

# Jordan Dworkin, PhD

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**Positions & Employment**

**Metascience Program Lead**, Federation of American Scientists 11/2022 – present

- Conducting research and leading projects on science & technology policy, specifically related to science funding, evidence synthesis, open science, and academic-policy engagement

**Assistant Professor of Clinical Biostatistics (in Psychiatry)**, Departments of Psychiatry and Biostatistics, Columbia University & the NYS Psychiatric Institute 7/2020 – 11/2022

- Led and collaborated on scientific research related to applied biostatistics, neuroimaging, and computational social science

**Graduate Student Researcher**, Penn Statistics in Imaging and Visualization Center, University of Pennsylvania 7/2018 – 6/2020

- Studied and published on statistical methods and clinical neuroimaging; wrote statistical software, scoped and led interdisciplinary projects, and presented work at academic conferences

**Education**

**University of Pennsylvania**, Philadelphia, PA Aug 2015 – May 2020  
PhD in Biostatistics

**Haverford College**, Haverford, PA Aug 2011 – May 2015  
BS in Psychology, High Honors

## Selected Publications ([view all](#))

### **Biostatistical methodology**

- [1] **JD Dworkin**, KA Linn, TD Satterthwaite, A Raznahan, R Bakshi, RT Shinohara. [A local group differences test for subject-level multivariate density neuroimaging outcomes](#). *Biostatistics*, 2021.
- [2] **JD Dworkin**, KA Linn, I Oguz, GM Fleishman, R Bakshi, G Nair, PA Calabresi, RG Henry, J Oh, N Papinutto, D Pelletier, W Rooney, W Stern, NL Sicotte, DS Reich, RT Shinohara. [An automated statistical technique for counting distinct multiple sclerosis lesions](#). *American Journal of Neuroradiology*, 2018.
- [3] **JD Dworkin**, P Sati, AJ Solomon, D Pham, R Watts, ML Martin, D Ontaneda, MK Schindler, DS Reich, RT Shinohara. [Automated integration of multi-modal MRI for the probabilistic detection of central vein sign in white-matter lesions](#). *American Journal of Neuroradiology*, 2018.
- [4] J Roy, KJ Lum, B Zeldow, **JD Dworkin**, VL Re, MJ Daniels. [Bayesian nonparametric generative models for causal inference with missing at random covariates](#). *Biometrics*, 2018.

### **Clinical and neurological research**

- [5] J Bernanke, A Luna, L Chang, E Bruno, **JD Dworkin**, J Posner. [Structural brain measures among children with and without ADHD in the ABCD Study cohort](#). *The Lancet Psychiatry*, 2022.
- [6] VM Leavitt, **JD Dworkin**, K Buyukturkoglu, CS Riley, M Ritchey. [Summary metrics of memory subnetwork functional connectivity alterations in multiple sclerosis](#). *Multiple Sclerosis Journal*, 2022.
- [7] B Rizvi, PJ Lao, AG Chesebro, **JD Dworkin**, E Amarante, JM Beato, J Gutierrez, LB Zahodne, N Schupf, JJ Manly, R Mayeux, AM Brickman. [Association of regional white matter hyperintensities with longitudinal Alzheimer-like pattern of neurodegeneration in older adults](#). *JAMA Network Open*, 2021.
- [8] **JD Dworkin**, EM Sweeney, MK Schindler, S Chahin, DS Reich, RT Shinohara. [Predicting recovery through estimation and visualization of active and incident lesions](#). *NeuroImage: Clinical*, 2016.

## Computational social science

- [9] EG Teich, JZ Kim, C Lynn, SC Simon, P Srivastava, LC Bassett, P Zurn, **JD Dworkin**, DS Bassett. Citation inequity and gendered citation practices in contemporary physics. *Nature Physics*, 2022.
- [10] **JD Dworkin**, KA Linn, E Teich, P Zurn, RT Shinohara, DS Bassett. The extent and drivers of gender imbalance in neuroscience reference lists. *Nature Neuroscience*. 2020.
- [11] **JD Dworkin**, RT Shinohara, DS Bassett. The emergent integrated network structure of scientific research. *PLoS One*, 2019.
- [12] **JD Dworkin**. Network-driven differences in mobility and optimal transitions among automatable jobs. *Royal Society Open Science*, 2019.

## Non-Scientific Writing

- JD Dworkin**. How to boost your research: take a sabbatical in policy. *Nature*, 2024.
- JD Dworkin**. AI-driven data analysis could exacerbate misaligned incentives in biomedical research. *STAT First Opinion*, 2023.
- M Clancy, D Correa, **JD Dworkin**, P Niehaus, C Watney, H Williams. To speed scientific progress, understand how science policy works. *Nature*, 2023.
- JD Dworkin**, J Elliott. Strengthen science by funding living evidence synthesis. *Stat First Opinion*, 2023.

## Funded Grants

- [a] **Principal Investigator** – National MS Society: Mapping multi-modal relationships among lesions and clinical outcomes in multiple sclerosis
- [b] **Co-Investigator** (PIs Chung, Veenstra-VanderWeele) – NIH P50: Prospective genetic risk evaluation and assessment (PROGRESS) in autism
- [c] **Co-Investigator** (PIs Margolis, Rauh) – NIH P20: Environmental contributions to disparities in learning disabilities
- [d] **Co-Investigator** (PIs Lugo-Candelas, Ouellet, Posner) – NIH R01: Prenatal cannabis: A fetal neuroimaging study of neurodevelopment
- [e] **Co-Investigator** (PIs Talati, Savidge, Margolis) – NIH R01: Gestational SSRI exposure and risk of functional gastrointestinal disorders in children
- [f] **Co-Investigator** (PIs Monk, Trumpff, Gyamfi-Bannerman) – NIH R01: Stress phenotypes and preterm birth: Immune and energetic cellular dysregulation and the preventive effect of social support

## Software & Programming

- LQT**. Open-source statistical software, 2021.  
Toolbox for conducting probabilistic analysis of the effects of white-matter lesions on structural connectivity, with built-in functionality for processing, analysis, and visualization of brain network data.
- mmdt**. Open-source statistical software, 2019.  
Software for applying the method proposed in the *Biostatistics* publication above [#1], including functions for formatting, analysis, and visualization of neuroimaging data

## Teaching & Mentoring

### Mentor

- Yiyao Li – mentor for biostatistics MS practicum (2022)
- Yali Zhai – mentor for biostatistics MS practicum (2022)
- Aysha Vadukul – mentor during BEST Diversity Program (2021)
- Eric Shaker – mentor during BEST Diversity Program (2021)
- Jeremy Kidd – statistical mentor for NIH K23 Award (2020 – 2022)

### Guest lecturer

- Exploring the ethical considerations of big data research*  
Haverford College, Psych 321: Revolutions in Psychology, 2020
- Fundamentals of web scraping in R*  
Univ. of Pennsylvania, BSTA 670: Programming and Computation for Biomedical Data Science, 2019

### Teaching assistant

Statistics in Experimental Design and Analysis (2017, 2018) — *University of Pennsylvania*  
Experimental Methods and Statistics (2013) — *Bryn Mawr College*

### Invited Talks

*Networked effects of white matter lesion damage in multiple sclerosis and Alzheimer's disease*  
Washington University, Neuroimaging in Health and Disease Seminar, 2022

*Networked effects of white matter lesion damage in multiple sclerosis and Alzheimer's disease*  
Columbia University, Cognitive Neuroscience Seminar, 2021

*Gender, racial, and ethnic imbalance in neuroscience reference lists*  
Univ. of Minnesota, Masonic Institute for the Developing Brain Seminar, 2020

*Statistical techniques for addressing the clinico-radiological paradox in multiple sclerosis*  
Columbia University, Biostatistics in Psychiatry Seminar, 2020

*Statistical techniques for addressing the clinico-radiological paradox in multiple sclerosis*  
Memorial Sloan Kettering Cancer Center, Biostatistics Seminar, 2020

*Advances in statistical methods for neuroimaging data analysis in multiple sclerosis*  
Haverford & Bryn Mawr Colleges, Bi-College Math Colloquium, 2019

*An automated probabilistic algorithm for the detection of central vein sign in multiple sclerosis*  
Americas Committee for Treatment and Research in MS (ACTRIMS) Congress, 2019

*A local multivariate density-based test for detecting diffuse processes in MRI*  
Penn Image Computing and Science Lab Seminar, 2019

*An automated probabilistic algorithm for the detection of central vein sign in multiple sclerosis*  
Statistical Methods in Imaging (SMI) Conference, 2018

### Awards

2021 Biostatistics Junior Faculty Award, National MS Society  
2018, 19, 21 Young Investigator Educational Grant, ACTRIMS Congress  
2018 Finalist, Blavatnik Family Fellowship  
2018 Student Poster Award, Statistical Methods in Imaging Conference  
2018 Finalist, Best Poster Presentation, ACTRIMS Congress  
2016, 18 Young Investigator Educational Grant, ECTRIMS Congress  
2015 Magna Cum Laude, Haverford College  
2015 Member Elect, Phi Beta Kappa Academic Honor Society  
2015 David Olton '64 Award in Psychology, Haverford College

### Service

**Advisory Board Member**, *The Unjournal* (2023 – present)  
**Program Committee**, the International Conference on the Science of Science and Innovation (2023), the Year of Open Science Culminating Conference (2024)  
**Scientific Reviewer**, the National Multiple Sclerosis Society (grants, 2023); the International Conference on Computational Social Science (abstracts, 2023-24); *eLife*, *Nature Communications*, *Communications Physics*, *Intl. Journal of Biostatistics*, *Journal of Neuroimaging*, *Neuroimage Clinical* (papers, 2018-23)