DALE ZHOU

dale.zhou@uci.edu | dalezhou.com | **October 15, 2025**

Education

University of Pennsylvania 2023
Ph.D in Neuroscience
Advisors: Dani Bassett, Theodore Satterthwaite

University of Maryland, College Park 2015
B.A. (honors) in Philosophy
B.S. (honors) in Psychology
Minor in Neuroscience

Interests

Cognitive neuroscience, computational psychiatry, network science, information theory, reinforcement learning, computational social science, diversity in science

Positions

Hewitt Postdoctoral Research Fellow 2023–Present
University of California, Irvine
Department of Neurobiology and Behavior
Department of Cognitive Sciences

Postbaccalaureate Researcher 2017
National Institute of Mental Health
Child Psychiatry Branch

PUBLICATIONS

Google Scholar: citations = 1343 | h-index = 15 | i10-index = 19

Submitted/ Under Revision

* = mentee
† = co-first
‡ = co-last

[6] **Zhou, D.**, Noh, S., Harhen, N., Banavar, N., Kirwan, B., Yassa, M.A, & Bornstein, A.M. (2025). A compressed code for memory discrimination. ***bioRxiv*: 10.12.681901**

[5] **Zhou, D.**, Cosme, D., Kang, Y., Stanoi, O., Lydon-Staley, D.M., Mucha, P., Falk, E., Ochsner, K., & Bassett, D.S. (2025) Neural dynamics of cognitive control: Current tensions and future promise.

[4] Noh, S., Cooper, K., Guo, S.[*], **Zhou, D.**, Stark, C., Bornstein, A.M. (2025). Multi-step planning across the human lifespan can be improved with individualized memory interventions. ***PsyArXiv*: 10.31234/osf.io/3mhj6**

[3] **Zhou, D.**, Ahn, J., Lydon-Staley, D.M., Falk, E.B., Bassett, D.S.[‡], & Ruscio, A.M.[‡](2025). Neural dynamics underlying the persistence of perseverative thought in depression and anxiety. ***bioRxiv*: 10.1101/2025.07.21.666019**

[2] Noh, S.[†], **Zhou, D.**[†], Cooper, K., Guo, S.[*], Dinh, E.[*], Bornstein, A.M. (2025). Sparse and distributed memory constraints modulate the representational change of learning strategies.

[1] Adams, J.N., Kark, S.M., Chappel-Farley, M.G., Escalante, Y., **Zhou, D.**, Stith, L.A., Rapp, P.E., Yassa, M.A., & the Alzheimer's Disease Neuroimaging Initiative (2024). Pathological brain state dynamics in Alzheimer's disease. ***bioRxiv*: 10.1101/2023.08.30.555617**

Journal Articles

[16] **Zhou, D.**, Patankar, S.P., Lydon-Staley, D.M., Zurn, P., Gerlach, M.[‡], & Bassett, D.S.[‡] (2024). Architectural styles of curiosity in global Wikipedia mobile app readership. ***Science Advances***. DOI: 10.1126/sciadv.adn3268

↳ Featured in ***Nature*** | ***Science (podcast)*** | ***Scientific American***

[15] Parkes, L., Kim, J.Z., Stiso, J., Brynildsen, J.K., Cieslak, M., Covitz, S., Gur, R.E., Gur, R.C., Pasqualetti, F. Shinohara, R.T., Stiso, J., **Zhou, D.**, Satterthwaite, T.D., & Bassett, D.S. (2023). Using network control theory to study the dynamics of the structural connectome. ***Nature Protocols***. DOI: 10.1038/s41596-024-01023-w

[14] Kang, Y., Ahn, J., Cosme, D., McGowan, A., Mwilambwe-tshilobo, L., **Zhou, D.**, Jovanova, M., Stanoi, O., Mucha, P.J., Ochsner, K.N., Bassett, D.S., Lydon-Staley, D. & Falk, E.B. (2023). Frontoparietal functional connectivity moderates the link between time spent on social media and subsequent negative affect in daily life. ***Scientific Reports***. DOI: 10.1038/s41598-023-46040-z

[13] Mahadevan, A., Cornblath, E., Lydon-Staley, D.M., **Zhou, D.**, Parkes, L., Larsen, B., Adebimpe, A., Kahn, A.E., Gur, R.C., Gur, R.E., Satterthwaite, T.D., Wolf, D.H., & Bassett, D.S. (2023). Alprazolam modulates persistence energy during emotion processing in first-degree relatives of individuals with schizophrenia: a network control study. ***Molecular Psychiatry***. DOI: 10.1038/s41380-023-02121-z

[12] **Zhou, D.**, Kang, Y., Cosme, D. Jovanova, M., He, X., Mahadevan, A., Ahn, J., Stanoi, O., Brynildsen, J.K., Cooper, N., Cornblath, E.J., Parkes, L., Mucha, P., Ochsner, K., Lydon-Staley, D., Falk, E., & Bassett, D.S. (2023). Mindful Attention Promotes Control of Brain Network Dynamics for Self-Regulation and Discontinues the Past from the Present. ***PNAS***. DOI: 10.1073/pnas.220107411

[11] Patankar, S.P., **Zhou, D.**, Lynn, C.W., Kim, J., Ouellet, M., Ju, H., Zurn, P., Lydon-Staley, D.M., & Bassett, D.S. (2022). Curiosity as filling, compressing, and reconfiguring knowledge networks. ***Collective Intelligence***. *arXiv*: 10.48550/arXiv.2204.01182

[10] Richie-Halford, A., Cieslak, M., Ai, L., Caffarra, S., Covitz, S., Franco, A.R., Karipidis, I.I., Kruper, J., Milham, M., Avelar-Pereira, B., Roy, E., Sydnor, V.J., Yeatman, J.D., [The Fibr Community Science Consortium, including **Zhou, D.**], Satterthwaite, T.D., and Rokem, A. (2022). An open, analysis-ready, and quality controlled resource for pediatric brain white-matter research. ***Scientific Data***. DOI: 10.1038/s41597-022-01695-7

[9] Ju, H., **Zhou, D.**, Blevins, A.S., Lydon-Staley, D.M., Kaplan, J., Tuma, J.R., Bassett, D.S. (2022). Historical growth of concept networks in Wikipedia. ***Collective Intelligence***. DOI: 10.1177/26339137221109839

[8] Weninger, L., Srivastava, P., **Zhou, D.**, Kim, J.Z., Cornblath, E.J., Bertolero, M.A., Habel, U., Merhof, D., and Bassett, D.S. (2022). The information content of brain states is explained by structural constraints on state energetics. ***Physical Review E***. DOI: 10.1103/PhysRevE.106.014401

[7] Adebimpe, A., Bertolero, M.A, [33 others, including **Zhou, D.**, and the ALLFTD Consortium], & Satterthwaite, T.D. (2022). ASLPrep: A Platform for Processing of Arterial Spin Labeled MRI and Quantification of Regional Brain Perfusion. ***Nature Methods***. DOI: 10.1038/s41592-022-01458-7

[6] **Zhou, D.**, Lynn, C.W., Cui, Z., Ciric, R., Baum, G.L., Moore, T.M., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. (2021). Efficient Coding in the Economics of Human Brain Connectomics. ***Network Neuroscience.*** DOI: 10.1162/netn_a_00223

[5] Wang, X., Dworkin, J.D., **Zhou, D.**, Stiso, J., Falk, E.B., Bassett, D.S., Zurn, P., Lydon-Staley, D.M. (2021). Gendered citation practices in the field of communication. ***Annals of the International Communication Association***. DOI: 10.31234/osf.io/ywrcq

[4] Lydon-Staley, D.M., **Zhou, D.**, Blevins, A.S., Zurn, P., & Bassett, D.S. (2020). Hunters, busybodies, and the knowledge network building associated with deprivation curiosity. ***Nature Human Behavior.*** DOI: 10.1038/s41562-020-00985-7

[3] Chai, L.R., **Zhou, D.**, & Bassett, D.S. (2019). Evolution of semantic networks in biomedical texts. ***Journal of Complex Networks.*** DOI: 10.1093/comnet/cnz023

[2] **Zhou, D.**, Liu, S., Zhou, X., Berman, R.A., Broadnax, D.D., Rapoport, J.L, & Thomas, A.G. (2018) 7 Tesla MRI reveals hippocampal structural abnormalities associated with memory intrusions in childhood-onset schizophrenia. ***Schizophrenia Research.*** DOI: 10.1016/j.schres.2018.07.023

[1] **Zhou, D.**, Gochman, P., Broadnax, D.D., Rapoport, J.L., & Ahn, K. (2016). 15q13.3 duplication in two patients with childhood-onset schizophrenia. ***American Journal of Medical Genetics Part B: Neuropsychiatric Genetics.*** DOI: 10.1002/ajmg.b.32439

Reviews, Commentary, & Book Chapters

[6] **Zhou, D.** & Bornstein, A.M. (2024). Expanding horizons in reinforcement learning for curious exploration and creative planning. ***Behavioral and Brain Sciences***. *PsyArXiv*: 10.31234/osf.io/bhcwp

[5] Zurn, P., **Zhou, D.**, Lydon-Staley, D.M., & Bassett, D.S. (2022). Edgework: Viewing curiosity as fundamentally relational. In Cogliati Dezza, I., Wu, C., & Schulz, E. (Eds.). ***The Drive for Knowledge: The Science of Human Information Seeking.*** Cambridge University Press. *PsyArXiv*: 10.31234/osf.io/crzae

[4] **Zhou, D.**, Lydon-Staley, D.M., Zurn, P., & Bassett, D.S. (2020). The growth and form of knowledge networks by kinesthetic curiosity. ***Current Opinion in Behavioral Sciences.*** DOI:10.1016/j.cobeha.2020.09.007

[3] Srivastava, P., Nozari, E., Kim, J.Z., Ju, H., **Zhou, D.**, Becker, C., Pasqualetti, F., & Bassett, D.S. (2020). Models of communication and control for brain networks: distinctions, convergence, and future outlook. ***Network Neuroscience.*** DOI: 10.1162/netn_a_00158

[2] Rapoport, J. L., **Zhou, D.**, & Ahn, K. (2020). Intellectual disabilities. *New Oxford Textbook of Psychiatry, 3rd edition.* Oxford University Press, USA. ISBN: 9780198713005

[1] **Zhou, D.**, Sequeira, S., Driver, D., & Thomas, S. (2018). Disruptive Mood Dysregulation Disorder. In S. Thomas and D. Driver (Eds.), *Complex Disorders in Pediatric Psychiatry: A Clinician's Guide.* Clinics Review Articles, Elsevier Inc. ISBN: 9780323511476

Refereed Conference Papers

[7] **Zhou, D.**, Patankar, S., Gerlach, M., Lydon-Staley, D.M., Zurn, P., & Bassett, D.S. Architectural styles of curiosity in global Wikipedia mobile app readership (virtual). ***11th Annual Wiki Workshop - Research Track***. June 20, 2024.

[6] **Zhou, D.**, Noh, S., Yassa, M.A., Bornstein, A.M. Pattern separation using compressed and semantic representations of memory. ***Conference on Cognitive Computational Neuroscience***. Massachusetts Institute of Technology, Boston, Massachusetts August 6-9, 2024.

[5] Yoo, J.*, **Zhou, D.**, Bornstein, A.M. Latent cause inference as an efficient and flexible learning rule for cognitive graphs. ***Conference on Cognitive Computational Neuroscience***. Massachusetts Institute of Technology, Boston, Massachusetts August 6-9, 2024.

[4] **Zhou, D.**, Tseytlin, I.*, Satterthwaite, T.D., & Bassett, D.S. (2023). Predictive coding from compression, control, and recurrent connectivity in human brain networks. ***Conference on Cognitive Computational Neuroscience***. Oxford University, Oxford, England. August 24-27, 2023.

[3] Kang, Y., Ahn, J., Cosme, D., McGowan, A., Mwilambwe-tshilobo, L., **Zhou, D.**, Jovanova, M., Stanoi, O., Mucha, P.J., Ochsner, K.N., Bassett, D.S., Lydon-Staley, D. & Falk, E.B. Frontoparietal system functional connectivity moderates the within-day associations between increases in time spent on social media and subsequent negative affect. ***73rd Annual International Communication Association Conference.*** Toronto, CA. May 25-29, 2023.

↪ Promising Paper Award

[2] **Zhou, D.**, Kim, J.Z., Pines, A., Sydnor, V.J., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Compression supports low-dimensional representations of behavior across neural circuits. ***NeurIPS 2022 Workshop on Information-Theoretic Principles in Cognitive Systems***. New Orleans, LA. December 3, 2022.

↪ Selected for oral talk (< 10% submissions)

[1] Wang, X., Lydon-Staley, D.M., Stiso, J.A., **Zhou, D.**, Falk, E.B, Bassett, D.S, Zurn, P. Gendered citation practices in the field of communication. ***71st Annual International Communication Association Conference.*** (virtual due to COVID-19). May 27-31, 2021.

↪ Communication & Science Biology Top Paper Award

In Prep

[3] **Zhou, D.**, Guo, S., Irizarry Martnez, G., Thayer, J., Bornstein, A.M., Yassa, M.A. Effects of value and prediction error on memory discrimination.

[2] **Zhou, D.**, Tseytlin, I.*, Satterthwaite, T.D., & Bassett, D.S. Predictive coding from compression, control, and recurrent connectivity in human brain networks.

[1] **Zhou, D.**, Kim, J.Z., Pines, A., Sydnor, V.J., Roalf, D.R., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Network hubs compress sensation to cognition.

FUNDING & AWARDS

Funding

2023-26	**Hewitt Research Fellow** Salary and stipend for research expenses from the George E. Hewitt Foundation for Medical Research to support the next generation of biomedical research leaders at UC Irvine, Salk Institute, and Scripps Research Institute.	$261,000
2021-23	**NIH F31 National Research Service Award** (Grant # F31MH126569) Brain Network Maturation and Executive Dysfunction Spanning Diagnostic Categories of Psychopathology	$80,138

Awards & Fellowships

2023-26	Hewitt Research Fellow	UC Irvine
2021-23	F31 National Research Service Award	NIH
2015-17	NIMH Intramural Research and Training Award	NIH
2015	Departmental Honors in Psychology	UMaryland
2015	Departmental Honors in Philosophy	UMaryland
2010-12	College Park Scholar in Global Public Health	UMaryland
2010-14	University of Maryland President's Scholarship	UMaryland

Stipends

2024	Summer Institute in Neuroscience Mentor Stipend	UC Irvine
2023	Biomedical Graduate Studies Course Funds	UPenn
2022	Biomedical Graduate Studies Travel Funds	UPenn
2019	National Academy of Sciences Travel Award	NAS
2018-20	Language and Communication Sciences Stipend	UPenn
2013	College Park Scholars Co-Curricular Scholarship	UMaryland
2011	Ling Ho Anita K'ung Tong Scholarship	UMaryland

PRESENTATIONS

Invited Talks

2025	*Curiosity and Compression as Complex Systems.* **Seminar**, invited by **Marina Dubova**.	Santa Fe Institute
2025	*Architectural styles of curiosity in global Wikipedia mobile app readers.* **Research Showcase**, invited by Wikimedia Research Team (virtual)	Wikimedia
2025	*A lossy compression account of pattern separation challenges in aging.* **Cognitive Science Colloquium**, invited by student coordinators (internal)	UC Irvine
2023	*Compression, cognitive control, and curiosity.* **Yassa Lab**; **Bornstein Lab** (postdoc job talk)	UC Irvine
2023	*Compression, cognitive control, and curiosity.* **Poldrack Lab** (postdoc job talk; virtual)	Stanford

Submitted Talks

2025	*A lossy compression account of mnemonic discrimination: Computational theory and multimodal evidence.* **Bay Area Memory Meeting**	UC Davis
2024	*Architectural styles of curiosity in global Wikipedia mobile app readership.* **11th Annual Wiki Workshop - Research Track** (virtual)	Wikimedia
2022	*Compression supports low-dimensional representations of behavior across neural circuits.* **NeurIPS Workshop on Information-Theoretic Principles in Cognitive Systems** ↳ < 10% submissions selected	NeurIPS

Guest Presentations

TBD	*Search, spontaneity, and suppression with depressed mood* **Fradkin Lab** meeting (virtual)	Hebrew University
2025	*A lossy compression account of pattern separation.* **Mattar Lab** meeting (virtual)	NYU
2023	*Compression: relationships to the brain, behavior, and transdiagnostic symptoms.* **Astle Lab** meeting (virtual)	Cambridge

Lightning Talks

2024	Hewitt Foundation Fellows Symposium	Salk Institute
2023	**International Research Training Group**	RWTH Aachen
2019	**Brain Produces the Mind By Modeling**	NAS
2017	**Ninth Annual Julius Axelrod Symposium**	NIH

Posters

* = mentee
† = co-first
‡ = co-last

[28] Yoo, J.[*], Goeschel, A., **Zhou, D.**, Bornstein, A.M. Contingency-dependent state augmentation as a normative learning rule for non-Markovian tasks. ***Society for Neuroscience***. San Diego, California. November 15-19, 2025.

[27] **Zhou, D.**[†], Noh, S.M.[†], Cooper, K.W., Guo, S.[*], Dinh, E.D.[*], & Bornstein, A.M. Sparse distributed memory constraints drive representational change as a function of temporal learning sequence. **Cognitive Science Society**. San Francisco, California. July 30-August 2, 2025.

[26] **Zhou, D.**, Ahn, J., Lydon-Staley, D.M., Falk, E.B., Bassett, D.S.[‡], & Ruscio, A.M.[‡], Network control dynamics of persistent thought patterns in depression and anxiety. **Computational Psychiatry Conference**. Tübingen, Germany. July 14-16, 2025.

[25] **Zhou, D.**, Ahn, J., Lydon-Staley, D.M., Falk, E.B., Bassett, D.S.[‡], & Ruscio, A.M.[‡], Network control dynamics of persistent thought patterns in depression and anxiety. **Conte Center at UCI 12th Annual Symposium**. Irvine, California. February 18, 2025.

[24] Irizarry-Martínez, G.[*], Leonard, B.T.[*], Adams, J.N., **Zhou, D.**, Granger, S., McMillan, L., Yassa, M.A. Resting-State Connectivity between the Locus

Coeruleus and the Hippocampus differs by Sex and Depression diagnosis. ***American College of Neuropsychopharmacology***. Phoenix, Arizona. December 8-11, 2024.

[23] Leonard, B.T.[*], Rasmussen, J, **Zhou, D.**, Small, S.L., Sandman, C.A., Stern, H., Baram, T.Z., Glynn, L.M., Poggi-Davis, E., Yassa, M.A. Early life adversity and paraventricular nucleus of thalamus network connectivity interact in the neurobiology of adolescent mental health. ***American College of Neuropsychopharmacology***. Phoenix, Arizona. December 8-11, 2024.

[22] Mohammed, N., **Zhou, D.**, Bassett, D.S., Zurn, P., Lingel, J., Lydon-Staley, D.M. Dancing with Curiosity: A Case Study on the Role of Curiosity in the Creative Process. **Society for Psychology of Aesthetics, Creativity, and the Arts**. New Haven, Connecticut. March 13-15, 2025.

[21] Dinh, E.[*,†], **Zhou, D.**[†], Guo, S., Noh, S.M., Cooper, K., Bornstein, A.M. Autoencoder models of human graph learning reveal that sparse and dense representations differentially support planning and recall. ***Society for Neuroscience***. Chicago, Illinois. October 5-9, 2024.

[20] **Zhou, D.**, Noh, S.M., Yassa, M.A., Bornstein, A.M. Pattern separation using compressed and semantic representations of memory. ***Conference on Cognitive Computational Neuroscience***. Boston, Massachusetts. August 6-9, 2024.

[19] Yoo, J.[*], **Zhou, D.**, Bornstein, A.M. Latent cause inference as an efficient and flexible learning rule for cognitive graphs. ***Conference on Cognitive Computational Neuroscience***. Boston, Massachusetts. August 6-9, 2024.

[18] Irizarry-Martínez, G.[*], Leonard, B.T.[*], Adams, J.N., **Zhou, D.**, Granger, S., McMillan, L., Yassa, M.A. Associations between resting-state functional connectivity of the locus coeruleus and anhedonia symptoms in individuals with depression. ***International Behavioral Neuroscience Society***. Panama City, Panama. June 11-16, 2024.

[17] Parkes, L., Kim, J.Z., Stiso, J., Brynildsen, J.K., Cieslak, M., Covitz, S., Gur, R.E., Gur, R.C., Pasqualetti, F. Shinohara, R.T., Stiso, J., **Zhou, D.**, Satterthwaite, T.D., & Bassett, D.S. (2023). Network control theory (NCT) for neuroscientists: a Python-based protocol. ***Organization for Human Brain Mapping***. Seoul, South Korea. June 23 - June 27, 2024.

[16] **Zhou, D.**, Tseytlin, I.[*], Satterthwaite, T.D., & Bassett, D.S. (2023). Predictive coding from compression, control, and recurrent connectivity in human brain networks. ***Conference on Cognitive Computational Neuroscience***. Oxford University, Oxford, England. August 24-27, 2023.

[15] Gataviņš, M.[*], Luo, A., Sydnor, V.J., Shafiei, G., **Zhou, D.**, Gur, R.E., Gur, R.C., Mackey, A.P., Satterthwaite, T.D., Keller, A.S. (2023). Functional network development along the sensorimotor-association axis. ***Flux Society***. Santa Rosa, California. September 6-9, 2023.

[14] **Zhou, D.**, Patankar, S., Gerlach, M., Lydon-Staley, D.M., Zurn, P., & Bassett, D.S. Dynamics Of Curiosity And Complexity In Wikipedia Readers. **Curiosity, Creativity and Complexity conference** (unable to attend). Columbia University, New York City, New York. May 23-25 2023.

[13] **Zhou, D.**, Kim, J.Z., Pines, A., Sydnor, V.J., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Compression supports low-dimensional representations of behavior across neural circuits. ***NeurIPS 2022 Workshop on Information-Theoretic Principles in Cognitive Systems***. New Orleans, LA. December 3, 2022.

[12] Brynildsen, J. K., **Zhou, D.**, Cosme, D., Jovanova, M., He, X., Mucha, P.J., Ochsner, K.N., Lydon-Staley, D.M. , Falk, E. B., Bassett, D.S. Regulation of alcohol cue reactivity in a social context. ***Society for Neuroscience***. San Diego, CA. November 12, 2022.

[11] **Zhou, D.**, Lynn, C.W., Cui, Z., Ciric, R., Baum, G.L., Moore, T.M., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Network Fidelity Improves with Brain Network Maturation and Executive Function. ***Flux Society***. Paris, France. September 6-9, 2022.

[10] **Zhou, D.**, Kim, J.Z., Pines, A., Sydnor, V.J., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Communication and compression principles integrate sensation to cognition in human brain networks. ***Organization for Human Brain Mapping***. Glasgow, Scotland. June 19-23, 2022.

[9] **Zhou, D.**, Kang, Y., Cosme, D. Jovanova, M., He, X., Mahadevan, A., Stanoi, O., Brynildsen, J.K., Cooper, N., Cornblath, E.J., Parkes, L., Mucha, P., Ochsner, K., Lydon-Staley, D., Falk, E., and Bassett, D.S. Mindfulness Promotes Control of Network Dynamics for Self-Regulation and Updates the Past to Present. ***Organization for Human Brain Mapping***. Glasgow, Scotland. June 19-23, 2022.

[8] Ju, H., **Zhou, D.**, Blevins, A.S., Lydon-Staley, D.M., Kaplan, J., Tuma, J.R., Bassett, D.S. The network structure of scientific revolutions. ***American Physical Society March Meeting*** (virtual due to COVID-19). March 15-19, 2021.

[7] **Zhou, D.**, Lynn, C.W., Cui, Z., Ciric, R., Baum, G.L., Moore, T.M., Roalf, D.R., Detre, J.A., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Efficient Coding in the Economics of Human Brain Connectomics. ***Organization for Human Brain Mapping***. Montreal, CA (virtual due to COVID-19). June 23-July 3, 2020.

[6] **Zhou, D.**, Lydon-Staley, D., Zurn, P., Bassett, & D.S. Network Mechanisms of Curiosity and Information Seeking During Wikipedia Exploration. ***National Academy of Sciences Colloquium: The Brain Produces the Mind By Modeling***, Beckman Center of the National Academy of Sciences & Engineering, Irvine, California. May 1-3, 2019.

[5] **Zhou, D.**, Liu, S., Zhou, X., Berman, R.A., Broadnax, D.D., Rapoport, J.L, & Thomas, A.G. Ultra-high field 7-Tesla MRI reveals hippocampal subfield volume and shape abnormalities in childhood-onset schizophrenia patients compared to healthy siblings and controls. 9^{th} ***Annual Julius Axelrod Symposium***, Bethesda, Maryland. April 13, 2017.

[4] **Zhou, D.**, Liu, S., Zhou, X., Berman, R.A., Broadnax, D.D., Rapoport, J.L, & Thomas, A.G. Ultra-High Field 7-Tesla MRI Shape Analysis of Hippocampal Subfields in Childhood-Onset Schizophrenia and Healthy Siblings. ***Society of Biological Psychiatry***, San Diego, California. May 18-20, 2017.

[3] **Zhou, D.**, Liu, S., Berman, R.A., Broadnax, D.D., Rapoport, J.L, & Thomas, A.G. 7-Tesla MRI Reveals Regional Hippocampal Deficits in Childhood-Onset Schizophrenia. ***American College of Neuropsychopharmacology***, Hollywood, Florida. In *Neuropsychopharmacology.* December 4-8, 2016.

[2] **Zhou, D.**, Liu, S., Berman, R.A., Broadnax, D.D., Rapoport, J.L, & Thomas, A.G. 7-Tesla MRI reveals regional hippocampal volume deficits of dentate gyrus in childhood-onset schizophrenia. ***Society for Neuroscience***, San Diego, California. November 12-16, 2016.

[1] **Zhou, D.**, Gochman, P., Broadnax, D.D., Rapoport, J.L., & Ahn, K. 15q13.3 duplication in two patients with childhood-onset schizophrenia. ***Society of Biological Psychiatry***, Atlanta, Georgia. May 12-14, 2016.

TEACHING

Teaching Assistant

2022	Goals of Scientific Inquiry; or, On the Curiosity of Beasts. Instructor: Dani Bassett Student evaluation of TA: 3.6/4.0	*UPenn* Bioengineering
2020	Curiosity: Ancient and Modern Thinking About Thinking. Instructor: Dani Bassett Student evaluation of TA: not rated	*UPenn* Arts & Sciences
2019	Computational Neuroscience Lab. Instructor: Nicole Rust Student evaluation of TA: 3.7/4.0	*UPenn* Psychology

Guest Lecturer

2023–24	Advanced Topics in Graph Analysis (online) Instructor: Will Gray-Roncal	*Johns Hopkins* Engineering; Data Science
2022	Goals of Scientific Inquiry Instructor: Dani Bassett	*UPenn* Bioengineering 571
2019–20	Network Neuroscience Instructor: Dani Bassett	*UPenn* Bioengineering 566
2019	Computational Neuroscience Lab Instructor: Nicole Rust	*UPenn* Biological Basis of Behavior 310

Graduate Students Mentored

[3]	Bianca Leonard	UC Irvine, MD/PhD student in Neurobiology and Behavior Network growth charts; anhedonia; early-life unpredictability
[2]	Gimarie Irizarry Martínez	UC Irvine, PhD student in Neurobiology and Behavior Anhedonia; reinforcement learning; value-mediated memory
[1]	Jungsun Yoo	UC Irvine, PhD student in Cognitive Science Cognitive graphs, eligibility traces, latent cause models (Postdoc, Niv & Daw labs at Princeton)

Undergraduate Students Mentored

[6]	Shuheng Guo	UC Irvine, B.S. in Psychology Value-mediated pattern separation; sparse autoencoders; foraging
[5]	Destiny Edens	NC A&T State University, Summer Student Network structure in psychiatric taxonomy (Teach for America)
[4]	Emily Dinh	UC Irvine, Research Specialist Cognitive graphs, autoencoders (Johnson & Johnson)

[3]	Ivan Tseytlin	Haverford College, B.S. Physics; Computer Science 2023 Network control theory (Daylight Computer Company)
[2]	Samantha Simon	University of Pennsylvania, B.S. Physics 2023 Diversity in science; semantic networks (Accenture AI)
[1]	Mark Choi	University of Pennsylvania, B.S. Computer Science 2021 Network structure in mathematics (Meta)

SERVICE

Mentorship

2024 Irvine Summer Institute in Neuroscience Program, [link]

Destiny Edens NC A&T State University, Neuroscience 2024

2020–21 MindCORE Step-Ahead Mentorship Program, [link]

Mārtiņs M. Gataviņš University of Pennsylvania, Neuroscience 2024

2019–21 Upward Bound: Research Fridays, [link]

Journal Reviewer

Biological Psychiatry | Cerebral Cortex | Communications Biology | Frontiers in Psychiatry | Hippocampus | IEEE: Transactions on Network Science and Engineering | Network Neuroscience | npj Artificial Intelligence | PLOS One

Conference Reviewer

Association for Computational Linguistics, WikiNLP workshop | Cognitive Computational Neuroscience *2x* | Cognitive Science Society | NeurIPS (Information-Theoretic Principles in Cognitive Systems workshop) | Web Conference (Wiki Workshop) *3x*

Co-organizer & Program Committee

Innovators in Cognitive Neuroscience Symposia | Web Conference (Wiki Workshop)

Hackathons

Stiso, J.* & **Zhou, D.*** (2020). *Tools for Combating Citation Bias.* Organization for Human Brain Mapping Hackathon, Montreal, Canada. June 16–18, 2020. [link]

Invited Talks

Citation Diversity Tutorial. University of California, Irvine. October 16th, 2023.

Citation Diversity Tutorial, Annual Meeting for the Neuroscience Training Grant; Vision Training Grant; and Computational Approaches to the Neuroscience of Audition Training Grant, University of Pennsylvania. June 7, 2021.

Panelist, Post-Baccalaureate Research Experiences, University of Maryland. March 30, 2017.

DIVERSITY, EQUITY, & INCLUSION

2019– Creator/Maintainer, Citation Diversity Statement Code Notebook [link]

– Used and cited in $>$ 150 articles across $>$ 30 journals.

- Contributions from researchers across 11 universities, including UPenn, MIT, Columbia, University of Michigan, Leiden University, and Technical University of Munich.
- Highlighted by **Nature**, **Cell**, **Science**, **Nature Neuroscience**, **Nature Reviews Psychology**, **Biomedical Engineering Society** journals.
- Perspectives in **Nature Neuroscience**, **Trends in Cognitive Sciences**, **Neuron** and **Journal of Cognitive Neuroscience**

2024 Irvine-HBCU Summer Institute in Neuroscience

- University of California-Historically Black Colleges and Universities (UC-HBCU) Initiative.

2022 Kamen's Lens. Rebecca Kamen, S.J. Fowler, Dale Zhou. *Dyslexic Dictionary.* Organized and curated by Gil Gershoni, Tasmin Smith, and Ted Gioia. Arion Press Gallery, 1802 Hays Street, The Presidio, San Francisco, CA. October 22–December 22, 2022. [link] [video 1] [video 2]

2020 Stiso, J.* & **Zhou, D.*** (2020). *Tools for Combating Citation Bias.* Organization for Human Brain Mapping Hackathon, Montreal, Canada. June 16–18, 2020. [link]

2020–21 Web Developer, Black in STEM in Academia

OUTREACH

Organizations

2024	Mentor **Summer Institute in Neuroscience**	UC Irvine
2020–22	Organizing Committee **Innovators in Cognitive Neuroscience**	UPenn
2020–21	Web Developer Black in STEM in Academia	UPenn
2019–20	Organizer, Web Developer Penn Network Visualization program	UPenn
2019–21	Apprentice Chief **Upward Bound: Research Fridays**	UPenn
2019–20	Committee member APICAL Service Award	UPenn
2017–20	Section Chief **Brains in Brief science communication**	UPenn
2017–18	Founder Psychology Honors Alumni	UMaryland
2014–15	Vice President Philosophy Club	UMaryland

Art Exhibitions

[2] Kamen's Lens. Rebecca Kamen, S.J. Fowler, Dale Zhou. *Dyslexic Dictionary.* Organized and curated by Gil Gershoni, Tasmin Smith, and Ted Gioia. Arion Press Gallery, 1802 Hays Street, The Presidio, San Francisco, CA. October 22–December 22, 2022. [link] [video 1] [video 2]

[1] Sparking Curiosity. Dale Zhou, David Lydon-Staley, Perry Zurn, and Dani Bassett. *Reveal: The Art of Reimagining Scientific Discovery.* Organized and curated by Rebecca Kamen and Sarah Tanguy. Museum at the Katzen Arts Center, American University, Washington, D.C., August 29–December 12, 2021. [link]

Art Catalogs

The Connected Brain. Human Brain Mapping Conference. ISBN 9798357985361
– Contribution to collection

MEDIA COVERAGE

Articles & Blogs

Research featured in university or popular press (authors of pieces listed).

[11] Richard Fisher (May 29, 2025) *What style of curiosity do you practise?* **Psyche**

[10] Gary Stix (Ed. Sarah Frasier) (December 24, 2024) *Wikipedia Searches Reveal Differing Styles of Curiosity.* ***Scientific American***

[9] Nathi Magubane (October 28, 2024) *Studying Wikipedia browsing habits to learn how people learn.* ***Penn Today***

[8] Bronwyn Thompson (October 26, 2024) *What your Wikipedia browsing style says about you.* ***New Atlas***

[7] Sarah Polkinghorne (October 25, 2024) *Going down a Wikipedia rabbit hole? Science says youre one of these three types.* ***The Conversation***

[6] Helena Kudiabor (October 24, 2024) *Study reveals three ways to disappear down a Wikipedia rabbit hole.* ***Nature***

[5] Natalia Gass (February 17, 2023) *Neural states during mindful attention.* ***Nature Mental Health***.

[4] Nathi Magubane (January 26, 2023) *Through the lens: A digital depiction of dyslexia.* ***Penn Today***.

[3] Diana Kwon (March 22, 2022) *The rise of citational justice: how scholars are making references fairer.* ***Nature***.

[2] Melissa Pappas (January 26, 2021) *Researchers measure different types of curiosity studying hunters and busybodies.* ***Penn Today***.

[1] Melissa Pappas (January 12, 2021) *Studying Hunters and Busybodies, Penn and American University Researchers Measure Different Types of Curiosity.* ***Penn Engineering Today***.

Radio & Podcast interviews

Interviews or featured research (hosts listed).

[3] Lynn Borton (2025). Curiosity and Wikipedia. ***Choose to Be Curious***

[2] Dale Drinkwater (November 1, 2024). Wikipedia and Curiosity. *ABC NewsRadio Australia*

[1] Sarah Crespi, Kai Kupferschmidt (October 31, 2024) *The challenges of studying misinformation, and what Wikipedia can tell us about human curiosity.* ***Science (podcast)***

TRAINING

Programming

R | Python | MATLAB | JavaScript | Bash

Neuroimaging

Nipype | Freesurfer | ANTs | FSL | AFNI

Experimental Design

jsPsych, psiTurk, Prolific

Modeling

Dynamics on networks | Temporal networks | Multi-layer networks | Agent-based modeling | Evolutionary computation | Control theory | Information theory | Natural language processing | Generalized additive models

Workshops

Cognitive Foundations in Decision-Making. Rabat, Morocco. July 22-27, 2024

Unity and Virtual Reality for Research Workshop. University of California, Irvine. June 13, 2024

Collective Intelligence: Foundations + Radical Ideas symposium & short course. Santa Fe, NM. June 19, 2023

NeurIPS 2022 Workshop on Information-Theoretic Principles in Cognitive Systems workshop. New Orleans, LA. December 3, 2022

Summer Workshop in Cognitive Electrophysiology, Philadelphia, PA (virtual). August 4-13, 2020.

Computational Psychiatry Summer Course, New York, NY. July 29-30, 2019.