Abigail S. Greene, PhD

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EDUCATION

Yale University, New Haven, CT   *2014-2023*
PhD, Interdepartmental Neuroscience Program   *2022*
     Dissertation: Characterizing brain-phenotype relationships in health and disease
MD, Yale School of Medicine   *2023 (exp.)*

Princeton University, Princeton, NJ   *June 2013*
A.B. with highest honors in Psychology | Certificates in Quantitative and Computational Neuroscience, French

RESEARCH EXPERIENCE

Yale University   *2014-present*
  Our work uses human neuroimaging data and cutting-edge functional connectivity analysis techniques to characterize comprehensive, individual-level neurocognitive profiles that predict behavior and clinical symptoms.

Princeton University
  Whole-brain correlation-based analysis in functional neural alignment   *2011-13*
    This work leverages novel fMRI analysis techniques to build a common, functional map of the brain that will facilitate inter-subject comparisons of neural activation.
  Revisiting the failure-to-engage theory of task switching   *2011*
    This junior paper explores the empirical implications of a theory of multitasking limitations.

Boston University   *2008-09*
  Acquired facial recognition deficits in Alzheimer's disease
    This work, for which I was an Intel STS finalist, documents and explores impaired facial processing in Alzheimer's disease patients.

SCIENTIFIC PUBLICATIONS & PREPRINTS

1. **Greene, A.S.,** Shen, X., Noble, S., Hahn, C.A., Arora, J., Tokoglu, F., Spann, M.N., Barron, D.S., Sanacora, G., Srihari, V.H., Woods, S.W., Scheinost, D., Constable, R.T. (Accepted). One model does not fit all: Individuals who defy stereotypical profiles require distinct brain-phenotype relationships. *Nature.*
2. **Greene, A.S.*,** Horien, C.*, Barson, D.*, Scheinost, D., Constable, R.T. (In prep). What is a brain state and why does it matter?
3. Dadashkarimi, J., Tejavibulya, L., Gao, S., **Greene, A.S.,** Noble, S., Constable, R.T., Scheinost, D. (In review). Task-induced brain states modulate sex differences in predictive models: A preliminary study of model fairness.
4. Tejavibulya, L., Peterson, H., **Greene, A.S.,** Gao, S., Rolison, M., Noble, S., Scheinost, D. (2022). Large-scale differences in functional organization of left- and right-handed individuals using whole-brain, data-driven analysis of connectivity. *Neuroimage* 252:119040.
5. Sisk, L.M., Rapuano, K.M., Conley, M.I., **Greene, A.S.,** Horien, C., Rosenberg, M.D., Scheinost, D., Constable, R.T., Glatt, C.E., Casey, B.J., Gee, D.G. (2021). Genetic variation in endocannabinoid signaling is associated with differential network-level functional connectivity in youth. *Journal of Neuroscience Research.*
6. Luo, W., **Greene, A.S.,** Constable, R.T. (2021). Within node connectivity changes, not simply edge changes, influence graph theory measures in functional connectivity studies of the brain. *NeuroImage* 11332.
7. Stark. G.F., Avery, E.W., Rosenberg, M.D., **Greene, A.S.,** Gao, S., Scheinost, D., Constable, R.T., Chun, M.M., Yoo, K. (2021). Using functional connectivity models to characterize relationships between working and episodic memory. *Brain and Behavior* e02105.
8. Gau, R., et al. (2021). Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. *Neuron* 109(11): 1769-1775.
9. **Greene, A.S.**, Gao, S., Noble, S., Scheinost, D., Constable, R.T. (2020). How tasks change whole-brain

functional organization to reveal brain-phenotype relationships. *Cell Reports* 32(8): 108066.

10. Rosenberg, M.D., Scheinost, D., **Greene, A.S.**, Avery, E.W., Kwon, Y.H., Ramani, R., Qiu, M., Constable, R.T., Chun, M.M. (2020). Functional connectivity predicts changes in attention over minutes, days, and months. *PNAS* 117: 3797-3807.
11. Barron, D.S., Gao, S., Dadashkarimi, J., **Greene, A.S.**, Spann, M.N., Noble, S., Lake, E.M.R., Krystal, J., Constable, R.T., Scheinost, D. (2020). Transdiagnostic, connectome-based prediction of memory constructs across psychiatric disorders. *Cerebral Cortex* 31(5): 2523-2533.
12. Horien, C., Fontenelle, S., Joseph, K., Powell, N., Nutor, C., Fortes, D., Butler, M., Powell, K., Macris, D., Lee, K., **Greene, A.S.**, McPartland, J.C., Volkmar, F.R., Scheinost, D., Chawarska, K., & Constable, R.T. (2020). Low-motion fMRI data can be obtained in pediatric participants undergoing a 60-minute scan protocol. *Scientific Reports* 10: 21855.
13. Horien, C., Noble, S., **Greene, A.S.**, Lee, K., Barron, D.S., Gao, S., O'Connor, D., Salehi, M., Dadashkarimi, J., Shen, X., Lake, E.M.R., Constable, R.T., & Scheinost, D. (2020). A hitchhiker's guide to working with large, open-source neuroimaging datasets. *Nature Human Behaviour* 5:185-193.
14. Rapuano, K.M., Rosenberg, M.D., Maza, M.T., Dennis, N.J., Dorji, M., **Greene, A.S.**, Horien, C., Scheinost, D., Constable, R.T., & Casey, B.J. (2020). Behavioral and brain signatures of substance use vulnerability in childhood. *Developmental Cognitive Neuroscience* 46:100878.
15. Gao, S., **Greene, A.S.**, Constable, R.T., & Scheinost, D. (2019). Combining multiple connectomes improves predictive modeling of phenotypic measures. *NeuroImage* 201: 116038.
16. Horien, C.*, **Greene, A.S.***, Constable, R.T., & Scheinost, D. (2019). Regions and connections: Complementary approaches to characterize brain organization and function. *The Neuroscientist* 26:117-133.
17. Scheinost, D., Noble, S., Horien, C., **Greene, A.S.**, Lake, E., Salehi, M., Gao, S., Shen, X., O'Connor, D., Barron, D.S., Yip, S.W., Rosenberg, M.D., & Constable, R.T. (2019). Ten simple rules for predictive modeling of individual differences in neuroimaging. *NeuroImage* 193: 35-45.
18. Salehi, M., **Greene, A.S.**, Karbasi, A., Shen, X., Scheinost, D. & Constable, R.T. (2019). There is no single functional atlas even for a single individual: Functional parcel definitions change with task. *NeuroImage* 116366.
19. Avery, E.W., Yoo, K., Rosenberg, M.D., Na, D.L., **Greene, A.S.**, Gao, S., Scheinost, D., Constable, R.T., & Chun, M.M. (2019). Distributed patterns of functional connectivity predict working memory performance in novel healthy and memory-impaired individuals. *J Cogn Neurosci.* 1-15.
20. **Greene, A.S.**, Gao, S., Scheinost, D., & Constable, R.T. (2018). Task-induced brain state manipulation improves prediction of individual traits. *Nat. Commun.* 9, 2807.
21. Gao, S., **Greene, A.S.**, Constable, R.T., & Scheinost, D. (2018). Task integration for connectome-based prediction via canonical correlation analysis, *2018 IEEE 15th International Symposium on Biomedical Imaging (ISBI 2018)*, Washington, DC.
    * Indicates equal contribution

SELECTED PRESENTATIONS

1. Social bias in machine learning, Open Science Room panel speaker at the Organization for Human Brain Mapping conference (2022).
2. **Greene, A.S.,** Shen, X., Noble, S., Hahn, C.A., Arora, J. Tokoglu, F., Spann, M.N., Barron, D.S., Scheinost, D., Constable, R.T. (2021). Predictive modeling reveals subgroup-specific brain-phenotype relationships. Poster presented at the Organization for Human Brain Mapping conference.
3. **Greene, A.S.,** Gao, S., Noble, S., Scheinost, D., Constable, R.T. (2020). How tasks change whole-brain functional organization to reveal brain-phenotype relationships. Poster presented at the Organization for Human Brain Mapping conference.
4. Combining data from multiple sources improves predictive modeling. Talk presented at the 2020 Whistler Scientific Workshop, Whistler, B.C.
5. **Greene, A.S.**, Gao, S., Noble, S., Scheinost, D., Constable, R.T. (2019). Task activation and functional connectivity offer distinct insight into brain-behavior relationships. Poster presented at the Organization for Human Brain Mapping conference, Rome, Italy.
6. **Greene, A.S.**, Gao, S., Scheinost, D., & Constable, R.T. (June 2018). Task-induced brain state manipulation improves prediction of individual traits. Poster presented at the Organization for Human Brain Mapping conference, Singapore.
7. Task-induced brain state manipulations improve prediction of individual traits. Talk presented at the 2018

Whistler Scientific Workshop, Whistler, B.C.

8. Scheinost, D., Gao, S., **Greene, A.** & Constable, R. T. (2017). Transdiagnostic prediction of memory and cognitive abilities from functional connectivity data: a multidimensional connectome-based predictive modeling study. Presented in *Biol. Psychiatry* 83 (9).

9. **Greene, A.S.**, Gao, S., Constable, R.T., & Scheinost, D. (November 2017). Brain state perturbation improves connectome-based predictive modeling of related behaviors. Poster presented at Society for Neuroscience, Washington, D.C.

10. **Greene, A.S.**, Gao, S., Scheinost, D., & Constable, R.T. (September 2017). Connectome-based predictive modeling: the impact of brain state and sex in a developmental cohort. Poster presented at Flux Congress, Portland, Oregon.

11. Keung, W., **Greene, A.**, Wang, Y., Li, K., Charikar, M., Turk-Browne, N. B., & Cohen, J. D. (October, 2012). Decoding task-specific representations from fMRI using hyperalignment and whole-brain correlation analysis. Poster presented at Society for Neuroscience, New Orleans, LA.

AD HOC REVIEWING

NeuroImage	2018-
NeuroImage: Clinical	2018-
Cerebral Cortex	2018-
Human Brain Mapping	2019-
Brain Imaging and Behavior	2019-
American Journal of Psychiatry	2020-
Network Neuroscience	2020-
Nature Communications	2021-
Neuroscience Letters	2021-
Biological Psychiatry	2021-
Biological Psychology	2021-

HONORS & AWARDS

YCCI Multidisciplinary Pre-doctoral Training Program in Translational Research Fellowship	*2020-21*
NIH Outstanding Scholars in Neuroscience (OSNAP)	*2020*
APAF Helping Hands grant	*2017*
Howard Crosby Warren Senior and Junior Prizes	*2013, 2012*
Sigma Xi Society, Phi Beta Kappa Society	*2013*
ReachOut 56-81-06 Fellowship	*2013-14*
Shapiro Neuroscience Research Award	*2011, 2012*

EMPLOYMENT

Investigator, Health and Human Development, Pro Mujer *2013-14*
  Worked to evaluate, modify, and expand a pilot healthcare delivery program launched by Pro Mujer, a micro-
   finance and women's development organization in Nicaragua.

Chapter Chair, Energy Service Corps *2009-10*
  Served a minimum term of service with AmeriCorps; organized home energy audits and outreach events.

Freelance journalism *2009-13*
  Wrote Princeton-related news for the Princeton Alumni Weekly (2011-13), the Times of Trenton (2010-11),
  the Princeton Packet (2010), and the Woodrow Wilson School News (2009-10).

ACTIVITIES & SERVICE WORK

Director, Behavioral Health Department, HAVEN Free Clinic *2015-2018*
  Led a psychoeducational program and corresponding department to help patients identify and manage
  psychosocial stressors and behavioral health issues, to train providers to better address these issues with their patients,
  and to cultivate interest in behavioral health professions among volunteers. Served on the clinic board, 2017-2018.

Clinician, Pivotal Response Treatment, Yale Child Study Center *2017-2019*
  Under the mentorship of Dr. Pamela Ventola, I delivered a behavioral intervention for autism to young children, and
   trained their parents to apply PRT strategies in their daily lives.

Co-founder and Steering Committee Member, Peer Health Advisers *2011-13*

Worked with Princeton University Health Services (UHS) to raise awareness about common health concerns on campus and provide students with necessary resources to address them.

President, University Press Club *2009-13*

Wrote for several publications, organized trainings and journalism-related events, oversaw relationships with partner publications, and led institutional development projects (e.g. through the creation of a three-year strategic plan).

Tutor, Petey Greene Prisoner Assistance Program *2011-13*

SKILLS

Proficient in Matlab, R, Python | Familiar with Java | Fluent in Spanish; conversational in French