
Robert A. Mason, Ph.D.

Address: Center for Cognitive Brain Imaging
Department of Psychology
Baker Hall
Carnegie Mellon University
Pittsburgh, PA 15213

E-mail: rmason@andrew.cmu.edu
Phone: (412) 268-3784
Fax: (412) 268-2804

Internet: <http://www.andrew.cmu.edu/user/rmason/index.html>

Current Position

Post-Doctoral Fellow, Center for Cognitive Brain Imaging, Carnegie Mellon University

Education

- 1997 - 1998 **Ph.D.**, Psychology, University of Massachusetts, Amherst
Advisor: Jerome L. Myers
(Major in Cognitive Psychology, Minor Concentration in Statistics)
Dissertation: *Antecedents and Distractors in the Anaphor Resolution Process:
The Influence of Relative Strength of Association in Memory*
- 1992 - 1997 **M.S.**, Psychology, University of Massachusetts, Amherst
Advisor: Jerome L. Myers
Thesis: *The Role of Multiple Antecedents in the Time Course of
Anaphor Resolution*
- 1987 - 1992 **B.S.**, Psychology, University of Pittsburgh,
Advisor: Charles A. Perfetti
-

Research Interests

Neurological Bases of Language Processing

The use of fMRI to Inform Cognitive Models of Language Processing

Language Processing during Reading, including:

- Discourse Processing
- Syntactic Processing
- Lexical/Semantic Processing
- Ambiguity Resolution

The utilization of machine learning methods to discover the neural basis of semantic knowledge

Statistical analysis of fMRI data

Publications and Presentations

Publications:

- Mason, R.A.**, Williams, D.L., Kana, R.K., Minshew, N. & Just, M.A. (*in press*). Theory of mind disruption and recruitment of the right hemisphere during narrative comprehension in autism. To appear in: *Neuropsychologia*.
- Mason, R.A.**, & Just, M.A. (2007). Lexical ambiguity in sentence comprehension. In T. Swaab (Ed.) *Brain Research, Special Issue: Mysteries of Meaning*, 1146, 115-127.
- Mason, R.A.** & Just, M. A. (2006). Neuroimaging contributions to the understanding of discourse processes. In M. Traxler, & M. A. Gernsbacher (Eds.), *Handbook of Psycholinguistics, Second Edition*.
- Reichle, E.D., & **Mason, R.A.** (2006). The Neural Signatures of Causal Inferences. In F. Schmalhofer & C.A. Perfetti (Eds.), *Higher Level Language Processes in the Brain: Inference and Comprehension Processes*.
- Mason, R. A.**, & Just, M. A. (2004). How the brain processes causal inferences in text: A multiple process theory of language function in both hemispheres. *Psychological Science*, 15, 1-7.
- Mason, R. A.**, Just, M. A., Keller, T. A., & Carpenter, P. A. (2003). Ambiguity in the brain: What brain imaging reveals about the processing of syntactically ambiguous sentences. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 29, 1319-1338.
- Newman, S., D., Just, M. A., & **Mason, R. A.** (2003). Understanding text with the right side of the brain: what functional neuroimaging has to say. In L.M.B. Tomitch & C. Rodrigues (Eds.), *Ensaio sobre a linguagem e o cérebro humano: Contribuições multidisciplinares*.
- Wiley, J., **Mason, R.A.**, & Myers, J.L. (2001). Accessibility of potential referents following categorical anaphors. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 27, 1238-1249.
- Myers, J.L., Cook, A.E., Kambe, G., **Mason, R.A.**, & O'Brien, E.J. (2000). Semantic and episodic effects on bridging inferences. *Discourse Processes*, 29, 179-199.
- Lea, R.B., **Mason, R.A.**, Albrecht, J.E., Birch, S., & Myers, J.L. (1998) Who knows what about whom: What role does common ground play in accessing distant information? *Journal of Memory and Language*, 39, 70-84.
- Rouet, J.F., Britt, M.A., **Mason, R.A.**, & Perfetti, C.A. (1996). Using multiple sources of evidence to reason about history. *Journal of Educational Psychology*, 88, 478-493.

Albrecht, J.E., O'Brien, E.J., **Mason, R.A.**, & Myers, J.L. (1995). The role of perspective in the accessibility of goals during reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *21*, 364-372.

Myers, J.L., O'Brien, E.J., Albrecht, J.E., & **Mason, R.A.** (1994). Maintaining global coherence during reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 876-886.

Perfetti, C.A., Britt, M.A., Rouet, J.F., Georgi, M.L., & **Mason, R.A.** (1994). How students use texts to learn about historical uncertainty. In M. Carretero & J.F. Voss (Eds.), *Cognitive and instructional processes in history and the social sciences* (pp. 257-283). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Invited Symposia:

Mason, R.A. (2003, June). *Neural signatures of generating and integrating causal inferences*. International Hanse-Conference on Higher Level Language Processes in the Brain: Inference and Comprehension Processes, Hanse-Advanced Study Institute, Delmenhorst, Germany.

Mason, R.A. (2002, June). *fMRI studies of causal inferences during reading*. Joint symposia at the Twelfth Annual Meeting of the Society for Text and Discourse and the Society for the Scientific Study of Reading, Chicago, IL.

Presentations:

Mason, R.A., & Just, M.A. (2007, May) *Does the brain differentiate between intentional and causal inferences in text?* Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, New York, NY.

Prat, C.S., **Mason, R.A.**, & Just, M.A. (2007, May) *Individual differences in the role of the right hemisphere in causal inference comprehension: an fMRI investigation*. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, New York, NY.

Shinkareva, S.V., Malave, V.L., **Mason, R.A.**, Mitchell, T.M., & Just, M.A. (2007, May) *Cross-modal identification of semantic categories in words and pictures from fMRI brain activation*. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, New York, NY.

Mason, R.A., Just, M.A., Mitchell, T., Pereira, F., Shinkareva, S., & Malave, V. (2006, June) *Do semantic categories and individual words have a distinct neural signature?* Invited oral presentation given at the Twelfth International Conference on Functional Mapping of the Human Brain, Florence, Italy.

- Mason, R.A.,** Just, M.A., Mitchell, T., Pereira, F., Shinkareva, S., & Malave, V. (2006, June) *Do semantic categories and individual words have a distinct neural signature?* Poster presented at the Twelfth International Conference on Functional Mapping of the Human Brain, Florence, Italy.
- Mason, R.A.,** Just, M.A. & Eviatar, Z. (2003, November). *The neural basis of metaphor interpretation.* Poster presented at the Forty-Fourth Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.
- Mason, R.A.,** & Just, M.A. (2002, June). *How the two brain hemispheres process causal inferences in text: A multiple process theory of comprehending causality.* Poster presented at the Eighth International Conference on Functional Mapping of the Human Brain, Sendai, Japan.
- Mason, R.A.,** & Just, M.A. (2001, November). *Cortical networks that support causal inference processes during reading.* Poster presented at the Forty-Second Annual Meeting of the Psychonomic Society, Orlando, FL.
- Mason, R.A.,** Just, M.A., & Carpenter, P.A. (2000, November). *The temporal properties of brain activation during the processing of sentences containing lexically ambiguous words.* Poster presented at the Forty-First Annual Meeting of the Psychonomic Society, New Orleans, LA.
- Mason, R.A.,** Just, M.A., & Carpenter, P.A. (2000, April). *Ambiguity in the brain: How sentences containing lexically ambiguous words are processed temporally.* Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco CA.
- Mason, R.A.,** Just, M.A., Keller, T.A., & Carpenter, P.A. (1999, November). *Ambiguity in the brain: How syntactically ambiguous sentences are processed.* Poster presented at the Fortieth Annual Meeting of the Psychonomic Society, Los Angeles, CA.
- Wiley, J., **Mason, R.A.,** & Myers, J.L. (1998, November). *The fate of nonreferents in categorical anaphor resolution.* Poster presented at the Thirty-Ninth Annual Meeting of the Psychonomic Society, Dallas, TX.
- Mason, R.A.** & Myers, J.L. (1996, November). *The role of multiple antecedents in the time course of anaphor resolution.* Poster presented at the Thirty-Seventh Annual Meeting of the Psychonomic society, Chicago, IL.
- Lea, R.B., Albrecht, J.E., Birch, S., **Mason, R.A.** & Myers, J.L. (1995, November). *The role of common ground in accessing distant information during reading.* Poster presented at the Thirty-Sixth Annual Meeting of the Psychonomic Society, Los Angeles, CA.
- Britt, M.A., Rouet, J.-F., **Mason, R.A.,** & Perfetti, C.A. (1993, April). *Students' use and evaluation of documents in history.* Poster presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA.

Rouet, J.-F., Britt, M.A., **Mason, R.A.**, & Perfetti, C.A. (1992, December). *The use of a hypertext system to study and reason about historical evidence*. Poster presented at the European Conference on Hypertext Technology, Milan, Italy.

Perfetti, C.A., Britt, M.A., Rouet, J.-F., Georgi, M.C., & **Mason, R.A.** (1992, October). *How students use texts to reason about historical uncertainty*. Paper presented at the seminar on Cognitive and Instructional Processes in History and the Social Sciences, Madrid, Spain.

Manuscripts currently under review:

Shinkareva, S.V., **Mason, R.A.**, Malave, V.L., Wang, W., Mitchell, T.M., & Just, M.A. *Identifying thoughts about physical objects using fMRI*.

Buchweitz, A., **Mason, R. A.** & Just, M.A. *Japanese and English sentence reading comprehension and writing systems: An fMRI study of first and second language effects on brain activation*.

Manuscripts in Preparation:

Mason, R.A., & Just, M.A. *Does the brain differentiate between intentional and causal inferences in text?*

Mason, R.A., Prat, C.S., Eviatar, Z., & Just, M.A. *Brain activation associated with novel and frozen metaphors*.

Mason, R.A., Pereira, F., Shinkareva, S., Malave, V., Mitchell, T., & Just, M.A. *Do semantic categories and individual words have a distinct neural signature?*

Kumar, R., Williams, D., **Mason, R.A.**, & Just, M.A. *Brain activation as modulated by sentences containing lexically ambiguous words in high-functioning Autistics*.

Research Experience

- 1998-Present *Post-Doctoral Fellow* with Marcel Just and Patricia Carpenter, Center for Cognitive Brain Imaging, Carnegie Mellon University, neuroimaging research on language processing at the discourse, syntactic and lexical/semantic levels
- 1996-1998 *Research Assistant* with Jerome L. Myers, University of Massachusetts, Amherst, research on discourse processing utilizing eye-movement, naming time and response time technologies
- 1994-1996 *Psycholinguistic Trainee* under Charles E. Clifton, University of Massachusetts, Amherst, emphasis on linguistic training including syntax and semantics
- 1990-1992 *Research Assistant*, with Charles A. Perfetti University of Pittsburgh, research on the use of Hypertext in the instruction of students in history
-

Professional Associations

Cognitive Neuroscience Society
 Organization of Human Brain Mapping
 Society for Text and Discourse

Awards and Administrative Experience

- Traineeship on NIMH Psycholinguistic pre-doctoral training grant, 1994-1996
 - Graduate Student Representative, Graduate Studies Committee, University of Massachusetts
 - Chair, Committee on Psychology Graduate Student Computer Resources, University of Massachusetts
-

Teaching Experience

- 2007 Instructor, Cognitive Brain Imaging
- 2006 Guest Lecturer, Cognitive Brain Imaging, Instructor: Marcel Adam Just
- 2005 Guest Lecturer, Cognitive Brain Imaging, Instructor: Marcel Adam Just
- 2003 Guest Lecturer, Seminar on Mind and Brain, Instructor: Marcel Adam Just
- 1997 Instructor, Cognitive Psychology
- 1994 Teaching Assistant, Introductory Psychology, Instructor: Ernst Dzendolet
- 1993 Lab Instructor, Statistics, Instructor: Marion MacDonald
- 1993 Teaching Assistant, Cognitive Psychology, Instructor: David Rosenbaum
- 1992 Teaching Assistant, Cognitive Psychology, Instructor: James Chumbley
-

Teaching Interests

- Cognitive Psychology
 - Cognitive Neuroscience
 - Statistics (Undergraduate and Graduate)
 - Research Methods
 - Introduction to Psychology
 - Psychology of Reading
 - Psycholinguistics
 - Discourse Processes
 - Cognitive Brain Imaging
-