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Jordan Dworkin, PhD

Contact

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Positions & Employment

Assistant Professor of Clinical Biostatistics, Departments of Psychiatry and Biostatistics, Columbia University	7/2020 – Present
Research Scientist V, Research Foundation for Mental Hygiene and the New York State Psychiatric Institute	7/2020 – Present
Member, Penn Statistics in Imaging and Visualization Center, Perelman School of Medicine, University of Pennsylvania	7/2018 – 6/2020
PhD Candidate, Division of Biostatistics, Perelman School of Medicine, University of Pennsylvania	8/2015 – 6/2020

Education

University of Pennsylvania, Philadelphia, PA PhD in Biostatistics (*Advisor: Russell T. Shinohara, PhD*)	Aug 2015 – May 2020
Haverford College, Haverford, PA BS in Psychology, High Honors; Minors in Statistics & Math	Aug 2011 – May 2015

Selected Publications *(view all)*

Statistical methods

[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] C Lou, P Sati, M Absinta, K Clark, **JD Dworkin**, AM Valcarcel, MK Schindler, DS Reich, EM Sweeney, RT Shinohara. Fully automated detection of paramagnetic rims in multiple sclerosis lesions on 3T susceptibility-based MR imaging. *NeuroImage: Clinical*, 2021.

[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] **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.

[5] 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.

Social structures and equity

[6] B Ramphal, **JD Dworkin**, D Pagliaccio, AE Margolis. Noise complaint patterns in New York City from January 2010 through February 2021: Socioeconomic disparities and COVID-19 exacerbations. *Environmental Research*, 2021.

[7] **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.

[8] **JD Dworkin**, RT Shinohara, DS Bassett. The emergent integrated network structure of scientific research. *PLoS One*, 2019.

[9] **JD Dworkin**. Network-driven differences in mobility and optimal transitions among automatable jobs. *Royal Society Open Science*, 2019.

[10] **JD Dworkin**, RT Shinohara, DS Bassett. The landscape of neuroimaging research. *NeuroImage*, 2018.

Psychiatry and mental health

[11] J Bernanke, A Luna, L Chang, E Bruno, **JD Dworkin**, J Posner. Structural brain measures among children with and without ADHD in the Adolescent Brain and Cognitive Development Study cohort: a cross-sectional US population-based study. *The Lancet Psychiatry*, 2022.

[12] A Luna, J Bernanke, K Kim, N Aw, **JD Dworkin**, J Cha, J Posner. Maturity of gray matter structures and white matter connectomes, and their relationship with psychiatric symptoms in youth. *Human Brain Mapping*, 2021.

[13] B Ramphal, D Pagliaccio, **JD Dworkin**, J Herbstman, KG Noble, AE Margolis. Timing-specific associations between income-to-needs ratio and hippocampal and amygdala volumes in middle childhood: A preliminary study. *Developmental Psychobiology*, 2021.

[14] JD Kidd, KB Jackman, R Barucco, **JD Dworkin**, C Dolezal, TV Navalta, J Belloir, WO Bockting. Understanding the impact of the COVID-19 pandemic on the mental health of transgender and gender nonbinary individuals engaged in a longitudinal cohort study. *Journal of Homosexuality*, 2021.

[15] **JD Dworkin**, V Zimmerman, RJ Waldinger, MS Schulz. Capturing naturally occurring emotional suppression as it unfolds in couple interactions. *Emotion*, 2018.

Non-Scientific Writing

JD Dworkin, P Zurn, DS Bassett. (In)citing action to realize an equitable future. *Neuron*, 2020.

JD Dworkin & I Blinderman. Why the tech sector may not solve America's looming automation crisis. *The Pudding*, 2018.

JD Dworkin. A statistical curiosity voyage through the emotion of Stranger Things. *FreeCodeCamp*, 2017.

JD Dworkin. Could an alternative voting system have stopped Trump? *Towards Data Science*, 2016.

Software & Programming

LQT. R package, 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.

Who do you follow? R Shiny application, 2020.
Application for assessing the gender and racial/ethnic diversity of your twitter feed

mmdt. R package, 2019.
Software for applying the method proposed in the *Biostatistics* publication above [#1], including functions for formatting, analysis, and visualization of neuroimaging data

The landscape of neuroimaging research. R Shiny application, 2018.
Dashboard to explore the network structure of research topics in neuroimaging literature, designed to accompany the *NeuroImage* publication above [#10]

Teaching & Mentoring

Mentor

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 – present)

Teaching assistant

Statistics in Experimental Design and Analysis (2017, 2018)
University of Pennsylvania, Biomedical Graduate Studies

Experimental Methods and Statistics (2013)
Bryn Mawr College, Department of Psychology

Invited speaker

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

Exploring the ethical considerations of big data research
Haverford College, Psych 321: Revolutions in Psychology, 2020

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

Fundamentals of web scraping in R
Univ. of Pennsylvania, BSTA 670: Programming and Computation for Biomedical Data Science, 2019

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

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

Funded Grants

[a] **Principal Investigator** – National MS Society: Mapping multi-modal relationships among lesions and clinical outcomes in multiple sclerosis

[b] **Co-Investigator** (PIs Lugo-Candelas, Ouellet, Posner) – NIH R01: Prenatal cannabis: A fetal neuroimaging study of neurodevelopment

[c] **Co-Investigator** (PIs Talati, Savidge, Margolis) – NIH R01: Gestational SSRI exposure and risk of functional gastrointestinal disorders in children

[d] **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

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
2014 Member Elect, Psi Chi International Honors Society in Psychology