

Curriculum Vitae

Adriane E. Seiffert

January 5, 2010

Degrees Earned

Bachelors of Science, Honors, Co-op in Psychology earned in 1994
University of Waterloo, Waterloo, Ontario, Canada

MA in Psychology, earned in 1998
Harvard University, Cambridge, MA.

PhD in Psychology, June, 2000
Harvard University, Cambridge, MA.
Dissertation Title: Discovery and description of the position-tracking
motion detection mechanism

Employment History

2000 – 2003	NRSA (NIH) Post-Doctoral Fellow in the Psychology Department Princeton University, Princeton, NJ Sponsor: Anne Treisman, Attentional Processes Laboratory
2003 – 2004	Research Staff in the Psychology Department Princeton University, Princeton, NJ Independent funding from National Institutes of Health (EY014984)
2004 – present	Assistant Professor, Psychology Department Vanderbilt University, Nashville, TN

Honors and awards

2009	Jefferey Nordhaus Award for Excellence in Undergraduate Teaching awarded by Vanderbilt University
2000 – 2003	NRSA Individual Postdoctoral Fellowship awarded by NIH
1998 – 1999	Arthur Lehman Merit Fellowship awarded by Harvard University
1995 – 1998	National Science Foundation Graduate Fellowship Award

Research

Published Work

Fehd, H. & Seiffert, A. E. (in press). Looking at the center of the targets helps multiple object tracking. *Journal of Vision*.

- Dewey, J., Seiffert, A. E. & Carr, T. (in press.) Taking Credit for Success: The Phenomenology of Control in a Goal-Directed Task. *Consciousness & Cognition* doi:10.1016/j.concog.2009.09.007
- Ko, P. C. & Seiffert, A. E. (2009). Updating objects in visual short-term memory is feature selective. *Memory & Cognition*, 37, 909-923.
- Tombu, M. & Seiffert, A. E. (2008). Attentional costs in multiple-object tracking. *Cognition*, 108(1), 1-25.
- Fehd, H. M. & Seiffert, A. E. (2008). Eye movements during multiple object tracking: Where do participants look? *Cognition*, 108(1), 201-209.
- Sohn, W. Y. & Seiffert, A. E. (2006). Motion aftereffects specific to surface depth order: Beyond binocular disparity. *Journal of Vision*, 6(2), 119-131.
- Seiffert, A. E., Somers, D., Dale, A. & Tootell, R. (2003). Functional MRI studies of human visual motion perception: Texture, luminance, attention, and after-effects. *Cerebral Cortex*, 13, 340-349.
- Ashida, H., Seiffert, A. E., & Osaka, N. (2001). Inefficient visual search for second-order motion. *Journal of Optical Society of America A*, 18, 2255-2266.
- Seiffert, A. E., & Cavanagh, P. (1999). Position-based motion perception for color and texture stimuli: Effects of contrast and speed. *Vision Research*, 39, 4172-4185.
- Somers, D., Dale, A., Seiffert, A. E., & Tootell, R. (1999). Functional MRI reveals spatially specific attentional modulation in human primary visual cortex. *PNAS*, 96(4), 1663-8.
- Holcombe, A. O., Macknik, S. L., Intriligator, J., Seiffert, A. E., & Tse, P. U. (1999). Wakes and spokes: New motion-induced brightness illusions. *Perception*, 28, 2131-1242.
- Seiffert, A. E., & Cavanagh, P. (1998). Position displacement, not velocity, is the cue to motion detection of second-order patterns. *Vision Research*, 38, 3569-3582.
- Milliken, B., Joordens, S., Merikle, P., & Seiffert, A. (1998). Selective attention: A re-evaluation of the implications of negative priming. *Psychological Review*, 105 (2), 203 - 229.
- Seiffert, A. E. & Di Lollo, V. (1997). Low-level masking in the attentional blink. *Journal of Experimental Psychology: Human Perception and Performance*, 23 (4), 1061-1073.
- Di Lollo, V., Seiffert, A. E., Burchett, G., Rabeeh, R. & Ruman, T. A. (1997). Phosphor persistence of oscilloscopic displays: A comparison of four phosphors. *Spatial Vision*, 10 (4), 353-360.

Bischof, W. F., Seiffert, A. E. & Di Lollo, V. (1996). Transient-sustained input to directionally-selective motion mechanisms. *Perception*, 25, 1263-1280.

Invited book reviewer of *High-level motion processing: Computational, neurobiological, and psychophysical perspectives* by T. Watanabe.
Published in 1999, in *Perception*, 28(8), 1052.

Working papers

Fehd, H.M. & Seiffert, A. E. (in prep). Eye movements and the allocation of attention during tracking.

Ko, P. C. & Seiffert, A. E. (in prep). Shared object representations in attention and visual short-term memory.

Ko, P. C. & Seiffert, A. E. (submitted). Colors facilitate object continuity in attentive tracking.

St. Clair, R., Huff, M. & Seiffert, A. E. (submitted). Motion is used to periodically estimate target location in multiple object tracking.

Thomas, L. & Seiffert, A. E. (submitted). Self-motion impairs multiple object tracking.

Tombu, M. & Seiffert, A. E. (submitted). Tracking planets and moons: Mechanisms of object tracking revealed with a new paradigm.

Research Grants

Pending NIH – R01 Investigator-initiated Research Project Grant entitled
“Cognitive Mechanisms in Object Tracking”

2009 – 2011 Vanderbilt University Discovery Grant entitled
“Self and object tracking”

2003 – 2006 NIH – R01 Investigator-initiated Research Project Grant entitled
"Attentional Tracking and Perception of Control" (EY014984)

Invited Presentations

December 6, 2007 Invited talk given in the Cognitive, Brain and Behavior Seminar at Harvard University. Talk Title: Attention, eye movements and cognitive architecture in object tracking

October 10, 2007 Invited talk given in the Neurosciences Seminar at Boston University. Talk title: Retinocentric representation and eye position during multiple object tracking

- October 2, 2007 Invited talk given in the Vision Sciences colloquium at Harvard University, Talk title: The Eyes Have It: Retinocentric representation and eye position during multiple object tracking
- August 23, 2006 Invited talk given in the colloquium entitled "Motion from the bottom up: From detection to cognition" European Conference on Visual Perception in St. Petersburg, Russia. Talk title: The role of attentional tracking in motion perception
- March 18, 2003 Invited talk given in the Cognitive seminar at the Department of Psychology, McMaster University, Hamilton, Ontario, Canada. Talk title: Linking Time and Space into Experience: Attentional Tracking for Motion Perception
- October 19, 2003 Invited talk given in the Brain series at the Department of Biology, The City College of New York. Talk title: Brain Basis For Following Object Motion

Published Abstracts and Conference Presentations

- Fehd, H. M. & Seiffert, A. E. (2009). Why don't people look at targets during multiple object tracking? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 9(8), 240.
- Jardine & Seiffert, A. E. (2009). Shape influences target recovery after a blank in multiple object tracking. ? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 9(8), 243
- Ko & Seiffert, A. E. (2009). Surface features facilitate target recovery after a momentary disappearance during multiple object tracking. ? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 9(8), 244
- St.Clair & Seiffert, A. E. (2009). Tracking objects with moving textures. ? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 9(8), 245.
- Thomas, L. & Seiffert, A. E. (2009). Self-motion influences multiple-object tracking in a virtual environment. ? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 9(8), 242
- Fehd, H. M. & Seiffert, A. E. (2008). Attention to the Center of the Target Array During Multiple Object Tracking Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 8(6), 504.
- Ko, P. & Seiffert, A. E. (2008). Updating objects in visual short-term memory. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in Journal of Vision, 8(6), 208.

- Dewey, J. & Seiffert, A. E. (2007). Subjective Control and Motor Behavior in a Goal-Driven Visuomotor Task. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 7(9), 417.
- Ericson, J. E., Nyquist, J., Lappin, J. & Seiffert, A. E. (2007). Multiple object tracking in the periphery does not show hemifield independence. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 7(9), 899.
- Fehd, H. & Seiffert, A. E. (2007). Eye movements during multiple object tracking. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 7(9), 999.
- Ko, P. & Seiffert, A. E. (2007). Updating feature information about objects in visual short-term memory. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 7(9), 667.
- Tombu, M. & Seiffert, A. E. (2007). Moons in orbit: How are targets distinguished from distractors in multiple-object tracking? Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 7(9), 579.
- Seiffert, A. E., Kamitani, Y. & Tong, F. (2006). Direction-selective patterns of activity in human visual cortex reveal common neural substrates for different types of motion. Presented at the Society For Neuroscience conference in October. Abstract available from the Society for Neurosciences website: <http://www.sfn.org/am2006/>
- Seiffert, A. E. (2006). The role of attentional tracking in motion perception. Invited talk in the colloquium entitled "Motion from the bottom up: From detection to cognition" at the European Conference on Visual Perception in St. Petersburg, Russia, in August. Abstract published in *Perception*.
- Fehd, H. & Seiffert, A. E. (2006). Attention strikes back: Counteracting the effects of adaptation with attention. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 6(6), 215.
- Ko, P. & Seiffert, A. E. (2006). Visual memory for colors of tracked objects. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 6(6), 1080.
- Tombu, M. & Seiffert, A. E. (2006). Exploring the effects of crowding in multiple object tracking using a dual-task paradigm. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 6(6), 770.
- Seiffert, A. E. (2005). Attentional tracking across display translations. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 5(8), 643.
- Sohn, W. & Seiffert, A. E. (2005). Effects of surface depth order on motion aftereffects. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 5(8), 151.
- Seiffert, A. E. (2004). Visual attention mediates object control. Presented at the Vision Sciences Society Conference in May. Abstract published in *Journal of Vision*, 4(8), 267.

- Seiffert, A. E. (2003). Dissociating neural correlates of attentional tracking and attention to visual motion. Presented at the Vision Sciences Society Conference in Sarasota, FL, May. Abstract published in *Journal of Vision*, 3(9), 868.
- Seiffert, A. E. & Treisman, A. (2001). Target Recognition in Visual Search. Presented at the first meeting of the Vision ScienceS Society, in Sarasota, FL. Abstract published in *Journal of Vision*, 1(3), 110a.
- Seiffert, A. E., Caramazza, A. & Dupuis, I. (1999). Finding a needle in a pile of needles: Visual search with multiple targets reveals the slowness of “pop-out”. *Proceedings of the 7th Annual Workshop on Object Perception and Memory (OPAM)*, page 99-103.
- Seiffert, A. E., & Cavanagh, P. (1999). Serial search for Texture-defined motion. Abstract # 4241. *Investigative Ophthalmology & Vision Science*, 40(4), S805.
- Somers, D. C., Seiffert, A. E., Dale, A. M., & Tootell, R. B. H. (1999). fMRI investigations of motion aftereffects with 1st and 2nd-order stimuli. *Investigative Ophthalmology & Vision Science*, 40(4), S1049.
- Somers, D. C., Seiffert, A. E., Dale, A. M., & Tootell, R. B. H. (1999). Effects of task difficulty and stimulus contrast on attentional modulation in human striate and extrastriate cortex revealed by fMRI. *Society for Neuroscience Abstracts*, 25, 6.10.
- Seiffert, A. E., & Cavanagh, P. (1998). Detection of motion of texture stimuli at low speeds is qualitatively different from that at high speeds. Abstract #1046. *Investigative Ophthalmology & Vision Science*, 39(4), S229.
- Seiffert, A. E., & Cavanagh, P. (1998). Detection of moving color stimuli is mediated by position tracking. *Proceedings and Abstracts of the 1998 Annual meeting of the Eastern Psychological Association*, page 90.
- Somers, D. C., Seiffert, A. E., Dale, A. M., & Tootell, R. B. H. (1998). fMRI analysis of 2nd-order visual motion perception and attentive tracking. *NeuroImage*, 7, S323.
- Somers, D. C., Seiffert, A. E., Dale, A. M., & Tootell, R. B. H. (1998). An fMRI investigation of second-order visual motion processing with attentional modulation. *Society for Neuroscience Abstracts*, 24, 213.4.
- Seiffert, A. E., & Cavanagh, P. (1997). Position displacement, not velocity, is the cue to motion detection of texture-defined patterns. Abstract # 1775. *Investigative Ophthalmology & Vision Science*, 38(4), Part 1, S377.
- Seiffert, A. E. & Di Lollo, V. (1995). Low-level masking in the attentional blink. *Program book of the 36th Annual Meeting of the Psychonomics Society*, page 16.
- Milliken, B., Jolicoeur, P., & Seiffert, A. (1995). Negative priming following rapid serial visual presentation. *Program book of the 36th Annual Meeting of Psychonomics Society*, page 34.
- Milliken, B., Joordens, S., Tipper, S., Merikle, P., & Seiffert, A. (1994). Negative priming: re-evaluating the role of probe display interference. *Program book of the 35th Annual Meeting of the Psychonomics Society*, page 35.

Service

To Department

Fall 2007 – present Member of the Undergraduate Studies Committee
chaired by Professor David Zald

To College

Fall 2007 – present Majors advisor to 12 undergraduate students
Minor advisor to 1 undergraduate student

To University

February 18, 2008 Presented at the School for Science and Math at Vanderbilt,
High school outreach program for Nashville Public Schools
Talk title: Seeing with the minds' eye. See
<http://theschool.vanderbilt.edu/>

To Profession

Feb. 20, 2009

Served on the National Institutes of Health (NIH) review panel entitled
Sensorimotor Integration Study Section to review the applications for the
National Research Service Awards (NRSA).

Nov. 13-15, 2007 and May 19-21, 2008

Served on the Cognitive Neuroscience grants review panel for the National
Science Foundation (NSF).

January, 2008 - present

Associate Editor for the scientific journal entitled
"Attention, Perception & Psychophysics"
Formerly "Perception & Psychophysics"
Senior Editor: Jeremy Wolfe

2000 - present Regular ad hoc reviewer of manuscripts for the following journals:

Cerebral Cortex
Cognition
Current Biology
Journal of Experimental Psychology: Human Perception and
Performance
Journal of Neurophysiology
Journal of Neuroscience
Journal of Vision
Visual Cognition
Vision Research

To Community

- March 7, 2009 Presentation at Brain Blast event at the Adventure Science Center for Brain Awareness week.
- March 1, 2008 Presentation at Brain Blast event at the Adventure Science Center for Brain Awareness week.
- February 9, 2008 Presentation at the Adventure Science Center program called TWISTER. This program is to promote women in science to high school girls. Talk title: Seeing with the minds' eye.
<http://www.adventuresci.com/twister/>
- March 3, 2007 Presentation at Brain Blast event at the Adventure Science Center for Brain Awareness week.
- March 4, 2006 Presentation at Brain Blast event at the Adventure Science Center for Brain Awareness week.