

## Curriculum Vita

## Timothy P. McNamara

## Business Addresses

*Vice Provost Office*  
 221 Kirkland Hall  
 Vanderbilt University  
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2004 20th Ave. South  
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## Education

University of Kansas	B.G.S	1979	Computer Science, Mathematics, & Psychology (triple major)
Yale University	M.S.	1981	Psychology
Yale University	M.Phil.	1982	Psychology
Yale University	Ph.D.	1984	Psychology

## Professional Experience and Honors

1977	<i>Phi Kappa Phi</i>
1977	Undergraduate Research Participation Awards (Spring & Summer), University of Kansas
1978	Beulah Morrison Award for Excellence in Psychology, University of Kansas
1978	Department of Psychology Chairman's Prize for Excellence in Undergraduate Research, University of Kansas
1979	<i>Upsilon Pi Epsilon</i> Honor Society in Computer Science
1979	<i>Pi Mu Epsilon</i> Honor Society in Mathematics
1979	Bachelor of General Studies awarded <i>summa cum laude</i> , Honors in Psychology
1983-1989	Assistant Professor, Department of Psychology, Vanderbilt University
1986-1988	National Academy of Education Spencer Fellow
1989-1995	Associate Professor, Department of Psychology, Vanderbilt University
1992-1996	Director, Cognitive Training Program, Department of Psychology

1994	Elected Fellow of the American Psychological Association, Division 3
1995	Professor, Department of Psychology, Vanderbilt University
1996-2004	Chair, Department of Psychology, Vanderbilt University
1999	Elected Fellow of the American Association for the Advancement of Science
2003	Elected Fellow of the Association for Psychological Science
2004-2009	Associate Provost for Faculty
2009-present	Vice Provost for Faculty

## Major Grants

The Representation and Integration of Spatial and Propositional Knowledge in Memory (PI), National Science Foundation, BNS-8417741, \$71,000, 1985-1988.

Contextual Constraints on Comprehension (PI), Spencer Fellowship, National Academy of Education, \$25,000 (direct costs only), 1986-1988.

Designing Invitations to Thinking (Co-PI), James S. McDonnell Foundation, \$461,453, 1988-1990.

Mental Representations of Spatial and Nonspatial Relations (PI), National Science Foundation, BNS-8820224, \$165,973, 1989-1993.

Mental Representations of Spatial and Nonspatial Relations (PI), National Science Foundation, SBR-9222002, \$233,633, 1993-1997.

Mental Representations of Spatial Relations (PI), National Institute of Mental Health, 1-R01-MH57868, \$464,138, 1998-2002.

Mental Representations of Spatial Relations (PI), National Institute of Mental Health, 2-R01-MH57868, \$1,049,568, 2003-2008.

HCC: Design and Evaluation of Spatially Compelling Virtual Environments, National Science Foundation, 0705863, \$427,055, 9/15/2007-8/31/2011, B. Bodenheimer (PI).

MRI: Acquisition of Instruments for Interaction, Learning, and Perception in Virtual Environments, National Science Foundation, 0821640, \$233,546. B. Bodenheimer (PI).

Spatial Orientation During Navigation (PI), National Science Foundation, 0957303, \$423,560, 2010-2013 (pending).

## Major Administrative Experience

Chair, Department of Psychology, Vanderbilt University (1996-2004)

University Central Promotion and Tenure Review Committee (1997-2001; Chair, 1998-2001)

Chair, College of Arts and Science Dean Search Committee (2000)

Chair, College of Arts and Science Strategic Planning Committee (2001-2002)

Associate Provost for Faculty, Vanderbilt University (2004-2009)

Vice Provost for Faculty, Vanderbilt University (2009-present)

## Professional Activities

Program Reviewer, Basic Research Program in Cognition, AFOSR (November, 1989)

Steering Committee, National Center for Geographic Information and Analysis (NCGIA) Project Varenus, "Scale and Detail in the Cognition of Geographic Information" (1998)

Steering Committee, NCGIA Project Varenus, "Multiple Input Modes and Multiple Reference Frames for Spatial Knowledge" (1999)

Scientific Committee, Fourth International Conference on Spatial Information Theory (1999)

Scientific Program Committee, Spatial Cognition 2004

Scientific Program Committee, Spatial Cognition 2006

Invited Discussant, Panel Discussion "Perspectives on the Future of the Academy," American Psychological Association Science Leadership Conference 2006

Invited Participant, "Adventures in Advocacy: Training the Civic Scientist", American Psychological Association Science Leadership Conference 2007

Scientific Program Committee, Spatial Cognition 2008

Associate Editor

*Memory & Cognition* (1998-2001)

*Psychological Bulletin* (1990)

Consulting Editor

*Cognition* (2008-present)

*Journal of Experimental Psychology: Learning, Memory, and Cognition* (1989, 1991-1997)

*Memory & Cognition* (1988-1991, 2005-present)

*Psychological Review* (2004-present)

*Psychonomic Bulletin & Review* (2005-present)

*Spatial Cognition and Computation* (1999-present)

Consulting Reviewer (past 5 years)

*Acta Psychologica*

*American Journal of Psychology*

*Applied Cognitive Psychology*  
*British Journal of Psychology*  
*Cognition*  
*Cognitive, Affective, and Behavioral Neuroscience*  
*Cognitive Psychology*  
*Cognitive Science*  
*Developmental Psychology*  
*Experimental Aging Research*  
*Experimental Brain Research*  
*Journal of Experimental Child Psychology*  
*Journal of Experimental Psychology: General*  
*Journal of Experimental Psychology: Human Perception and Performance*  
*Journal of Experimental Psychology: Learning, Memory, and Cognition*  
*Journal of Memory and Language*  
*Memory*  
*National Science Foundation*  
*Perception*  
*Psychology and Aging*  
*Psychological Bulletin*  
*Psychological Science*  
*Quarterly Journal of Experimental Psychology*  
*Science*  
*Virtual Reality*

## Professional Affiliations

American Association for the Advancement of Science (Fellow)  
 American Psychological Association (Fellow of Division 3)  
 Association for Psychological Science (Fellow)  
 Gesellschaft für Unendliche Versuche (GUV; retired)  
 Psychonomic Society

## Research Interests

My research investigates human memory. One line of research investigates how spatial relations among objects in the environment are represented in memory, and how remembered spatial relations are used to guide navigation. Current experiments are examining the spatial reference systems used in memory to represent the locations of objects in the environment, how people update representations of their own location and orientation during locomotion, and aspects of spatial memories acquired from non-visual modalities, such as touch and movement. A second line of research uses priming paradigms (e.g., semantic priming, priming in item recognition) to examine mechanisms of retrieval in semantic and episodic memory.

## Teaching Experience

Undergraduate

General Psychology

Graduate

Spatial Cognition

Cognitive Psychology  
 Spatial Cognition  
 Psychology of Language  
 Principles of Experimental Design

Models of Memory  
 Quantitative Methods and Experimental  
 Design  
 Structural Modeling

## Students Supervised

### Postdoctoral

Beverly Roskos-Ewoldsen (1989-1991)  
 Weimin Mou (1999-2001)  
 Julia Sluzenski (2004-2006)  
 Jonathan Kelly (2007-2009)  
 Bernhard Riecke (2007-2008)

### Graduate

James K. Hardy  
 Diana Miller Sharp, Ph.D. (1989)  
 Jeanette Altarriba, Ph.D. (1990)  
 Lynn LeSueur, Ph.D. (1990)  
 Stephanie Gray Wilson, Ph.D. (1992)  
 John A. Halpin, Ph.D. (1994)  
 Amy L. Shelton, Ph.D. (1999)  
 Vaibhav A. Diwadkar, Ph.D. (2000)  
 Keith M. Smith, M.A. (2000)  
 Christine Valiquette, Ph.D. (2008)  
 Bjoern Rump, Ph.D. (2008)  
 Xiaoli Chen (2009-present)

### Undergraduate (Directed Study & Honors)

Brooke Benson (Spring 1984), Suzanne King (Spring 1984), Brad Davis (Fall 1984), Sandy Comer (Spring 1985), Susan Johnson (Fall 1985; Spring 1986), Jim Shepherd (Fall 1987; Spring 1988), Elizabeth McCullough (Spring 1988), Julie Reinbold (Fall 1989; Spring 1990), Misty Das (Fall, 1992), Lisa Weinard (Fall, 1992), Deva Blackman (Spring 1993), Ashley Hodde (Summer & Fall 1993), Mike Landers (Spring 1994), Andrea Neuman (1994-1995), Brian Hittle (Honors student; 1994-1996), Gordon Wotton (1995-1996), Sarah King (Honors student; 1998-2000), Kate Dickinson (Honors student; 1998-2000), Julie C. Abernethy (2003-2004), Vanessa J. Mullen (Honors student; 2003-2005), Ann Ekechukwu (2005-2008)

Brian Hittle (1996), Kate Dickinson (2000), and Vanessa Mullen (2005) received the Jum C. Nunnally Award for the best honors thesis in the Department of Psychology.

### Foreign Student Visitors

Bjoern Rump, University of Göttingen, Germany (September, 1999)  
 Caterina Brudetti, University of Naples, Italy (July-August, 2004)  
 Chiara Mazziotti, University of Naples, Italy (July-August, 2004)  
 Chiara Meneghetti, University of Padova, Italy (February-June, 2005)

Gennaro Ruggiero, University of Naples, Italy (July-October, 2005; October-November 2007)

Yanli Fan, Chinese Academy of Sciences, Beijing (May 2006-May 2007)

### High School Interns

Nancy Keen Palmer, Harpeth Hall School (Summer 2006, Winterim 2007)

Madeleine Wiseman, Harpeth Hall School (Summer 2007)

Rhyllis Lyle, Harpeth Hall School (Winterim 2008)

### Publications\*

#### Journal Articles

1. McNamara, T. P., Ward, N. J., & Juola, J. F. (1978). Visual search for letters in intact and mixed-case words and nonwords. *Bulletin of the Psychonomic Society*, *12*, 297-300.
2. Juola, J. F., Ward, N. J., & McNamara, T. P. (1982). Visual search and reading of rapid, serial presentations of letter strings, words, and text. *Journal of Experimental Psychology: General*, *111*, 208-227.
3. McNamara, T. P., & Sternberg, R. J. (1983). Mental models of word meaning. *Journal of Verbal Learning and Verbal Behavior*, *22*, 449-474.
4. <sup>L</sup>McNamara, T. P., Ratcliff, R., & McKoon, G. (1984). The mental representation of knowledge acquired from maps. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *10*, 723-732.
5. <sup>C</sup>McNamara, T. P. (1986). Mental representations of spatial relations. *Cognitive Psychology*, *18*, 87-121.
6. Healy, A. F., Oliver, W. L., & McNamara, T. P. (1987). Detecting letters in continuous text: Effects of display size. *Journal of Experimental Psychology: Human Perception and Performance*, *13*, 279-290.
7. Morey, L. C., & McNamara, T. P. (1987). On definitions, diagnosis, and DSM-III. *Journal of Abnormal Psychology*, *96*, 283-285.
8. <sup>C</sup>McNamara, T. P., & Altarriba, J. (1988). Depth of spreading activation revisited: Semantic mediated priming occurs in lexical decisions. *Journal of Memory and Language*, *27*, 545-559.
9. McNamara, T. P., & Healy, A. F. (1988). Semantic, phonological, and mediated priming in reading and lexical decisions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *14*, 398-409.
10. McNamara, T. P., Altarriba, J., Bendele, M., Johnson, S. C., & Clayton, K. N. (1989). Constraints on priming in spatial memory: Naturally learned versus experimentally learned environments. *Memory & Cognition*, *17*, 444-453.

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\* h-index=24 and total citations  $\approx$  2,000 using Cited Reference Search in Web of Science. See McNamara (2006, *APS Observer*) for discussion. <sup>C</sup>  $\geq$  100 citations; <sup>L</sup>  $\geq$  50 citations.

11. <sup>C</sup>McNamara, T. P., Hardy, J. K., & Hirtle, S. C. (1989). Subjective hierarchies in spatial memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *15*, 211-227.
12. McNamara, T. P., & LeSueur, L. L. (1989). Mental representations of spatial and nonspatial relations. *Quarterly Journal of Experimental Psychology*, *41A*, 215-233.
13. McNamara, T. P., & Miller, D. L. (1989). Attributes of theories of meaning. *Psychological Bulletin*, *106*, 355-376.
14. McNamara, T. P., & Gray, S. A. (1990). More evidence that mediated priming does not occur between semantic-phonological associates. *Bulletin of the Psychonomic Society*, *28*, 199-200.
15. McNamara, T. P., Sternberg, R. J., & Hardy, J. K. (1991). Processing verbal relations. *Intelligence*, *15*, 193-221.
16. <sup>C</sup>McNamara, T. P. (1992). Priming and constraints it places on theories of memory and retrieval. *Psychological Review*, *99*, 650-662.
17. <sup>C</sup>McNamara, T. P. (1992). Theories of priming: I. Associative distance and lag. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *18*, 1173-1190.
18. McNamara, T. P. (1992). Spatial representation. *Geoforum*, *23*, 139-150.
19. McNamara, T. P., Halpin, J. A., & Hardy, J. K. (1992). Spatial and temporal contributions to the structure of spatial memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *18*, 555-564.
20. McNamara, T. P., Halpin, J. A., & Hardy, J. K. (1992). The representation and integration in memory of spatial and nonspatial information. *Memory & Cognition*, *20*, 519-532.
21. Wilson, S. G., Rinck, M., McNamara, T. P., Bower, G. H., & Morrow, D. G. (1993). Mental models and narrative comprehension: Some qualifications. *Journal of Memory and Language*, *32*, 141-154.
22. McNamara, T. P. (1994). Priming and theories of memory: A reply to Ratcliff and McKoon. *Psychological Review*, *101*, 185-187.
23. <sup>L</sup>McNamara, T. P. (1994). Theories of priming: II. Types of primes. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 507-520.
24. McNamara, T. P., & Diwadkar, V. A. (1996). The context of memory retrieval. *Journal of Memory and Language*, *35*, 877-892.
25. <sup>C</sup>Diwadkar, V. A., & McNamara, T. P. (1997). Viewpoint dependence in scene recognition. *Psychological Science*, *8*, 302-307.
26. McNamara, T. P., & Diwadkar, V. A. (1997). Symmetry and asymmetry of human spatial memory. *Cognitive Psychology*, *34*, 160-190.
27. <sup>C</sup>Shelton, A. L., & McNamara, T. P. (1997). Multiple views of spatial memory. *Psychonomic Bulletin & Review*, *4*, 102-106.
28. Cave, C. B., Blake, R., & McNamara, T. P. (1998). Binocular rivalry disrupts visual priming. *Psychological Science*, *9*, 299-302.

29. <sup>L</sup>Roskos-Ewoldsen, B., McNamara, T. P., Shelton, A. L., & Carr, W. S. (1998). Mental representations of large and small spatial layouts are orientation dependent. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *24*, 215-226.
30. Franks, J. J., Bilbrey, C. W., Lien, K. G., & McNamara, T. P. (2000). Transfer-appropriate processing (TAP) and repetition priming. *Memory & Cognition*, *7*, 1140-1151.
31. <sup>C</sup>Shelton, A. L., & McNamara, T. P. (2001). Systems of spatial reference in human memory. *Cognitive Psychology*, *43*, 274-310.
32. Shelton, A. L., & McNamara, T. P. (2001). Visual memories from nonvisual experiences. *Psychological Science*, *12*, 343-347.
33. <sup>L</sup>Mou, W., & McNamara, T. P. (2002). Intrinsic frames of reference in spatial memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *28*, 162-170.
34. McNamara, T. P., Rump, B., & Werner, S. (2003). Egocentric and geocentric frames of reference in memory of large-scale space. *Psychonomic Bulletin & Review*, *10*, 589-595.
35. Valiquette, C. M., McNamara, T. P., & Smith, K. (2003). Locomotion, incidental learning, and the selection of spatial reference systems. *Memory & Cognition*, *31*, 479-489.
36. <sup>L</sup>Mou, W., McNamara, T. P., Valiquette, C. M., & Rump, B. (2004). Allocentric and egocentric updating of spatial memories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*, 142-157.
37. Mou, W., Zhang, K., & McNamara, T. P. (2004). Frames of reference in spatial memories acquired from language. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*, 171-180.
38. Shelton, A. L., & McNamara, T. P. (2004). Orientation and perspective dependence in route and survey learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*, 158-170.
39. Shelton, A. L., & McNamara, T. P. (2004). Spatial memory and perspective taking. *Memory & Cognition*, *32*, 416-426.
40. McNamara, T. P., Diwadkar, V. A., Blevins, W. A., & Valiquette, C. M. (2006). Representations of apparent rotation. *Visual Cognition*, *13*, 273-307.
41. Mou, W., McNamara, T. P., Rump, B., & Xiao, C. (2006). Roles of egocentric and allocentric spatial representations in locomotion and reorientation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *32*, 1274-1290.
42. Mou, W., Zhao, M., & McNamara, T. P. (2007). Layout geometry in the selection of intrinsic frames of reference from multiple viewpoints. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *33*, 145-154.
43. Valiquette, C. M. & McNamara, T. P. (2007). Different mental representations for place recognition and goal localization. *Psychonomic Bulletin & Review*, *14*, 676-680.
44. Valiquette, C. M., McNamara, T. P., & Labrecque, J. S. (2007). Biased representations of the spatial structure of navigable environments. *Psychological Research*, *71*, 288-297.
45. Kelly, J. W., & McNamara, T. P. (2008). Response mode differences in perspective taking: Differences in representation or differences in retrieval? *Memory & Cognition*, *36*, 863-872.

46. Kelly, J. W., & McNamara, T. P. (2008). Spatial memories of virtual environments: How egocentric experience, intrinsic structure, and extrinsic structure interact. *Psychonomic Bulletin and Review*, 15, 322-327.
47. Mou, W., Fan, Y., McNamara, T. P., & Owen, C. B. (2008). Intrinsic frames of reference and egocentric viewpoints in scene recognition. *Cognition*, 106, 750-769.
48. Mou, W., Li, X., & McNamara, T. P. (2008). Body- and environment-stabilized processing of spatial knowledge. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34, 415-421.
49. Mou, W., Xiao, C., & McNamara, T. P. (2008). Reference directions and reference objects in spatial memory of a briefly-viewed layout. *Cognition*, 108, 136-154.
50. Kelly, J. W., McNamara, T. P., Bodenheimer, B., Carr, T. H., & Rieser, J. J. (2008). The shape of human navigation: How environmental geometry is used in the maintenance of spatial orientation. *Cognition*, 109, 281-286.
51. Mou, W., Liu, X., & McNamara, T. P. (2009). Layout geometry in encoding and retrieval of spatial memory. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 83-93.
52. Kelly, J. W., & McNamara, T. P. (2009). Facilitated pointing to remembered objects in front: Evidence for egocentric retrieval or spatial priming? *Psychonomic Bulletin & Review*, 16, 295-300.
53. Kelly, J. W., McNamara, T. P., Bodenheimer, B., Carr, T. H., & Rieser, J. J. (2009). Individual differences in using geometric and featural cues to maintain spatial orientation: Cue quantity and cue ambiguity are more important than cue type. *Psychonomic Bulletin & Review*, 16, 176-181.
54. Li, X., Mou, W., & McNamara, T. P. (2009). Intrinsic orientation and study viewpoint in recognizing spatial structure of a shape. *Psychonomic Bulletin & Review*, 16, 518-523.
55. Mou, W., Zhang, H., & McNamara, T. P. (2009). Novel-view scene recognition relies on identifying spatial reference directions. *Cognition*, 111, 175-186.
56. Xiao, C., Mou, W., & McNamara, T. P. (2009). Use of self-to-object and object-to-object spatial relations in locomotion. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 35, 1137-1147.

#### Book

57. <sup>1</sup>McNamara, T. P. (2005) *Semantic priming: Perspectives from memory and word recognition*. New York: Psychology Press. (200 pp.)

#### Book Chapters

58. Sternberg, R. J., & McNamara, T. P. (1985). The representation and processing of information in real-time verbal comprehension. In S. E. Whitely (Ed.), *Test design: Developments in psychology and psychometrics* (pp. 21-43). Orlando, FL: Academic Press.
59. McNamara, T. P. (1991). Memory's view of space. In G. H. Bower (Ed.), *The psychology of learning and motivation: Advances in research and theory* (Vol. 27, pp. 147-186). San Diego, CA: Academic Press.

60. McNamara, T. P., Miller, D. L., & Bransford, J. D. (1991, reprinted 1996). Mental models and reading comprehension. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research: Vol. II* (pp. 490-511). White Plains, NY: Longman.
61. McNamara, T. P. & The Cognition and Technology Group (1992). Anchored instruction in science and mathematics: Theoretical basis, developmental projects, and initial research findings. In R. A. Duschl and R. J. Hamilton (Eds.), *Philosophy of science, cognitive psychology, and educational theory and practice*. State University of New York Press.
62. McNamara, T. P. (1994). Knowledge representation. In R. J. Sternberg (Ed.), *Thinking and problem solving* (pp. 81-117). In E. C. Carterette & M. P. Friedman (Series Eds.), *Handbook of perception and cognition*. Orlando, FL: Academic Press.
63. McNamara, T. P. (1999). Single-code versus multiple-code theories in cognition. In R. J. Sternberg (Ed.), *The nature of cognition* (pp. 113-135). Cambridge, MA: MIT Press.
64. McNamara, T. P., & Holbrook, J. B. (2003). Semantic memory and priming. In A. F. Healy and R. W. Proctor (Eds.), *Experimental psychology* (pp. 447-474). Vol. 4 in I. B. Weiner (Editor-in-chief), *Handbook of psychology*. New York: Wiley.
65. McNamara, T. P. (2003). How are the locations of objects in the environment represented in memory? In C. Freksa, W. Brauer, C. Habel, K. F. Wender (Eds.), *Spatial cognition III: Routes and navigation, human memory and learning, spatial representation and spatial reasoning*, LNAI 2685 (pp. 174-191). Berlin Heidelberg: Springer-Verlag.
66. McNamara, T. P. (2003). Spatial memory. In J. H. Byrne (Ed.), *Learning and memory* (2nd ed., pp. 633-636). New York: Macmillan.
67. McNamara, T. P., & Valiquette, C. M. (2004). Remembering where things are. In G. Allen (Ed.), *Human spatial memory: Remembering where* (pp. 3-24). Mahwah, NJ: Erlbaum.
68. McNamara, T. P. (2007). Commentary: The nature and development of spatial reference systems. In J. M. Plumert & J. Spencer (Eds.), *The emerging spatial mind* (pp. 104-113). London: Oxford University Press.
69. Rump, B., & McNamara, T. P. (2007). Updating in models of spatial memory. In T. Barkowsky, M. Knauff, G. Ligozat, & D. R. Montello (Eds.), *Spatial cognition V: Reasoning, action, interaction*, LNAI 4387 (pp. 249-269). Berlin Heidelberg: Springer-Verlag.
70. Kelly, J. W., & McNamara, T. P. (2008). Spatial memory and spatial orientation. In C. Freksa, N. S. Newcombe, P. Gärdenfors, & S. Wölfl (Eds.), *Spatial cognition VI: Learning, reasoning, and talking about space*, LNAI 5248 (pp. 22-38). Berlin Heidelberg: Springer-Verlag.
71. McNamara, T. P., Sluzenski, J., & Rump, B. (2008). Human spatial memory and navigation. In H. L. Roediger, III (Ed.), *Cognitive psychology of memory*. Volume 2 in J. Byrne (Editor-in-chief), *Learning and memory: A comprehensive reference* (pp. 157-178). Oxford: Elsevier.
72. Kelly, J. W., & McNamara, T. P. (in press). Spatial memory. In B. Goldstein (Ed.), *Encyclopedia of Perception*. Sage.

## Commentaries, Proceedings, and Reviews

73. McNamara, T. P. (1984). Introducing cognition. Review of M. Matlin, *Cognition*. *Contemporary Psychology*, 29, 309-310.
74. McNamara, T. P. (1989). Mental representations of spatial and nonspatial relations. *Robot Navigation, AAAI Spring Symposium Series*.
75. McNamara, T. P. (1996). False dichotomies and dead metaphors. Commentary on A. Koriat & M. Goldsmith, "Memory metaphors and the real-life/laboratory controversy: Correspondence versus storehouse conceptions of memory." *Behavioral and Brain Sciences*, 19, 203.
76. McNamara, T. P., & Diwadkar, V. A. (1996). Viewpoint dependence in human spatial memory. *Cognitive and Computational Models of Spatial Representation, AAAI Spring Symposium Series*.
77. McNamara, T. P. (1997). Semantic memory. Commentary on A. Glenberg, "What memory is for." *Behavioral and Brain Sciences*, 20, 30-31.
78. Shelton, A. L., & McNamara, T. P. (1997). Representing space: reference frames and multiple views. In M. G. Shafto & P. Langley (Eds.), *Proceedings of the Nineteenth Annual Conference of the Cognitive Science Society* (p. 1048), Lawrence Erlbaum Associates: Mahwah, NJ.
79. McNamara, T. P. (2000). Data structures for cognitive science. Review of A. B. Markman, *Knowledge representation*. *Contemporary Psychology: APA Review of Books*, 45, 226-227.
80. McNamara, T. P., & Shelton, A. L. (2003). Cognitive maps and the hippocampus. *Trends in Cognitive Sciences*, 7, 333-335. [Invited commentary on Hartley, T., Maguire, E. A., Spiers, H. J., & Burgess, N. (2003). The well-worn route and the path less traveled: Distinct neural bases of route following and wayfinding in humans. *Neuron*, 37, 877-888.]
81. Williams, B., Narasimham, G., Carr, T., McNamara, T. P., Rieser, J., & Bodenheimer, B. (2006). Updating orientation in large virtual environments using scaled translational gain. *Symposium on Applied Perception in Graphics and Visualization*, p. 21-28.
82. McNamara, T. P. (2006). The *h* in Roediger. *APS Observer*, 19, 9.
83. Bodenheimer, B., Meng, J., Wu, H., Narasimham, G., Rump, B., McNamara, T. P., Carr, T., & Rieser, J. (2007). Distance estimation in virtual environments using bisection. *Symposium on Applied Perception in Graphics and Visualization*, pp. 35-40.
84. Williams, B., Narasimham, G., Rump, B., McNamara, T. P., Carr, T., Rieser, J., & Bodenheimer, B. (2007). Exploring large virtual environments with an HMD when physical space is limited. *Symposium on Applied Perception in Graphics and Visualization*, pp. 41-48.

## Working Papers

85. Liu, X., Mou, W., & McNamara, T. P. *Intrinsic reference directions in sequentially learning a layout*. Manuscript.
86. Rump, B., & McNamara, T. P. *Representations of interobject spatial relations in long-term memory*. Manuscript.

87. Rump, B., & McNamara, T. P. *The representational foundations of updating object locations*. Manuscript.
88. Sluzenski, J., Meneghetti, C., & McNamara, T. P. *Spatial memories of a baseball field acquired through vision and language*. Manuscript in revision.
89. Sluzenski, J. & McNamara, T. P. *Evidence that room shape does not play a special role in human spatial memory*. Manuscript.
90. Valiquette, C. M., & McNamara, T. P. *Separate long-term visual and spatial representations*. Manuscript.
91. Zhao, M., Mou, W., & McNamara, T. P. *Selection of spatial reference directions at two oblique viewpoints*. Manuscript submitted for publication.

### Presentations

1. McNamara, T. P. (1984, January). The mental representation of knowledge acquired from maps. Annual Interdisciplinary Conference, Jackson, WY.
2. McNamara, T. P. (1984, November). Mental representations of spatial relations. Psychonomic Society, San Antonio, TX.
3. McNamara, T. P. (1985, January). Representing spatial relations. Annual Interdisciplinary Conference, Jackson, WY.
4. McNamara, T. P. (1985, May). Mental representations of spatial relations. Invited presentation, Midwestern Psychological Association, Chicago, IL.
5. McNamara, T. P. (1986). Colloquium, Harvard University, Cambridge, MA.
6. McNamara, T. P., & Healy, A. F. (1986, August). Semantic, phonological, and mediated priming in reading and lexical decisions. Society for Mathematical Psychology, Cambridge, MA.
7. McNamara, T. P. (1988, January). Subjective hierarchies in spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
8. McNamara, T. P., Sternberg, R. J., & Hardy, J. K. (1988, April). Processing verbal relations. American Educational Research Association, New Orleans, LA.
9. Altarriba, J., & McNamara, T. P. (1988, May). Spatial priming in memory for a pre-experimentally-learned environment. Midwestern Psychological Association, Chicago, IL.
10. Halpin, J. A., & McNamara, T. P. (1988, May). The integration of spatial and nonspatial information. Midwestern Psychological Association, Chicago, IL.
11. LeSueur, L. L., & McNamara, T. P. (1988, May). Representations of spatial and nonspatial relations. Midwestern Psychological Association, Chicago, IL.
12. McNamara, T. P. (1988, November). Constraints on theories of memory and retrieval. Psychonomic Society, Chicago, IL.
13. McNamara, T. P. (1989, January). Constraints on theories of memory and retrieval. Annual Interdisciplinary Conference, Jackson, WY.
14. McNamara, T. P. (1989, March). Memory's view of space. Invited presentation, American Association for Artificial Intelligence, Spring Symposium, Stanford, CA.

15. McNamara, T. P. (1990). Colloquium, Purdue University, West Lafayette, IN.
16. McNamara, T. P. (1990). Colloquium, University of Illinois, Urbana-Champaign, IL.
17. McNamara, T. P. (1990, January). The metric structure of spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
18. McNamara, T. P. (1990, September). The metric structure of spatial memory. GUV, Bloomington, IN.
19. McNamara, T. P., (1990, November). Priming, theories of memory, and theories of retrieval. Psychonomic Society, New Orleans, LA.
20. Sharp, D. M., & McNamara, T. P. (1990, November). Spatial mental models in narrative comprehension: Now you see them, now you don't. Psychonomic Society, New Orleans, LA.
21. McNamara, T. P. (1991, January). Priming, theories of memory, and theories of retrieval. Annual Interdisciplinary Conference, Jackson, WY.
22. McNamara, T. P. (1991, May). Invited Discussant, Symposium on Mental Models, Pictures, and Text: Integration of Spatial and Verbal Information, Midwestern Psychological Association, Chicago, IL.
23. McNamara, T. P. (1991, September). Priming and associative distance. GUV, Bloomington, IN.
24. McNamara, T. P. (1992, January). Human spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
25. McNamara, T. P. (1992, January). Theories of associative priming. Winter Text Conference, Jackson, WY.
26. McNamara, T. P. (1992, July). Retrieval mechanisms in semantic and episodic memory. Invited presentation, International Congress of Psychology, Brussels, Belgium.
27. McNamara, T. P. (1992, November). Theories of associative priming. Psychonomic Society, St. Louis, MO.
28. McNamara, T. P. (1993, January). Symmetry and asymmetry in human spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
29. McNamara, T. P. (1993, October). Mechanisms of retrieval in semantic and episodic memory. GUV, Ann Arbor, MI.
30. McNamara, T. P. (1994, April). Mechanisms of retrieval in semantic and episodic memory. Colloquium, The Ohio State University, Columbus, OH.
31. Diwadkar, V., & McNamara, T. P. (1994, May). Midwestern Psychological Association, Chicago, IL.
32. McNamara, T. P. (1994, September). Metric structure of spatial memory: Symmetry. GUV, Ann Arbor, MI.
33. McNamara, T. P. (1994, November). Symmetry and asymmetry in human spatial memory. Psychonomic Society, St. Louis, MO.
34. Wilson, S. G., & McNamara, T. P. (1994, November). Mental models and text comprehension: The role of euclidean distance. Psychonomic Society, St. Louis, MO.

35. McNamara, T. P. (1995, Jan.-Feb.). Sketch of a theory of human spatial memory. Winter Text Conference, Jackson, WY.
36. McNamara, T. P., Shelton, A. L., Blevins, W., & Roskos-Ewoldsen, B. (1995, November). Viewpoint dependence and independence in human spatial memory. Psychonomic Society, Los Angeles, CA.
37. McNamara, T. P. (1996, Jan.-Feb.). The representation of location in human spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
38. McNamara, T. P., & Diwadkar, V. A. (1996, March). Viewpoint dependence in human spatial memory. American Association for Artificial Intelligence, Spring Symposium, Stanford, CA. (Refereed).
39. Shelton, A. L., & McNamara, T. P. (1996, May). The role of multiple views in spatial memory. Midwestern Psychological Association, Chicago, IL.
40. Diwadkar, V. A., & McNamara, T. P. (1996, November). Viewpoint dependence in scene recognition. Psychonomic Society, Chicago, IL.
41. McNamara, T. P. (1997, January). How is three-dimensional space represented in human memory? Annual Interdisciplinary Conference, Jackson, WY.
42. McNamara, T. P. (1997, April). How is three-dimensional space represented in human memory? Colloquium, University of Alabama, Tuscaloosa, AL.
43. Shelton, A. L., & McNamara, T. P. (1997, August). Representing space: Reference frames and multiple views. Cognitive Science Society, Stanford, CA.
44. McNamara, T. P. (1997, August). How is three-dimensional space represented in human memory? Invited address, American Psychological Association, Chicago, IL.
45. Shelton, A. L., & McNamara, T. P. (1998, February). Systems of spatial reference in human memory. Annual Interdisciplinary Conference, Jackson, WY.
46. McNamara, T. P. (1998, May). Spatial representation and scale. National Center for Geographic Information and Analysis (NCGIA) Project Varenus, "Scale and Detail in the Cognition of Geographic Information," Santa Barbara, CA.
47. Shelton, A. L., & McNamara, T. P. (1998, May). Reference frame competition in spatial memory. Midwestern Psychological Association, Chicago, IL.
48. McNamara, T. P. (1998, August). Scene and object recognition. Society for Mathematical Psychology, Nashville, TN.
49. McNamara, T. P., Diwadkar, V. A., & Blevins, W. A. (1998, November). Representations of apparent rotation. Psychonomic Society, Dallas, TX.
50. Shelton, A. L., & McNamara, T. P. (1998, November). Memory for spatial layout from visual and tactile experience. Sixth Annual Workshop on Object Perception and Memory, Dallas, TX.
51. McNamara, T. P. (1999, January). Spatial representations from description and taction. Annual Interdisciplinary Conference, Jackson, WY.
52. McNamara, T. P. (1999, February). Systems of spatial reference in human memory. NCGIA Project Varenus. Santa Barbara, CA.

53. McNamara, T. P. (1999, February). Systems of spatial reference in human memory. Colloquium, University of California, Santa Barbara, CA.
54. McNamara, T. P. (1999, April). Invited presentation, Workshop on "Systems of Reference for Spatial Knowledge," Hamburg, Germany.
55. McNamara, T. P. (1999, April). Invited presentation, Workshop on "Spatial Cognition in Real and Virtual Environments," Tuebingen, Germany.
56. McNamara, T. P. (1999, June). Spatial memories, true and false. Invited address, American Psychological Society, Denver, CO.
57. Shelton, A. L., & McNamara, T. P. (1999, November). Egocentric orientation in spatial memory for route and survey learning. Psychonomic Society, Los Angeles, CA.
58. Shelton, A. L., & McNamara, T. P. (1999, November). Spatial representations from description and taction. Psychonomic Society, Los Angeles, CA.
59. McNamara, T. P., Rump, B., & Werner, S. (2000, January). Egocentric and allocentric frames of reference in memory of large-scale space. Annual Interdisciplinary Conference, Jackson, WY.
60. Shelton, A. L., McNamara, T. P., & Gabrieli, J. D. E. (2000, November). Exploring memory for route and survey knowledge of virtual environments. Psychonomic Society, New Orleans, LA.
61. Shelton, A. L. & McNamara, T. P. (2000, November). Systems of spatial reference in human memory. Psychonomic Society, New Orleans, LA.
62. McNamara, T. P. (2001, March). Colloquium, Middle Tennessee State University, Murfreesboro, TN.
63. McNamara, T. P. (2001, June). Spatial memories from seeing, walking, and grasping: Case studies in cognitive science. Invited presentation, Annual Neuroscience Retreat, Vanderbilt University.
64. McNamara, T. P. (2002, April). Sketch of a theory of human spatial memory. Colloquium, Brown University, Providence, RI.
65. McNamara, T. P. (2002, September). Sketch of a theory of human spatial memory. Colloquium, University of Iowa, Iowa City, IA.
66. Mou, W., & McNamara, T. P. (2002, November). Egocentric and allocentric updating of spatial memories. Psychonomic Society, Kansas City, MO.
67. McNamara, T. P. (2003, February). Sketch of a theory of human spatial memory. Annual Interdisciplinary Conference, Jackson, WY.
68. McNamara, T. P. (2003, November). Spatial memories and locomotion. Psychonomic Society, Vancouver, British Columbia, Canada.
69. McNamara, T. P. (2004, February). Semantic priming: Beyond spreading activation and compound cues. Annual Interdisciplinary Conference, Jackson, WY.
70. McNamara, T. P. (2004, March). Human spatial memory and navigation. Colloquium, University of Ottawa, Ottawa, Ontario, Canada.

71. Mou, W., & McNamara, T. P. (2004, November). Navigation depends on enduring allocentric representations. Psychonomic Society, Minneapolis, MN.
72. Meneghetti, C., Sluzenski, J., Rump, B., Labrecque, J., & McNamara, T. P. (2005, November). Influence of environmental axes on spatial memories acquired through language. Psychonomic Society, Toronto, Ontario, Canada.
73. Mou, W., Zhao, M., & McNamara, T. P. (2005, November). Roles of layout geometry and viewing perspectives in the section of intrinsic frames of reference in spatial memory. Psychonomic Society, Toronto, Ontario, Canada.
74. Mou, W., Xiao, C., & McNamara, T. P. (2005, November). Spatial memory of briefly viewing a desktop scene. Psychonomic Society, Toronto, Ontario, Canada.
75. Mou, W., McNamara, T. P., Rump, B., & Xiao, C. (2006, February). Roles of egocentric and allocentric spatial representations in spatial memory and navigation. Annual Interdisciplinary Conference, Jackson, WY.
76. Sluzenski, J., McNamara, T. P. (2006, March). Using spatial relations: Room surfaces versus objects. Eastern Psychological Association, Baltimore, MD.
77. Ekechukwu, A., Sluzenski, J., McNamara, T.P. (2006, May). Gender differences in spatial memory of a large-scale environment. Stanford Undergraduate Psychology Conference, Stanford, CA.
78. Rump, B., & McNamara, T. P. (2006, October). Updating in models of spatial memory. Spatial Cognition 2006, Bremen, Germany.
79. McNamara, T. P., & Sluzenski, J. (2006, November). Evidence that room shape does not play a special role in human spatial memory. Psychonomic Society, Houston, TX.
80. Mou, W., Li, X., & McNamara, T. P. (2006, November). Body- and environment-stabilized processing of spatial knowledge during locomotion. Psychonomic Society, Houston, TX.
81. Mou, W., Zhang, H., & McNamara, T. P. (2006, November). Scene recognition at novel viewpoints depends on recovery of the learning viewpoint. Psychonomic Society, Houston, TX.
82. McNamara, T. P. (2006, December). Be eclectic, be flexible, embrace change. American Psychological Association Scientific Leadership Conference. Washington, DC.
83. Ekechukwu, A., Sluzenski, J., & McNamara, T. P. (2007, May). Evidence that males and females recall large environments differently. Association for Psychological Science. Washington, DC.
84. Riecke, B. E., & McNamara, T. P. (2007, July). Spatial orientation in the immediate environment: How can the different theories be reconciled? 10th Tübinger Wahrnehmungskonferenz.
85. Riecke, B. E., & McNamara, T. P. (2007, August). An integrative theory of spatial orientation in the immediate environment. Cognitive Science Society, Nashville, TN.
86. Kelly, J.W. & McNamara, T.P. (2007, August). Spatial memories of virtual environments. Cognitive Science Society, Nashville, TN.
87. Rump, B., Fan, Y., & McNamara, T. P. (2007, August). Memory systems involved in updating multiple object locations. Cognitive Science Society, Nashville, TN.

88. Riecke, B. E., & McNamara, T. P. (2007, November). Similarity between room layouts causes orientation-specific sensorimotor interference in to-be-imagined perspective switches. Psychonomic Society, Long Beach, CA.
89. Kelly, J.W. & McNamara, T.P. (2007, November). Response mode differences in perspective taking: Differences in interference or differences in strategy? Psychonomic Society, Long Beach, CA.
90. Liu, X., Mou, W., & McNamara, T. P. (2007, November). Intrinsic reference direction in sequentially learning a layout. Psychonomic Society, Long Beach, CA.
91. Ekechukwu, A., Sluzenski, J., & McNamara, T. P. (2007, November). Quantitative and qualitative gender differences in learning large spaces. Psychonomic Society, Long Beach, CA.
92. McNamara, T. P. (2008, February). Role of environmental geometry in orientation and reorientation. Annual Interdisciplinary Conference, Jackson, WY.
93. McNamara, T. P. (2008, February). Sketch of a theory of human spatial memory and navigation. Colloquium, Spatial Intelligence and Learning Center, Temple University and University of Pennsylvania, Philadelphia, PA.
94. Kelly, J. W., & McNamara, T. P. (2008, September). Spatial memory and spatial orientation. Spatial Cognition 2008, Freiburg, Germany.
95. McNamara, T. P. (2008, November). Spatial memory and navigation. Colloquium, University of California, San Diego, CA.
96. Kelly, J.W., McNamara, T.P., Bodenheimer, B., Carr, T.H. & Rieser, J.J. (2008, November). Geometric and featural cues to maintaining spatial orientation. Psychonomics Society, Chicago, IL.
97. Zhang, H., Mou, W., & McNamara, T. P. (2008, November). Spatial updating intrinsic reference direction of a briefly viewed layout. Psychonomics Society, Chicago, IL.
98. Kelly, J. W., & McNamara, T. P. (2009, February). Use of geometric and non-geometric cues to maintain orientation during locomotion. Annual Interdisciplinary Conference, Jackson, WY.