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Paul S. Scotti

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EXPERIENCE

Vision and Cognitive Neuroscience Lab (PI: Dr. Julie Golomb) **Oct. 2017 – Present**
Cognitive Control Lab (PI: Dr. Andy Leber)
Ph.D. candidate (co-advised) at The Ohio State University *Columbus, OH*

Attention and Cognition Lab (PI: Dr. Sarah Shomstein) **Sep. 2014 – May 2017**
Visual Cognition Lab (PI: Dr. Steve Mitroff) **Sep. 2016 – May 2017**
Undergraduate researcher at George Washington University *Washington, DC*

EDUCATION

The Ohio State University **Columbus, OH**
M.A. in Cognitive Psychology (Ph.D. expected May 2022) *May 2020*

George Washington University **Washington, DC**
B.A. in Psychology *May 2017*
Distinguished/Honors scholar, magna cum laude, 2017 commencement speaker

SUMMARIZED WORK

Neuroimaging methods
- Developed an improved method for inverted encoding models (to present at CNS/VSS 2021)
- Python-based online textbook of fMRI analysis methods (Scotti, Zhang, Chen, & Golomb, in-prep)

Educational/open-source neuroscience tools
- EduCortex (www.paulscotti.com/educortex) Scotti, Kulkarni, Mazor, Klapwijk, Yarkoni, & Huth, 2020; *JOSE*
- Inverted Encoding Models -- Python package (https://pypi.org/project/inverted-encoding/)

Science communication
- OnNeuro lead, facilitating international webinars & lecture repository (www.onneuro.com)

Visual attention
- Attention scales according to inferred real-world object size
  Collegio, Nah, Scotti, & Shomstein, 2019; *Nature Human Behavior*
- Object-based attention is resilient to low-level or high-level object disturbances, but not both
  Scotti, Collegio, & Shomstein, 2019; *PsyArXiv*

Visual working memory
- Visual working memory items drift apart due to active, not passive, maintenance
  Scotti, Hong, Leber, & Golomb, *in-press; Journal of Experimental Psychology: General*

Visual long-term memory
- Statistical regularities during object encoding induce swap errors and repulsion/attraction biases
  Scotti, Hong, Golomb, & Leber, 2021; *Attention, Perception, & Psychophysics*
- Recognition-induced forgetting can operate over perceptually distinct real-world objects
  Scotti, Janakiefski, & Maxcey, 2020; *Psychonomic Bulletin & Review*
- Distinct mechanisms underlie directed forgetting & induced forgetting
  Scotti & Maxcey, 2020; *under revision*

PUBLICATIONS

1. **Scotti, P. S.,** Hong, Y., Leber, A., B., & Golomb, J., D. (in-press). Visual working memory items drift apart due to active, not passive, maintenance. *Journal of Experimental Psychology: General.*
2. **Scotti, P. S.,** Kulkarni, A., Mazor, M., Klapwijk, E., Huth, A. G. (in-press). Interactive 3d brain helps you learn how the brain is organized. *Frontiers for Young Minds*.
3. **Scotti, P. S.,** Hong, Y., Golomb, J. D., & Leber, A., B. (2021). Statistical regularities as a reference point for memory distortions: Swap and shift errors. *Attention, Perception, & Psychophysics,* (), 1-21. doi.org/10.3758/s13414-020-02236-3
4. **Scotti, P. S.,** Kulkarni, A., Mazor, M., Klapwijk, E., Yarkoni, T., Huth, A. G. (2020). EduCortex: browser-based 3D brain visualization of fMRI meta-analysis maps. *Journal of Open Source Education*, 3(26), 75. doi.org/10.21105/jose.00075
5. **Scotti, P. S.,** Janakiefski, L., & Maxcey, A. M. (2020). Recognition-induced forgetting of schematically related pictures. *Psychonomic Bulletin & Review*, 27, 357–365. doi.org/10.3758/s13423-019-01693-8
6. Collegio, A., Nah, J., **Scotti, P. S.,** & Shomstein, S. (2019). Attention scales according to inferred real-world object size. *Nature Human Behavior*, 3(1), 40-47. doi.org/10.1038/s41562-018-0485-2

Preprints

1. **Scotti, P. S.**, Collegio, A., & Shomstein, S. (2019). Object-based attention is resilient to low-level (boundary) or high-level (semantic) disturbances, but not both. *PsyArXiv.* doi.org/10.31234/osf.io/yxqju

Under Review

1. **Scotti, P.S.** & Maxcey, A. M. (under review). Comparing the robustness of laboratory-induced forgetting across paradigms.

In Prep

1. **Scotti, P. S.,** Chen, J., & Golomb, J., D. (in preparation). An improved method for evaluating inverted encoding models.
2. **Scotti, P. S.,** Zhang, X., Chen, J., & Golomb, J., D. (in preparation). Navigating fMRI analysis techniques: a practical guide.
3. Babu, A., **Scotti, P. S.,** & Golomb, J. D. (in preparation). The dominance of spatial information in location judgments: A persistent congruency bias even amidst conflicting statistical regularities.
4. **Scotti, P. S.,** Malcolm, G.L., Peterson, M., & Shomstein, S. (in preparation). Task-irrelevant semantic grouping weakens object-based effects in the two-rectangle paradigm.

SCHOLARSHIPS, FELLOWSHIPS, & AWARDS

- NSF Graduate Research Fellowship ($102,000) 2019-2022
- CCBBI Student Neuroimaging Research Award ($3000) 2018
- OSU University Fellowship ($26,316) 2017
- GW CCAS Distinguished Scholar 2017
- Luther Rice Undergraduate Research Fellowship ($5000) 2016
- Sigelman Undergraduate Research Enhancement Award ($500) 2016
- GW Presidential Academic Scholarship Recipient 2013

SKILLS

- Python, MATLAB, R, JavaScript, HTML/CSS, Node.js (experience building MTurk experiments)
- FMRI (designing experiments, collecting data, pre-/post-processing; SPM, Nipype, Freesurfer, Fmriprep)
- Neural networks (PyTorch) and hierarchical Bayesian modeling (PyMC3, JAGS)
- Supercomputing / cloud computing (Ohio Supercomputer Center and Amazon Web Services)