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EMILY S. FINN

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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

2022-2027 BRAINS (Biobehavioral Research Award for Innovative New Scientists) R01, National Institute of Mental Health; Role: PI
Modeling and manipulating social percepts in individuals

2022-2023 JustX Grant, Wright Center for the Study of Computation and Just Communities, Dartmouth College

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

2021-2022 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

2019-2023 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

PREPRINTS & SUBMITTED MANUSCRIPTS

Iyer S, Collier E, **Finn ES**, Meyer M. Negative affect homogenizes and positive affect diversifies social memory consolidation across people. *bioRxiv*, doi.org/10.1101/2023.02.20.528994.

Kim H, Lux BK, **Finn ES**, Woo CW. Getting Personal: Brain Decoding of Spontaneous Thought Using Personal Narratives. *bioRxiv*, doi.org/10.1101/2023.05.12.540141

PEER-REVIEWED PUBLICATIONS

† *denotes FINN Lab trainee*

Yang E, Milisav F, Kopal J, Holmes AJ, Mitsis GD, Misic B, **Finn ES**, Bzdok D. (2023). The default network dominates neural responses to evolving movie stories. *Nature Communications*, 14: 4197.

Sava-Segal CA†, Richards C, Leung M†, **Finn ES**. (2023). Individual variability in neural event segmentation reflects stimulus content and interpretation. *Cerebral Cortex*, in press.

Grall C†, Equita J†, **Finn ES**. (2023). Neural unscrambling of temporal information during a nonlinear narrative. *Cerebral Cortex*, 33 (11): 7001–7014.

Varrier RS†, **Finn ES**. (2022). Seeing social: A neural signature for conscious perception of social interactions. *Journal of Neuroscience,* 42 (49): 9211–9226.

Grall C† & **Finn ES**. (2022). Leveraging the power of media to drive cognition: A media-informed approach to naturalistic neuroscience. *Social Cognitive & Affective Neuroscience*, 17(6): 598–608.

Baek EC, Hyon R, Lopez K, **Finn ES**, Porter MA, Parkinson C. (2022). In-degree centrality in a social network is linked to coordinated neural activity. *Nature Communications*, 13: 1-13.

Goyal N, Moraczewski D, Bandettini PA, **Finn ES**, Thomas A. (2022). The positive-negative mode link between brain connectivity, demographics, and behavior: A pre-registered, replication of Smith et al. (2015). *Royal Society Open Science*, *9*, Article 201090.

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

EDITORIALS

Rosenberg MD, **Finn ES**. (2022). How to establish robust brain–behavior relationships without thousands of individuals. *Nature Neuroscience*, 25 (7): 835-837.

Botch TL, Robertson CE, **Finn ES**. (2021). A deeper look at vision and memory. *Nature Neuroscience*, 25(1): 8-10.

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

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

2022	"Spot on: The science of social ambiguity resolution" Northern Stage Theater, White River Junction, VT
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

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 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 SEMINARS & COLLOQUIA

2023 University of Cambridge, UK *(upcoming)*
2023 Georgetown University *(upcoming)*
2023 University of Maryland *(upcoming)*
2023 University of Wisconsin, Madison
2023 University of California, Berkeley
2023 University of Michigan *(virtual)*
2022 Harvard/Brigham and Women's Hospital
2022 Institute of Mental Health, Ottawa, ON *(virtual)*
2022 Baylor College of Medicine *(virtual)*
2022 Northwestern University Feinberg School of Medicine *(virtual)*
2022 Stanford University Center for Mind, Brain, Computation & Technology *(virtual)*
2022 Krembil Brain Institute, Toronto *(virtual)*
2021 University of Reading, UK *(virtual)*
2021 Columbia University, Dept. of Psychiatry *(virtual)*
2021 University College London Inst. for Cognitive Neuroscience *(virtual)*
2021 University of Pennsylvania, Perelman School of Medicine *(virtual)*
2021 Cornell Univ. & Weill Cornell Medicine *(virtual)*
2021 Douglas Cerebral Imaging Center/McGill University *(virtual)*
2021 Trinity College Dublin *(virtual)*

2021 Sungkyunkwan University, Seoul, South Korea *(virtual)*
2021 University of Minnesota Dept. of Psychiatry & Behavioral Sciences *(virtual)*
2021 Japanese Meeting for Human Brain Imaging Virtual Talk Series *(virtual)*
2021 UCSB Cognitive Neuroscience Seminar Series *(virtual)*
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

2023 Organization for Human Brain Mapping, Montreal, QC
2023 Winter Conference on Brain Research, Snowbird, UT
2020 Organization for Human Brain Mapping, Virtual Meeting *(Educational Workshop)*
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

TEACHING

Winter 2022 Introduction to Neuroscience, Dartmouth College
Winter 2021 Principles of Human Brain Mapping with fMRI, Dartmouth College
Summer 2018 Instructor, NIH Neuroimaging Summer Course
Summer 2017 Instructor, Online Brain Intensive course
Fall 2015 Teaching Fellow, Introduction to Cognitive Science (Yale College)
Fall 2013 Teaching Fellow, Introduction to the Human Brain (Yale College)

MENTORING

Full-time trainees
Dr. Peng Liu (Dartmouth postdoc, fall 2022 – present)
Dr. Rekha Varrier (Dartmouth postdoc, fall 2020 – present)
Dr. Clare Grall (Dartmouth postdoc, summer 2020 – summer 2022)
Kathryn O'Nell (Dartmouth cognitive neuroscience PhD student, fall 2021 – present)
Thomas Botch (Dartmouth cognitive neuroscience PhD student, fall 2021 – present)
    Awarded Primals Research Student Award (UPenn/Templeton Religion Trust)
Clara Sava-Segal (Dartmouth cognitive neuroscience PhD student, fall 2020 – present)
    Awarded NSF Graduate Research Fellowship
Jordan Selesnick (Dartmouth research assistant, fall 2022 – present)
Tory Benson (Dartmouth research assistant/lab manager, summer 2022 – present)
Josie Equita (Dartmouth research assistant/lab manager, 2020 –2022)
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
Sasha Brietzke (Dartmouth PBS, 2022)
Sophie Wohltjen (Dartmouth PBS, 2022)
Kirsten Ziman (Dartmouth PBS, 2022)
Lucy Owen (Dartmouth PBS, 2021)
Mehran Moradi (Dartmouth PBS, 2021)

External PhD thesis committee
Gidon Levakov (Ben-Gurion University of the Negev, Israel; 2023)
Elizabeth DuPre (McGill University, 2022)
Temidayo Orederu (Icahn School of Medicine at Mount Sinai MD/PhD, 2021)

PhD qualifying exam committee
Yeongji Lee (Dartmouth PBS, 2023)
Byeol Kim (Dartmouth PBS, 2023)
Paxton Fitzpatrick (Dartmouth PBS, 2023)
Xinming Xu (Dartmouth PBS, 2023)
Alexis Kidder (Dartmouth PBS, 2022)
Caroline Lee (Dartmouth PBS, 2021)
Danika Geisler (Dartmouth PBS, 2021)
Courtney Jimenez (Dartmouth PBS, 2021)

PROFESSIONAL SERVICE

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

INSTITUTIONAL SERVICE

2021- Dartmouth Brain Imaging Center Steering Committee, Psychological & Brain Sciences, Dartmouth College
2021- Neuroscience Committee, Psychological & Brain Sciences, Dartmouth College
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

2023- *Imaging Neuroscience*
2018- *Network Neuroscience*
2017-2023 *NeuroImage* (special issue guest editor: "Naturalistic Imaging", fall 2019)

AD HOC MANUSCRIPT REVIEW

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

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