Curriculum Vitae

Bruce D. McCandliss, PhD

Contact information
Graduate School of Education
Stanford University
Email: *brucemc@stanford.edu*
228 Cubberley Hall
485 Lasuen Mall, Stanford, CA 94305-3096
Phone: (615) 290-0820

Areas of specialization: Cognitive Psychology, Cognitive Neuroscience, Developmental Psychology, Educational Cognitive Neuroscience

Current Appointment
Professor, Graduate School of Education, Stanford University.
Training Faculty, Interdepartmental Neurosciences Program, Stanford University

Education

1985-1989	B.S.	Michigan State University, East Lansing, MI
1991-1992	M.S.	University of Oregon, Eugene, OR
1992-1997	PhD.	University of Oregon, Eugene, OR

Professional experience

1991-1996	Graduate Research Assistant, University of Oregon, Eugene, OR.
1996-1999	Postdoctoral Research Scientist, Center for the Neural Basis of Cognition, Carnegie Mellon University and University of Pittsburgh, Pittsburgh, PA.
1996-1999	Director, Learning Research and Development Center Reading Institute, University of Pittsburgh, Pittsburgh, PA.
1999-2005	Assistant Professor of Psychology in Psychiatry, Weill Medical College of Cornell University, New York, NY.
2005-2008	Associate Professor of Psychology in Psychiatry, Weill Medical College of Cornell University, New York, NY.
2005-2008	Training Faculty, Neuroscience PhD Program, Weill Medical College of Cornell University, New York, NY
2009-2014	Faculty Member, Neuroscience Graduate Program, Vanderbilt Brain Institute, Vanderbilt University
2009-2014	Patricia and Rodes Hart Chair of Psychology and Human Development, Peabody College of Education and Human Development, Vanderbilt University
2009-2014	Professor of Psychology, Department of Psychology, School of Arts and Science, Vanderbilt University
2014-	Professor, Graduate School of Education, Stanford University.
2015-	Professor (by courtesy), Department of Psychology, Stanford University.

Honors, Awards, Advisory Appointments

Honors

1988 Phi Beta Kappa.
1997 McDonnell Foundation Cognitive Neuroscience Postdoctoral Fellowship.
2002 John C. Merck Scholars Award, Biology of Developmental Disabilities in Children.
2006 U.S. Presidential Commendation: Presidential Early Career for Achievement in Science and Engineering (PECASE).

Awards to Active Trainees

2012 Excellence in Cognitive Studies Award to Jessica Wise
2010 Foundation Fyssen Award to Arnaud Viarouge
2010 Fulbright Fellowship Award to Fengji Geng
2008 Fulbright Fellowship Award to Fransica Serano.
2005 Finish Academy Of Science Fellowship Award to Minna Hannula.
2005 Duvigneud Symposium Award of Excellence to Sumit Niogi.
2003 NIH-NRSA Postdoctoral Training Award to Jason Zevin.
2003 Swiss National Science Foundation Fellowship Award to Urs Maurer.
2002 Fulbright Fellowship Award to Maria Ruz.

Advisory Board Appointments

Board of Directors, International Mind, Brain, and Education Society (IMBES)
Scientific Advisory Board (Chair), Temporal Dynamics of Learning Center. National Science Foundation, Science of Learning Center, UCSD.
Scientific Advisory Board (Member), Visual Learning 2, National Science Foundation, Science of Learning Center, Gallaudet University.
Scientific Advisor, Organization for Economic Cooperation and Economic Development, Center for Educational Research and Innovation: International Literacy Network
Scientific Advisory Board Member, Canadian Language and Literacy Network

Publications

Statistical Summary

Total Citations = 16331; h-index = 48; i10-index = 70;
Papers > 1000 citations = 5;
Papers > 100 citations = 32;

U.S. Patents

Niogi, S., & McCandliss, B. D. (2011). Reproducible Objective Quantification Method to Segment White Matter Structures. United States Patent No. 8,077,937, Issued Dec 13, 2011

Articles

Posner, M. I., & McCandliss, B. D. (1993). Converging methods for investigating lexical access. *Psychological Science, 4,* 305-309.

McCandliss, B. D., Posner, M. I., & Givòn, T. (1997). Brain plasticity in learning visual words. *Cognitive Psychology*, *33*, 88-110.

Posner, M. I., Abdullaev, Y., McCandliss, B. D., & Sereno, S. (1999). Neuroanatomy, circuitry, and plasticity of word reading. *Neuroreport*, *10*(9) R12-23.

McClelland, J. L., Thomas, A., McCandliss, B. D., & Fiez, J. A. (1999). Understanding failures of learning: Hebbian learning, competition for representational space, and some preliminary experimental data. *Progress in Brain Research*, *121*, 75-80.

Posner, M. I., & McCandliss, B. D. (1999). Brain circuitry during reading. In R. Klein & P. McMullen (Eds.), *Converging Methods for Understanding Reading and Dyslexia* (pp. 305-338). Cambridge, MA: MIT Press.

Casey, B. J., Thomas, K. M., & McCandliss, B. D. (2001). Applications of magnetic resonance imaging to the study of development. In C. A. Nelson & M. Luciana (Eds.), *The Handbook of Developmental Cognitive Neuroscience* (pp. 137-148). Cambridge, MA: MIT Press.

Fan, J., McCandliss, B. D., Somer, T., Raz, A., & Posner, M. I. (2002). Testing the efficiency and independence of attention networks. *Journal of Cognitive Neuroscience, 14*, 340-347.

McCandliss, B. D., Fiez, J. A., Protopapas, A., Conway, M., & McClelland, J. L. (2002). Success and failure in teaching the [r]-[l] contrast to Japanese adults: tests of a Hebbian model of plasticity and stabilization in spoken language perception. *Cognitive, Affective, and Behavioral Neuroscience. 2*(2), 89-108. *

McClelland, J. L., Fiez, J. A., & McCandliss, B. D. (2002). Teaching the non-native [r]-[l] speech contrast to Japanese adults: training methods, outcomes, and neural basis. *Physiology and Behavior*, *77,* 657-662.

McCandliss, B. D., Sandak, R., Beck, I., & Perfetti, C. (2003). Focusing attention on decoding for children with poor reading skills: Design and preliminary tests of the Word Building intervention. *Scientific Studies of Reading. 7*(1), 75-105.

Harm, W. M., McCandliss, B. D., & Seidenberg, M. S. (2003). Modeling the success and failures of interventions for disabled readers. *Scientific Studies of Reading,* 7(2), 155-182.

Fan, J., Flombaum, J. I., McCandliss, B. D., Thomas, K. M., & Posner, M. I. (2003). Cognitive and brain consequences of conflict. *NeuroImage, 18*(1), 42-57.

McCandliss, B. D., Kalchman, M., & Bryant, P. (2003). Design experiment and laboratory approaches to learning: steps toward collaborative exchange. *Educational Researcher, 32*(1), 14-16.

McCandliss, B. D., & Noble K. G. (2003). The development of reading impairment: a cognitive neuroscience model. *Mental Retardation and Developmental Disabilities Research Reviews, 9*(3), 196-204.

McCandliss, B. D. (2003). Will advances in psychological and neurobiological understanding of learning disabilities lead to some form of cure? In A. Fine & R. Kotkin (Eds.), *Therapist's Guide to Learning and Attention Disorders* (pp. 468-473). New York: Academic Press.

McCandliss, B. D. (2003). Brain plasticity in language at the systems level. In R. Kawashima & H. Koizumi (Eds.), *Learning Therapy* (pp. 61-80). Sendai, Japan: Tohoku University Press.

McCandliss, B. D. (2003). Brain based education. In J. Guthrie (Ed.), *Encyclopedia of Education, Second Edition* (Vol. 1, pp. 202-206). New York: Macmillan Reference.

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Rueda, M. R., Fan, J., McCandliss, B. D., Halparin, J. D., Gruber, D. B., Lercari, L. P., & Posner, M. I. (2004). Development of attentional networks in childhood. *Neuropsychologia*, *42*(8), 1029-1040.

Zevin, J. D., & McCandliss, B. D. (2005). Dishabituation of the BOLD response to speech sounds. *Behavioral and Brain Functions,* 1(4), 1-13.

Ruz, M., Worden M. S., Tudela, P., & McCandliss B. D. (2005). Inattentional amnesia to words in a high attentional load task. *Journal of Cognitive Neuroscience*, *17*(5), 768-776.

Maurer, U., Brandeis, D. & McCandliss, B. D. (2005). Fast, visual specialization for reading in English revealed by the topography of the N170 ERP response. *Behavioral and Brain Functions, 1(13),* 1-12.

Ruz, M., Wolmetz, M. E., Tudela, P., & McCandliss, B. D. (2005). Two brain pathways for attended and ignored words. *Neuroimage*, *27*(4): 852-861.

Fan, J., McCandliss, B. D., Fossella, J., Flombaum, J. I., & Posner, M. I. (2005). The activation of attentional networks. *NeuroImage*. *26*(2), 471-9.

Noble, K. G. & McCandliss, B. D. (2005) Reading Development and Impairment: behavioral, social, and neurobiological factors. *Journal of Developmental and Behavioral Pediatrics. 26*(5), 370-378.

Rueda, M.R., Rothbart, R.K., McCandliss, B. D., Saccomanno, L., & Posner, M.I. (2005). Training, maturation, and genetic influences on the development of executive attention. *Proceedings of the National Academy of Sciences*, *102*(41), 14931-14935.

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using fMRI and short interval habituation trials. *Cerebral Cortex, 17,* 2084-2093.

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Varma, S., McCandliss, B. D, & Schwartz, D. L. (2008). Scientific and pragmatic challenges for bridging education and neuroscience. Educational Researcher, *37*, 140-152.

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Niogi, S. N., Mukherjee P., Ghajar, J., & McCandliss B. D. (2010) Individual differences in distinct components of attention are linked to anatomical variations in distinct white matter tracts. *Frontiers in Neuroanatomy, 4*(2), 1-12.

Yoncheva, Y. Y., Zevin, J. D., Maurer, U., & McCandliss, B. D. (2010). Auditory selective attention to speech modulates activity in the visual word form area. *Cerebral Cortex, 20*(3), 622–632.

Zevin, J. D., Yang, J., Skipper, J. I., & McCandliss, B. D. (2010). Domain general change detection accounts for "dishabituation" effects in temporal-parietal regions in fMRI studies of speech perception. *Journal of Neuroscience, 30*, 1110-111.

Zevin, J. D., Datta, H., Maurer, U., Rosania, K. A., & McCandliss, B. D. (2010). Native language experience influences the topography of the mismatch negativity to speech. *Frontiers in Human Neurocscience*, *4*(212), 1-12.

McCandliss, B. D. (2010). Educational Neuroscience: the early years. *Proceedings of the National Academy of Sciences*, *107*, 8049-8050.

Hoeft, F., McCandliss, B. D., Black, J., Gantman, A., Zakerani, N., Hulme, C., Lyytinen, H., Witfield-Gabrieli, S., Glover, G., Reiss, A. L., & Gabrielli, J. D. E. (2011). Neural systems predicting long-term outcome in dyslexia. *Proceedings of the National Academy of Sciences*, *108*, 361-366.

Wise, J., Yoncheva, Y., & McCandliss, B. D. (2011). Effects of preference and strategy on learning to read an artificial script. *Indiana University Undergraduate Journal of Cognitive Science, 6*, 38-47.

McCandliss, B. D. (2012). Microstructural properties of white matter tracts are linked to the efficiency of specific attention networks. (pp. 187-196.) In M. I. Posner (Ed.) *Cognitive Neuroscience*, *2nd Edition*. New York: Guilford Press.

McCandliss, B. D. & Yoncheva, Y.Y. (2012). Integration of left-lateralized neural systems supporting skilled reading. (pp. 315-328.) In A. Benasich & H. Fitch (Eds.) *Developmental Dyslexia: Early Precursors, Neurobehavioral Markers, and Biological Substrates*. Baltimore, MD: Paul H. Brookes Publishing.

McCandliss, B. D. (2012). Helping dyslexic children attend to letters within visual word forms. *Proceedings of the National Academy of Sciences*,*109,* 11064-11065.

Yang, J.F., Shu, H., McCandliss, B. D., & Zevin J.D. (2013). Orthographic influences on division of labor in learning to read Chinese and English: Insights from computational modeling. *Bilingualism: Language and Cognition*, *16,* 354-366.

Yoncheva, Y. N., Maurer, U., Zevin, J. D., & McCandliss, B. D. (2013). Effects of rhyme and spelling patterns on auditory word ERPs depend on selective attention to phonology. *Brain and language*, *124*(3), 238-243.

Gimenez, P., Bugescu, N., Black, J., Hancock, R., Pugh, K., Nagamine, M., Kutner, E., Mazaika, P., Hendren, R., McCandliss, B. D., & Hoeft, F. (2014) Neuroimaging correlates of handwriting quality as children learn to read and write. *Frontiers in Human Neuroscience*, 8:155.

Starkey, G. & McCandliss, B. D., (2014). The emergence of “groupitizing”in children’s numerical cognition. *Journal of Experimental Child Psychology 126, 120-137..*

Mukherjee P, McCandliss B. D. Extent of microstructural white matter injury in postconcussive syndrome correlates with impaired cognitive reaction time: A 3T diffusion tensor imaging study of mild traumatic brain injury. *American Journal of Neuroradiology News Digest*

Weisberg, D. S., Hirsh-Pasek, K., Golinkoff, R. M., & McCandliss, B. D. (2014). *Mise en place*: setting the stage for thought and action. *Trends in Cognitive Sciences*, 18(6), 276-278.

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