

Curriculum Vitae

James Henry Howard, Jr.

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Education

Ph.D. (1974) Experimental Psychology, Brown University
Sc.M. (1972) Experimental Psychology, Brown University
A.B. *magna cum laude* (1969) Psychology, Providence College

Professional Positions and Experience

Wylma R. and James R. Curtin Professor of Psychology, 2011 - present
Affiliated Faculty, Georgetown University Department of Psychology, 2008 - present
Visiting Faculty, advanced summer course, *The Aging Mind*, Universidade Católica Portuguesa, Porto, Portugal, June, 2007
Member, Center for the Brain Basis of Cognition, Georgetown University, 2004 - present
Adjunct Professor of Neurology, Georgetown University Medical Center, 2003 - present
Father Mathew Scholar, Department of Psychology, Catholic University, 2000 - 2011
Professor of Psychology, Catholic University, 1982 - present
Affiliated Faculty, Georgetown University Medical School Interdisciplinary Program in Neuroscience 2000 - 2003
Director, MA Programs in Psychology, 1997 - 2000
Chair, Department of Psychology, Catholic University, 1991 - 1994
Principal Consultant, ARD Corporation, Columbia, MD, 1990 - 1994
Director, Applied Experimental Psychology Program, 1984 - 1989
Member, Board of Directors, ARD, Columbia, MD, 1982 - 1994
Associate Professor of Psychology, Catholic University, 1976 - 1982
Associate Chair, Department of Psychology, Catholic University, 1977 - 1980
Assistant Professor of Psychology, Catholic University, 1973 - 1976
Graduate Teaching/Research Assistant, Brown University, 1971 - 1973

Honors

Fellow, Eastern Psychological Association, 2009
Fellow, World Demography Association, 2006
Fellow, APA Advanced Training Institute in fMRI, Massachusetts General Hospital, 2004
Named Father Matthew Scholar, Catholic University, 2000
Co-PI, NIH MERIT award, R37AG15450-01, 1998 - 2008
Fellow, Human Factors Society, 1990
Fellow, American Psychological Association, 1989 (Div 21), 2002 (Div 3), 2004 (Div 20)

Catholic University Research Excellence Award, 1989
Washington Academy of Sciences Scientific Achievement Award in Behavioral Sciences, 1977
Fellow, Washington Academy of Sciences, 1977
Society of the Sigma Xi, 1972
U.S. Public Health Service Predoctoral Fellow, 1969 - 1971
New England Psychological Association Honorary Undergraduate Fellow, 1968
NSF Undergraduate Research Participant, Brown University, summer 1968
Delta Epsilon Sigma, National Scholastic Honor Society, 1968

Professional Affiliations

American Psychological Association (Fellow Divisions 3, 20, 21), Co-Chair, Division 3 Program Committee, 2000
Association for Psychological Science
Cognitive Neuroscience Society
Eastern Psychological Association
Gerontological Society of America
Human Factors Society (Fellow, Chair, Jerome Ely Committee, 1992)
Psychonomic Society
Society for Neuroscience
World Demography Association (Fellow, 2006)

Sponsored Research

Principal Investigator with Darlene V. Howard (joint PD/PI), Georgetown University, National Institutes of Aging Grant R01 AG036863, *Aging and the cognitive and neural bases of implicit associative learning*. 5/15/10 - 4/30/15. (\$2,185,975). Total to be expended at CUA through sub-grant (\$851,163).

Co-Principal Investigator with Darlene V. Howard (PI), Georgetown University, National Institutes of Aging MERIT Award R37 AG15450, *Aging and the learning of sequential patterns*. 6/1/98- 5/31/03. (\$1,215,794.). Competing renewal funded 6/1/03 - 5/31/09 (\$1,591,657.), extension to 5/31/11.

Collaborator with Ben Walker (Principal Investigator). Georgetown University Center for Population and Health Aging Initiative Discovery Fund grant, Effects of Aging on Sequential Memory of Events (in rats). 6/1/04 - 5/31/05 (\$19,900.).

Co-Investigator with Barbara L. Schwartz (Principal Investigator), Washington VA and Georgetown University and Chandan Vaidya, Georgetown University, National Alliance for Research on Schizophrenia and Depression. Independent Investigator Grant. *Facial expressions of emotion in schizophrenia: implicit processing and neural correlates*. Approved for funding, 12/1/03 - 11/30/05 (\$200,000).

Co-Investigator with Darlene V. Howard (Principal Investigator) and Chandan Vaidya, Georgetown University. fMRI support grant, *Functional MRI studies of aging and implicit learning*. Provides support for approximately 25 hours of magnet time for fMRI. 6/15/01 - 3/30/02.

Co-Investigator with Darlene V. Howard (Principal Investigator) and Paul Aisen, Georgetown University. Clinical research support grant, *Aging, learning and memory disorder*, Grant M01-RR13297-01A1 from the General Research Center Program of the National Center for

- Resources, NIH, to Georgetown University Medical Center. Provides funds for hospital space and ApoE genotyping of patients.
- Collaborator with Barbara L. Schwartz (Principal Investigator), Washington VA Medical Center and Georgetown University Medical Center, National Alliance for Research on Schizophrenia and Depression Research Grant, *Implicit sequence learning in schizophrenia*. 7/1/99 - 6/30/00. (\$30,000.).
- Principal Investigator, Office of Naval Research Subcontract from Science Applications International Corporation, San Diego, *Classification of sonar transients by human listeners: An investigation into the characteristics of superior classifiers*. 2/91-1/94. (\$242,877.)
- Principal Investigator, Subcontract from Advanced Resource Development Corporation, Columbia, MD, on Office of Naval Research Contract, *Classification of complex sound by human listeners*. 2/92-10/92. (\$7,500.)
- Principal Investigator, Office of Naval Research Contract N00014-88-K-0261, *Auditory profile analysis by parallel associative networks*. 2/88-5/91. (\$412,973.)
- Principal Investigator with Raja Parasuraman (Co-Principal Investigator), Joseph Bleiberg (Co-Principal Investigator), and Darlene V. Howard (Senior Scientist), Centers for Disease Control Grant R49 CCR302583-01, *Cognitive implications of closed head injury*. 6/87-5/91. (\$859,119.)
- Principal Investigator with Harold Hawkins (ONR), Office of Naval Research Contracts N00014-86-K-0734 and N00014-88-J-1026, *Attention and the control of action: A connectionist analysis*. 7/86-12/94. (\$110,000.)
- Apollo Computer Corporation, *Apollo computer laboratory for cognitive science and artificial intelligence*. 1987. (7 AI workstations)
- Principal Investigator, Office of Naval Research Subcontract from Presearch, Inc., *Empirical studies of acoustic detection and classification*. 1/87-4/87. (\$20,000.)
- Principal Investigator, Naval Air Systems Command Subcontract from Advanced Resource Development Corporation, *The use of aural processed signals for mine detection and classification*. 9/85-3/86. (\$13,185.)
- Principal Investigator, Department of Defense University Research Instrumentation Grant N00014-85-G-0054, *User/Computer interface for high resolution image processing*. 10/84-9/85. (\$279,343.)
- Principal Investigator with Raja Parasuraman (Associate Investigator), Office of Naval Research Contract N00014-83-K-0481, *User/Computer interface for high resolution image processing*. 7/83-6/86. (\$420,316.)
- Principal Investigator, U.S. Nuclear Regulatory Commission Contract DR-82-1034, *The use of reactor acoustic emissions for monitoring nuclear plant operations*. 4/82-9/82. (\$9,970.)
- Principal Investigator, Advanced Resource Development Corporation Grant CUA-200-3A, *Development of computer software to demonstrate computer-based personnel assessment*. 2/82-4/82. (\$2,990.)

Principal Investigator with James Ballas (Associate Investigator), Office of Naval Research Contract N00014-79-C-0550, *Perceptual processing of acoustic transients*. 9/79-8/83. (\$448,922.)

Co-Principal Investigator with Stephen Kerst, National Institute of Mental Health Grant MH32804-01, *Memory psychophysics for visual dimensions*. 9/79-8/81. (\$84,497.)

Co-Principal Investigator with Stephen Kerst, U.S. Army Research Institute Grant MDA 903-79-G-06, *Memory processes in the recall and use of spatial cartographic information*. 2/79-1/81. (\$87,196.)

Principal Investigator, CUA Faculty Grant-in-aid, *Perceptual processes in phonocardiology*. 3/79-2/80. (\$3,000.)

Principal Investigator, Office of Naval Research Contract N00014-75-C-0308, *Identification of psychological features in the recognition of complex, nonspeech sounds*. 10/74-12/78. (\$187,294.)

Principal Investigator, CUA Faculty Grant-in-aid. *Attention in human information processing*. 6/74-5/75. (\$2,100.)

Editorial Experience

Aging, Neuropsychology and Cognition
Applied Cognitive Psychology
Cognitive Psychology
Consciousness and Cognition
Current Eye Research
European Journal of Cognitive Psychology
Experimental Brain Research
Frontiers in Decision Neuroscience
Human Movement Science
Human Factors (editorial board 1983-1988)
International Journal of Psychology
International Psychogeriatrics
Journal of Cognition and Development
Journal of Experimental Psychology: Learning, Memory and Cognition
Journal of Experimental Psychology: Human Perception and Performance
Journal of Gerontology
Journal of the Washington Academy of Sciences
Journal of the Acoustical Society of America
Memory & Cognition
Neuropsychology
Neuropsychologia
Neurology
Neuroscience Letters
Pattern Recognition (Editorial board 1989-2008)
Perception & Psychophysics
Psychological Research
Psychology and Aging
Quarterly Journal of Experimental Psychology
Trends in Neurosciences

Grant and Other Reviews

NSF Cognitive Neuroscience Program; Perception, Action and Cognition Program 2011
 Member, AFAR National Scientific Advisory Council 2011 - present
 Ad hoc reviewer, American Federation for Aging Research, 2009 - 2011
 Ad hoc reviewer, The Alzheimer's Foundation, 2006 - 2010
 Co-Chair, APA Division 3 Program Committee, 1999-2000
 Chair, NIA Biological and Physiological Sciences Special Emphasis Panel, Nov, 1998
 Ad hoc scientific review panel, Naval Medical Research and Development Command,
 Bethesda, MD, 1992; 1995
 Ad hoc reviewer, Research Foundation of the City University of New York, 1989
 Advisor/Reviewer, National Research Council Committee on Hearing, Bioacoustics, and
 Biomechanics, 1988
 Ad Hoc scientific review panel, Naval Submarine Medical Research Laboratory Sonar
 Program, Groton, CT, 1985
 AFOSR Program on Psychological Sciences, 1984
 Special Review Committee, NIAAA, 1984
 Grant Reviewer, Medical Research Council, 2007
 NSF Robotics and Machine Intelligence Program, 1988; Information Science Program, 1985
 NSF Memory and Cognitive Sciences Program, 1982-1992
 NSF Cognitive Neuroscience Program; Perception, Action and Cognition Program, 2011
 Eastern Psychological Association Meetings, 1977

Book

Getty, D.J. & Howard, J.H., Jr. (Eds.). (1981). *Auditory and visual pattern recognition*.
 Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Peer-reviewed Articles

- Simon, J.R., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (in press). The effects of aging on the neural basis of implicit associative learning in a probabilistic Triplets Learning Task. *Journal of Cognitive Neuroscience*.
- Howard, D.V. & Howard, J.H., Jr. (2012). Dissociable Forms of Implicit Learning in Aging. In Naveh-Benjamin, M. & Ohta, N. (Eds.). In M. Naveh-Benjamin & N. Ohta (Eds.), *Memory and Aging: Current Issues and Future Directions*. New York: Psychology Press, ISBN 978-1-84872-918-6
- Németh, D., Janacsek, K., Csifcsak, G., Szvoboda, G., Howard, J.H., Jr., & Howard, D.V. (2011). Interference between sentence processing and probabilistic implicit sequence learning. *PLoS ONE*, 1(3), e17577.
- Bennett, I.J., Madden, D.J., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2011). White matter integrity correlates of implicit sequence learning in healthy aging. *Neurobiology of Aging*, 32, 2317.e1-2317.e12. NIHMS193472
- Bergstrom, J.C.R., Howard, J.H., Jr., & Howard, D.V. (2011). Enhanced Implicit Sequence Learning in College-Age Video Game Players and Musicians. *Applied Cognitive Psychology*.
 Doi: 10.1002/acp.1800

- Lenet, A. E., Sanz, C., Lado, B., Howard, J. H., Jr., & Howard, D. V. (2011). Aging, pedagogical conditions, and differential success in SLA: An empirical study. In C. Sanz & R. Leow (Eds.), *Implicit and explicit conditions, processes, and knowledge in SLA and bilingualism*. Washington, DC: Georgetown University Press.
- Simon, J.R., Stollstorff, M., Westbay, L.C., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2011). Dopamine transporter genotype predicts implicit sequence learning. *Behavioural Brain Research*, 216, 452-457; doi: 10.1016/j.bbr.2010.08.043.
- Simon, J.R., Howard, D.V., & Howard, J.H., Jr. (2010). Age differences in implicit learning of probabilistic, unstructured sequences. *Journal of Gerontology*, 66B(1), 32-38. Doi: 10.1093/geronb/gbq066
- Schwartz, B.L., Vaidya, C.J., Howard, J.H., Jr., & Deutsch, S.I. (2010). Attention to gaze and emotion in schizophrenia. *Neuropsychology*, 24, 6, 711-720.
- Barnes, K. A., Howard, J. H. Jr., Howard, D. V., Kenealy, L., & Vaidya, C. J. (2010). Impaired implicit sequence learning but intact spatial contextual learning in childhood ADHD. *Developmental Neuropsychology*, 35, 494-505.
- Simon, J.R., Howard, J.H., Jr., & Howard, D.V. (2010). Adult age differences in learning from positive and negative probabilistic feedback. *Neuropsychology*, 24(4), 534-541. NIHMS180860
- Romano, J.C., Howard, D.V., & Howard, J.H., Jr. (2010). Long-term Retention of Implicit Knowledge in a Probabilistic Serial Reaction Time Task in Young and Old Motor-Skill Experts. *Memory*, 18, 427-441. NIHMS209007
- Bennett, I.J., Madden, D.J., Vaidya, C.J., Howard, D.V., & Howard, J.H., Jr. (2010). Age-Related Differences in Multiple Measures of White Matter Integrity: A Diffusion Tensor Imaging Study of Healthy Aging. *Human Brain Mapping*, 31(3): 378-390. PMC2826569. NIHMS142148
- Németh, D., Janacsek, K., Ullman, M. T., Londe, Z., Howard, D.V., & Howard, J. H. Jr. (2009). Sleep has no critical role in implicit motor sequence learning in young and old adults. *Experimental Brain Research*, 210, 351-358.
- Bennett, I.J., Barnes, K.A., Howard, J.H., Jr., & Howard, D.V. (2009). An Abbreviated Implicit Spatial Context Learning Task that Yields Greater Learning. *Behavior Research Methods*, 41(2), 391-395. PMC2669684
- Song, S.S., Marks, B., Howard, J.H., Jr., & Howard, D.V. (2009). Evidence for parallel explicit and implicit sequence learning systems in older adults. *Behavioural Brain Research*, 196, 328-332. PMC2634603
- Barnes, K. A., Howard, J. H. Jr., Howard, D. V., Gilotty, L., Kenworthy, L., Gaillard, W. D., & Vaidya, C. J. (2008). Intact implicit learning of spatial context and temporal sequences in childhood Autism Spectrum Disorder. *Neuropsychology*. 22, 5, 563-570.
- Bennett, I.J., Romano, J.C., Howard, J.H., Jr., & Howard, D.V. (2008). Two forms of implicit learning in young adult dyslexics. *Annals of the New York Academy of Sciences*, 1145, 184-198. PMC2691650

- Howard, J. H., Jr., Howard, D.V., Dennis, N.A., & Kelly, A.J. (2008). Implicit learning of predictive relationships in three-event visual sequences by young and old adults. *Journal of Experimental Psychology: Learning, Memory & Cognition*, *34*, 1139-1157. PMID: PMC2546574
- Song, S.S., Howard, J.H., Jr., & Howard, D.V. (2008). Perceptual sequence learning in a serial reaction time task. *Experimental Brain Research*, *189*, 145-158. PMID: PMC2672106
- Howard, D.V., Howard, J.H., Jr., Dennis, N.A., LaVine, S., & Valentino, K. (2008). Aging and implicit learning of an invariant association. *Journals of Gerontology*, *63B(2)*, P100-P105.
- Song, S.S., Howard, J.H., Jr., & Howard, D.V. (2007). Sleep does not benefit probabilistic motor sequence learning. *Journal of Neuroscience*. *27(46)*. 12475-12483.
- Howard, J.H., Jr., Howard, D.V., Dennis, N.A., & Yankovich, H. (2007). Event Timing and Age Deficits in Higher-Order Sequence Learning. *Aging, Neuropsychology & Cognition*. *14*, 647-668.
- Negash, S., Boeve, B.F., Smith, G.E., Knopman, D.S., Ivnik, R.J., Howard, D.V., Howard, J.H., Jr., & Petersen, R.C. (2007). Implicit learning of sequential regularities and spatial contexts in corticobasal syndrome. *Neurocase*, *13*, 133-143.
- Vaidya, C.J., Huger, M., Howard, D.V., & Howard, J.H., Jr. (2007). Developmental differences in implicit learning of spatial context. *Neuropsychology*, *21(4)*, 497-506.
- Bennett, I.J., Howard, J.H., Jr., & Howard, D.V. (2007). Age-related differences in implicit learning of subtle third-order sequential structure. *Journals of Gerontology*, *62*, P98-P103.
- Negash, S., Petersen, L.E., Geda, Y.E., Knopman, D.S., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H., Jr., & Petersen, R.C. (2007). Effects of ApoE genotype and mild cognitive impairment on implicit learning. *Neurobiology of Aging*, *28(6)*, 885-893.
- Song, S.S., Howard, J.H., Jr., & Howard, D.V. (2007). Implicit probabilistic sequence learning is independent of explicit awareness. *Learning and Memory*, *14*, 167-176.
- Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2006). Implicit sequence learning without motor sequencing in young and old adults. *Experimental Brain Research*, *175*, 153-164.
- Howard, J.H., Jr., Howard, D.V., Japikse, K.A., & Eden, G.F. (2006). Dyslexics are impaired on implicit higher-order sequence learning, but not on spatial context learning. *Neuropsychologia*, *44*, 1131-1144.
- Marvel, C.L., Schwartz, B.L., Howard, D.V., Howard, J.H., Jr. (2005). Implicit learning of non-spatial sequences in schizophrenia. *Journal of the International Neuropsychological Society*, *11*, 659-667.
- Howard, D.V., Howard, J.H., Jr., Japikse, K.C., DiYanai, C., Thompson, A., & Somberg, R. (2004). Sequence Learning: Effects of level of structure, adult age, and extended practice. *Psychology and Aging*, *19*, 79-92. PMC1224741

- Howard, J.H., Jr., Howard, D.V., Dennis, N.A., Yankovich, H., & Vaidya, C. (2004). Implicit Spatial Contextual Learning in Healthy Aging. *Neuropsychology*, *18*, 124-134. PMC1224740
- Schwartz, B.L., Howard, D.V., Howard, J.H., Jr., Hovaguimian, A., & Deutsch, S.I. (2003). Implicit learning of visuo spatial patterns in schizophrenia. *Neuropsychology*, *17*, 517-533.
- Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2003). Age deficits in learning sequences of spoken words. *Journal of Gerontology B Psychological Sciences Social Sciences*, *58*, P224-227.
- Negash, S., Howard, D.V., Japikse, K.C., & Howard, J.H., Jr. (2003). Age-related differences in implicit learning of non-spatial sequential patterns. *Aging, Neuropsychology & Cognition*, *10*, 108-121.
- Japikse, K.C., Negash, S., Howard, J.H., Jr., & Howard, D.V. (2003). Intermanual transfer of procedural learning after extended practice on probabilistic sequences. *Experimental Brain Research*, *148*, 38-49.
- Feeney, J.J., Howard, J.H., Jr., & Howard, D.V. (2002). Implicit learning of higher-order sequences in middle age. *Psychology and Aging*, *17*(2), 351-355.
- Howard, D.V., & Howard, J.H., Jr. (2001). When it does hurt to try: Adult age differences in the effects of instructions on sequential pattern learning. *Psychonomic Bulletin and Review*, *8*(4), 798-805.
- Howard, J.H., Jr., & Howard, D.V. (1997). Age differences in implicit learning of higher-order dependencies in serial patterns. *Psychology and Aging*, *12*, 634-656.
- Howard, J.H., Jr. & Howard, D.V. (1996). Learning and forgetting. In A.D. Fisk & W.A. Rogers (Eds.). *Handbook of human factors and the older adult*. New York: Academic Press.
- Solinsky, J.C., Howard, J.H., Jr., Miller, M.H., & Feeney, J.J. (1995). Classification of acoustic transients by expert and naive listeners. *Journal of Underwater Acoustics*.
- Mutter, S.A., Howard, J.H., Jr., & Howard, D.V. (1994). Serial pattern learning after head injury. *The Journal of Clinical and Experimental Neuropsychology*, *16*, 271-288.
- Howard, J.H., Jr., Mutter, S.A., & Howard, D.V. (1992). Direct and indirect measures of serial pattern learning by event observation.. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *18*, 1029-1039.
- Howard, D.V., & Howard, J.H., Jr. (1992). Adult age differences in the rate of learning serial patterns: Evidence from direct and indirect tests. *Psychology and Aging*, *7*, 232-241.
- Miller, M.H., Harpster, J.L., & Howard, J.H., Jr. (1991). An artificial neural network simulation of auditory intensity perception and profile analysis. *Journal of the Washington Academy of Sciences*. *81*, 1-21.
- Steinberg, B.Z., Chin, S., Beran, M.J., & Howard, J.H., Jr. (1991). A neural network approach to source localization. *Journal of the Acoustical Society of America*, *90*, 2081 - 2090.

- Mutter, S.A., Howard, J.H., Jr., Howard, D.V., & Wiggs, C.L. (1990). Performance on direct and indirect tests of memory after mild closed head injury. *Cognitive Neuropsychology*, 7, 329-346.
- Howard, D.V. & Howard, J.H., Jr. (1989). Age differences in learning serial patterns: Direct versus indirect measures. *Psychology and Aging*, 4, 357-364.
- Howard, J.H., Jr., & Richardson, K.H. (1988). Absolute phase uncertainty in sinusoidal grating detection. *Perception & Psychophysics*, 43, 38-44.
- Kerst, S.M., Howard, J.H., Jr., & Gugerty, L.J. (1987). Judgment accuracy in pair-distance estimation and map sketching. *Bulletin of the Psychonomic Society*, 25, 185-188.
- Ballas, J.A., & Howard, J.H., Jr. (1987). Interpreting the language of environmental sounds. *Environment and Behavior*, 19, 91-114.
- Howard, J.H., Jr., O'Toole, A.J., and Rice, S.E. (1986). The role of frequency versus informational cues in uncertain frequency detection. *Journal of the Acoustical Society of America*, 79, 788-791.
- Kerst, S.M. & Howard, J.H., Jr. (1984). Magnitude estimates of perceived and remembered length and area. *Bulletin of Psychonomic Society*, 22, 517-520.
- Bennett, K.B. Parasuraman, R., & Howard, J.H., Jr. (1984). Mental models in interface design: The role of graphic displays. In A. Mital (Ed.), *Trends in Ergonomics/Human Factors I*. New York: North-Holland.
- Bennett, K.B., Parasuraman, R., Howard, J.H., Jr., & O'Toole, A.J. (1984) Auditory induction of discrete tones in signal detection tasks. *Perception & Psychophysics*, 35, 570-578.
- Howard, J.H., Jr., O'Toole, A.J., Parasuraman, R., & Bennett, K.B. (1984). Pattern-directed attention in uncertain frequency detection. *Perception & Psychophysics*, 35, 256-264.
- Howard, J.H., Jr. & O'Hare, J.J. (1984). Human classification of complex sounds. *Naval Research Reviews*, 36, 26-32.
- Howard, J.H., Jr. & Ballas, J.A. (1984). Perception of simulated propeller cavitation. *Human Factors*, 25, 643-656.
- Kerst, S.M. & Howard, J.H., Jr. (1983). Mental processes in magnitude estimation of length and loudness. *Bulletin of the Psychonomic Society*, 2, 141-144.
- Howard, J.H., Jr. & Ballas, J.A. (1982). Acquisition of acoustic pattern categories by exemplar observation. *Organizational Behavior and Human Performance*, 30, 157-173.
- Howard, J.H., Jr. (1982). Feature selection in human auditory perception. *Pattern Recognition*, 15, 397-403.
- Howard, J.H., Jr. (1981). Controlling the Tektronix 4006 graphics terminal with OS/8 BASIC. *Behavior Research Methods & Instrumentation*, 13, 341-346.
- Howard, J.H., Jr. (1981). RT-11 FORTRAN subroutines for on-line control. *Behavior Research Methods & Instrumentation*, 13, 371-373.

- Howard, J.H., Jr. & Kerst, S.M. (1981). Memory and perception of cartographic information for familiar and unfamiliar environments. *Human Factors*, 23, 495-504.
- Howard, J.H., Jr. & Ballas, J.A. (1981). Feature selection in auditory perception. In D.J. Getty & J.H. Howard, Jr. (Eds.), *Auditory and visual pattern recognition*. (pp. 181-195). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Howard, J.H., Jr. & Ballas, J.A. (1980). Syntactic and semantic factors in the classification of nonspeech transient patterns. *Perception & Psychophysics*, 28, 431-439.
- Howard, J.H., Jr. (1979). A multi-purpose laboratory package for OS/8 BASIC. *Behavior Research Methods and Instrumentation*, 11, 437-444.
- Howard, J.H., Jr. & Kerst, S.M. (1978). Directional effects of size change on the comparison of visual shapes. *The American Journal of Psychology*, 91, 491-499.
- Howard, J.H., Jr., Burgy, D.C. & Ballas, J.A. (1978). A deglitching circuit for the AA50 D/A converter. *Behavioral Research Methods and Instrumentation*, 10, 858-860.
- Kerst, S.M. & Howard, J.H., Jr. (1978). Memory Psychophysics for visual area and length. *Memory & Cognition*, 6, 327-335.
- Kerst, S.M. & Howard, J.H., Jr. (1977). Mental comparisons for ordered information on abstract and concrete dimensions. *Memory & Cognition*, 5, 227-234.
- Howard, D.V. & Howard, J.H., Jr. (1977). A multidimensional scaling analysis of the development of animal names. *Developmental Psychology*, 13, 108-113.
- Howard, J.H., Jr. (1977). More on the statistical treatment of individual differences in multidimensional scaling. *Perception & Psychophysics*, 22, 106-107.
- Howard, J.H., Jr. (1977). Psychophysical structure of eight complex underwater sounds. *Journal of the Acoustical Society of America*, 62, 149-156.
- Silverman, E.B. & Howard, J.H., Jr. (1976). A general-purpose relay and amplifier I/O interface for the PDP-8/e computer. *Behavior Research Methods and Instrumentation*, 8, 498-500.
- Howard, J.H., Jr. & Silverman, E.B. (1976). A multidimensional scaling analysis of sixteen complex sounds. *Perception & Psychophysics*, 19, 193-200.
- Seif, T.F. & Howard, J.H., Jr. (1975). Stimulus compatibility effects of an accessory visual stimulus on auditory sensitivity. *Perception & Psychophysics*, 17, 504-510.
- Howard, J.H., Jr. (1975). The attentional demands of negation in a memory-scanning task. *Memory & Cognition*, 3, 319-324.
- Wickens, T.D., Howard, J.H., Jr., Rice, G.A., & Millward, R.B. (1972). GASPS: A general asynchronous processing system for the PDP-8. *Behavior Research Methods and Instrumentation*, 4, 108-109.

Posters, Presentations and Published Abstracts

Howard, D.V., & Howard, J.H., Jr. (2012). Aging mind and brain: Is implicit learning spared in healthy aging? Invited keynote address at the symposium Lifespan perspectives on implicit and explicit learning, Brussels, Belgium, Sept 7-8, 2012.

Howard, J.H., Jr. (2012). Aging Brain, Aging Mind: Implications for Learning. Invited colloquium, Applied Development Group, George Mason University, April 18, 2012.

Seaman, K.L., Forman-Alberti, A.B., Howard, D.V., & Howard, J.H., Jr. (2012). Age-related differences in feedback processing on a four-choice probabilistic prediction task. Submitted for presentation at the bi-annual Cognitive Aging Meeting, Atlanta, GA, April, 2012.

Forman-Alberti, A.B., Seaman, K.L., Howard, D.V., & Howard, J.H., Jr. (2012). Event Simultaneity does not eliminate age deficits in implicit probabilistic sequence learning. Submitted for presentation at the bi-annual Cognitive Aging Meeting, Atlanta, GA, April, 2012.

Stillman, C.M., Feldman, H., Howard, J.H., Jr., & Howard, D.V. (2012). Effects of Age and Structure on the Acquisition of Probabilistic Sequential Regularities. Submitted for presentation at the bi-annual Cognitive Aging Meeting, Atlanta, GA, April, 2012.

Gamble, K.R., Westbay, L.C., Howard, J.H., Jr., & Howard, D.V. (2012). Effects of nature exposure on executive attention in young and older adults. Submitted for presentation at the bi-annual Cognitive Aging Meeting, Atlanta, GA, April, 2012.

Seaman, K.L., Forman-Alberti, A.B., Howard, D.V., & Howard, J.H., Jr. (2012). Decision making in older adults: The influence of learning on a cued prediction task. Submitted for presentation at the annual meetings of the Cognitive Neuroscience Society, Chicago, IL, April, 2012.

Gamble, K.R., Profaci, C.P., Howard, J.H., Jr., & Howard, D.V. (2012). Interference effects on implicit and explicit learning of sequential patterns. Submitted for presentation at the annual meetings of the Cognitive Neuroscience Society, Chicago, IL, April, 2012.

Howard, J.H., Jr., Simon, J.R., Howard, D.V. & Jiang, X. (2011). The heterogeneity of local regional correlation in hippocampus and caudate predicts behavioral performance in old adults. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.

Seaman, K.L., Forman-Alberti, A.B., Howard, D.V., & Howard, J.H., Jr. (2011). Shifting from ambiguity to risk in a four-choice prediction task: The role of learning in decision making. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.

Kiser, S.A., Howard, J.H., Jr., & Fuller, R.L. (2011). Action monitoring and response selection in an implicitly primed Simon task. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.

Forman-Alberti, A.B., Seaman, K.L., Howard, D.V., & Howard, J.H., Jr. (2011). Do implicitly learned spatial and temporal cue-target relationships enable target prediction? Presented

- at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.
- Gamble, K.R., Howard, J.H., Jr., & Howard, D.V. (2011). Effects of simultaneous vs. interleaved secondary tasks on implicit sequence learning in older and younger adults. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.
- Stillman, C.M., Howard, J.H., Jr., & Howard, D.V. (2011). Effects of level of structure on acquisition of sequential regularities. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2011.
- Howard, J.H., Jr., & Howard, D.V. (2011). Cognitive and Neural Bases of Implicit Associative Learning in Healthy Aging. Invited keynote address, Dubrovnik Conference on Cognitive Science, DuCog III, Dubrovnik, Croatia, May, 2011.
- Howard, J.H., Jr., (2011). Age-related striatal dysfunction in implicit associative learning. Invited presentation, National Rehabilitation Hospital, Washington, DC, April, 2011.
- Gamble, K.R., Howard, J.H., Jr., & Howard, D.V., (2011). Dual task effects on implicit probabilistic sequence learning in young and old adults. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2011.
- Forman-Alberti, A.B., Seaman, K.L., Howard, D.V., & Howard, J.H., Jr. (2011). Event simultaneity influences implicit probabilistic sequence learning. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2011.
- Seaman, K.L., Forman-Alberti, A.B., Howard, D.V., & Howard, J.H., Jr. (2011). Environmental uncertainty affects learning and decision making in a cued prediction task. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2011.
- Simon, J.R., Vaidya, C.J., Howard, D.V., & Howard, J.H., Jr. (2011). Neural basis of implicit associative learning and aging. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2011.
- Seaman, K.L., Howard, D.V., & Howard, J.H., Jr. (2011). Adult age differences in reaction time 1/f scaling during an implicit learning task: A nonlinear dynamical systems approach to intra-individual variability. Presented at the annual meetings of the AAAS, Washington, D.C., February 20, 2011.
- Kiser, S.A., Fu, S., Fuller, R.L., Howard, D.V., Howard, J.H., Jr. (2011). Electrophysiological Correlates of Expectancy in an Implicit Probabilistic Sequence Learning Task. Presented at the annual meetings of the AAAS, Washington, D.C., February 20, 2011.
- Schwartz, B.L., Vaidya, C.J., Howard, J.H., Jr., & Deutsch, S.I. (2010). Implicit Learning of Socio-Emotional Stimuli in Schizophrenia: Behavioral and fMRI findings. Presented at the annual meetings of the American College of Neuropsychopharmacology, Miami, December 5-9, 2010.
- Seaman, K.L., Vallina, A., Ryan, C.T., Brewer, G.M., Howard, D.V. & Howard, J.H., Jr. (2010). Learning sequential probabilistic associations in a simple four-choice RT task. Presented at the annual meetings of the Society for Judgment and Decision Making, St. Louis, November 20-22, 2010.

- Simon, J.R, Westbay, L.C., Stollstorff, M., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2010). Val allele homozygotes at BDNF Val66Met reveal better early implicit associative learning than Met carriers. Presented at the annual meetings of the Society for Neuroscience, San Diego, CA, November 13-17, 2010.
- Lee, J.M., Gamble, K.R., Simon, J.R., Howard, J.H., Jr., & Howard, D.V. (2010). The effects of goal motivation on implicit sequence learning. Presented at the annual meetings of the Society for Neuroscience, San Diego, CA, November 13-17, 2010.
- Westbay, L.C., Simon, J.R., Stollstorff, M., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2010). Functional polymorphisms in the genes COMT and BDNF associated with reward-based working memory in probabilistic selection task. Presented at the annual meetings of the Society for Neuroscience, San Diego, CA, November 13-17, 2010.
- Gamble, K.R., Becker, R.A., Howard, J.H., Jr., & Howard, D.V. (2010). Effects of an MTL-loading simultaneous task on implicit probabilistic motor sequence learning. Presented at the annual meetings of the Society for Neuroscience, San Diego, CA, November 13-17, 2010.
- Howard, J.H., Jr. (2010). Cognitive Impairment in Healthy Old Age: Teaching Old Dogs New Tricks. Invited colloquium, George Mason University Department of Psychology, October 20, 2010.
- Howard, D.V., & Howard, J.H., Jr. (2010). Dissociable Forms of Implicit Learning & Memory in Aging, Invited presentation at the 8th Tsukuba International Conference on Memory (tic8): Memory and Aging, Tsukuba, Japan, on March 29-31, 2010, in Tsukuba Science City, sponsored by Gakushuin University.
- Howard, J.H., Jr. (2010). Implicit Associative Learning in Old Age: Old "Dogs" & New Tricks. Invited colloquium, Georgetown University Department of Psychology, March 5, 2010.
- Romano, J.C., Howard, J.H., Jr., & Howard, D.V. (2010). Early bilingualism is associated with better implicit sequence learning and executive control in old age. Presented at the bi-annual Cognitive Aging Conference, Atlanta, GA, March, 2010.
- Simon, J.R., Howard, J.H., Jr., & Howard, D.V. (2010). Age deficits in implicit associative learning of arbitrary sequences. Presented at the bi-annual Cognitive Aging Conference, Atlanta, GA, March, 2010.
- Gamble, K.R., Howard, D.V., & Howard, J.H., Jr. (2010). Age-related MTL task interference in implicit perceptual sequence learning. Presented at the bi-annual Cognitive Aging Conference, Atlanta, GA, March, 2010.
- Bennett, I.J., Madden, D.J., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2010). White Matter Integrity Correlates of Implicit Sequence Learning in Healthy Aging. Presented at the annual meetings of the Cognitive Neuroscience Society, Montreal, CA, April, 2010.
- Thomas, K.M., Bennett, I.J., Madden, D.J., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2010). Relationships between white matter integrity and two forms of recall in healthy aging. Presented at the annual meetings of the Cognitive Neuroscience Society, Montreal, CA, April, 2010.

- Simon, J.R., Stollstorff, M., Westbay, L.C., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2010). Dopamine transporter genotype predicts implicit sequence learning but not implicit spatial learning. Presented at the annual meetings of the Cognitive Neuroscience Society, Montreal, CA, April, 2010.
- Barnes, K.A., Simon, J.R., Howard, J.H., Jr., Howard, D.V., Vaidya, C. J. (2009). An fMRI study of probabilistic sequence learning reveals age-related differences in activation but not performance. Presented at the annual Conference on Neurocognitive Development, Berkeley, CA, July, 2009.
- Lenet, A. E., Sanz, C., Lado, B., Howard, J.H., Jr., & Howard, D. V. (2009). Aging and second language acquisition: Differential success in learning latin grammar via implicit and explicit feedback. Paper presented at the annual Georgetown University Roundtable, March, 2009.
- Letkiewicz, A.M., Howard, J.H., Jr., Howard, D.V., & LeBlanc, N.M. (2009). Accuracy Differences do not Explain Age-deficits in Implicit Probabilistic Sequence Learning. Presented at the annual meetings of the Eastern Psychological Association, Pittsburgh, PA, March, 2009.
- Simon, J.R., Murphy, E.R., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2009). Functional connectivity of implicit probabilistic sequence learning in aging. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2009.
- Bennett, I.J., Simon, J.R., Madden, D.J., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2009). A combined DTI and fMRI examination of the neural correlates of implicit probabilistic sequence learning. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2009.
- Barnes, K.A., Della Rosa, A., Jankowski, K., Yerys, B.E., Howard, J.H., Jr., Howard, D.V., Gaillard, W.D., Kenworthy, L.E., & Vaidya, C.J., (2008), Cortical and cerebellar involvement during probabilistic implicit learning predicts repetitive behaviors in childhood Autism Spectrum Disorder. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2008.
- Simon, J.R., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2008). Neural basis of probabilistic sequence learning in aging: an fMRI study. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2008.
- Bennett, I.J., Joseph, D.A., Madden, D.J., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2008) The effect of healthy aging on multiple measures of white matter integrity. Presented at the annual meetings of the Society for Neuroscience, Washington, DC, November, 2008.
- Halpert, S.M., Rodriguez. V.M., Howard, D.V., & Howard, J.H., Jr. (2008). Older Dementia Caregivers are Impaired on Explicit but not Implicit Memory. Presented at the annual meetings of the Gerontological Society of America, Washington, DC, November, 2008.
- Howard, J.H., Jr., (2008). "Three New England Psychological Association Honorary Undergraduate Fellows from 40 years ago describes their career." Invited video presentation at the 48th Annual Meetings of the New England Psychological Association, Springfield, MA, October, 2008.
- Chichibu, S., Romano, J.C. LeBlanc, N.M., Howard, D.V., & Howard, J.H., Jr. (2008). Japanese-English bilingualism influences control of attention but not implicit sequence learning.

- Presented at the annual meetings of the Association for Psychological Science, Chicago, IL, May, 2008.
- Halpert, S.M., Rodriguez, V.M., Howard, D.V., & Howard, J.H., Jr. (2008). Psychological well-being and cognitive function of dementia caregivers. Presented at the annual meetings of the Association for Psychological Science, Chicago, IL, May, 2008.
- Lenet, A. E., Sanz, C., Lado, B., Howard, J.H., Jr., & Howard, D. V. (2008). Aging and second language acquisition: Differential success in learning Latin grammar via implicit and explicit feedback. Presented at the Georgetown University Psychology Department Honors Symposium, Washington, DC., April, 2008.
- Romano, J.C., Burns, N.P., Kranz, E.M., Howard, D.V., & Howard, J.H., Jr. (2008). Old pianists have better working memory, speed of processing and vocabulary but not implicit sequence learning. Presented at the bi-annual Cognitive Aging Conference, Atlanta, GA, April, 2008.
- Simon, J.R., Barnes, K.A., Vaidya, C.J., Howard, J.H., Jr., & Howard, D.V. (2008). Neural basis of implicit sequence learning in a probabilistic Triplets Learning Task. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2008.
- Simon, J.R., Howard, J.H., Jr., Frank, M.J., & Howard, D.V. (2008). Adult age differences in positive vs negative feedback learning in probabilistic selection. Presented at the bi-annual Cognitive Aging Conference, Atlanta, GA, April, 2008.
- Howard, D.V. & Howard, J.H., Jr. (2008). Aging and dissociable forms of implicit learning. Invited workshop presentation at the Center for the Brain Basis of Cognition, Georgetown University, Washington, DC, March, 2008.
- Barnes, K.A., Della Rosa, A., Lee, P.S., Howard, J.H., Jr., Howard, D.V., Gaillard, W.D., Kenworthy, L.E., Vaidya, C.J. (2008). Increasing recruitment of a partially overlapping network during implicit learning in ASD and typical development: an fMRI study. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2008.
- Bennett, I.J., Vaidya, C.J., Madden, D.J., Howard, D.V., & Howard, J.H., Jr. (2008). White matter integrity and implicit sequence learning in younger and older adults. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2008.
- Bennett, I. J., Lee, P. S., Barnes, K. A., Vaidya, C. J., Madden, D. J., Howard, J. H., Jr., & Howard, D. V. (2007). White matter integrity and two forms of implicit learning. Poster presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, November, 2007.
- Barnes, K. A., Benner, M. E., Della Rosa, A., Lee, P. S., Howard, J. H., Jr., Howard, D. V., Gaillard, W. D., Kenworthy, L., & Vaidya, C. J. (2007). Neural basis of probabilistic sequence learning in childhood ASD: An fMRI study. Talk presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA, November, 2007.
- Shapiro, M.D., Bennett, I.J., Barnes, K.A., Howard, D.V., & Howard, J.H., Jr. (2007). Memory load affects the magnitude of implicit spatial context learning. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2007.

- Ciomek, N.A., Song, S.S., Howard, J.H., Jr., & Howard, D.V. (2007). Age deficits in probabilistic category learning. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2007.
- Romano, J.C., Garlipp, R.J., Mays, L.E., Howard, D.V., & Howard, J.H., Jr. (2007). Spanish-English Bilingualism Influences Control of Attention but not Implicit Sequence Learning. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2007.
- Halpert, S.M., Rodriguez, V.M., Howard, D.V., & Howard, J.H., Jr. (2007). Perceived stress and positivity in middle age versus old dementia caregivers. Presented at the annual meetings of the Association for Psychological Science, Washington, DC, May, 2007.
- LeBlanc, N.M., Howard, J.H., Jr., Howard, D.V., Kraft, T., & Kim, T. (2007). Age-related learning deficits in an implicit sequence learning transfer task. Presented at the special 25th anniversary meeting of the Cognitive Aging Conference, Adelaide, Australia, July, 2007.
- Romano, J.C., Dennis, N.A., Howard, D.V., & Howard, J.H., Jr. (2007). Implicit spatial context learning depends on target location in older adults. Presented at the special 25th anniversary meeting of the Cognitive Aging Conference, Adelaide, Australia, July, 2007.
- Bennett, I.J., Howard, J.H., Jr., & Howard, D.V. (2007). Reading ability and implicit learning in healthy older adults. Presented at the special 25th anniversary meeting of the Cognitive Aging Conference, Adelaide, Australia, July, 2007.
- Barnes, K. A., Foss-Feig, J., Shook, D., Howard, J. H., Jr., Howard, D. V., Kenealy, L. & Vaidya, C. J. (2007). Impaired implicit sequence learning, but not spatial contextual learning in childhood ADHD. Presented at the annual meetings of the Cognitive Neuroscience Society, New York, New York, May, 2007.
- Bennett, I.J., Romano, J.C., Howard, D.V., & Howard, J.H., Jr. (2006). Two forms of implicit learning in young adult dyslexics. Presented at the 25th Rodin Remediation Academy Conference, "Neural Basis of Skill Acquisition, Reading, and Dyslexia." Washington, DC, October, 2006.
- Negash, S., Petersen, L.E., Geda, Y.E., Knopman, D.s., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H., Jr., & Petersen, R.C. (2006). Implicit learning and ApoE genotype in healthy old-old adults. Presented at the annual meetings of the Society for Neuroscience, Atlanta, GA, October, 2006.
- Romano, J.C., Howard, D.V., & Howard, J.H., Jr. (2006). Long-term retention of subtle sequential regularities. Presented at the annual meetings of the Association for Psychological Science, New York, New York, May, 2006.
- Badaly, D., Bennett, I.J., Howard, J.H., Jr., & Howard, D.V. (2006). Older adults show unsupervised statistical learning of visual sequences. Presented at the annual meetings of the Association for Psychological Science, New York, New York, May, 2006.
- LeBlanc, N.M., Howard, D.V., & Howard, J.H., Jr. (2006). Transfer effects in implicit sequence learning. Presented at the annual meetings of the Association for Psychological Science, New York, New York, May, 2006.

- Ari, M., Filak, K.L., Howard, D.V., Howard, J.H., Jr., & Hess, T.M. (2006). Stereotype threat affects implicit sequence learning in old and young adults. Presented at the annual meetings of the Association for Psychological Science, New York, New York, May, 2006.
- Negash, S., Petersen, L.E., Geda, Y.E., Knopman, D.S., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H., Jr., & Petersen, R.C. (2006). Implicit learning systems: ApoE genotype and healthy aging. Presented at the Tenth Cognitive Aging Conference, Atlanta, GA, March, 2006.
- Song, S.S., Marks, B., Howard, J.H., Jr., & Howard, D.V. (2006). Age-related deficits in explicit and implicit higher-order sequence learning. Presented at the Tenth Cognitive Aging Conference, Atlanta, GA, March, 2006.
- Romano, J.C., Howard, D.V., & Howard, J.H., Jr. (2006). Three-year retention of subtle sequential regularities by older adults. Presented at the Tenth Cognitive Aging Conference, Atlanta, GA, March, 2006.
- Bennett, I.J., Wolfe, A.L., Howard, J.H., Jr., & Howard, D.V. (2006). Older adults reveal implicit learning of subtle third-order sequential structure. Presented at the Tenth Cognitive Aging Conference, Atlanta, GA, March, 2006.
- Song, S.S., Grewal, K., Howard, J.H., Jr., & Howard, D.V. (2006). Sleep-dependent consolidation occurs only for explicit sequence learning, and not for procedural learning. Presented at the annual meetings of the Cognitive Neuroscience Society, San Francisco, CA, April, 2006.
- Negash, S., Geda, Y.E., Knopman, D.S., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, Jr., J.H., and Petersen R.C. (2006). Implicit Learning and Depression in Mild Cognitive Impairment. Presented at the 17th annual meeting of the American Neuropsychiatric Association, La Jolla, CA, February, 2006.
- Negash, S., Boeve, B.F., Geda, E.G., Knopman, D.S., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H., Petersen, R.C. (2006). Implicit learning of sequential regularities and spatial contexts in corticobasal syndrome patients. Presented at the annual meetings of the International Neuropsychological Society, Boston, MA, February, 2006.
- Howard, J.H., Jr., & Howard, D.V. (2005). Promoting successful cognitive aging. Invited address to the First Annual World Aging Congress, St. Gallen, Switzerland, September, 2005.
- Song, S.S., Ryan, K., Howard, J.H., Howard, D.V. (2005). A novel sequence-learning paradigm reveals simultaneous and independent explicit and implicit learning. Presented at the annual meetings of the Society for Neuroscience, Washington, D.C., November, 2005.
- Negash, S., Petersen, L.E., Geda, Y.E., Knopman, D.S., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H., & Petersen, R.C. (2005). Mild cognitive impairment and implicit sequence learning: Dissociation between sequence learning and contextual cueing. Presented at the annual meetings of the Society for Neuroscience, Washington, D.C., November, 2005.
- Romano, J.C., Kranz, E.M., Kramer, L.E., Howard, D.V., & Howard, J.H., Jr. (2005). Implicit Sequence Learning and Spatial Contextual Cueing in Experienced College-Age Musicians and Video Gamers. Presented at the annual meetings of the Cognitive Neuroscience Society, New York, New York, April, 2005.

- Schwartz, B.L., Rowan, M.T., Vaidya, C.J., Howard, J.H., Jr., & Deutsch, S.I. (2005). Effects of incidental processing of eye gaze and facial expression on controlled attention in schizophrenia. Presented at the International Congress on Schizophrenia Research, Savannah, GA, April, 2005.
- Negash, S., Howard, J.H., Jr., Harris, M.R., Romain, L.C., MacLeod, D.R., & Howard, D.V. (2004). Age-related differences in implicit learning of higher-order regularities when age groups are matched on overall accuracy. Presented at the annual meetings of the Gerontological Society of America, Washington, DC, November, 2004.
- Howard, J.H., Jr., Howard, D.V., Yankovich, H., & Dennis, N.A. (2004). Does degrading visual displays mimic age-related implicit sequence learning deficits? Presented at the annual meetings of the Gerontological Society of America, Washington, DC, November, 2004.
- Negash, S., Petersen, L.E., Geda, Y.E., Knopman, D.S., Boeve, B.F., Smith, G.E., Ivnik, R.J., Howard, D.V., Howard, J.H. Jr., and Petersen, R.C. (2004). Implicit sequence learning and contextual cueing in mild cognitive impairment. Presented at the APA Postdoctoral Diversity Program in Neuroscience at the annual meetings of the Society for Neuroscience, San Diego, CA, October, 2004.
- Howard, J.H., Jr., Howard, D.V., Japikse, K.A., & Eden, G.F. (2004). Dyslexics are impaired on implicit higher-order sequence learning, but not on spatial context learning. Presented at the annual meetings of the Society for Neuroscience, San Diego, CA, October, 2004.
- Valentino, K., Howard, D.V., & Howard, J.H., Jr. (2004). Implicit learning of a simple concept: Does it exist? Presented at the annual meeting of the American Psychological Society, Chicago, IL, May, 2004.
- Yankovich, H., Howard, D.V., Rettally, G.P., & Howard, J.H., Jr. (2004). Learning to control dynamic systems is spared in healthy aging. Presented at the annual meeting of the American Psychological Society, Chicago, IL, May, 2004.
- Howard, D.V., Yankovich, H., Michener, K., Meeker, K., Ullman, M., & Howard, J.H., Jr. (2004). Are age-related deficits in implicit sequence learning due to higher-order structure or to random elements? Presented at the Ninth Cognitive Aging Conference, Atlanta, GA, March, 2004.
- Howard, J.H., Jr., Kelley, A.J., Dennis, N.A., Vaidya, C.J., Barr, R.F., & Howard, D.V. (2004). Age-related deficits in implicit learning of higher-order sequential structure in the absence of motor sequencing. Presented at the Ninth Cognitive Aging Conference, Atlanta, GA, March, 2004.
- Howard, J.H., Jr. (2003). Cognitive Deficits in Health Aging: Teaching Old Dogs New Tricks. Invited brown-bag colloquium, George Mason University, Department of Psychology, October 22, 2003.
- Yankovich, H., Howard, D.V., Romain, L., Harris, M., MacLeod, D., & Howard, J.H., Jr. (2003). Early vs late stage implicit learning of process control in healthy aging. Presented at the annual meeting of the Society for Neuroscience, New Orleans, LA, November, 2003.
- Negash, S., Breuninger, M.M., Howard, J.H., Jr., & Howard, D.V. (2003). Effects of a secondary task on implicit learning of higher order regularities: Implications for aging. Presented at the annual meeting of the Gerontological Society of America, San Diego, CA, November, 21-25, 2003.

- Harris, M.R., Negash, S., Howard, D.V., & Howard, J.H., Jr. (2003). Age Related Time Of Day Effects On Higher Order Implicit Sequence Learning And Contextual Cueing. Presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY, April, 2003.
- Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2003). Implicit Learning Of Higher Order Auditory Sequences With Response Remapping. Presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY, April, 2003.
- Negash, S., Harris, M.R., Howard, J.H., Jr., & Howard, D.V. (2003). Age-Related Differences In Implicit Learning Of Short Higher-Order Sequential Patterns. Presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY, April, 2003.
- Dennis, N.A., Howard, J.H., Jr., Howard, D.V., Coyle, M., & Lynch, B. (2003). Implicit higher-order sequence learning by event observation. Presented at the annual meeting of the Eastern Psychological Association, Baltimore, MD, April, 2003.
- Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2002). Implicit sequence learning with response remapping in young and elderly adults. Presented at the 32nd annual meeting of the Society for Neuroscience, Orlando, FL, November, 2002.
- Negash, S., Howard, J.H., Jr., Aisen, P.S., Ward, C., & Howard, D.V. (2002). Spatial contextual cueing in patients with mild cognitive impairment. Presented at the 32nd annual meeting of the Society for Neuroscience, Orlando, FL, November, 2002.
- Dennis, N.A., LaVine, S.P., Howard, D.V., & Howard, J.H., Jr. (2002). Aging and Implicit Learning of a simple regularity: Evidence for learning independent of stimulus characteristics. Presented at the annual meeting of the Gerontological Society of America, Boston, MA, November, 2002.
- Schwartz, B.L., Hovaguimian, A., Howard, D.V., Howard, J.H., Jr., & Deutsch, S.I. (2002). Implicit learning of sequential patterns in schizophrenia. Presented at the annual meeting of the Society of Biological Psychiatry, Philadelphia, PA, May 2002.
- Negash, S., Howard, D.V., Howard, J.H., Jr., Vaidya, C.J., & Romain, L. (2002). Age-related differences in implicit learning of second-order deterministic patterns. Presented at the Eighth Cognitive Aging Conference, Atlanta, GA, March, 2002.
- Yankovich, H., Howard, D.V., & Howard, J.H., Jr. (2002). Learning to control dynamic systems: Aging and implicit learning in the process control task. Presented at the Eighth Cognitive Aging Conference, Atlanta, GA, March, 2002.
- Howard, D.V., Howard, J.H., Jr., Japikse, K.C., Thompson, A., diYanni, C, & Somberg, R. (2002). The effects of aging and true vs. false information on the implicit learning of sequences. Presented at the Eighth Cognitive Aging Conference, Atlanta, GA, March, 2002.
- Howard, J.H., Jr., Howard, D.V., Dennis, N.A., Vaidya, C.J., & Japikse, K.C. (2002). Perceptual learning of visual context in healthy elderly. Presented at the Eighth Cognitive Aging Conference, Atlanta, GA, March, 2002.
- Vaidya, C.J., Huger, M., Hoffman, C., Palop, M., Howard, J.H., Jr., & Howard, D.V. (2002). Medial temporal lobe maturation: Development of implicit contextual learning. Presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA, April, 2002.

- Negash, S., Japikse, K., Howard, D. V. , & Howard, J. H., Jr. (2001). Aging and the role of effectors in implicit learning of non-spatial probabilistic sequences. Presented at the 31st annual meeting of the Society for Neuroscience, San Diego,CA, November, 2001.
- Howard, D.V., LaVine, S., Dennis, N.A., & Howard, J.H., Jr. (2001). Aging and implicit learning of a simple positional/sequential regularity. Presented at the 31st annual meeting of the Society for Neuroscience, San Diego, CA, November, 2001.
- Yamada, H.M., Dennis, N.A., Howard, James H., Jr., & Howard, D.V. (2001). The Influence of Event Duration Variability on the implicit learning of serial patterns. Presented at the annual meeting of the Eastern Psychological Association, Washington, D.C., April, 2001.
- Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. Age-related deficits in implicit learning of auditory sequences. (2001). Presented at the annual meeting of the Cognitive Neuroscience Society, New York, N.Y., March, 2001. (Abstract) *Journal of Cognitive Neuroscience Supplement*, 12, 68.
- Yankovich, H., Japikse, K.C., Howard, D.V., & Howard, J.H., Jr. Effects of instructional variations on implicit sequence learning. Presented at the annual meeting of the Cognitive Neuroscience Society, New York, N.Y., March, 2001. (Abstract) *Journal of Cognitive Neuroscience Supplement*, 12, 65.
- Japikse, K.C., Howard, D.V., & Howard, J.H., Jr. Evaluation of a direct nonverbal measure of declarative sequence knowledge. Presented at the annual meeting of the Cognitive Neuroscience Society, New York, N.Y., March, 2001. (Abstract) *Journal of Cognitive Neuroscience Supplement*, 12, 62.
- Howard, J.H., Jr. Age-related deficits in implicit learning. Invited colloquium, University of Maryland Department of Psychology, November 1, 2000.
- Japikse, K., Howard, D.V., & Howard, J.H., Jr. (2000) Interference from intermittent patterns on a procedural sequence learning task. Presented at the annual meeting of the Psychonomic Society. (Abstract). *Abstracts of the Psychonomic Society*, 5, 69.
- Feeney, J.J., & Howard, J.H., Jr. Implicit learning and retention of serial patterns in middle aged adults. Presented at the annual meeting of the American Psychological Association, Washington, D.C., August, 2000.
- Love, A. E., Howard, J.H., Jr., & Howard, D.V. Voice specificity in the statistical learning of word segmentation. Presented at the annual meeting of the American Psychological Association, Washington, D.C., August, 2000.
- Japikse, K., Howard, D.V., & Howard, J.H., Jr. The effects of interference and instructional set on implicit learning of serial patterns. Presented at the annual meeting of the American Psychological Association, Washington, D.C., August, 2000.
- Howard, D.V., Howard, J.H., Jr., Japikse, K., DiYani, C., Thompson, A., & Somberg, R. Age-related differences in implicit learning of second and third order patterns. Presented at the Eighth Cognitive Aging Conference, Atlanta, Georgia, April, 2000.
- Negash, S., Howard, D.V., Howard, J.H., Jr., & Durkin, K. Age differences in implicit learning of non-spatial sequences. Presented at the Eighth Cognitive Aging Conference, Atlanta, Georgia, April, 2000.

- Japikse, K.C., Howard, D.V., & Howard, J.H., Jr. Implicit learning of intermittent patterns in a serial response time task. Presented at the annual meeting of the American Psychological Association, Boston, MA, August, 1999.
- Feeney, J.J., & Howard, J.H., Jr. Motor transfer effects in learning third order serial patterns. Presented at the annual meeting of the Cognitive Neuroscience Society, Washington, DC, April, 1999. (Abstract) *Journal of Cognitive Neuroscience Supplement*, 11, 45.
- Japikse, K.C., Howard, D.V., & Howard, J.H., Jr. Effects of changing motor responses on implicit sequence learning. Presented at the annual meeting of the Cognitive Neuroscience Society, Washington, DC, April, 1999. (Abstract) *Journal of Cognitive Neuroscience Supplement*, 11, 40.
- Howard, J.H., Jr., Howard, D.V., Wolan, C., Epstein, K.L., Love, A.E., & Ansari, G. The effects of inter-event-interval on implicit learning of serial patterns. Presented at the annual meeting of the Cognitive Neuroscience Society, Washington, DC, April, 1999. (Abstract). *Journal of Cognitive Neuroscience Supplement*, 11, 44.
- Howard, J.H., Jr., Howard, D.V., & Feeney, J.J. Simulation of age-related deficits in a serial reaction time task. Presented at the Seventh Cognitive Aging Conference, Atlanta, Georgia, April, 1998.
- Feeney, J.J., Howard, J.H., Jr., & Howard, D.V. Learning serial patterns: Human and simulated results. Presented at the annual meeting of the Eastern Psychological Association, Washington, D.C., April, 1997.
- Howard, D.V., & Howard, J.H., Jr. Adult age differences in effects of learning instructions on serial pattern learning. Presented at the annual meeting of the American Psychological Society, Washington, D.C., May, 1997.
- Howard, J.H., Jr., & Howard, D.V. Age differences in implicit learning of higher-order dependencies in serial patterns. Presented at the Sixth Cognitive Aging Conference, Atlanta, Georgia, April, 1996.
- Howard, J.H., Jr. Artificial neural networks in trauma, nuclear power and auditory modeling. Invited Colloquium, Department of Information Systems, University of Maryland, Baltimore County, November, 1992.
- Howard, D.V., & Howard, J.H., Jr. Age differences in learning to use and reproduce serial patterns. Paper presented at the Fourth Cognitive Aging Conference, Atlanta, GA, April, 1992.
- Howard, J.H., Jr., Solinsky, J.C., & Miller M.H. Classification of acoustic transients by human listeners. Invited presentation to the ONR Bioacoustic Signal Classification Workshop, Wrightsville Beach, NC, April, 1992.
- Benscoter, J.D., Roman, H.T., Silverman, E.B., & Howard, J.H., Jr. An interactive ultrasonic turbine rotor fault analysis workstation. Paper presented at the annual meeting of the American Power Conference, 1992.
- Howard, J.H., Jr., Howard, D.V., & Mutter, S.A. Direct and indirect measures of serial pattern learning by event observation. Poster presented at the annual meeting of the Psychonomic Society, New Orleans, LA, November, 1990.

- Chin, S.H., & Howard, J.H., Jr. Source localization of an acoustic target by artificial neural networks. Paper presented at the semi-annual meeting of the Acoustical Society of America, State College, PA, May, 1990.
- Howard, J.H., Jr., Miller, M.H., & Harpster, J.L. Context sensitivity in profile analysis by parallel distributed networks. Paper presented at the semi-annual meeting of the Acoustical Society of America, State College, PA, May, 1990.
- Harpster, J.L., Howard, J.H., Jr., & Miller, M.H. Simulation of learning and transfer in profile analysis by artificial neural networks. Paper presented at the semi-annual meeting of the Acoustical Society of America, State College, PA, May, 1990.
- Howard, D.V., & Howard, J.H., Jr. Age differences in the rate of learning serial patterns: Direct versus indirect measures. Paper presented at the Third Cognitive Aging Conference, Atlanta, GA, March, 1990.
- Harpster, J.L., Howard, J.H., Jr., & Miller, M.H. Modeling human profile analysis with neural networks: Number and density of components. Paper presented at the annual meeting of the Eastern Psychological Association, Philadelphia, PA, March, 1990.
- Miller, M.H., Harpster, J.L., & Howard, J.H., Jr. An artificial neural network simulation of the effect of ISI on auditory discrimination. Paper presented at the annual meeting of the Eastern Psychological Association, Philadelphia, PA, March, 1990.
- Howard, J.H., Jr. Artificial neural networks in psychoacoustics and acoustics. Invited presentation to the Metropolitan Washington Chapter of the Acoustical Society of America, March, 1990.
- Howard, J.H., Jr. Artificial neural network models of auditory discrimination. Invited presentation at the ONR Workshop on Bioacoustic Signal Classification, St. Petersburg Beach, Florida, February, 1990.
- Beran, M.J., Chin, S., Howard, J.H., Jr., & Steinberg, B. The use of neural networks in acoustic coherence measurements. Paper presented at the Semi-Annual Meeting of the Acoustical Society of America, St. Louis, Missouri, November, 1989.
- Mutter, S.A., Howard, J.H., Jr., Howard, D.V., Wiggs, C.L., Champion, H., & Copes, W. Cognitive costs of mild closed head injury. Poster presented at the Annual Meeting of the American Association for the Advancement of Automotive Medicine, Baltimore, October, 1989.
- Howard, J.H., Jr. Artificial neural network models of spectral shape discrimination by human listeners. Invited colloquium, Acoustics Division, U.S. Naval Research Laboratory, Washington, D.C., June 13, 1989.
- Howard, J.H., Jr., Harpster, J.L., & Miller, M.H. Profile analysis by parallel distributed networks. Poster presented at the Semi-Annual Meeting of the Acoustical Society of America, Syracuse, New York, May, 1989.
- Mutter, S.A., Howard, J.H., Jr., Howard, D.V., & Wiggs, C.L. Performance on direct and indirect memory tests after mild closed head injury. Paper presented at the Annual Meeting of the Eastern Psychological Association, Boston, April, 1989.

- Stanley, J. & Howard, J.H., Jr. The character of learning in a serial pattern learning task. Paper presented at the Annual Meeting of the Southeastern Psychological Association, Washington, D.C., March, 1989.
- Howard, J.H., Jr. Artificial neural networks: A personal perspective. Invited presentation to the cognitive psychology group, George Washington University, February, 1989.
- Howard, J.H., Jr., Howard, D.V., Mutter, S.A., & Wiggs, C.L. Memorial consequences of mild closed head injury. Paper presented at the Annual Meeting of the Psychonomic Society, Chicago, November, 1988.
- Howard, J.H., Jr. Verbal and spatial memory in mild closed head injury patients. Invited colloquium, Center for Environmental Health and Injury Control, Centers for Disease Control, Atlanta, Georgia, October, 1988.
- Howard, J.H., Jr. Acoustic and psychoacoustic signal processing by artificial neural nets. Invited plenary address, Annual Meeting of the Department of Defense Technical Area Group on Human Factors, Baltimore, Maryland, May, 1988.
- Howard, D.V., & Howard, J.H., Jr. Age differences in learning serial patterns: Implicit vs. explicit measures. Paper presented at the Second Cognitive Aging Conference, Atlanta, Georgia, April, 1988.
- Howard, J.H., Jr. Cognitive implications of closed head injury. Invited presentation to Grand Rounds, Department of Neurosurgery, Washington Hospital Center, Washington, D.C., November, 1987.
- Howard, J.H., Jr. Cognitive implications of closed head injury. Invited presentation to the Washington Hospital Center MedSTAR Trauma Research Group, Washington Hospital Center, Washington, D.C., October, 1987.
- Howard, J.H., Jr. Cognitive and perceptual aspects of image processing. Invited address to the Software Psychology Society, Washington, October, 1987.
- Howard, J.H., Jr. Attention to What: The role of prior knowledge. Invited colloquium, University of Maryland Department of Psychology, College Park, April, 1986.
- Howard, J.H., Jr. Perceptual aspects of image processing. Invited presentation to the annual mid-year symposium, APA Division 21, Recent Advances in Applied-Experimental Psychology, Washington, D.C., March, 1986.
- Howard, J.H., Jr. Spatial scale in detection and recognition: Implications for image processing. Paper presented at the annual meeting of the Human Factors Society, Baltimore, Maryland, October, 1985.
- Howard, J.H., Jr., Shaw, R.J., Robertson, S.P., & Raver, J.A. User strategies in interactive image processing. Paper presented at the annual meeting of the Human Factors Society, Baltimore, Maryland, October, 1985.
- Howard, J.H., Jr. Top-down processing in auditory perception. Invited address to the Washington, D.C. Chapter, IEEE Acoustics, Speech and Signal Processing Society, Washington, D.C., May 15, 1985.

- Howard, J.H., Jr. Perceptual and cognitive aspects of image processing. Invited colloquium U.S. Army Research Institute, Alexandria, Virginia, May 8, 1985.
- Howard, J.H., Jr. Perceptual aspects of image processing. Invited colloquium George Washington University Department of Electrical Engineering and Computer Science, Washington, D.C., April 10, 1985.
- Howard, J.H., Jr. Interactive image processing. Invited presentation to the NSF-Sponsored Workshop on Computer Needs in Psychology, Washington, D.C., July 20-22, 1984.
- Howard, J.H., Jr. Pattern recognition: Why are people so good at it? Invited colloquium, Catholic University Department of Mathematics, May, 1984.
- Howard, J.H., Jr. Human factors in loose parts monitoring. Invited presentation at the Tenth Water Reactor Safety Research Information Meeting, Gaithersburg, Maryland, October, 1982.
- Kerst, S.M. & Howard, J.H., Jr. Mental processes in magnitude estimation of perceived and remembered stimuli. Paper presented at the annual meeting of the American Psychological Association, Washington, D.C., August, 1982.
- Ballas, J.A. & Howard, J.H., Jr. Preliminary research on perceiving patterns of underwater acoustic transients. Paper presented at the Human Factors Society Meetings, October, 1980.
- Kerst, S.M. & Howard, J.H., Jr. Memory for spatial displays. Invited research presentation at the National Institute of Education Roundtable on Information Presentation, September, 1980.
- Kerst, S.M. & Howard, J.H., Jr. Memory processes in the recall and use of spatial cartographic information. Invited research presentation at the Colloquium on Selected Topics in Behavioral Science Research, U.S. Army Research Institute, 23-25 April, 1980.
- Kerst, S.M. & Howard, J.H., Jr. The psychophysics of memory for visual dimensions. Invited research report presented at the Brown University Conference on Visual Information Processing and Cognitive Science, Providence, R.I., June, 1978.
- Kerst, S.M. & Howard, J.H., Jr. Memory for geographical area and distance: A psychophysical approach. Paper presented at the American Educational Research Association Meetings, March, 1978.
- Kerst, S.M. & Howard, J.H., Jr. Mental comparisons of ordered information on abstract and concrete dimensions. Paper presented at the Eastern Psychological Association Meetings, April, 1977.
- Howard, D.V. & Howard, J.H., Jr. The acquisition of a semantic domain. Invited research report presented at the Georgetown University Roundtable on Languages and Linguistics. Washington, D.C., March, 1977.
- Howard, J.H., Jr. Two-choice, response-contingent human probability learning with and without explicit outcomes. Paper presented at the Eastern Psychological Association Meetings, April, 1969.

Teaching Experience

Doctoral Students

- LeBlanc, Nicole M. (current – experimental psychology).
 Halpert, Sarah M. (current – clinical psychology).
 Romano, Jennifer C. (current – experimental psychology).
 Dennis, Nancy A. (2004). *Age deficits in implicit sequence learning with response remapping*. (Now postdoctoral fellow, Duke University Medical Center)
 Negash, Selam (2004). *Adult age differences in implicit learning of short, higher-order sequential patterns*. (co-mentor, Georgetown University Interdisciplinary Program in Neuroscience. Now postdoctoral fellow, Mayo Clinic Medical School).
 Feeney, John J. (1999). *Implicit learning and retention of serial patterns in middle age adults*. (Now Professor, National Defense University)
 Miller, Maxwell H. (1992). *Auditory classification of impact transients*.
 Harpster, Jeffrey L. (1991). *The modeling of human visual pattern classification*.
 Barsam, Helena F. (1988). *The effects of spatial ability on the use of hierarchically organized interfaces*.
 Bennett, Kevin B. (1984). *The effect of structured contextual tones on psychophysical frequency discrimination*.
 Herzfeld, Gerald M (1982). *The effects of suggestion on the self-regulation of hand temperature and the specificity of the response*.
 Wolskee, Patricia J. (1981). *The influence of chronic pain and narcotic analgesics on the intensity and unpleasantness of experimentally produced thermal pain*.
 Ballas, James A. (1980). *Sensory and cognitive factors in the classification of sounds*.
 Hooper, Jean N. (1976). *The effect of adaptive highway tunnel portal design on motorist acceleration profile and attitude*.
 Silverman, Eugene B. (1976). *The recognition of three critical features of non-speech sounds in a backward masking task*.
 Seif, Thomas F. (1975). *Sensory interaction : the effects of visual stimulus compatibility and task load on auditory sensitivity*.

Post-Doctoral Students

- Karin C. Japiksi, Ph.D., Neuroscience, Georgetown University Medical School. 2003-2004.
 Sharon A. Mutter, Ph.D., Psychology, George Washington University. 1987-1991.
 Current position: Associate Professor of Psychology, Western Kentucky University, Bowling Green, KY.
 James A. Ballas, Ph.D., Psychology, Catholic University, 1980-1981. Current position: Senior Research Scientist, Naval Research Laboratory, Washington, DC.

Undergraduate Courses Taught

- The Aging Mind (URL: pace.psy.cua.edu/howard/classes/240)
 Sensation & Perception (URL: pace.psy.cua.edu/howard/classes/371)
 Cognitive Psychology (URL: pace.psy.cua.edu/howard/classes/376)
 Psychology and Technology (URL: pace.psy.cua.edu/howard/classes/222)
 Experimental Psychology I & II
 Senior Seminar
 Psycholinguistics

Graduate Courses Taught

- Proseminar in Cognitive, Social and Affective Psychology (with Martin Safer)
 Seminar in Cognitive Disabilities (with Marc Sebrechts)
 Cognitive Aging Seminar
 Sensation & Perception (URL: <http://fechner.psy.cua.edu/~howard/classes/631>)
 Cognitive Science Seminar (variety of topics)
 Perception in Systems Design

Learning and Memory
 Seminar: Computer Models of Mind
 Seminar: Psychological Processes in Human Attention
 Tutorial in Perception and Psychophysics: (variety of topics)
 Artificial Intelligence (Computer Science and Psychology Departments)
 Artificial Neural Networks Seminar
 Auditory Classification Seminar
 Human and Computer Perception

University Committees and Service

Member, Academic Senate Committee on Appointments and Promotions, 2003-2004
 Dean Search Committee, School of Engineering, 2001
 Middle States Information Resources Committee, 1998-1999
 Arts & Sciences Academic Council, 1992-1994
 Campus-wide computer network committee, 1992-1994
 Steering Committee, Center for AI and Robotics, 1985-1987
 Dean's, Ad Hoc Committee on Computer Science, 1985
 Research Fund Committee, 1984-1987
 Arts and Sciences Committee on Appointments and Promotions, 1984-1987
 Chair, Search Committee for Dean, School of Religious Studies, 1983-1985
 Computer Facilities Committee, 1983-1985
 Computer Center Faculty Forum, Psychology Representative, 1979
 Middle States Self-Study Committee, 1977-1978
 Faculty Peer Review Committee, 1976
 Computer Science Curriculum Committee, 1976-1977
 Ad Hoc Course Evaluation Committee, 1975
 Faculty representative, Freshman Day, 1974
 Consultant, Building Committee, Boy's Town Center, 1974

Departmental Committees and Service

Chair, Faculty Search Committee, Cognitive Neuroscience Position, 2006-2007
 Department Freshman advisor 2005-
 Department dissertation coordinator 2005-
 Department web supervisor, 2002-2003
 Member, Strategic Planning Committee, 2000-2001
 Director, MA Program, 1997-2000
 Chair, Department Technology Committee, 1997-2000
 Chair, Faculty Review Committee, 1997-present
 Chair, 1992-1994
 Member, Chair Advisory Committee, 1988-1989
 Budget Committee, 1987
 Faculty Compensation Committee, 1983-1987 (Chair); 1988-1990; 1995; 1997-present
 (Chair)
 Curriculum Committee, 1982-1983; 1988-1991 (Chair)
 Faculty Search Committees, 1974, 1978, 1981, 1985, 1993, 1994
 Associate Chair, 1977-1980
 Masters Program Committee, 1977-1978
 Undergraduate Curriculum Committee, 1975-1977
 Library Resources Committee, 1975