# Dale Zhou


Contact Information

Complex Systems Lab
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Education

**University of Pennsylvania**
Ph.D. candidate in Neuroscience
Thesis advisors: Danielle Bassett and Theodore Satterthwaite

**University of Maryland, College Park**
B.A. in Philosophy, *honors*
B.Sc. in Psychology, *honors*
Minor in Neuroscience

## Publications

Submitted

[9] **Zhou, D.**, Lydon-Staley, D.M., Zurn, P., Bassett, D.S. (2020, under review at Current Opinion in Behavioral Sciences). *The growth and form of knowledge networks by kinesthetic curiosity.* arXiv. arXiv:2006.02949

[8] **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. (2020, under revision at Nature Neuroscience). *Efficient Coding in the Economics of Human Brain Connectomics.* biorxiv. DOI: 10.1101/2020.01.14.906842

[7] Lydon-Staley, D.M., **Zhou, D.**, Blevins, A.S., Zurn, P., Bassett, D.S. (2019, under revision at Nature Human Behavior). *Hunters, busybodies, and the knowledge network building associated with curiosity.* PsyArXiv. DOI: 10.31234/osf.io/undy4

Journal Articles

[6] 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

[5] **Zhou, D.**, Liu, S., Zhou, X., Berman, R.A., Broadnax, D.D., Rapoport, J.L, and 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

[4] **Zhou, D.**, Gochman, P., Broadnax, D.D., Rapoport, J.L., and 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/Book Chapters

[3] Srivastava, P., Nozari, E., Kim, J.Z., Ju, H., **Zhou, D.**, Becker, C., Pasqualetti, F., and Bassett, D.S. (2020, in press). *Models of communication and control for brain networks: distinctions, convergence, and future outlook.* Network Neuroscience. arXiv:2002.07029

[2] Holland, A. J., 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

## Conference Presentations

### Talks

[2] National Academy of Sciences Colloquium: The Brain Produces the Mind By Modeling (2019). *Network Mechanisms of Curiosity and Information Seeking During Wikipedia Exploration.* Irvine, California.

[1] Annual Julius Axelrod Symposium (2017). *Ultra-high field 7-Tesla MRI reveals hippocampal subfield volume and shape abnormalities in childhood-onset schizophrenia patients compared to healthy siblings and controls.* NIMH, Intramural Research Program. Bethesda, Maryland.

### Abstracts

[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. (2020). *Efficient Coding in the Economics of Human Brain Connectomics.* Organization of Human Brain Mapping. Montreal, CA.

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

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

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

[3] **Zhou, D.**, Liu, S., Berman, R.A., Broadnax, D.D., Rapoport, J.L, and Thomas, A.G. (2016). *7-Tesla MRI Reveals Regional Hippocampal Deficits in Childhood-Onset Schizophrenia.* American College of Neuropsychopharmacology, Hollywood, Florida. In *Neuropsychopharmacology*, Vol. 41, pp. S591-S591.

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

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

## Open-source Software & Notebooks

[3] **Zhou, D.**, Cornblath, E.J., Stiso, J., Teich, E.G., Dworkin, J.D., Blevins, A.S., & Bassett, D.S. (2020). *Gender Diversity Statement and Code Notebook v1.0 (Version v1.0)*. Zenodo. DOI: 10.5281/zenodo.3672110

[2] **Zhou, D.** (2018). *Building word2vec and Co-Occurrence Networks*, `link`

[1] Gorgolewski, K.J., Esteban, O., [110 others, including **Zhou, D.**], and Ghosh, S. (2016). *Nipype: a flexible, lightweight and extensible neuroimaging data processing framework in Python. 0.13.0.* DOI: 10.5281/zenodo.581704

## Honors

| | |
|---|---|
| 2018-20 | Language and Communication Sciences Program |
| 2015 | Departmental Honors in Psychology |
| 2015 | Departmental Honors in Philosophy |
| 2010-12 | College Park Scholar in Global Public Health |

## Funding

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| 2015-17 | NIH Intramural Research Training Award |
| 2010-14 | University of Maryland President's Scholarship |

## Small Grants

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| 2018-20 | Language and Communication Sciences Research Fund Stipend |
| 2019 | National Academy of Sciences Travel Award |
| 2013 | College Park Scholars Co-Curricular Scholarship Award |
| 2011 | Ling Ho Anita K'ung Tong Scholarship |

## Teaching

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|---|---|
| 2020 | Curiosity: Ancient and Modern Thinking about Thinking (INTG002) |
| 2019 | Guest Lecturer, Network Neuroscience (BE566) |
| 2019 | Guest Lecturer, Computational Neuroscience Lab (BBB344) |
| 2019 | Teaching Assistant, Computational Neuroscience Lab (BBB344) |

## Students Advised

[2] Samantha Simon (University of Pennsylvania, Physics 2023)
Diversity in science; network science; semantic networks

[1] Mark Choi (University of Pennsylvania, Computer Science 2021)
Network structure in mathematics

## Mentorship

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| 2020– | Mentor, mindCORE Step-Ahead Mentorship Program, `[link]` |
| 2019– | Mentor, Upward Bound: Research Fridays, `[link]` |

## Professional Service

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| 2020– | Web Designer, Black in STEM |
| 2019– | Organizer, Web Designer, Penn Network Visualization program, `[link]` |
| 2019 | Committee, APICAL Service Award |
| 2019– | Apprentice Chief, Upward Bound: Research Fridays, `[link]` |
| 2017– | Section Chief, Brains in Brief science communication, `[link]` |
| 2017–18 | Founder, Psychology Honors Alumni (University of Maryland) |
| 2014–15 | Vice President, Philosophy Club (University of Maryland) |

## Reviewer

Biological Psychiatry, Cerebral Cortex, IEEE: Transactions on Network Science and Engineering

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| Hackathons | Stiso, J.* & **Zhou, D.*** (2020). *Tools for Combating Citation Bias.* Organization of Human Brain Mapping Hackathon, Montreal, Canada. |
| Invited Talks | Panelist, Post-Baccalaureate Research Experiences (2017), University of Maryland |

**Technical Skills & Training**

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| Programming | R, Python, MATLAB, LaTeX |
| Image Processing | Nipype, Freesurfer, ANTs, FSL, AFNI |
| Workshops | Organization of Human Brain Mapping Hackathon (2020), Montreal, Canada.<br>Computational Psychiatry Summer Course (2019), New York, New York. |