CURRICULUM VITA
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## EDUCATION

2004 Ph.D. Psychology, University of Illinois at Urbana-Champaign.
Dissertation: Age-Related Changes in the Plasticity of Neural Regions that control the Functional Field of View
Thesis Advisor: Arthur Kramer, University of Illinois at Urbana-Champaign
2001 A.M. Psychology, University of Illinois at Urbana-Champaign
Thesis: Double Take: Dividing Target Items between the Hemispheres reduced the Attentional Blink
Thesis Advisor: Marie Banich, University of Colorado at Boulder
1997 M.M. Vocal Performance, University of Illinois at Urbana-Champaign
1994 B.M. (High Honors) Vocal Performance, University of Illinois at Urbana-Champaign

## PROFESSIONAL EXPERIENCE

2014-present, Lecturer, Durham University
2011-2014 Assistant Professor, Department of Psychology, University of Arizona
2005-2011 Postdoctoral Fellow, Beckman Institute, University of Illinois, Urbana-Champaign
Supervisor: Diane Beck
2006 -2009 Postdoctoral Research Consultant, Vanderbilt University
Supervisor: Rene Marois
2004-2005 Postdoctoral Fellow, Beckman Institute, University of Illinois, Urbana-Champaign
Supervisor: Arthur Kramer
2002-2004 Graduate Research Assistant, University of Illinois, Urbana-Champaign
2002(Spring) Graduate Teaching Assistant, University of Illinois, Urbana-Champaign
2001(Spring) Graduate Teaching Assistant, University of Illinois, Urbana-Champaign
2000-2002 Fellow, NIH Training program in Psychophysiology, University of Illinois at Urbana-Champaign
1998-2000 Graduate Research Assistant, University of Illinois, Urbana-Champaign
1998-2000 Graduate Teaching Assistant, University of Illinois, Urbana-Champaign

## HONORS

2012 Awarded Davis Travel Fellowship, Office of the Vice President for Research, University of Arizona.
2006 Awarded Vanderbilt Vision Research Center Training Grant (declined)
2003 Alternate recipient of the Paul D. Doolen graduate scholarship for the study of aging.
2003 Member Phi Kappa Phi Honor Society
2000-Awarded University of Illinois Psychophysiology Training Grant
1998 Included on the "Incomplete List of Teachers Ranked as Excellent", University of Illinois at Urbana-Champaign
1994 B.A. with High Honors, University of Illinois at Urbana-Champaign
1994 Graduated with Honors from the Campus Honors Program at University of Illinois at Urbana-Champaign
1990 National Merit Scholarship Finalist
1990 Scholarship from the Campus Honors Program at University of Illinois at Urbana-Champaign

## MANUSCRIPTS IN PREPARATION/UNDER REVIEW

Cacciamani, L., Scalf. P.E., & Peterson, M.A. (resubmitted; Cortex) Evidence of top-down mediated ground suppression in extrastriate cortex.
Newman-Smtih, K.C., Gomez, R.L. Nadel, L. & Scalf, P.E. (2014)."The neural basis of memory reconsiolidation? fMRI evidence."
Scalf, P.E., St.John-Saaltink, E., Lau, H. , Barth, M. & de Lange, F. Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: A time-resolved fMRI study.
Wager, E.E., Humphreys, G.W. & Scalf, P.E. Correct action affordance among unattended objects reduces their competition for representation in V4.

## PUBLICATIONS

Wager, E.E. , Peterson, M.A. , Folstein, J.F. & Scalf, P.E. (in press). "Ground-based inhibition: suppressive perceptual mechanisms interact with top-down attention to reduce distractor interference." Journal of Vision

Scalf, P.E., Ahn, J.W., Beck, D.M., & Lleras, A. (2014). Trial history effects in the ventral attentional network. Journal of Cognitive Neuroscience, 26(12): 2789-97

Scalf, P.E., Torralbo, A., Tapia, E., & Beck, D.M. (2013). Competition explains limited attention and perceptual resources: implications for perceptual load and dilution theories. Frontiers in Psychology, 4:243. doi: 10.3389/fpsyg.2013.00243

Peterson, M., Cacciamani, L., Barense, M & Scalf, P.E. (2012). The Perirhinal Cortex Modulates V2 Activity in Response to the Agreement Between Part Familiarity and Configuration Familiarity". Hippocampus, 10, 1065-77

Savazzi, S., Emmanuele, B., Scalf., P.E. & Beck, D.M (2012). Reaction times and perceptual adjustments are sensitive to the illusory distortion of space. Experimental Brain Research

Scalf, P.E., Basak, C. & Beck, D.M. (2011). Attention directed to multiple items does not resolve competition for representation. Experimental Brain Research, 212 (2), 293-304.

Scalf, P.E., Dux, P.E. & Marois, R. (2011). Working Memory Consolidation Delays Perceptual Processing in Visual Cortex: A Time-Resolved fMRI Study. The Journal of Cognitive Neuroscience, epub, Jan 31

Scalf, P.E. & Beck, D.M. (2010). Competition in visual cortex impedes attention to multiple items. The Journal of Neuroscience, 30, 161-169.

Scalf, P.E., Banich, M.T., & Erickson, A.B. (2009). Interhemispheric Interaction functionally expands attentional capacity: Evidence from a selective attention task in the auditory modality. Experimental Brain Research, 194, 317-322

Scalf, P.E., Banich, M.T., Kramer, A.F., Narechania, K. & Simon, C. D. (2007). Double Take: The Attentional Blink Reveals Independent Attentional Systems in the Cerebral Hemispheres. Journal of Experimental Psychology: Human Perception and Performance, 33(2).

Scalf, P.E., Colcombe, S.J., Erickson, McCarley, J., K.I., Kim, J.S., Wahdwa, R., Alvarado, M., & Kramer, A.F. (2007). Age-differences in the impact of functional field of view (FFOV) training on brain activation. Journal of Gerontology, B, Psychological Sciences and Social Sciences, 62(00).

Erickson, K.I., Colcombe, S.J., Wadhwa, R., Bherer, L., Peterson, M.S., Scalf, P.E., Kim, J.S., Alvarado, M., Kramer, A.F. (2007). Training-induced changes in dual-task fMRI activity. Cerebral Cortex,17(1), 192-204.

Erickson KI, Colcombe SJ, Wadhwa R, Bherer L, Peterson MS, Scalf PE, Kim JS, Alvarado M, Kramer AF (2007). Training-induced plasticity in older adults: effects of training on hemispheric asymmetry. Neurobiology of Aging (2):272-83.

Erickson KI, Colcombe SJ, Elavsky S, McAuley E, Korol DL, Scalf PE, Kramer AF. (2007) Interactive effects of fitness and hormone treatment on brain health in postmenopausal women. Neurobiology of Aging, 28(2):179-85.

Colcombe SJ, Erickson KI, Scalf PE, Kim JS, Prakash R, McAuley E, Elavsky S, Marquez DX, Hu L, Kramer AF. (2006) Aerobic exercise training increases brain volume in aging humans. J Gerontology A Biological Sciences& Medical Sciences. 61(11):1166-70.

Kramer, A.F., Colcombe, S.J., McAuley, E., Scalf, P.E., Erickson, K.I. (2005). Fitness, Aging, and Neurocognitive Function. Neurobiology of Aging, 26 Supplement 1:124-7.

Erickson, K.I., Colcombe, S.J., Wadhwa, R., Bherer,L, Peterson, M., Scalf, P.E., Kramer, A.F. (2005). The neural correlates of dual-task performance after minimizing effects of task-preparation. Neuroimage, 28(4), 967-79.

Erickson , K.I., Colcombe, S.J., Raz, N., Korol, D.L., Scalf, P., Webb, A., Cohen, N.J., McAuley, E., Kramer, A.F.(2005). Selective Sparing of Brain Tissue in Post-Menopausal women. Neurobiology of Aging, 26(8), 1205-13

Colcombe, SJ., Kramer, A.F., Erickson , K.I., Scalf, P. (2005). The implications of cortical recruitment and brain morphology for individual differences in cognitive performance in aging humans. Psychology and Aging, 3, 363-375

Colcombe, SJ., Kramer, A.F., McAuley, E., Erickson , K.I., Scalf, P. (2004). Neurocognitive Aging and Cardiovascular Fitness: Recent Findings and Future Directions. Journal of Molecular Neuroscience.

Colcombe, S.J., Kramer, A.F., Erickson, K.I., Scalf, P.E., McAuley, E., Cohen, N., Webb, A., Jerome, G.G., Marquez,D. X. & Elavsky, S. (2004) Cardiovascular fitness, cortical plasticity and aging. Proceedings of the National Academy of Sciences, 101, 3316-3321.

Compton, R.J., Banich, M.T., Mohanty, A., Milham, M.P., Herrington, J.. Miller, G.A., Scalf, P.E., Webb, A., & Heller, W. (2003). Paying attention to emotion: An fMRI investigation of cognitive and emotional Stroop tasks. Cognitive, Affective & Behavioral Neuroscience, 3, 81-96.

Kramer, A.F., Colcombe, S.J., McAuley, E., Erickson, K.I., Scalf, P.E., Jerome, G.J., Marquez, D.X., & Webb, A.G. (2003). Enhancing brain and cognitive function of older adults through fitness training. Journal of Molecular Neuroscience

## BOOK CHAPTERS

Scalf, P.E., Erickson, K.I., Colcombe, S.J., & Kramer A.F. (2005).Training Effects on the Neural Circuits that Support Attention and Multi-Task Performance. In Schmorrow, D.D. (Ed) Foundations of Augmented Cognition. Mahweh N.J.: Lawrence Erlbaum Associates.

Banich, M.T. & Scalf, P.E. (2002) Neurocognitive Bases of Developmental Reading Disorders. In Banich M.T. & Mack, M. (Eds.) Mind, Brain & Language:

Multidisciplinary Perspectives. Mahweh, N.J.: Lawrence Erlbaum Associates.

Gabriel, M., Burhans, L., Talk, A., & Scalf, P. Cingulate Cortex.
(2002) In V. S. Ramachandran (Ed.), Encyclopedia of the Human Brain. San Diego: Academic Press/Elselvier Science

## INVITED PRESENTATIONS

Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: A time-resolved fMRI study. (2014).Durham University, Durham, United Kingdon.

Hogging the spotlight: Extrastriate representations do not simultaneously share attention. (2014). Florida State University

Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: A time-resolved fMRI study. (2014). Donders Institute for Cognitive Neuroscience, Nijmegen, The Netherlands.

Working memory encoding delays top-down attention to visual cortex. (2013). Working Memory and Attention Conference, The University of Amsterdam, Amsterdam, The Netherlands.

Where has all the attention gone? The speed and efficacy of attention is constrained by the functional neural architecture of perception.(2013). Leiden University Medical Center, The Netherlands.

Perceptual Limitations on Attentional Capacity (2012).Vrije Universiteit, Amsterdam, The Netherlands.

Perceptual Limitations on Attentional Capacity (2012). Donders Institute for Cognitive Neuroscience, Nijmegen, The Netherlands.

Does Divided Does Divided Attention help at all? Competition for representation among multiple attended items (2010). Rotman Research Institute, Tornoto, On, CA

Data limits on Attentional Capacity (2010). Knowledge for All public lecture series. University of Illinois at Urbana, Champaign, IL

Does Divided Does Divided Attention help at all? Competition for representation among multiple attended items (2010). Florida State University, Tallahassee, FL

Data-limits on attentional capacity (2009). University of Verona, Verona, Italy.

Engaging working memory delays top-down attention: Evidence from time-resolved fMRI (2008). Vanderbilt University, Nashville, Tn

Too much of a good thing: inter-item competition limits our ability to attend to multiple visual items (2007). University of Edinburgh, Edinburgh, Scotland

Too much of a good thing: inter-item competition limits our ability to attend to multiple visual items (2007). University of New Mexico, Albequerque, NM

## RECENT ABSTRACTS AND PAPER PRESENTATIONS

Wager, E.E., Humphreys, G.W. & Scalf, P.E. (2014) Correct action affordance among unattended objects reduces their competition for representation in V4. To be presented at the annual meeting of the Society for Neuroscience.

Cacciamani, L., Peterson, M.A. & Scalf, P.E. (2014) Connectivity between perirhinal cortex and V2 in young and older adults. To be presented at the annual meeting of the Society for Neurosicence.

Wager, E.E& Scalf, P.E. (2014). Wake up and smell the coffee: differential effects of caffeine on a visual selective attention task. Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN.

Scalf, P.E., St.John-Saaltink, E., Lau, H. , Barth, M. & de Lange, F. (2014)Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: A time-resolved fMRI study. Paper presented at the Annual Meeting of the Vision Sciences Society

Wager, E.E., Humphreys, G.W. & Scalf, P.E. (2014) Correct action affordance among unattended objects reduces their competition for representation in V4. Annual Vision Sciences Society Meeting, St Petersburg, FL.

Cacciamani, L., Scalf. P.E., & Peterson, M.A. (2014) Evidence of top-down mediated ground suppression in extrastriate cortex. Annual Vision Sciences Society Meeting, St Petersburg, FL.

Newman-Smtih, K.C., Gomez, R.L. Nadel, L. & Scalf, P.E. (2014)."Is reconsolidation mediated by top-down or bottom-up neural processes? fMRI evidence." Annual Cognitive Neurosciences Society meeting.

Cacciamani, L., Scalf. P.E., & Peterson, M.A. (2013).Evidence of top-down mediated ground suppression in extrastriate cortex. Annual Society for Neuroscience Meeting, San Diego, CA.

Scalf, P.E., St.John-Saaltink, E., Lau, H. , Barth, M. & de Lange, F. (2013). Serial allocation of visual attention in extrastriate cortex during simultaneous monitoring of multiple locations: A time-resolved fMRI study. Annual Society for Neuroscience Meeting, San Diego, CA.

Scalf, P.E., St.John-Saaltink, E., Lau, H. & de Lange, F. (2013). "The quantum nature of attention: a time-resolved fMRI study" Perception 42 ECVP Abstract Supplement, page 62

Folstein, J.F., Allen, J.C.B., & Scalf, P.E. (2013). Category learning off of fixation causes a selective perceptual advantage for relevant dimensions. Vision Sciences Society annual meeting.

Wager, E.E., Peterson, M.A., Folstein, J.F. & Scalf, P.E. (2013). Automatic top-down processes mediate selective attention. Vision Sciences Society annual meeting.

Scalf, P.E., Cacciamani, L., Barense, M.D. & Peterson, M.A.(2013). Preresentation of object parts and wholes in V2 modified by medial temporal lobe structures. Vision Sciences Society annual meeting.

Newman-Smtih, K.C., Scalf, P.E, Gomez, R.L. Hupbach, A, & Nadel, L. (2012). Updating episodic memory: an fMRI reconsolidation study. Annual Society

for Neurosciences meeting.

Cacciamani, L.,, Scalf, P.E. Barense, M.D. and Peterson, M.A. (2012) Familiarity of Parts vs Wholes: The role of perirhinal cortex. Annual Society for Neurosciences meeting.

Peterson, M.A., Cacciamani, L., Barense, M.D. and Scalf, P.E. (2012) Familiarity of Parts vs Wholes: The role of perirhinal cortex. Annual meeting of the Psychonomica Society,

Scalf P.E., Lustig, A & Beck, D.M. (2010) . The effects of dividing attention on target enhancement and distractor suppression. Annual Society for Neurosciences meeting.

Scalf, P.E., Basak, C. & Beck, D.M. (2009) Does divided attention help at all? Vision Sciences Society annual meeting.

Scalf, P.E., Basak, C. & Beck, D.M. (2009) Does divided attention help at all? Paper presentation at the annual Society for Neurosciences meeting.

Scalf, P.E., Dux, P.E. & Marois, R. (2009). Working Memory Consolidation Delays Perceptual Processing in Visual Cortex: A Time-Resolved fMRI Study. Vision Sciences Society annual meeting.

Scalf. P.E. & Beck, D. M. (2008). Attentional capacity is limited by the functional architecture of visual cortex: competition for representation impedes attention to multiple items. Paper presentation at the Vision Sciences Society annual meeting.

## RESEARCH SUPPORT

2014-2015: Wolfson Small Grant funding 'Augmenting visual capacity through perceptual training'

2013:International Research Development Grant, Global Initiatives, University of Arizona.

2013-2014: Arizona Alzheimer's Disease Core Center (ADCC) "Age-related Changes in PRC and BA38 Influence Perceptual Processing" PI, with Co-PI Mary Peterson (University of Arizona) ( total direct cost ~US$30,000)

## TEACHING

Undergraduate Courses:

- Music and the Mind (Freshman Honors Seminar)
- Advanced Laboratory in Biological Psychology
- Laboratory in Biological Psychology
- Perception and Psychophysics
- Laboratory in Cognitive Psychology
- Sensation and Perception
- Biological Psychology
- The Psychology of Attention

Medical Courses:

- Practical Instructor for the University of Illinois College of Medicine.

## PROFESSIONAL SERVICES

Ad-Hod Reviewer:

- Cognition
- Cellular and Molecular Life Sciences
- Laterality
- Journal of Experimental Psychology: Human Perception and Performance
- Journal of Experimental Psychology: General
- Journal of Neuroscience
- Journal of Vision
- Psychology and Aging
- Psycophysiology
- Visual Cognition

University of Arizona Department of Psychology:

- Undergraduate Curriculum Committee
- Institutional Review Board Committee

## REFERENCES

Diane Beck Associate Professor, Department of Psychology

Beckman Institute
University of Illinois, Urbana -Champaign

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