EMILY S. FINN

National Institute of Mental Health
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EDUCATION & TRAINING

2017- Postdoctoral Fellow, National Institute of Mental Health, Bethesda, Md.
Section on Functional Imaging Methods, Laboratory of Brain & Cognition
Mentor: Peter A. Bandettini, Ph.D.

2012-2017 Ph.D., Yale University, New Haven, Conn.
Neuroscience, with Distinction, awarded May 2017
Advisor: R. Todd Constable, Ph.D.

2005-2009 B.A., Yale University, New Haven, Conn.
Linguistics, with Distinction, *summa cum laude*

FUNDING

2019-2024 PI, K99MH120257, National Institute of Mental Health
K99R00 Pathway to Independence Award: *Linking brain activity during naturalistic tasks to individual phenotypes on the depression spectrum*

2014-2017 PI, National Science Foundation Graduate Research Fellowship
2012-2014 PI, Gruber Foundation Graduate Fellowship

AWARDS & FELLOWSHIPS

2019 Maryland Neuroimaging Retreat Early Career Scholar
2018 Fellowship, *Methods in Neuroscience at Dartmouth Computational Summer School*
2016 Merit Abstract Award, *Organization for Human Brain Mapping*
2012 Best Poster Award, *Yale Bioimaging Sciences Retreat*
2009 Phi Beta Kappa
2009 Daniel E. Merriman Prize for Outstanding Leadership, *Yale University*
2005 Robert C. Byrd Scholar, Connecticut
2005 National Merit Scholar

PEER-REVIEWED PUBLICATIONS

Lake EMR, **Finn ES**, Noble SM, Vanderwal T, Shen X, Rosenberg MD, Spann MN, Chun MM, Constable RT. The functional brain organization of an individual predicts measures of social abilities in autism spectrum disorder. *Biological Psychiatry*, in press.

Finn ES, Corlett PR, Chen G, Bandettini PA, Constable RT. (2018). Trait paranoia shapes inter-subject synchrony in brain activity during an ambiguous social narrative. *Nature Communications*, **9**, 2043.

Horien C, Noble S, **Finn ES**, Shen X, Scheinost D, Constable RT. (2018). Considering factors affecting the connectome-based identification process: Comment on Waller et al. *NeuroImage*, 169: 172-175.

Finn ES, Scheinost D, Finn DM, Shen X, Papademetris X, Constable RT. (2017). Can brain state be manipulated to emphasize individual differences in functional connectivity? *NeuroImage*, 160: 140-151.

Vanderwal T, Eilbott J, **Finn ES**, Craddock RC, Turnbull A, Castellanos FX. (2017). Individual differences in functional connectivity during naturalistic viewing conditions. *NeuroImage*, 157: 521-530.

Rosenberg MD, **Finn ES**, Scheinost D, Constable RT, Chun MM. (2017). Characterizing attention with predictive network models. *Trends in Cognitive Sciences* 21: 290-302.

Shen X, **Finn ES**, Scheinost D, Rosenberg MD, Chun MM, Papademetris X, Constable RT. (2017). Using connectome-based predictive modeling to predict individual behavior from brain connectivity. *Nature Protocols* 12: 506-18.

Scheinost D, Tokoglu F, Shen X, **Finn ES**, Noble S, Papademetris X, Constable RT. (2016). Fluctuations in global brain activity are associated with changes in whole-brain connectivity of functional networks. *IEEE Transactions on Biomedical Engineering*, 63(12): 2540–2549.

Pinango MM, **Finn ES**, Lacadie C, Constable RT. (2016). The localization of long-distance dependency components: Integrating the focal-lesion and neuroimaging record. *Frontiers in Psychology*, 7: article 1434.

Noble S, Scheinost D, **Finn ES**, Shen X, […], Cannon TD, Constable RT. (2017) Multisite reliability of MR-based functional connectivity. *NeuroImage*, 146: 959-970.

Finn ES, Constable RT. (2016). Individual variation in functional brain connectivity and its implications for personalized approaches to psychiatric disease. *Dialogues in Clinical Neuroscience*, 18(3): 277–287.

Rosenberg MD, Zhang S, Hsu WT, Scheinost D, **Finn ES**, Shen X, Constable RT, Li C, Chun

MM. (2016). Methylphenidate modulates functional network connectivity to enhance attention. *Journal of Neuroscience,* 36(37): 9547–9557.

Rosenberg MD*, **Finn ES***, Scheinost D, Shen X, Papademetris X, Constable RT, Chun MM. (2016) A neuromarker of sustained attention from whole-brain functional connectivity. *Nature Neuroscience,* 19: 165–171.
**Authors contributed equally*

Finn ES*, Shen X*, Scheinost D, Rosenberg MD, Huang J, Chun MM, Papademetris X, Constable RT. (2015) Functional connectome fingerprinting: Identifying individuals using patterns of brain connectivity. *Nature Neuroscience,* 18: 1664–1671.
**Authors contributed equally*
Press coverage: BBC, NBC, PBS, CBS, Newsweek, Scientific American, Discover, Wired, Nature News, The Scientist
Companion article for lay reader: TheConversation.com

Powers III AR, Ganscos MG, **Finn ES**, Morgan PT, Corlett PR. (2015). Ketamine-induced hallucinations. *Psychopathology,* 48 (6): 376-385.

Garrison KA, Scheinost D, **Finn ES**, Shen X, Constable RT. (2015) The (in)stability of functional brain network measures across thresholds. *NeuroImage,* 118: 651-661.

Rosenberg MD, **Finn ES**, Constable RT, Chun MM. (2015) Predicting moment-to-moment attentional state. *NeuroImage,* 114: 249-256.

Scheinost D, **Finn ES**, Tokoglu F, Shen X, Papademetris X, Hampson M, Constable RT. (2015). Sex differences in normal age trajectories of functional brain networks. *Human Brain Mapping,* 36(4): 1524-1535.

Finn ES, Shen X, Holahan JM, Scheinost D, Lacadie C, Papademetris X, Shaywitz SE, Shaywitz BA, Constable RT. (2014) Disruption of functional networks in dyslexia: A whole-brain, data-driven analysis of connectivity. *Biological Psychiatry*, 76(5): 397-404.

Scheinost D, Shen X, **Finn ES**, Sinha R, Constable RT, Papademetris X. (2014) Coupled intrinsic connectivity distribution analysis: A method for exploratory connectivity analysis of paired fMRI data. *PLoS ONE*, 9(3): e93544.

Constable RT, Scheinost D, **Finn ES**, Shen X, Hampson M, Winstanley FS, Spencer DD, Papademtris X. (2013) Potential use and challenges of functional connectivity mapping in intractable epilepsy. *Frontiers in Neurology*, 4 May: 39.

PREPRINTS

Finn ES, Huber L, Jangraw DC, Bandettini PA. Layer-dependent activity in human prefrontal

cortex during working memory. bioRxiv: https://doi.org/10.1101/425249 [in revision].

Huber L, **Finn ES**, Handwerker DA, Boenstrup M, Glen D, Kashyap S, Ivanov D, Petridou N, Marrett S, Goense J, Poser B, Bandettini PA. Sub-millimeter fMRI reveals multiple topographical digit representations that form action maps in human motor cortex. bioRxiv: https://doi.org/10.1101/457002 [submitted].

Chen G, Taylor PA, Qu X, Molfese PJ, Bandettini PA, Cox RW, **Finn ES**. Untangling the Relatedness among Correlations, Part III: Inter-Subject Correlation Analysis through Bayesian Multilevel Modeling for Naturalistic Scanning. bioRxiv: https://doi.org/10.1101/655738 [submitted].

BOOK CHAPTERS

Finn ES, Scheinost D, Shen X, Papademetris X, Constable RT. Methodological Issues in fMRI Functional Connectivity and Network Analysis. In *Brain Mapping: An Encyclopedic Reference*, ed. Toga, AW, Elsevier Inc., San Diego, 2015, pp. 697-704.

INVITED CONFERENCE TALKS

2019 Brain Health & Performance Summit, The Ohio State University
2019 Social & Affective Neuroscience Society, Miami, Fl.
2019 Maryland Neuroimaging Retreat, Baltimore, Md. *(Early Career Scholar)*
2018 4th Biennial Brain Function Workshop, Whistler-Blackcomb, BC, Canada
2017 Brainhack DC, Washington, DC
2017 South by Southwest, Austin, TX
2017 Brainhack NYC (keynote), Child Mind Institute, New York, NY
2016 Fifth Biennial Conference on Resting State Brain Connectivity, Vienna, Austria
2016 3rd Biennial Brain Function Workshop, Whistler-Blackcomb, BC, Canada
2015 American Society for Neuroradiology Annual Meeting, Chicago, Ill.
2014 2nd Biennial Brain Function Workshop, Whistler-Blackcomb, BC, Canada

INVITED COLLOQUIA

2019 Dept. of Psychological & Brain Sciences, Dartmouth College, Hanover, N.H.
2019 Nathan S. Kline Institute, Orangeburg, N.Y.
2018 Aly/Baldassano Lab Seminar, Columbia Psychology, New York, N.Y.
2018 NIMH Julius Axelrod Symposium, Bethesda, Md.
2017 NIMH Clinical & Translational Neurosciences Branch, Bethesda, Md.
2017 Johns Hopkins/Kennedy Krieger Institute, Baltimore, Md.
2016 Centre for Functional MRI of the Brain (FMRIB), University of Oxford, UK
2016 Max Planck Institute, University College London, UK
2016 National Institute of Mental Health, Bethesda, Md.
2015 Kavli Brain Coffee Hour, Yale Institute for Network Science, New Haven, Conn.

2014 Yale Magnetic Resonance Research Center Seminar Series, New Haven, Conn.

CONTRIBUTED CONFERENCE TALKS

2019 Organization for Human Brain Mapping, Rome, Italy
2018 Society for Neuroscience, San Diego, CA
2018 Organization for Human Brain Mapping, Singapore
2017 Society for Neuroscience, Washington, DC
2017 Computational Neuroscience Society, Antwerp, Belgium
2017 Organization for Human Brain Mapping, Vancouver, BC *(Symposium)*
2017 Organization for Human Brain Mapping, Vancouver, BC *(Educational Workshop)*
2017 Society of Biological Psychiatry, San Diego, CA
2012 Society for Neuroscience, New Orleans, LA

CONFERENCE POSTER PRESENTATIONS

(selected; first author only)

Finn ES, Corlett PR, Chen G, Constable RT, Bandettini PA. Trait paranoia shapes inter-subject synchrony in brain activity during an ambiguous social narrative. Organization for Human Brain Mapping, June 2018, Singapore.

Finn ES, Scheinost D, Finn DM, Shen X, Papademetrix X, Constable RT. Can brain state be manipulated to emphasize individual differences in functional connectivity? Organization for Human Brain Mapping, June 2017, Vancouver, BC.

Finn ES, Shen X, Scheinost D, Qiu M, Corlett PR, Constable RT. Investigating the stability of the functional connectome fingerprint under anesthetic drugs. Conference on Resting State / Brain Connectivity, September 2016, Vienna.

Finn ES, Shen X, Scheinost D, Qiu M, Corlett PR, Constable RT. Investigating the stability of the functional connectome fingerprint under anesthetic drugs. Organization for Human Brain Mapping, June 2016, Geneva.

Finn ES, Shen X, Scheinost D, Rosenberg MD, Huang J, Chun MM, Papademetris X, Constable RT. The individual brain connectome predicts fluid intelligence. Organization for Human Brain Mapping, June 2015, Honolulu, HI.

Finn ES, Tokoglu F, Shen X, Hoffman RE, Constable RT. Resting-state brain networks predict severity of auditory hallucinations in schizophrenia. Society for Neuroscience Annual Meeting, Nov 2014, Washington, DC.

Finn ES, Rosenberg MD, Shen X, Scheinost D, Papademetris X, Chun MM, Constable RT. Complex brain networks at rest predict individual working memory and attentional performance. Fourth Biennial Conference on Resting State/Brain Connectivity, Sept 2014,

Cambridge, MA.

Finn ES, Scheinost D, Hampson M, Shen X, Tokoglu F, Papademetris X, Constable RT. Sex differences in functional brain organization detected using a novel voxelwise, threshold-free measure of intrinsic connectivity. Poster presented at The Networked Brain, a Cell symposium prior to Society for Neuroscience Annual Meeting, Nov 2013, San Diego.

Finn ES, Rosenberg MD, Shen X, Chun MM, Constable RT. Predicting attention and performance across varying task loads from complex networks during task and at rest. Society for Neuroscience Annual Meeting, Nov 2013, San Diego.

Finn ES, Shen X, Holahan JM, Scheinost D, Lacadie C, Papademetris X, Shaywitz SE, Shaywitz BA, Constable RT. Identifying group differences in functional subnetworks: a novel whole-brain method applied to dyslexia. International Society for Magnetic Resonance in Medicine Annual Meeting, Apr 2013, Salt Lake City.

Finn ES, Kim I, Piñango MM. On the status of intermediate gaps in sentence processing. CUNY Conference on Human Sentence Processing, March 2010, New York.

TEACHING

Summer 2018	Instructor, NIH Neuroimaging Summer Course
Summer 2017	Instructor, Online Brain Intensive course
Fall 2015	Teaching Fellow, Introduction to Cognitive Science (Yale College) Prof. April Ruiz
Fall 2013	Teaching Fellow, Introduction to the Human Brain (Yale College) Prof. Amy Arnsten

MENTORING

(trainees for whom I serve(d) as primary mentor)

Jessica Huang (high school student; summer 2015, 2016)
Natasha Topolski (post-baccalaureate fellow; fall 2017 – spring 2018)
Amy Loret (undergraduate student; summer 2018)
Dannie Griggs (undergraduate student; summer 2018)
Arman Khojandi (post-baccalaureate fellow; summer 2018 – present)

OUTREACH ACTIVITIES

2017	NIH Take Your Child to Work Day volunteer activity leader
2012-2016	Yale Neuroscience "Brain Awareness Day" volunteer activity leader
2012-2014	Member, Latin American Brain Mapping Network (subchapter of Organization for Human Brain Mapping), working to increase Latino representation at OHBM annual meeting

2008-2009 Instructor & Lead Curriculum Developer, EVOLUTIONS After-School Program & College Prep Course, Yale Peabody Museum of Natural History (free program for public high school students in the New Haven area)

SELECTED POPULAR PUBLICATIONS

"How I Learned to Stop Worrying and Love Linguistics". *The New York Times*, July 20, 2009.
"Brain activity is as unique – and identifying – as a fingerprint." *TheConversation.com*, Oct 12, 2015.

POPULAR LECTURES

2017 "Can you lie to MRI? The science of mind reading"
Panel at South by Southwest, Austin, TX
2013 "Mind Reading: Can we do it? Should we?"
New Haven Free Public Library, Science in the News series

PROFESSIONAL SERVICE

2020-2022 Program Committee, Organization for Human Brain Mapping
2018 Abstract reviewer, Organization for Human Brain Mapping

INSTITUTIONAL SERVICE

2017 NIH Post-bac Poster Day volunteer judge
2014-2016 Yale Magnetic Resonance Research Center Seminar Series organizer
2013-2014 Yale Interdepartmental Neuroscience Program Student-Faculty Lunch organizer
2013 Yale Interdepartmental Neuroscience Program NeuroDay planning committee

PROFESSIONAL AFFILIATIONS

Organization for Human Brain Mapping
Society for Neuroscience

EDITORIAL BOARD MEMBERSHIPS

2017- NeuroImage (*special issue guest editor:* "Naturalistic Imaging", fall 2019)
2018- Network Neuroscience

AD HOC MANUSCRIPT REVIEW

Biological Psychiatry
Brain
Brain Connectivity
Brain Structure & Function

Cerebral Cortex
Developmental Cognitive Neuroscience
Frontiers in Neuroscience
Human Brain Mapping
Intelligence
Journal of Neuroscience
Nature Communications
Nature Neuroscience
Network Neuroscience
NeuroImage
PLoS Computational Biology
PLoS ONE
Proceedings of the National Academy of Sciences

GRANT REVIEW

National Science Foundation

SKILLS/OTHER

Winner, Best Brain Icon, Brain Art Competition 2016 (NeuroBureau/OHBM)
Spanish (fluent), French (proficient), German, Russian, Modern Greek (basic)
CrossFit Level 1 Trainer