

Daniel Janini

Email: janinidp@gmail.com

Webpage: danieljanini.com

Education

Harvard University

(2017-2023) PhD in Psychology

Case Western Reserve University

(2011-2015) BS in Biology, BA in Cognitive Science, Minor in Chemistry

Summa cum laude

Research Positions

Freie Universität Berlin, Neurodynamics of Visual Cognition Laboratory

(2024-Present) Humboldt Postdoctoral Research Fellow | Advisor: Radoslaw Cichy

Harvard University, Vision Sciences Laboratory

(2017-2023) PhD student | Advisor: Talia Konkle

National Institute of Mental Health, Laboratory of Brain and Cognition

(2015-2017) Postbaccalaureate IRTA | Advisor: Chris Baker

The Cleveland Clinic, Biomedical Engineering Department

(2012-2015) Research Student | Advisor: Ela Plow

Publications

Janini, D., Hamblin, C., Deza, A., & Konkle, T. (2022). General object-based features account for letter perception. *PLoS computational biology*, 18(9), e1010522.

Wang, R., **Janini, D.**, & Konkle, T. (2022). Mid-level Feature Differences Support Early Animacy and Object Size Distinctions: Evidence from Electroencephalography Decoding. *Journal of Cognitive Neuroscience*, 34(9), 1670-1680.

Janini, D. & Konkle, T. (2019). A Pokémon-sized window into the human brain. *Nature human behaviour*, 3(6), 552-553.

Potter-Baker, KA, **Janini, DP**, Lin, YL, Sankarasubramanian, V, Cunningham, DA, Varnerin, NM,...& Plow, EB (2017). Transcranial direct current stimulation (tDCS) Paired with massed practice training to promote adaptive plasticity and motor recovery in chronic incomplete tetraplegia: a pilot study. *The journal of spinal cord medicine*, 1-15.

Cunningham DA*, **Janini D***, Wyant A, Bonnett C, Varnerin N, Sankarasubramanian V, Potter-Baker KA, Roelle S, Wang X, Siemionow V, Yue GH, Plow EB. (2016) Post-exercise depression following submaximal and maximal isometric voluntary contraction. *Neuroscience*, 326, 95-104 *co-first authorship

Potter-Baker KA, **Janini DP**, Frost FS, Chabra P, Varnerin N, Cunningham DA, Sankarasubramanian V, Plow EB. (2016). Reliability of TMS metrics in patients with chronic incomplete spinal cord injury. *Spinal Cord*, 54, 980-990

Sankarasubramanian V, Roelle S, Bonnett C, **Janini D**, Varnerin N, Cunningham DA, Sharma JS, Potter-Baker KA, Wang X, Yue GH, Plow EB. (2015). Reproducibility of transcranial magnetic stimulation metrics in the study of proximal upper limb muscles. *Journal of Electromyography and Kinesiology*, 25, 754-64

Cunningham DA, Varnerin N, Machado A, Bonnett C, **Janini D**, Roelle S, Potter-Baker K, Sankarasubramanian V, Wang X, Yue G, Plow EB. (2015). Stimulation targeting higher motor areas in stroke rehabilitation: A proof-of-concept, randomized, double-blinded placebo-controlled study of effectiveness and underlying mechanisms. *Restorative neurology and neuroscience*, 33, 911-26

Cunningham DA, Machado A, **Janini D**, Varnerin N, Bonnett C, Yue G, Jones S, Lowe M, Beall E, Sakaie K, Plow EB. (2015) Assessment of Inter-Hemispheric Imbalance using Imaging and Non-Invasive Brain Stimulation in Patients with Chronic Stroke. *Arch Phys Med Rehabil*, 96, S94-103

Plow EB, Varnerin N, Cunningham DA, **Janini D**, Bonnett C, Wyant A, Hou J, Siemionow V, Wang XF, Machado AG, Yue GH. (2014) Age-related weakness of a proximal muscle studied with motor cortical mapping: a TMS study. *PLoS ONE*, 9, e89371

Pre-prints

Bankson, BB, **Janini, D**, & Baker, C. I. (2019). Whole-brain MEG decoding of symbolic and non-symbolic number stimuli reveals primarily format-dependent representations. *bioRxiv*, 731687.

Selected Conference Presentations

Janini D, Konkle T, Alvarez G (2023). Generic Discriminative Features Exhibit Signatures of Human Numerical Perception. Poster presented at *Cognitive Computational Neuroscience Conference*

Janini D (2022). Object-classifying neural networks have animate and inanimate feature subspaces with partially distinct representational geometries. Poster presented at *Vision Sciences Society*

Janini D, Konkle T (2021). Representational structure for letters is found throughout ventral visual cortex and matches human perception. Poster presented at *Vision Sciences Society*

Janini D, Konkle T (2020). Approximate number representations emerge in object-trained convolutional neural networks and show human-like signatures of number discrimination. Poster presented at *Vision Sciences Society*

Janini D, Deza A, Konkle T (2019). Shape features learned for object classification can predict behavioral discrimination of written symbols. Poster presented at *Vision Sciences Society*

Janini D, Konkle T (2018). Crossmodal correspondences between pitch, retinal size, and real-world size. Poster presented at *International Multisensory Research Forum*

Janini D, Baker CI (2017). Decoding of individual numbers and letters in overlapping regions of ventral visual cortex. Poster presented at *Organization for Human Brain Mapping*

Janini D, Baker CI (2016). Examining the segregation of number, letter, and word form selectivity in human ventral visual cortex. Poster presented at *Society for Neuroscience*

Fellowships, Awards, and Honors

Humboldt Research Fellowship

(2024-Present) Postdoctoral fellowship with independent research funding

National Defense Science & Engineering Graduate Fellowship (NDSEG)

(2019-2021) Fellow - Cognitive, Neural, and Behavioral Sciences.

National Science Foundation Graduate Research Fellowship Program

(2018) Honorable Mention

(2017) Honorable Mention

National Institutes of Health Intramural Research Training Award

(2015-2017) Paid research position for recent college graduates

Phi Beta Kappa National Honor Society

Service

Innovators in Cognitive Neuroscience Speaker Series

(2020 - 2023) Student Organizer

Organized a speaker series for leading scientists from historically under-represented groups
Hosted speakers by scheduling faculty meetings, preparing promotional materials for the talk, working with ASL interpreters, and facilitating trainee Q&A sessions with the speaker

Harvard Prospective Ph.D. & RA Event in Psychology (PPREP)

(2020-2021) Mentor

Mentored students from historically minoritized groups in STEM during their applications to graduate programs and research assistant positions

Provided feedback on research statements and application materials for mentees

Writing Practices Panel - Harvard Psychology Department

(2021) Organized a panel discussion with faculty and postdocs sharing the practices that make for successful academic writing

Climate Committee – Harvard Psychology Department

(2019) Graduate student member

Worked with a team of faculty and trainees to survey the department regarding matters of inclusion and fair workplace treatment

Organized and participated in “town hall” discussions on how our department could better support graduate students, especially those of minoritized backgrounds

Research Science Institute at Massachusetts Institute of Technology

(2018) Mentored a full-time summer intern on modelling the visual system with neural networks

DC STEM Network

(2016) Volunteer

Led STEM learning experiences in DC public schools

Served as a judge in elementary and middle school science fairs