Chambers, A., Smyth, P., & Steyvers, M. (2011). Statistical Topic Models for Multi-Label Document Classification. *Technical Report. ArXiv: 1107.2462v1*.

INVITED TALKS

Plenary/keynote talks

- 2016 *The fourth meeting of Computational Behavioral Sciences*. Title: Bayesian models of Metacognitive Control. Central China Normal University. Oct 12, 2016.
- 2015 *Indiana University Cognitive Science 25th anniversary*. Title: Indiana University Cognitive Science 25th anniversary. Keynote address. Apr 17 2015.
- ICCM (International Conference of Cognitive Modeling)*. Groningen, the Netherlands. Title: Combining Human Judgments with Cognitive Modeling. Keynote address.
- 2012 *Indiana Horizons of Knowledge Plenary Lecture at the Midwest Cognitive Science Conference*. Indiana University, Bloomington. Combining Human Judgments in General Knowledge and Forecasting Tasks. (May 7)
- 2010 *Conference on Uncertainty in Artificial Intelligence (UAI)*. Catalina, CA. Plenary talk (wisdom of crowds research).

Other invited talks

- 2016 *Wuhan University, Computer Science Department*. Wisdom of Crowds in combinatorial problems. Oct 14, 2016.
- School of engineering, Central China Normal University*. Topic models for analyzing unstructured text. Oct 13, 2016.
- 2015 *IMBS, University of California, Irvine*. Crowdsourcing, Big Data, and Social Media in the Behavioral Sciences: Applications, Methods and Theory. Dec 5.
- Chapman University, Computational Sciences Seminar*. Invited seminar on wisdom of crowds. May 5.
- 2014 *Rutgers University, Center for Cognitive Science*. Invited colloquium on topic modeling. Dec 2.
- Data Science Initiative, UC Irvine*. Invited presentation on topic modeling. Oct 24.
- Seoul National University "Asia-Pacific Conference on Computational Behavioral Sciences" (APCCBS)*. Oct 14.
- Heidelberg, Germany, Summer School "The Language of Interaction: quantitative tools from engineering, computer science, and clinical psychology"* in (Jul 28-Aug1). Presentations on topic models and natural language processing.
- IARPA workshop on Bayesian modeling*. Talk title: Bayesian reasoning with groups of people.

- 2013 *University of California, Irvine*. IMBS conference on Wisdom of Crowds.
University of Pennsylvania. Department of Psychology. Talk title: Signal Detection Models for Forecasting Judgments.
ICML (International Conference on Machine Learning), workshop on “Machine Learning meets Crowdsourcing”. Talk title: Aggregating Human Judgments in Combinatorial Problems.
- 2012 *Cognitive Modeling of Perception and Memory. A Festschrift for Richard M. Shiffrin, Indiana University, Bloomington*. Reconstructing the Past by Aggregating Retrieved Memories
University of Massachusetts, Amherst. Department of Computer Science (Social Computing Seminar Series). Combining Human Judgments in General Knowledge and Forecasting Tasks.
- 2011 *Brown University*. Department of Cognitive, Linguistic and Psychological Sciences. Colloquium on reconstructive memory and a separate colloquium on wisdom of crowds research.
Social Sciences Expert Speaker Series with Cognitive Science. Presentation at UC Irvine for external communities in Irvine area.
- 2010 *University of California, Los Angeles (UCLA)*. Psychology Department. Colloquium on wisdom of crowds research.
University of California, San Diego (UCSD). Psychology Department. Colloquium on wisdom of crowds research.
Information Sciences Institute (ISI) at University of Southern California. Presentation on wisdom of crowds research.
Fox Audience Network. Santa Monica, CA. Presentation on topic modeling
- 2009 *Google*. Irvine, CA. Tech Talk. Presentation on wisdom of crowds research.
University of California, Irvine. Artificial Intelligence and Machine Learning Group (AI/ML) at School of Information and Computer Sciences. Seminar (wisdom of crowds research)
Washington University, St Louis. Colloquium (wisdom of crowds research)
Indiana University, Bloomington. Colloquium (wisdom of crowds research)
Royal Netherlands Academy of Arts and Sciences (KNAW), Amsterdam, The Netherlands. Symposium on Causality (wisdom of crowds research)
- 2008 *Institute of Mathematical Behavioral Sciences (IMBS)*. Colloquium.

- National Science Foundation, Arlington, VA.* Workshop on Workshop on Higher Cognition in Adolescents and Young Adults: Social, Behavioral, and Biological Influences on Learning
- University of Leuven, Belgium.* Workshop on Formal Models in the Study of Natural Language concepts.
- University of South Florida, Tampa.* Festschrift for Doug Nelson.
- 2007 *University of California, Los Angeles.* Graduate Summer School: “Probabilistic Models of Cognition: The Mathematics of Mind” held at IPAM (Institute for Pure and Applied Mathematics). Seminar.
- University of California, Irvine.* Artificial Intelligence and Machine Learning Group (AI/ML) at School of Information and Computer Sciences. Seminar.
- 2006 *University of Rochester.* Department of Brain and Cognitive Sciences. Colloquium.
- Beijing Normal University, China.* State Key Laboratory of Cognitive Neuroscience and Learning. Seminar.
- Gatsby Computational Neuroscience Unit, London, UK.* Symposium on “The probabilistic mind: Prospects for rational models of cognition”
- Birckbeck college, London, UK.* Workshop on dynamics of information processing.
- University of California, San Diego.* Department of Psychology. Colloquium.
- Ohio State University.* Department of Psychology. Colloquium.
- Eastern Psychological Association.* Symposium on “Perception of Random Sequences”
- 2005 *University of South Florida.* Department of Psychology. Colloquium.
- Defense Science and Technology Organization.* Department of Defense, Adelaide, Australia. Adelaide Mental Life conference. Keynote speaker.
- University of California, Irvine.* Department of Psychology and Social Behavior. Colloquium.
- University of California, Los Angeles.* Workshop on “Probabilistic Models of Cognition: The Mathematics of Mind” at IPAM (Institute for Pure and Applied Mathematics).
- 2004 *University of Newcastle, Australia.* Departmental seminar.
- University of Leuven, Belgium.* Workshop on Formal Models in the Study of Natural Language concepts.

- University of Colorado, Boulder.* LSA workshop for LSA: A road to meaning.
- University of California, San Diego.* AI research seminar.
- 2003 *Iowa State University.* Department of Psychology. Colloquium.
- University of California, Riverside.* Psychology Department, Cognitive Lunch.
- 2002 *Annual Meeting of the Cognitive Science Society.* Rumelhart Symposium Honoring Richard Shiffrin
- Carnegie Mellon University.* Department of Psychology.
- University of Maryland, College Park.* Department of Psychology.
- University of California, Irvine.* Department of Cognitive Sciences.
- Georgia Institute of Technology.* Department of Psychology.
- 2001 *Barnard College.* Department of Psychology.
- Stanford University.* Department of Psychology.
- University of Washington.* Department of Psychology

OTHER PRESENTATIONS AT CONFERENCES & MEETINGS

- 2014 *Annual Summer Interdisciplinary Conference, Moab, Utah.*
- 2013 *Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.*
- 2011 *Annual Context and Episodic Memory Symposium (CEMS).* Philadelphia
- 2010 *Annual Meeting of the Psychonomic Society, St. Louis, MO.*
- Annual meeting of the Society for Mathematical Psychology, Portland, OR.*
- 2009 *Cognitive Science Conference, Amsterdam, The Netherlands.* Symposium on rational process models.
- Neural Information Processing Systems (NIPS), Vancouver, B.C.*
- Annual Meeting of the Psychonomic Society, Boston, MA.*
- 2008 *Neural Information Processing Systems (NIPS), Whistler, British Columbia.* Workshop on "Machine learning meet Human Learning".

- Annual Meeting of the Psychonomic Society, Chicago, IL.*
- Annual meeting of the Society for Mathematical Psychology, Washington, D.C.*
- 2007 *Annual Meeting of the Psychonomic Society, Long Beach.*
- Annual Summer Interdisciplinary Conference. Kalymnos, Greece.*
- 2006 *Neural Information Processing Systems (NIPS), Vancouver, B.C.*
- Annual Meeting of the Psychonomic Society, Houston.*
- Annual meeting of the Society for Mathematical Psychology, Vancouver, BC.*
- Society of Experimental Psychologists (SEP), San Diego, CA.*
- 2005 *Annual Meeting of the Psychonomic Society, Toronto.*
- Annual meeting of the Society for Mathematical Psychology, Memphis, Tennessee.*
- Annual Summer Interdisciplinary Conference. Briancon, France.*
- Annual Episodic Memory Symposium. Philadelphia.*
- Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.*
- 2004 *Annual Meeting of the Psychonomic Society, Minneapolis, MN*
- Annual Meeting of the Society for Mathematical Psychology. Ann Arbor, Michigan.*
- Annual Summer Interdisciplinary Conference. Cavalese, Italy.*
- Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.*
- 2003 *Neural Information Processing Systems (NIPS). Workshop on "Syntax, Semantics, and Statistics"*
- Annual Episodic Memory Symposium. New Orleans.*
- Annual Meeting of the Psychonomic Society. Vancouver, BC (poster).*
- Annual Summer Interdisciplinary Conference. Squamish, British Columbia, Canada.*
- Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.*
- 2002 *Annual Summer Interdisciplinary Conference. Squamish, British Columbia, Canada.*
- Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.*

- 2001 *Annual Interdisciplinary Conference*, Teton Village, Jackson Hole, Wyoming.
- 2000 *Rocky Mountain Psychological Association*, Tucson, Arizona.
Hoosier Mental Life Conference, Notre Dame, Indiana.
Annual Interdisciplinary Conference, Teton Village, Jackson Hole, Wyoming.
- 1999 *Annual Interdisciplinary Conference*, Teton Village, Jackson Hole, Wyoming.
Annual meeting of the Society for Mathematical Psychology, Santa Cruz, California.
- 1996 *Hoosier Mental Life*, Evanston, Illinois.
- 1994 *Conference on Oscillations in Neural Systems*, Arlington, Texas.
Cognition Group, University of Amsterdam, Amsterdam, The Netherlands.