

## **Curriculum Vitae**

### **A. Adriane E. Seiffert, June 25, 2012**

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### **B. Degrees Earned**

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

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

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

### **C. 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

### **D. 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

## **E. Research**

### Articles published in referred journals

- Hong, S. W., Tong, F. & Seiffert, A. E. (2012). Direction-selective patterns of Activity in Human Visual Cortex Reveals Common Neural Substrates for Different Types of Motion. *Neuropsychologia* 50, 514-521.
- Jardine, N. & Seiffert, A. E. (2011). Tracking objects that move where they are headed. *Attention, Perception & Psychophysics*, 73, 2168-2179. DOI: 10.3758/s13414-011-0169-8
- Thomas, L. E. & Seiffert, A. E. (2011). How many objects are you worth?: Quantification of the self-motion load on multiple object tracking. *Frontiers in Cognition*. 2, 245, 1-5. DOI: 10.3389/fpsyg.2011.00245
- Tombu, M. & Seiffert, A. E. (2011). Tracking planets and moons: mechanisms of object tracking revealed with a new paradigm. *Attention, Perception & Psychophysics*, 73(3), 738-750. DOI: 10.3758/s13414-010-0060-z
- Thomas, L. & Seiffert, A. E. (2010). Self-motion impairs multiple object tracking. *Cognition*, 117(1), 80-86. doi:10.1016/j.cognition.2010.07.002
- St. Clair, R., Huff, M. & Seiffert, A. E. (2010). Conflicting motion information impairs multiple object tracking. *Journal of Vision*, 10(4), 18.
- Turatto, M. Valsecchi, M. Seiffert, A. E., & Caramazza, A. (2010). On the speed of pop out in feature search. *Journal of Experimental Psychology: Human Perception and Performance*, 36(50), 1145-1152.
- Fehd, H. & Seiffert, A. E. (2010). Looking at the center of the targets helps multiple object tracking. *Journal of Vision*, 10(4), 19, 1-12.
- Dewey, J., Seiffert, A. E. & Carr, T. (2010) Taking Credit for Success: The Phenomenology of Control in a Goal-Directed Task. *Consciousness & Cognition*, 19(1), 48-62. 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.

### Book chapters

- Ko, P. C. & Seiffert, A. E. (in press). Shared object representation in visual short-term memory and visual attention. Chapter in *Short-Term Memory: New Research*. Nova Science Publishers, Inc. Hauppauge, NY.

### Book and Article Reviews

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

Published Commentaries in the “News From the Field” section of  
*Attention, Perception & Psychophysics*

- 2011 – Common fate has its costs. *AP&P*, 73(8), 2670.
- 2011 – Prediction errors in the brain. *AP&P*, 73(7), 1987.
- 2011 – Resolving how with when. *AP&P*, 73(6), 1634-1635.
- 2011 – What you see is not what you do. *AP&P*, 73(4), 968.
- 2011 – Attending to the site of the future. *AP&P*, 73(3), 659.
- 2009 – Reaching toward the goal. *AP&P*, 71(7), 1437.
- 2009 – Mimicry makes lie detection worse. *AP&P*, 71(6), 1203.
- 2009 – Why we see randomness correctly. *AP&P*, 71(5), 985.
- 2009 – Echoes of perception serve memory. *AP&P*, 71(4), 669.
- 2009 – Why the long face? *AP&P*, 71(3), 434
- 2009 – Memory errors extend to perception. *AP&P*, 71(2), 215-216.
- 2009 – Why objects aren’t holes. *AP&P*, 71(1), 4.

Research Grants Received

June 2012 OSD-ASD FY11.B STTR, Technical Topic OSD22-T1  
Funding Program: 11.B STTR, Department of Defense  
Project title: Information Saliency  
PIs: Joseph Lappin and Julie Adams  
Key Personnel: Ted Bapty, Dan Levin, Adriane Seiffert, and  
Michael Templeton

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

Nov. 12, 2012 Invited talk at Indiana University at Bloomington, Department of  
Cognitive Science  
Talk title: TBA  
[http://www.indiana.edu/~clcl/Q733\\_WWW/](http://www.indiana.edu/~clcl/Q733_WWW/)

March 16, 2012 Invited talk at Belmont University for Brain Awareness Week.  
Talk title: Seeing with the Mind’s Eye.  
[http://www.belmont.edu/biology/event\\_and\\_news/index.html](http://www.belmont.edu/biology/event_and_news/index.html)

March 9, 2012 Invited to talk in the Cognitive Brown Bag at the Department of  
Psychology at the University of California Riverside.  
Talk Title: How we know where things go  
[http://www.psych.ucr.edu/psych\\_talks/showtalks.php](http://www.psych.ucr.edu/psych_talks/showtalks.php)

March 7, 2012 Invited to talk at the Department of Cognitive Sciences colloquium at  
the University of California Irvine.  
Talk Title: Perceptual Sampling: Evidence from Object Tracking  
<http://www.cogsci.uci.edu/node/11870>

- Feb. 1, 2012 Invited to talk at the Department of Psychology at Purdue University. Talk Title: Moving and Tracking
- Jan. 18, 2012 Invited talk given for the FedEx Institute of Technology at the University of Memphis. Talk Title: How do we know where things go?
- October 20, 2011 Invited talk given to the Cybermedia Lab at the Insitut für Wissensmedien in Tuebingen, Germany. Talk Title: How do we know where things go?
- March 21, 2011 Invited talk to Belmont University in Nashville for Brain Awareness Week. Talk title: Seeing with the Mind's Eye. [http://www.belmont.edu/biology/pdf/Biology\\_Newsletter\\_Spring\\_2011.pdf](http://www.belmont.edu/biology/pdf/Biology_Newsletter_Spring_2011.pdf)
- October 14, 2010 Invited talk at the Psychology Distinguished Lecture Series at Queens University, Kingston, Ontario, Canada. Talk title: How do we know where things go? <http://www.queensu.ca/psychology/news/Talks-Colloquia.html>
- May 7, 2009 Invited speaker at the Festschrift conference for Patrick Cavanagh, at Harvard University. Talk title: Tracking attention: The eyes are the window.
- May 16, 2008 Invited speaker at the Festschrift conference for Anne Treisman, Princeton University. Talk title: Hidden treasures from Anne Treisman's research.
- 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

- Park, H. & Seiffert, A. E. (2012). Updating working memory is both object-based and feature-selective. Abstract to be published in *Journal of Vision*, 12.
- St. Clair, R. & Seiffert, A. E. (2012). People are sensitive to distractor motion in multiple object tracking. Abstract to be published in *Journal of Vision*, 12.
- Blaxton, C. L., Fehd, H.M. & Seiffert, A. E. (2011). Center-looking suggests grouping rather than separate attentional foci in multiple object tracking. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in *Journal of Vision*, 11.
- Jardine, N. L., Thomas, L. E. & Seiffert, A. E. (2011). Visually guided self-motion does not impair multiple object tracking. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract published in *Journal of Vision*, 11.
- Seiffert, A. E. & Thomas, L. E. (2011). Quantification of the self-motion load on multiple object tracking: How many objects are you worth? Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract to be published in *Journal of Vision*, 11.
- St. Clair, R. & Seiffert, A. E. (2011). Misrepresentation of motion direction causes prediction errors in multiple object tracking. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract to be published in *Journal of Vision*, 11.
- Seiffert, A. E. & St. Clair, R. (2010). Predictable paths increase the use of motion in object tracking. Presented at the Psychonomics Society Conference in St. Louis, MO, in November.
- Jardine, N. L. & Seiffert, A. E. (2010). Investigating virtual object structure in multiple object tracking. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract to be published in *Journal of Vision*, 10.
- Ko, P. C. & Seiffert, A. E. (2010). Is it better to burn out or fade away? The effect of sudden offsets on target recovery. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract to be published in *Journal of Vision*, 10.
- Thomas, L. E. & Seiffert, A. E. (2010). Looking ahead: Attending to anticipatory locations increases perception of control. Presented at the Vision Sciences Society Conference in Naples, Florida, in May. Abstract to be published in *Journal of Vision*, 10.
- 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
- 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.
- 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.