

# Curriculum Vita

## Andrew L. Cohen

### Address

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### Positions

2010-present Associate professor of psychology, University of Massachusetts, Amherst.  
2004-2010 Assistant professor of psychology, University of Massachusetts, Amherst.

### Education

2002-2004 Postdoctoral researcher, Indiana University, Bloomington, IN (Richard Shiffrin, advisor).  
1996-2002 Ph.D., Indiana University, Bloomington, IN (Cognitive psychology and cognitive science, Robert Nosofsky, advisor).  
1993-1996 M.Sc., Texas A&M University, College Station, TX (Computer science, specializing in artificial intelligence).  
1989-1993 B.A., Stanford University, Stanford, CA. (Psychology with honors, cognitive sciences track).

## **Grant Activity**

- 2010-2011 MRI-MRS Pilot Research Grant, *Control Signals for Conceptual Switches*, \$4,275 (PI)
- 2008-2009 Faculty Research Grant, *Control Signals for Conceptual Switches*, \$7,200 (PI)
- 2006-2009 National Science Foundation (NSF SES 0631602), *Inducing features from visual noise using statistical machine learning techniques*, 11/15/06-1/31/10, Total costs \$149,980 (PI)
- 2005-2006 Department of Interior Grant (NBCH1050007), *Learning to integrate knowledge structures*, 3/15/05-3/14/06, Total costs \$432,820. (Co-PI with K. Cave & C. Rotello.)
- 1997-2000 Jacob K. Javits Fellow.

## **Honors and Awards**

- 2008 Mathematical Association of America's Lester R. Ford award for articles of expository excellence for Leise & Cohen (2007).
- 2003 Irving J. Saltzman Award for Outstanding Graduate Achievement, Indiana University.

## **Current Research Topics**

Concepts and categorization, feature induction, judgment and decision-making, model analysis.

## **Publications**

### Journal Articles

- Cohen, A.** & Ross, M. (2009). Exploring mass perception with Markov chain Monte Carlo. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 1833-1844.
- Lafond, D., Lacouture, Y., & **Cohen, A.** (2009). Decision tree models of categorization response times, choice proportions, and typicality judgments. *Psychological Review*, 116, 833-855.
- Ross, M. & **Cohen, A.** (2009). Using graphical models to infer multiple visual classification features. *Journal of Vision*, 9, 1-24.
- Cohen, A.**, Rotello, C., & Macmillan, N. (2008). Evaluating models of remember-know judgments. *Psychonomic Bulletin & Review*, 15, 906-926.
- Cohen, A.**, Sanborn, A., & Shiffrin, R. (2008). Model evaluation using grouped or individual data. *Psychonomic Bulletin & Review*, 15, 692-712.
- Ross, M. & **Cohen, A.** (2008). GRIFT: A graphical model for inferring visual classification features from human data. In J. Platt, D. Koller, Y. Singer, & S. Roweis (Eds.), *Advances in Neural Information Processing Systems*, 20 (pp. 1217-1224). Cambridge, MA: MIT Press. [Refereed annual proceedings, 22% acceptance rate.]
- Cohen, A.**, Shiffrin, R., Gold, J., Ross, D., & Ross, M. (2007). Inducing features from visual noise. *Journal of Vision*, 7, 1-14.
- Leise, T. & **Cohen, A.** (2007). Coupled nonlinear oscillators at our fingertips. *American Mathematical Monthly*, 114, 14-28. [10% acceptance rate; MAA's Lester R. Ford Award.]
- Gold, J., **Cohen, A.**, & Shiffrin, R. (2006). Visual noise reveals category representations. *Psychonomic Bulletin & Review*, 13, 649-655.
- Cohen, A.** (2006). Contributions of invariants, heuristics, and exemplars to the visual perception of relative mass. *Journal of Experimental Psychology: Human Perception and Performance*, 32, 574-598.
- Gold, J., **Cohen, A.**, & Shiffrin, R. (2004). Classification image weights can discriminate between prototype and exemplar category representations [Abstract]. *Journal of Vision*, 4, 661a.
- Zaki, S., Nosofsky, R., Stanton, R., & **Cohen, A.** (2003). Prototype and Exemplar Accounts of Category Learning and Attention Allocation: A Reassessment. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 29, 1160-1173.
- Cohen, A.** & Nosofsky, R. (2003). An Extension of the Exemplar-Based Random Walk Model to Separable-Dimension Stimuli. *Journal of Mathematical Psychology*, 47, 150-165.
- Cohen, A.**, Nosofsky, R., & Zaki, S. (2001). Category variability, exemplar similarity, and perceptual classification. *Memory and Cognition*, 26, 1165-1175.
- Cohen, A.** & Nosofsky, R. (2000). An exemplar-retrieval model of speeded same-different judgments. *Journal of Experimental Psychology: Human Perception and Performance*, 26, 1549-1569.

## Book Chapters

- Cave, K., **Cohen, A.**, Rotello, C., McCaffrey, A., Ross, M., Zeng, M., Zivot, M., Li, X., & Evans, K. (2008). Using eye movements to understand complex visual comparisons. In K. Rayner, D. Shen, X. Bai, and G. Yan (Eds.), *Cognitive and cultural influences on eye movements* (pp. 141-156). Tianjin, China: Tianjin People's Publishing House/Psychology Press.
- Tversky, B., Kim, J., & **Cohen, A.** (1999). Mental models of spatial relations and transformations from language. In G. Rickheit and C. Habel (Eds.), *Mental models in discourse processing and reasoning: Advances in psychology* (pp. 239-258). Amsterdam, Netherlands: Elsevier Science Publishers.

## Manuscripts Submitted for Publication or in Preparation

- Cohen, A.**, McCaffrey, T., & Staub, A. (in preparation). *The effect of context on locally difficult semantic processing: Eye movement evidence*. Manuscript in preparation.
- Hotaling, J., **Cohen, A.**, Shiffrin, R., & Busemeyer, J. (in preparation). *Information integration in perceptual decision-making*. Manuscript in preparation.
- Zivot, M. & **Cohen, A.** (in preparation, 2<sup>nd</sup> submission). *Modeling the roles of category and feature information in inference*. Manuscript submitted for publication.
- Zivot, M., **Cohen, A.**, Kapucu, A. (in preparation). *The effect of mood on categorization*. Manuscript in preparation.

## Conference Organization

Statistical, computational, and psychological techniques for inferring features from stimulus classification. (2004, Dec.). Neural Information Processing Systems workshops. Whistler, BC. (With R. Shiffrin, J. Gold, and F. Cutzu.)

## Conference Presentations

Cataldo, A., **Cohen, A.**, & Dasgupta, N. (Nov., 2009). The effect of mood on pattern perception: A signal detection analysis. Poster presented at the 50th annual meeting of the Psychonomic Society. Boston, MA.

Zivot, M. & **Cohen, A.** (Nov., 2009). Modeling the roles of category and feature information in inference. Poster presented at the 50th annual meeting of the Psychonomic Society. Boston, MA.

Hotaling, J., **Cohen, A.**, Busemeyer, J., & Shiffrin, R., (2009, Aug.). *Information integration in perceptual decision-making*. Poster session presented at the annual meeting of the Society for Mathematical Psychology, Amsterdam, Netherlands.

Hotaling, J., **Cohen, A.**, Busemeyer, J., & Shiffrin, R., (2009, July). *Information integration in perceptual decision-making*. Poster session presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Sarre, Valle d'Aosta, Italy.

Burch, E., McCaffrey, A., & **Cohen, A.** (2009, May). *Top-down control signals and ambiguous figures*. Poster presented at the annual meeting of the Massachusetts Statewide Undergraduate Research Conference, Amherst, MA.

Richard, K., McCaffrey, A., & **Cohen, A.** (2009, May). *The role of sensorimotor cortices in problem solving*. Poster presented at the annual meeting of the Massachusetts Statewide Undergraduate Research Conference, Amherst, MA.

**Cohen, A.**, Busemeyer, J., Shiffrin, R., & Hotaling, J. (2008, Nov.). *Information integration in perceptual decision-making*. Poster session presented at the annual meeting of the Psychonomic Society, Chicago, IL.

Hotaling, J., **Cohen, A.**, Busemeyer, J., & Shiffrin, R. (2008, July). *Information integration in perceptual decision making*. Poster session presented at the annual meeting of the Society for Mathematical Psychology, Washington D.C.

**Cohen, A.**, Rotello, C., & Macmillan, N. (2008, Jan.). *Mimicry in models of remember-know judgments*. Paper presented at the Context and Episodic Memory Symposium, Tampa, FL. (Presented by Rotello.)

Ross, M. & **Cohen, A.** (2007, Dec.). *GRIFT: A graphical model for inferring visual classification features from human data*. Poster session presented at the annual meeting of the Neural Information Processing Systems, Vancouver, B.C., Canada.

**Cohen, A.**, Rotello, C., & Macmillan, N. (2007, Nov.). *Mimicry in models of remember-know judgments*. Poster session presented at the annual meeting of the Psychonomic Society, Long Beach, CA.

**Cohen, A.** & Ross, M. (2007, June). *Exploring mass perception with psychological MCMC*. Paper

- presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Kalymnos, Greece.
- Ross, M. & **Cohen, A.** (2007, June). *Modeling visual classification with Bayesian networks*. Poster session presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Kalymnos, Greece.
- Cohen, A.**, Sanborn, A., & Shiffrin, R. (2007, June). *Model selection for individuals when data is limited*. Paper presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Kalymnos, Greece.
- Cohen, A.** & Ross, M. (2006, Aug.). *Inducing multiple independent classification templates from stochastic stimuli*. Paper presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Åndalsnes, Norway.
- Cave, K., **Cohen, A.**, Rotello, C., McCaffrey, A., Zeng, M., Li, X., Zivot, M., Chang, K., & Ross, M. (2006, June). *Using eye movements to understand complex visual comparisons*. Paper presented at the China International Conference on Eye Movements, Tianjin, P.R.China.
- Cohen, A.**, Shiffrin, R., Gold, J., & Ross, D. (2005, Aug.). *Inducing Features from Visual Noise*. Paper presented at the annual meeting of the Society for Mathematical Psychology, Memphis, TN.
- Cohen, A.**, Shiffrin, R., Gold, J., & Ross, D. (2005, July). *Inducing features from visual noise*. Paper presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Briançon, France.
- Cohen, A.** (2005, May). *Information integration: Modeling stimulus differences*. Paper presented at the Office of Naval Research Workshop on Attention, Perception and Modeling for Complex Display, Washington DC.
- Cohen, A.**, Ross, D., Gold, J., Cutzu, F., Yu, C., & Shiffrin, R. (2004, Dec.). *Features from noise or noise from features*. Paper presented at the annual meeting of the Neural Information Processing Systems workshops, Whistler, BC.
- Cutzu, F., Dhua, A., Gold, J., Yu, C., **Cohen, A.**, & Shiffrin, R. (2004, Dec.). *Inferring image templates from classification decisions*. Paper presented at the annual meeting of the Neural Information Processing Systems workshops, Whistler, BC.
- Cohen, A.**, Sanborn, A., & Shiffrin, R. (2004, Aug.). *To average or not to average: A comparison across simulation techniques*. Paper presented at the annual meeting of the Society for Mathematical Psychology, model selection symposium, Columbus, OH.
- Cohen, A.**, Busemeyer, J., & Shiffrin, R. (2004, July). *Dual modes of information integration*. Paper presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Cavelese, Italy.
- Gold, J., **Cohen, A.**, & Shiffrin, R. (2004, July). *Classification image weights can discriminate between prototype and exemplar category representations*. Poster session presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Cavalese, Italy.
- Gold, J., **Cohen, A.**, & Shiffrin, R. (2004, May). *Classification image weights can discriminate between prototype and exemplar category representations*. Paper presented at the annual meeting of the Vision Sciences Society, Sarasota, Florida.

- Stanton, R., Nosofsky, R., **Cohen, A.**, & Zaki, S. (2003, July). *An Exemplar-Based Random Walk Model of Old-New Recognition*. Paper presented at the annual meeting of the Society for Mathematical Psychology, Ogden, Utah.
- Cohen, A.** (2002, Aug.). *An exemplar-similarity account of the perception of dynamic properties*. Paper presented at the annual meeting of the Annual Summer Interdisciplinary Conference, Squamish, BC.
- Cohen, A.** (2002, July). *An exemplar-similarity account of the perception of dynamic properties*. Paper presented at the annual meeting of the Society of Mathematical Psychology, Oxford, OH.
- Roe, R. M., **Cohen, A.**, & Busemeyer, J. (2001, Nov.). *Extrapolation in multiple-cue function learning: Critical tests of associative versus rule-based models*. Paper presented at the Mini-Mathematical Psychology Conference, West Lafayette, IN.
- Cohen, A.**, Sautner, M., & Spencer-Smith, J. (2001, March). *EXP: A new system for creating experiments within the Windows environment*. Paper presented at the annual meeting of Hoosier Mental Life, Bloomington, IN.
- Cohen, A.**, Nosofsky, R., & Zaki, S. (2001, March). *Category variability, exemplar similarity, and perceptual classification*. Paper presented at the annual meeting of Hoosier Mental Life, Bloomington, IN.
- Roe, R., **Cohen, A.**, Barkan, R., & Busemeyer, J. (2001, July). *Extrapolation in multiple-cue function learning: Critical tests of associative versus rule-based models*. Paper presented at the International Conference on Memory, Valencia, Spain.
- Cohen, A.** & Nosofsky, R. (2000, March). *An exemplar-retrieval model of speeded same-different judgments*. Paper presented at the annual meeting of Hoosier Mental Life, South Bend, IN.
- Cohen, A.** & Nosofsky, R. (2000, Aug.). *An extension of the exemplar-based random walk model to separable dimension stimuli*. Paper presented at the annual meeting of the Society of Mathematical Psychology, Kingston, ON.
- Cohen, A.** & Nosofsky, R. (1998, Aug.). *An exemplar-retrieval model of speeded same-different judgments*. Paper presented at the annual meeting of the Society of Mathematical Psychology, Nashville, TN.
- Nosofsky, R., Alfonso-Reese, L., **Cohen, A.**, & Palmeri, T. (1997, Aug.). *Tests of an exemplar model for predicting categorization and same-different response times*. Paper presented at the annual meeting of the Society of Mathematical Psychology, Bloomington, IN.
- Balfour, S., **Cohen, A.**, & Smith, S. (1996, May). *A connectionist account of incubation in a creativity task*. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

## **Editorial Service**

### Ad Hoc Journal Reviewer

*Attention, Perception, and Performance*

*Brain Research*

*Cognition*

*Cognitive Science*

*Cognitive Science Society*

*Journal of Experimental Psychology: General*

*Journal of Experimental Psychology: Human Perception and Performance*

*Journal of Experimental Psychology: Learning, Memory, and Cognition*

*Journal of Mathematical Psychology*

*Journal of Memory and Language*

*Memory & Cognition*

*Psychological Review*

*Psychonomic Bulletin & Review*

*Quarterly Journal of Experimental Psychology*

### Ad Hoc Grant Reviewer

Economic & Social Research Council

## **Graduate Student Committees**

Bekkerman, R. (Ph.D., computer science, 2007)  
Cannon, E. (Ph.D., psychology, 2006)  
Druck, G. (Ph.D., computer science, current)  
Gazarian, P. (Ph.D., nursing, 2008)  
Kapmucu, A. (comprehensive exam, psychology, 2008)  
Katz, D. (Ph.D., computer science, current)  
Kumaran, G. (Ph.D., computer science, 2008)  
Luippold, B. (Ph.D., management, 2009)  
Luippold, B. (comprehensive exam, management, 2007)  
McCaffrey, A. (MS, chair, psychology, 2008)  
McCaffrey, A. (comprehensive exam, chair, 2009)  
McCaffrey, A. (Ph.D., psychology, chair, current)  
McManus, M. (MS, psychology, current)  
Monesson, A. (MS, psychology, 2009)  
Murtagh, S. (Ph.D. computer science, current)  
Perreault, S. (comprehensive exam, management, 2010)  
Planet, N. (MS, psychology, 2010)  
Riley, T. (comprehensive exam, management, 2007)  
Staub, A. (Ph.D., psychology, 2008)  
Wainberg, J. (Ph.D., management, current)  
Zeng, M. (MS, psychology, 2007)  
Zivot, M. (MS, chair, psychology, 2008)  
Zivot, M. (comprehensive exam, chair, 2009)  
Zivot, M. (Ph.D., psychology, chair, current)

## **Graduate and Postdoctoral Advisees**

McCaffrey, A. (graduate student, 2005-current)  
Ross, M. (postdoc, 2006-2008)  
Zivot, M. (graduate student, 2005-current)

## **Undergraduate Advisees**

Banchefsky, L. (intern supervisor, 2008)  
Burch, E. (honors, chair, 2010)  
Cataldo, A. (honors, chair, 2009)  
Richard, K. (indep. study, 2009)

## Teaching Experience

Format: Semester year (number of students)

### Undergraduate

#### *University of Massachusetts*

Cognitive Psychology

F '07 (124)

Cognitive Psychology Honors

S '07 (25), F '08 (22), S '10 (19)

Statistics in Psychology

F '05 (57), S '06 (61), F '06 (64), S '10 (68)

#### *Indiana University*

Introduction to Psychology

Sum. '01 (49)

Methods of Experimental Psychology

F '98 (4)

### Graduate

#### *University of Massachusetts*

Applied and Basic Cognition and Development

S '05 (9), S '06 (8), S '07 (8), S '08 (10), S '09 (6)

Cognitive Psychology

F '09 (12)

Cognitive Seminar

F '08 (8), S '09 (8)

Modeling Behavior

F '04 (14), S '08 (10)

## **Departmental and University Service**

### Departmental

Computer and network committee, member (2006-present)  
Human subjects committee, member (2004-2005, 2006-2009)  
Search committee, member (successful, 2007-2008)  
Space committee, member (2005-2006)

### University

Cognitive science speaker series, co-organizer (2006-present)  
Concepts reading group, organizer & leader (2004-2009)  
Status of diversity council, member (2007-2009)  
Status of diversity council, co-chair (2009-2010)

## **Professional Societies**

Psychonomic Society, member (2008-present)

## **Other Work Experience**

2001	Designer/Programmer: ExpLib: An experimental library for Visual C++.
1995	Researcher: Philips Laboratories, Briarcliff Manor, NY.
1994	Programmer/Researcher: Philips Laboratories, Briarcliff Manor, NY.
1993	Software Analyst: Scitor Corporation, Foster City, CA.

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