

Patrick H. Cox, Ph.D.

GW Visual Cognition Lab
George Washington University, Washington, D.C.
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EDUCATION AND TRAINING

Postdoctoral Fellowship, George Washington University
Advisor: Stephen Mitroff, Ph.D.

August 2017-Present

Ph.D. in Neuroscience, Georgetown University
Advisor: Maximilian Riesenhuber, Ph.D.

June 2017

B.S. in Physics, Minor in Cognitive Science, Georgetown University
Graduated Cum Laude, with Honors in Physics

May 2008

PUBLICATIONS

*Indicates co-first authors

Cox, P.H., Scholl, C.A., Sprouse, C.A., Jiang, X., & Riesenhuber, M. (in preparation). Escaping the frontal bottleneck: Extensive practice of a visual categorization task shifts category representations from dorsolateral prefrontal cortex to ventral occipito-temporal cortex.

Kramer, M.R., **Cox, P.H.**, Mitroff, S.R., & Kravitz, D.J. (under review). The moment-by-moment adaptation of human behavior.

*Adamo, S.H., ***Cox, P.H.**, Kravitz, D.J., & Mitroff, S.R. (under review). How to Correctly Put the “Subsequent” in Subsequent Search Miss Errors.

Martin, J.G., **Cox, P.H.**, Scholl, C.A., & Riesenhuber, M. A. (under review). Crash in visual processing: interference between feedforward and feedback of successive targets limits detection and categorization.

Cox, P.H., & Riesenhuber, M. There's a 'U' in clutter: (2015). Evidence for sparse codes underlying clutter tolerance in human vision. *Journal of Neuroscience*, 35(42), 14148-59.

Jiang, X., Bollich, A., **Cox, P.**, Hyder, E., James, J., Gowani, S.A., Hadjikhani, N., Blanz, V., Manoach, D.S., Barton, J.J.S., Gaillard, W.D., & Riesenhuber, M. (2013). A quantitative link between face discrimination deficits and neuronal selectivity for faces in autism. *NeuroImage: Clinical*, 2(1), 320-331.

PRESENTATIONS

Cox, P.H., Mitroff, S.R., & Kravitz, D.J. (2019). Changes in target-distractor similarity space with experience in complex visual search. Poster to be presented at the annual meeting of the Vision Sciences Society. St. Pete Beach, Florida.

Kramer, M. R., **Cox, P.H.**, Mitroff, S.R., & Kravitz, D.J. (2019). A Big Data Approach to Revealing the Nature of Carryover Effects. Poster to be presented at the annual meeting of the Vision Sciences Society. St. Pete Beach, Florida.

Adamo, S.H., **Cox, P.H.**, Kravitz, D.J., & Mitroff, S.R. (2019). How to Correctly Put the “Subsequent” in Subsequent Search Miss Errors. Paper to be presented at the annual meeting of the Vision Sciences Society. St. Pete Beach, Florida.

Kramer, M. R., **Cox, P. H.**, Kravitz, D. J., & Mitroff, S. R. (2018). Revealing the Nature of Carryover Effects: Using Big Data to Quantify Evidence Accumulation in Behavioral Data. Poster presented at the annual meeting of the Psychonomic Society. New Orleans, LA.

Kravitz, D. J., Kramer, M. R., **Cox, P. H.**, & Mitroff, S. R. (2018). The Dominance of Individual Differences and Short-Term Adaptation: Insights From “Big Data. Paper presented at the annual meeting of the Psychonomic Society. New Orleans, LA.

Mitroff, S. R., Kramer, M. R., **Cox, P. H.**, & Kravitz, D. J. (2018). Using Big Data to Improve Research Practices in the lab. Paper presented at the annual meeting of the Psychonomic Society. New Orleans, LA.

Cox, P. H., Mitroff, S. R., & Kravitz, D. J. (2018). Mapping the behavioral similarity space of targets and distractors in complex visual search. Poster presented at the annual Object Perception, Attention, and Memory meeting. New Orleans, LA.

Kramer, M. R., **Cox, P. H.**, Kravitz, D. J., & Mitroff, S. R. (2018). The massive impact of carryover effects: Behavior is dramatically and systematically shaped by prior trials. Paper presented at the annual Object Perception, Attention, and Memory meeting. New Orleans, LA.

Cox, P. H., Kravitz, D. J., & Mitroff, S. R. (2018). Predicting ultimate visual search competency from initial performance. Paper presented at the annual meeting of the Vision Science Society. St. Pete Beach, FL.

Cox, P.H., Scholl, C.A., Sprouse, C.A., Ronkin, J.C., Klein, R. L., Wimmer, K., Glomb, K., Jaimes, N.E., Deco, G., Jiang, X., & Riesenhuber, M. (2017). Escaping the frontal bottleneck: Extensive practice of a visual categorization task shifts category representations from dorsolateral prefrontal cortex to ventral occipito-temporal cortex. Poster presented at the Society for Neuroscience Meeting. Washington, D.C.

Schubel, L.C., **Cox, P.H.**, Kramer, M.R., Kravitz, D.J., & Mitroff, S.R. What most distracts us?: Using "big data" to understand the effect of target-distractor similarity in visual search. Poster presented at OPAM. Vancouver, B.C.

Cox, P.H. & Riesenhuber, M. (2014). There's a 'U' in clutter: Evidence for sparse codes underlying clutter tolerance in human vision. Poster presented at the Society for Neuroscience Meeting. Washington, D.C.

Scholl C.A., **Cox P.H.**, Jaimes N., Jiang X., & Riesenhuber M. (2014). A comparison of neural substrates and temporal dynamics underlying a recently learned and extensively practiced visual object categorization task. Poster presented at the Society for Neuroscience Meeting. Washington, D.C.

Cox, P.H., Washington, S., Gordon, E.M., Brar, J., Girton, L., Hailu, A., Wolfe, A., Warburton, S., Mbwana, J., Gaillard, W., Kalbfleisch, M.L., & Van Meter, J. (2011). Reduced Functional Connectivity of the Amygdala and Dorsal Anterior Cingulate in ASD. Poster presented at the Organization for Human Brain Mapping Meeting. Quebec City, Quebec.

Jiang, X., Bollich, A., **Cox, P.H.**, Hyder, E., James, J., Gowani, S., Blanz, V., Hadjikhani, N., Manoach, D.S., Gaillard, W., & Riesenhuber, M. (2008). The heterogeneity of face perception deficits in Autism Spectrum Disorder (ASD) might be caused by tuning differences of neurons in the Fusiform Face Area (FFA) - a pilot study. Poster presented at the Society for Neuroscience Meeting. Washington, D.C.

TEACHING

- Lecturer for PBIO-569 Neurophysiology Spring 2017
- Lecturer for NSCI-503 Systems and Cognitive Neuroscience Spring 2012- Spring 2016
- Lecturer for ICOS-325 Drugs, the Brain and Behavior I Fall 2013-Fall 2015
- Lecturer for ICOS-326 Drugs, the Brain and Behavior II Spring 2011-Spring 2015
- Lecturer for Special Topics in Neuroscience Summer 2010-Summer 2015
- TA/Lecturer for ICOS-201 Introduction to Cognitive Science Fall 2011 – Fall 2016
- TA for ICOS-202 Research Modules in Cognitive Science Spring 2012- Spring 2016
- TA for PHYS-234 Electrodynamics and Optics Spring 2008
- TA for PHYS-042 Principles of Physics II (lab) Spring 2008
- TA for PHYS-253 Quantum Mechanics Fall 2007
- TA for PHYS-041 Principles of Physics I (lecture) Summer 2007
- TA for PHYS-042 Principles of Physics II (lecture) Spring 2007, Summer 2007
- TA for PHYS-042 Principles of Physics II (lab) Spring 2007, Summer 2007

AWARDS/ACADEMIC HONORS

Washington Chapter of Achievement Rewards for College Scientists Foundation Scholar 2014-2015

Department of Defense (DoD) SMART Scholarship Semifinalist 2012

Traedo Medal (Georgetown University Undergraduate Physics Award) Spring 2008

Georgetown Undergraduate Research Opportunities Program Awardee Fall 2006-Spring 2007

OTHER EXPERIENCE

Interdisciplinary Program in Neuroscience (IPN) Student Advisory Committee. Summer 2011 – Summer 2014

Captain/Assistant Captain for the IPN softball team. Captain Summer 2013 – 2014, Assistant Captain Fall 2010 – Spring 2013

President of the Society of Physics Students (SPS) Fall 2007-Spring 2008

Resident Advisor Fall 2007-Spring 2008

Lab Development for PHYS-211: Relativity & Quantum Funded by Georgetown University's Center for New Design in Learning and Scholarship (CNDLS) Summer 2007