

John W. Philbeck

A. BIOGRAPHICAL INFORMATION

1. Personal

Birth date: August 18, 1964
Address: Department of Psychology, George Washington University, Washington, DC 20052
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E-mail: philbeck@gwu.edu; web: home.gwu.edu/~philbeck

2. Academic History

- 1997-0 **Postdoctoral Fellow (Cognitive Neuroscience)** Center for the Neural Basis of Cognition and Carnegie Mellon University.
Mentor: Dr. M. Behrmann.
- 1997 **Ph. D. (Psychology)** University of California, Santa Barbara.
Supervisor: Dr. J. Loomis.
Thesis title: Processes underlying apparently paradoxical indications of extent.
Specialty area: Visual space perception.
- 1993 **M.A. (Psychology)** University of California, Santa Barbara.
Supervisor: Dr. J. Loomis.
- 1991 **B. A. (Psychology) summa cum laude**, North Carolina State University.
Supervisor: Dr. D. Mershon.
Thesis title: Perceived distance of familiar speech sounds.
- 1986 **B. A. (English)** University of North Carolina, Chapel Hill.
Supervisor: Dr. M. Reed.

3. Professional Experience

- 2009-Present **Director**, GW Mind-Brain Institute, George Washington University, Washington, DC
- 2006-Present **Associate Professor of Psychology**, George Washington University, Washington, DC
- 2000-2006 **Assistant Professor of Psychology**, George Washington University, Washington, DC
- 1997-2000 **Postdoctoral Research Associate**, Center for the Neural Basis of Cognition and Carnegie Mellon University
- 1995-7 **Research Assistant** to Dr. J. Loomis, University of California, Santa Barbara
- 1995 **Computer Programmer** (Behavioral Psychopharmacology Laboratory), Dr. A. Ettenberg, University of California, Santa Barbara
- 1993-5 **Research Assistant** (Blind Navigation Project) to Dr. J. Loomis, Dr. R. Klatzky, Dr. R. Golledge, University of California, Santa Barbara
- 1991-3 **Teaching Assistant** to Dr. J. Foley and Dr. J. Loomis, UC Santa Barbara

1990-1 **Research Assistant** to Dr. D. Mershon, North Carolina State University

4. *Teaching Experience*

Principles and Methods in Psychology, “Writing in the Disciplines” <i>undergraduate laboratory course, concentration on writing instruction</i>	George Washington University
The Cognitive Neuroscience of Action, <i>graduate seminar</i>	George Washington University
Using Computers in Psychological Research, <i>graduate seminar</i>	George Washington University
Spatial Cognition, <i>graduate seminar</i>	George Washington University
Special Topics in Visual Perception, <i>graduate seminar</i>	George Washington University
Principles and Methods in Psychology, <i>undergraduate laboratory course</i>	George Washington University
Memory and Cognition, <i>undergraduate course</i>	George Washington University
Undergraduate and Graduate Independent Research Mentor	George Washington University
Undergraduate Independent Research Mentor	Carnegie Mellon University
Introduction to Perception, <i>undergraduate course</i>	University of California, Santa Barbara

5. *Mentoring Experience*

Post-Doctoral Mentor

Daniel Gajewski (Ph.D., Michigan State University, Psychology, 2006)
Naohide Yamamoto (Ph.D., Johns Hopkins University, Psychology, 2007)

Doctoral Thesis Advisor

Keren Isaacs (Ph.D., Clinical Psychology, 2003)
Shannon O’Leary (Ph.D., Psychology, 2006)
Joanna Arthur (Ph.D., Psychology, 2008)

Doctoral and Master’s Committee Member

Whitney Wharton (Ph.D., 2007) Doctoral Dissertation Reader
Jonathan Brigman (Ph.D., 2006) Doctoral Committee member
Alicia Izquierdo-Edler (Ph.D., 2003) Doctoral Committee member
Robin Torrisi-Gavin (Ph.D., 2003) Doctoral Committee member
Lina Alathari (Ph.D., 2002) Doctoral Committee member
Elizabeth Hoffman (Ph.D., 2001) Doctoral Committee member
Catherine Ngo (M.Phil., 2001) Master’s Committee member

Primary Graduate Advisor

Adam Woods, Fellow, NSF Graduate Fellowship Program

6. *Investigator-Initiated Research Grants (funded)*

Research Enhancement Award (George Washington University, Washington, DC) “Brain and Navigation Laboratory: Exploring the Earliest Stages of Distance Perception”. Co-PI with D. Chichka and S. Livingston (7/08 – 6/11), \$149,167.

Dilthey Award (George Washington University, Washington, DC) “Brief exposure and masking of real, three-dimensional scenes. Co-PI with D. Chichka (7/08 – 6/09), \$9,235.

Research Enhancement Award (George Washington University, Washington, DC) “Motion Capture and Analysis Laboratory (MOCA)”. Co-PI with D. Chichka, J. Danoff, J. Hahn, J. Michelson, M. Plack, B. Richmond, and M. Withers, (4/05-3/07), \$131,812.

National Institutes of Health/National Institute of Neurological Disorders and Stroke: “Medial Temporal Lobe Role in Human Locomotor Navigation”. PI (2/05 – 1/09), \$726,008.

National Science Foundation: “MRI: Research Infrastructure for Distributed Sensor Applications in the Home of the Future”. Co-PI with R. Simha (PI), R. Lindeman, B. Narahari, S. Rotenstreich, Z. Guo, C. Korman, and B. Myklebust. (7/02 – 6/05), \$104,000.

Dilthey Competition Award (George Washington University, Washington, DC): “Development of a navigation aid for use in real and virtual environments”. Co-PI with R. Lindeman (7/02 – 8/03), \$15,162.

University Facilitating Fund Award (George Washington University, Washington, DC) “Medial temporal lobe role in updating location while locomoting”, (7/01 – 6/02), \$10,422.

McDonnell-Pew Program in Cognitive Neuroscience (James S. McDonnell Foundation): “Parietal lobe role in updating location while locomoting”, (11/97 – 7/00), \$100,000.

National Research Service Award (National Institutes of Health): “Parietal lobe role in updating location while locomoting”, (11/97 – 7/00), \$75,000.

7. Honors and Awards

- 2000 **Released Time for Research Award**, The George Washington University
- 1999 **Fellowship**, Dartmouth Summer Institute in Cognitive Neuroscience
- 1996 **Fellowship**, Cold Spring Harbor Laboratory, New York
- 1993 **Travel Fellowship**, Assn. for Research in Vision and Ophthalmology; National Eye Institute
- 1991 **Regents Fellowship**, University of California, Santa Barbara
- 1991 **Outstanding Academic Achievement in Psychology**, North Carolina State University

8. Membership in Professional Associations

American Psychological Society
Psychonomics Society
Vision Sciences Society

9. Editorial Activities

Consulting Editor

Journal of Experimental Psychology: Learning, Memory & Cognition

Grant review panelist

Dept. of Veterans Affairs, Rehabilitation Research & Development Service: Neurology Section
Dept. of Veterans Affairs, Rehabilitation Research & Development Service: Stroke Section
Dept. of Veterans Affairs, Rehabilitation Research & Development Service: Traumatic Brain Injury Section
National Science Foundation: Cognitive Neuroscience Section
National Science Foundation Graduate Research Fellowship Program

Ad hoc grant reviewer

National Science Foundation

Ad hoc reviewer

ACM Transactions on Applied Perception
Acta Psychologica
Behavioural Brain Research
Cognition
Cognitive Brain Research
Cognitive Science
Experimental Brain Research
Journal of Applied Perception
Journal of Experimental Psychology: Applied
Journal of Experimental Psychology: Human Perception & Performance
Journal of Experimental Psychology: Learning, Memory & Cognition
Memory & Cognition
Neuropsychologia
Neuropsychology
Perception
Perception & Psychophysics
Psychology and Aging
Psychological Science
Psychonomic Bulletin & Review
Quarterly Journal of Experimental Psychology
Trends in Cognitive Sciences
Visual Cognition
Vision Research
Oxford University Press
Prentice Hall
Wadsworth / Thomson Learning Publishers

10. Other Professional Activities

- 1999 Attended *Summer Institute in Cognitive Neuroscience*, Dartmouth College and Medical School, Hanover, NH. Institute Directors: Dr. C. Gilbert, Dr. R. Ivry, Dr. M Gazzaniga.
- 1996 Attended *Computational Neuroscience: Vision*, short course at Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. Organizers: Dr. D. Heeger, Dr. E. Simoncelli, Dr. M. Shadlen.

B. PUBLICATIONS

1a. Refereed Journals: published or in press.

- † Denotes GW student advisee/ collaborator
* Denotes GW faculty collaborator

Woods, A.J. (†), **Philbeck, J. W.**, & Danoff, J. (*) (in press). The various perceptions of distance: An alternative view of how effort affects distance judgments. *Journal of Experimental Psychology: Human Perception & Performance*.

Pothier, S., **Philbeck, J. W.**, Chichka, D. (*), & Gajewski, D. (2009). Tachistoscopic exposure and masking of real three-dimensional scenes. *Behav Res Methods*, 41:107-112.

Philbeck, J. W., Woods, A. J. (†), Arthur, J. (†), & Todd, J. (2008). Progressive locomotor recalibration during blind walking. *Perception & Psychophysics*, 70(8):1459-70.

Sargent, J.(†), Dopkins, S. (*), **Philbeck, J. W.**, & Arthur, J. (†) (2008). Exploring the process of progressive disorientation. *Acta Psychologica*, 129(2): 234-242.

Arthur, J. (†), **Philbeck, J. W.**, Sargent, J. (†), & Dopkins, S. (*) (2008). Misperception of exocentric directions in auditory space. *Acta Psychologica*, 129(1): 72-82.

Philbeck, J. W., Woods, A. J. (†), Arthur, J. (†), & Todd, J. (2008). Progressive locomotor recalibration during blind walking. *Perception & Psychophysics*, 70 (8), 1459-1470.

Sargent, J.(†), Dopkins, S.(*), **Philbeck, J. W.**, & Modarrez, R. (*) (2008). Spatial memory during progressive disorientation. *Journal of Experimental Psychology: Learning, Memory & Cognition*, 34, 602-615.

Philbeck, J. W., Sargent, J.(†), Arthur, J. A. (†), & Dopkins, S. (*) (2008). Large manual pointing errors, but accurate verbal reports, for indications of target azimuth. *Perception*, 37, 511-534.

Arthur, J. A. (†), **Philbeck, J. W.**, & Chichka, D. (*) (2007). Spatial memory enhances the precision of angular self-motion updating. *Experimental Brain Research*, 183, 557-568.

Philbeck, J.W., Behrmann, M., Biega, T., & Levy, L. (*) (2006). Asymmetrical perception of body rotation after unilateral injury to human vestibular cortex. *Neuropsychologia*, 44, 1878-1890.

Herman, A.I.(†), Kaiss, K.M., Ma, R., **Philbeck, J.W.**, Hasan, A., Dasti, H., & Depetrillo, P.B. (2005). Serotonin transporter promoter polymorphism and monoamine oxidase type A VNTR allelic variants together influence alcohol binge drinking risk in young women. *American Journal of Medical Genetics. Part B: Neuropsychiatric Genetics*, 133B, 74-78.

Philbeck, J. W. & O'Leary, S.(†) (2005). Remembered landmarks enhance the precision of path integration. *Psicologica*, 26, 7-24.

Isaacs, K. L.(†), **Philbeck, J. W.**, Barr, W. B., Devinsky, O., & Alper, K. (2004). Obsessive-compulsive symptoms in patients with temporal lobe epilepsy. *Epilepsy & Behavior*, 5, 569-574.

Philbeck, J. W., O'Leary, S.(†), & Lew, A. L. B.(†) (2004). Large errors, but no depth compression, in walked indications of exocentric extent. *Perception & Psychophysics*, 66, 377-391.

Philbeck, J. W., Behrmann, M., Levy, L.(*) & Potolicchio, Jr., S. J.(*) & Caputy, A. J.(*) (2004). Path integration deficits during linear locomotion after human medial temporal lobectomy. *Journal of Cognitive Neuroscience*, 16, 510-520.

Herman, A. I.(†), **Philbeck, J. W.**, Vasilopoulos, N. L.(*) & DePettrillo, P. B. (2003). Serotonin transporter promoter polymorphism and differences in alcohol consumption behavior in a college student population. *Alcohol & Alcoholism*, 38, 446-449.

Loomis, J. M., **Philbeck, J. W.**, & Zahorik, P. (2002). Dissociation between location and shape in visual space. *Journal of Experimental Psychology: Human Perception and Performance*, 28, 1202-1212.

Philbeck, J. W. & Mershon, D. H. (2002). Knowledge about typical source output influences perceived auditory distance (L). *Journal of the Acoustical Society of America*, 111, 1980-1983.

Philbeck, J. W., Behrmann, M., & Loomis, J. M. (2001). Updating of locations during whole-body rotations in patients with hemispatial neglect. *Cognitive, Affective, & Behavioral Neuroscience*, 1, 330-343.

Philbeck, J. W., Klatzky, R. K., Behrmann, M., Loomis, J. M., & Goodridge, J. (2001). Active control of locomotion facilitates nonvisual navigation. *Journal of Experimental Psychology: Human Perception and Performance*, 27, 141-153.

Philbeck, J. W., Behrmann, M., Black, S. E., & Ebert, P. (2000). Intact spatial updating during locomotion after right posterior parietal lesions. *Neuropsychologia*, 38, 950-963.

Philbeck, J. W. (2000). Visually directed walking to briefly glimpsed targets is not biased toward fixation location. *Perception*, 29, 259-272.

Klatzky, R. K., Beall, A. C., Loomis, J. M., Golledge, R., & **Philbeck, J. W.** (1999). Human navigation ability: Tests of the encoding-error model of path integration. *Spatial Cognition and Computation*, 1, 31-65.

Loomis, J. M., & **Philbeck, J. W.** (1999). Is the anisotropy of perceived 3-D shape invariant across scale? *Perception & Psychophysics*, 61, 397-402.

Loomis, J. M., Klatzky, R. K., **Philbeck, J. W.**, & Golledge, R. (1998). Assessing auditory distance perception using perceptually directed action. *Perception & Psychophysics*, 60, 966-980.

Philbeck, J. W., Loomis, J. M., & Beall, A. C. (1997). Visually perceived location is an invariant in the control of action. *Perception & Psychophysics*, 59, 601-612.

Philbeck, J. W., & Loomis, J. M. (1997). A comparison of two indicators of perceived egocentric distance under full-cue and reduced-cue conditions. *Journal of Experimental Psychology: Human Perception and Performance*, 23, 72-85.

Loomis, J. M., Da Silva, J. A., **Philbeck, J. W.**, & Fukusima, S. S. (1996). Visual perception of location and distance. *Current Directions in Psychological Science*, 5, 72-77.

Beall, A. C., Loomis, J. M., **Philbeck, J. W.**, & Fikes, T. J. (1995). Absolute motion parallax weakly determines visual scale in real and virtual environments. *Proceedings of Conference on Human Vision, Visual Processing, and Digital Display*, 2411, 288-297. Bellingham, WA: Society of Photo-Optical Instrumentation Engineers.

1b. Published Books and Book Chapters

Loomis, J.M., & **Philbeck, J. W.** (accepted for publication). Measuring perception with spatial updating and action. Invited book chapter (refereed), to appear in: *Embodiment, Ego-Space, and Action: The 34th Carnegie Symposium on Cognition*. R. L. Klatzky, M. Berhmann, B. MacWhinney, Eds.

Philbeck, J. W. (2007). *Instructor's Manual with Tests* (for Willingham, D. B., *Cognition: The Thinking Animal*, 3rd ed.) Upper Saddle River: Prentice Hall.

Philbeck, J. W. (2003). *Instructor's Manual with Tests* (for Willingham, D. B., *Cognition: The Thinking Animal*, 2nd ed.) Upper Saddle River: Prentice Hall.

Behrman, M. & **Philbeck, J. W.** (2001). Spatial representation and updating: Evidence from neuropsychological investigations. In D. R. Montello (Ed.), *Spatial information theory: Foundations of geographic information science*, pp. 352-370. Proceedings of COSIT '01. Lecture Notes in Computer Science, 2205. Berlin: Springer-Verlag.

Loomis, J. M., Klatzky, R. L., Golledge, R. G., & **Philbeck, J. W.** (1999). Human navigation by path integration. In R. G. Golledge (Ed.), *Wayfinding: Cognitive mapping and spatial behavior*. Baltimore, MD: Johns Hopkins Press.

2. Unpublished Manuscripts

Woods, A. J. (†), **Philbeck, J. W.**, & Danoff, J.(*) (Revision under review). The various "perceptions" of distance: an alternative view of how effort affects distance judgments

Philbeck, J. W. (1997). *Processes underlying apparently paradoxical indications of extent*. Unpublished doctoral dissertation.

C. CONFERENCE PRESENTATIONS

Woods, A. J. (†) & **Philbeck, J. W.** (2008). Comparison of rope-pulling and blindwalking as measures of perceived egocentric distance. Annual meeting of the Vision Sciences Society, Naples, FL, May 12, 2008.

Gajewski, D. A., **Philbeck, J. W.**, Chichka, D. F., & Potheir, S. F. (2008). Exploring the time course of egocentric distance perception with visual masking of a real-world environment. Annual meeting of the Vision Sciences Society, Naples, FL, May 12, 2008.

Yamamoto, N., & **Philbeck, J. W.** (2008). Little evidence of perceptual depth compression when indicating extents by imagined walking. Annual meeting of the Vision Sciences Society, Naples, FL, May 14, 2008.

Woods, A. J. (†) & **Philbeck, J.W.** (2007) Does effort influence verbal reports of egocentric distance? Annual meeting of the Vision Sciences Society, Sarasota, FL, May 6, 2007.

Philbeck, J.W. & Woods, A. J. (†) (2007) Does effort influence verbal reports of shape? Annual meeting of the Vision Sciences Society, Sarasota, FL, May 6, 2007.

Philbeck, J.W. & O'Leary, S(†). (2006) Path integration precision is increased near familiar locations. Annual meeting of the Vision Sciences Society, Sarasota, FL, May 6, 2006.

Philbeck, J. W. (2005). Rapid recalibration of locomotion during non-visual walking. Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2005.

Philbeck, J. W. (2005). Rapid recalibration of locomotion during non-visual walking. Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2005.

Philbeck, J. W. & O'Leary, S.(†) (2004). Attention during treadmill adaptation does not influence marching-in-place aftereffect. Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2004.

Philbeck, J. W., O'Leary, S. (†), & Lew, A. L. B. (†) (2003). Path integration precision is doubled by the imagined proximity of previewed landmarks. Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2003.

Philbeck, J. W. (2002). More errors in an action-based response: Blindfolded walking and the horizontal-vertical illusion. Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2002.

Philbeck, J. W., Behrmann, M., Brown, S. (*), Potolicchio, Jr. S. J. (*), Levy, L. (*), Richter, K. (†) & Hall, J. (†) (2002). Human path integration deficits after right medial temporal lobectomy. Annual meeting of the Cognitive Neuroscience Society, San Francisco, CA, April 14-16, 2002.

Hall, J. H. (†), & **Philbeck, J. W.** (2001). Do we update locations more poorly when they pass behind us? Annual meeting of the Vision Sciences Society, Sarasota, FL, May, 2001.

Philbeck, J. W., & Loomis, J. (2000). Large errors in a visually directed walking task. Annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May, 2000.

Philbeck, J. W., Behrmann, M., & Loomis, J. (2000). Verbal and manual indications of egocentric distance in an apperceptive agnosic patient. Annual meeting of the Cognitive Neuroscience Society, San Francisco, CA, April, 2000.

Philbeck, J. W., Behrmann, M., & Loomis, J. (1999). Spatial updating during self-rotations after right posterior parietal lesions. Annual meeting of the Psychonomic Society, Los Angeles, CA, November, 1999.

Philbeck, J. W. (1999). Walking without vision reflects distortions in perceived depth. Annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May, 1999.

Philbeck, J. W. & Behrmann, M. (1998). Parietal lobe role in monitoring locomotion-generated proprioception. Annual meeting of the Psychonomic Society, Dallas, TX, November, 1998.

Philbeck, J. W., & Loomis, J. M. (1998). Motoric reproduction of distant extents is accurate even when initiated from the viewing point. Annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May, 1998.

Philbeck, J. W., & Loomis, J. M. (1997). Accurate blind walking to briefly glimpsed targets. Annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May, 1997.

Subbiah, I., Loomis, J. M., & **Philbeck, J. W.** (1996). Grasping the vertical-horizontal illusion: Control by endpoints or by extent? Annual meeting of the Psychonomic Society, Chicago, IL, November, 1996.

Loomis, J.M., & **Philbeck, J.W.** Is visual space separable into shape and scale? (1996). Annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, April, 1996.

Loomis, J. M., Beall, A. C., Klatzky, R. K., Golledge, R., & **Philbeck, J. W.** (1995). Evaluation of the sensory inputs to path integration. Annual meeting of the Psychonomic Society, Los Angeles, CA, November, 1995.

Philbeck, J. W., Loomis, J. M., & Beall, A. C. (1995). Measurement of visually perceived egocentric distance under reduced- and full-cue conditions. Annual meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL, May, 1995.

Beall, A. C., Loomis, J. M., & **Philbeck, J. W.** (1994). Absolute motion parallax weakly determines visual scale. Annual meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL, May, 1994.

Loomis, J. M., & **Philbeck, J. W.** (1994). Distortion of visual space under full cues is not scale invariant. Annual meeting of the Psychonomic Society, St. Louis, MO, November, 11-13, 1994.

Klatzky, R. L., Loomis, J. M., Golledge, R., & **Philbeck, J. W.** (1993). Spatial perception of auditory and visual targets. Annual meeting of the Psychonomic Society, Washington, DC, November, 1993.

Loomis, J. M., & **Philbeck, J. W.** (1993). Comparison of two indicators of perceived distance under full- and reduced-cue conditions. Annual meeting of the Psychonomic Society, Washington, DC, November, 1993.

Philbeck, J. W., & Loomis, J. M. (1993). Open-loop walking is similar to verbal report of perceived distance under reduced cue conditions. Annual meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL, May, 1993.

Mershon, D. H., & **Philbeck, J. W.** (1991). Auditory perceived distance of familiar speech sounds. Annual meeting of the Psychonomic Society, November, 1991.

D. INVITED LECTURES

2007 Colloquium, *You should study me—my distance perception is terrible*. Department of Psychology, George Mason University, Fairfax, VA.

2005 Colloquium, Where am I and how did I get here? *Perception and action during locomotion*. Department of Psychology, Wright State University, Dayton, OH.

2004 Seminar, *Where am I and how did I get here? Perception and cognition in human navigation*. Department of Psychology, George Mason University, Fairfax, VA.

2003 Colloquium, *Where am I and how did I get here? Perception and cognition in human navigation*. Department of Psychology, George Mason University, Fairfax, VA.

2002 Colloquium, *Medial temporal lobe role in human path integration*. Department of Psychology, The George Washington University, Washington, DC.

- 2002 Colloquium, *Human path integration deficits after unilateral medial temporal lobectomy*. Bodian Lecture Series, Krieger Mind-Brain Institute, Johns Hopkins University, Baltimore, MD.
- 2001 Seminar, *The neural bases of human path integration*. Department of Psychology, University of Minnesota, Minneapolis, MN.
- 2001 Seminar, *Medial temporal lobe role in human path integration*. Neuroscience Program, The George Washington University, Washington, DC.
- 2001 Seminar, *Medial temporal lobe role in human path integration*. Department of Neurology, The George Washington University Medical School, Washington, DC.
- 2000 Tutorial presentation, *The two visual systems and their interactions*. Annual meeting of Cognitive Science Society, Philadelphia, PA.
- 2000 Seminar, *Active control of path integration*. University of Virginia, Charlottesville, VA.
- 1998 Colloquium, *The role of parietal cortex in updating location during walking*. INSERM, Lyon, France.
- 1998 Colloquium, *The role of parietal cortex in updating location during walking*. CNRS, Marseille, France.
- 1998 Seminar, *The role of parietal cortex in updating location during walking*. College de France, Paris, France.
- 1998 Colloquium, *Visual space perception and the control of spatial behavior*. Center for the Neural Basis of Cognition, Pittsburgh, PA.
- 1997 Colloquium, *Visual space perception and the control of spatial behavior*. University of Sao Paulo, Riberao Preto, Brazil.
- 1997 Seminar, *When actions speak louder than words: Implicit processes in the control of spatial behavior*. Vision Science Series, UC Santa Barbara.
- 1996 Seminar, *Measurement of visually perceived egocentric distance under reduced- and full-cue conditions*. Vision Science Series, UC Santa Barbara.
- 1996 Colloquium, *Schemes for keeping track of what you know*. Cognitive and Perceptual Science Series, UC Santa Barbara.