

# EMILY S. FINN

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[thefinnlab.github.io](https://thefinnlab.github.io)

## ACADEMIC APPOINTMENTS

2020- Assistant Professor  
Department of Psychological and Brain Sciences, Dartmouth College

## EDUCATION & TRAINING

2017-2020 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*

## CURRENT RESEARCH SUPPORT

2021-2022 Arts Integration Grant, Hopkins Center for the Arts, Dartmouth College

2021 CompX Grant, Neukom Institute for Computational Science, Dartmouth College

2021-2023 NARSAD Young Investigator Award, Brain & Behavior Foundation  
*Neural & behavioral response to social animations as a marker of depressive phenotypes*

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

## AWARDS & FELLOWSHIPS

2021 Association for Psychological Science Rising Star Award

2019 NIMH Director's Award for Scientific Contributions  
 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*  
 2014-2017 National Science Foundation Graduate Research Fellowship  
 2012-2014 Gruber Foundation Graduate Fellowship  
 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

**Finn ES.** (2021). Is it time to put rest to rest? *Trends in Cognitive Sciences*, 25 (12), 1021-1032.

Bandettini PA, Huber L, **Finn ES.** (2021). Challenges and opportunities of mesoscopic brain mapping with fMRI. *Current Opinion in Behavioral Sciences*, 40: 189-200.

**Finn ES,** Rosenberg MD. (2021). Beyond fingerprinting: Choosing predictive connectomes over reliable connectomes. *NeuroImage*, 118254.

Song H, **Finn ES,** Rosenberg MD. Neural signatures of attentional engagement during narratives and its consequences for event memory. *Proceedings of the National Academy of Sciences*, 118 (33).

Scheinost D, Dadashkarimi J, **Finn ES,** Wambach CG, MacGillivray C, Roule AL, Niendam TA, Pine DS, Brotman MA, Leibenluft E, & Tseng W-L. (2021). Functional connectivity during frustration: A preliminary study of predictive modeling of irritability in youth. *Neuropsychopharmacology*, 46 (7): 1300-1306.

**Finn ES,** Bandettini PA. (2021). Movie-watching outperforms rest for functional connectivity-based prediction of behavior. *NeuroImage*, 117963.

**Finn ES,** Huber L, Bandettini PA. (2020). Higher and deeper: Bringing layer fMRI to association cortex. *Progress in Neurobiology*, 101930.

Huber L, **Finn ES,** Chai Y, Goebel R, Stirnberg R, Stöcker T, Marrett S, Uludag K, Kim SG, Han S, Bandettini PA, Poser BA. (2020). Layer-dependent functional connectivity methods. *Progress in Neurobiology*, 207: 101835.

**Finn ES,** Glerean E, Khojandi AY, Nielson D, Molfese PJ, Handwerker DA, Bandettini PA. (2020). Idiosynchrony: From shared responses to individual differences during naturalistic neuroimaging. *NeuroImage*, 215: 116828.

Huber L, **Finn ES**, Handwerker DA, Boenstrup M, Glen D, Kashyap S, Ivanov D, Petridou N, Marrett S, Goense J, Poser B, Bandettini PA. (2020). Sub-millimeter fMRI reveals multiple topographical digit representations that form action maps in human motor cortex. *NeuroImage*, 208: 116463.

Rosenberg MD, Scheinost D, Greene AS, Avery EW, Kwon YH, **Finn ES**, Ramani R, Qiu M, Constable RT, Chun MM. (2020). Functional connectivity predicts changes in attention observed across minutes, days, and months. *Proceedings of the National Academy of Sciences*, 117: 3797-3807.

Huber L, **Finn ES**, Handwerker DA, Boenstrup M, Glen D, Kashyap S, Ivanov D, Petridou N, Marrett S, Goense J, Poser B, Bandettini PA. (2020). Sub-millimeter fMRI reveals multiple topographical digit representations that form action maps in human motor cortex. *NeuroImage*, in press.

Chen G, Taylor PA, Qu X, Molfese PJ, Bandettini PA, Cox RW, **Finn ES**. (2020). Untangling the Relatedness among Correlations, Part III: Inter-Subject Correlation Analysis through Bayesian Multilevel Modeling for Naturalistic Scanning. *NeuroImage*, 216: 116474.

**Finn ES**, Huber L, Jangraw DC, Molfese PJ, Bandettini PA. (2019). Layer-dependent activity in human prefrontal cortex during working memory. *Nature Neuroscience*, 22 (10): 1687-1695.

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*, 86 (4): 315-326.

**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

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, Papademetris X. (2013) Potential use and challenges of functional connectivity mapping in intractable epilepsy. *Frontiers in Neurology*, 4 May: 39.

## EDITORIALS

Botch TL, Robertson CE, **Finn ES**. (2021). A deeper look at vision and memory. *Nature Neuroscience*.

**Finn ES**, Glerean E, Hasson U, Vanderwal T. (2021). Naturalistic Imaging: The use of ecologically valid conditions to study brain function. *NeuroImage*, 118776-118776.

## PREPRINTS

Grall C & **Finn ES**. Leveraging the power of media to drive cognition: A media-informed approach to naturalistic neuroscience. *PsyArXiv*, doi: 10.31234/osf.io/c8z9t.

Baek EC, Hyon R, Lopez K, **Finn ES**, Porter MA, Parkinson C. Popularity is linked to neural coordination: Neural evidence for an Anna Karenina principle in social networks. *arXiv*, doi: arXiv:2106.02726

Goyal N, Moraczewski D, Bandettini PA, **Finn ES**, Thomas A. Computationally replicating the Smith et al. (2015) positive-negative mode linking functional connectivity and subject measures. *bioRxiv*, doi: 10.1101/2020.04.23.058313.

## 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.

## POPULAR MEDIA COVERAGE

#### *Articles authored for general audience*

“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.

#### *Media coverage of my work*

[BBC](#), [NBC](#), [PBS](#), [CBS](#), [Newsweek](#), [Scientific American](#), [Discover](#), [WIRED](#), [Nature News](#), [The Scientist](#)

#### *Expert interviews*

[The New York Times](#), [WIRED](#), The Pulse (NPR podcast), KPCC (NPR Los Angeles)

### **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

### **INVITED CONFERENCE TALKS**

- 2022 Computational Properties of the Prefrontal Cortex, Oxford, UK (*upcoming*)  
2021 NIMH Workshop on Naturalistic Stimuli and Individual Differences (*virtual*)  
2021 Brain Connectivity Workshop, Toronto, ON, Canada (*virtual*)  
2021 American Society for Neuroradiology Annual Meeting (*virtual*)  
2021 NIH BRAIN Initiative Transformative Non-Invasive Brain Imaging Technologies Workshop (*virtual*)  
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 4<sup>th</sup> 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 3<sup>rd</sup> Biennial Brain Function Workshop, Whistler-Blackcomb, BC, Canada  
2015 American Society for Neuroradiology Annual Meeting, Chicago, Ill.  
2014 2<sup>nd</sup> Biennial Brain Function Workshop, Whistler-Blackcomb, BC, Canada

### **INVITED SEMINARS & COLLOQUIA**

- 2021 University of Reading, UK (*virtual*)  
2021 Columbia University, Dept. of Psychiatry (*virtual*)

2021	University College London Inst. for Cognitive Neuroscience ( <i>virtual</i> )
2021	University of Pennsylvania, Perelman School of Medicine ( <i>virtual</i> )
2021	Cornell Univ. & Weill Cornell Medicine ( <i>virtual</i> )
2021	Douglas Cerebral Imaging Center/McGill University ( <i>virtual</i> )
2021	Trinity College Dublin ( <i>virtual</i> )
2021	Sungkyunkwan University, Seoul, South Korea ( <i>virtual</i> )
2021	University of Minnesota Dept. of Psychiatry & Behavioral Sciences ( <i>virtual</i> )
2021	Japanese Meeting for Human Brain Imaging Virtual Talk Series ( <i>virtual</i> )
2021	UCSB Cognitive Neuroscience Seminar Series ( <i>virtual</i> )
2020	Caltech Computation & Neural Systems Seminar, Pasadena, Calif.
2019	Georgetown Methods Lab, Georgetown Psychology, Washington, D.C.
2019	National Institute on Drug Abuse, Baltimore, Md.
2019	Hasson Lab Seminar, Princeton University, Princeton, N.J.
2019	Chen/Honey Lab Seminar, Johns Hopkins University, Baltimore, Md.
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

2020	Organization for Human Brain Mapping, Virtual Meeting ( <i>Educational Workshop</i> )
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 ( <i>Symposium</i> )
2017	Organization for Human Brain Mapping, Vancouver, BC ( <i>Educational Workshop</i> )
2017	Society of Biological Psychiatry, San Diego, CA
2012	Society for Neuroscience, New Orleans, LA

## TEACHING

Winter 2022	Introduction to Neuroscience, Dartmouth College ( <i>upcoming</i> )
Winter 2021	Principles of Human Brain Mapping with fMRI, Dartmouth College
Summer 2018	Instructor, NIH Neuroimaging Summer Course

<i>Summer 2017</i>	Instructor, Online Brain Intensive course
<i>Fall 2015</i>	Teaching Fellow, Introduction to Cognitive Science (Yale College)
<i>Fall 2013</i>	Teaching Fellow, Introduction to the Human Brain (Yale College)

## MENTORING

### *Full-time trainees*

Rekha Varrier (Dartmouth postdoc, fall 2020 – present)  
 Clare Grall (Dartmouth postdoc, summer 2020 – present)  
 Kathryn O’Neill (Dartmouth cognitive neuroscience PhD student, fall 2021 – present)  
 Thomas Botch (Dartmouth cognitive neuroscience PhD student, fall 2021 – present; co-mentored with Caroline Robertson)  
 Clara Sava-Segal (Dartmouth cognitive neuroscience PhD student, fall 2020 – present)  
 Josie Equita (Dartmouth full-time research assistant/lab manager, summer 2020 – present)  
 Chandler Richards (NIMH post-baccalaureate fellow, summer 2019 – summer 2020)  
 Arman Khojandi (NIMH post-baccalaureate fellow, summer 2018 – summer 2019)  
 Dannie Griggs (NIMH undergraduate student, summer 2018)  
 Amy Loret (NIMH undergraduate student, summer 2018)  
 Natasha Topolski (NIMH post-baccalaureate fellow, fall 2017 – spring 2018)  
 Jessica Huang (Yale high school student, summer 2015, 2016)

### *PhD thesis committee*

Lucy Owen (Dartmouth PBS, 2021)  
 Sophie Wohltjen (Dartmouth PBS, 2021)  
 Mehran Moradi (Dartmouth PBS, 2021)  
 Kirsten Ziman (Dartmouth PBS, 2021)

### *External PhD thesis committee*

Temidayo Orederu (Icahn School of Medicine at Mount Sinai MD/PhD, 2021)

### *PhD qualifying exam committee*

Alexis Kidder (Dartmouth PBS, 2021)  
 Caroline Lee (Dartmouth PBS, 2021)  
 Danika Geisler (Dartmouth PBS, 2021)  
 Courtney Jimenez (Dartmouth PBS, 2021)

## PROFESSIONAL SERVICE

<i>2021</i>	Organizing Committee, NIMH Workshop on Dynamic Data Visualization
<i>2020-2022</i>	Program Committee, Organization for Human Brain Mapping
<i>2018</i>	Abstract reviewer, Organization for Human Brain Mapping

## INSTITUTIONAL SERVICE

<i>2021-</i>	Neuroscience Committee, Psychological & Brain Sciences, Dartmouth College
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2021            Advisory Committee, Psychological & Brain Sciences, Dartmouth College  
 2020-2021    Inclusivity, Diversity & Culture Committee, Psychological & Brain Sciences,  
                  Dartmouth College  
 2020-2021    Well-Being Working Group, Psychological & Brain Sciences, Dartmouth College  
 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

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

## AD HOC MANUSCRIPT REVIEW

<i>Biological Psychiatry</i>	<i>Nature Human Behavior</i>
<i>Brain</i>	<i>Nature Neuroscience</i>
<i>Brain Connectivity</i>	<i>Network Neuroscience</i>
<i>Brain Structure &amp; Function</i>	<i>New England Journal of Medicine</i>
<i>Cerebral Cortex</i>	<i>NeuroImage</i>
<i>Developmental Cognitive Neuroscience</i>	<i>Personality Neuroscience</i>
<i>eLife</i>	<i>PLoS Computational Biology</i>
<i>Frontiers in Neuroscience</i>	<i>PLoS ONE</i>
<i>Human Brain Mapping</i>	<i>Proceedings of the National Academy of</i>
<i>Intelligence</i>	<i>Sciences</i>
<i>Journal of Neuroscience</i>	<i>Science Advances</i>
<i>Nature Communications</i>	

## GRANT REVIEW

National Science Foundation  
 University of Rochester Del Monte Institute for Neuroscience  
 Israel 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