Adam Robert Pines
Postdoctoral Scholar | Precision Psychiatry and Translational Neuroscience Laboratory | Stanford University
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Education

Ph.D, Neuroscience **August 2017 - August 2022**
Dissertation: Layers of Maturation in Cortical Hierarchies
University of Pennsylvania, Philadelphia, PA
Advisor: Theodore Satterthwaite, M.D., M.A.

Bachelor of Arts, ***magna cum laude****,* Psychology (Major), Biology (Minor) **August 2011 - May 2015**
Loyola Marymount University, Los Angeles, CA

Work Experience

A.C.E. Certified Personal Trainer
Burns Recreation Center, Westchester, CA August 2013 - May 2015
24 Hour Fitness, Mountain View Sport, Mountain View, CA June 2015 - October 2015

Research

Clinical Research Coordinator **October 2015 - May 2017**
Stanford University, Stanford, CA. PI: Leanne Williams

- Designed and ran MRI, VR, and smartphone data acquisition protocol 200+ times for the NIH Science of Behavior Change initiative
- Analyzed multimodal neuroimaging, VR, and behavioral data for protocol optimization and peer-reviewed publications
- Presented project progress to various NIH representatives
- Coordinated participant and personnel calendars across multiple institutions

Research Assistant **September 2013 - May 2015**
Loyola Marymount University, Los Angeles, CA. PI: Cheryl Grills

- Organized and coded data and conducted preliminary data analyses in SPSS for numerous county, state, and national private- and federally-funded evaluation and community-based research projects covering topics including: childhood obesity in communities of color, use of emergency room services by homeless individuals, foster youth supported employment, ethnic minority male school-to-prison pipeline and school mentorship programs, and trauma-focused treatment for young women.

Research Volunteer **June 2015 - October 2015**
Stanford University, Palo Alto, CA. PI: Amit Etkin

- Operated and assisted in operating TMS, EEG, and fMRI equipment and associated software for data collection in several studies of patient and healthy control samples.

Awards and Funding

Ruth L. Kirschstein National Research Service Award (NRSA) **February 2021 - August 2022**
Jameson-Hurvich Travel Award for Behavioral Neuroscience **June 2021**
LMU Achievement Award, Loyola Marymount University **August 2011 - May 2015**

Publications

Pines, A., Larsen, B., Cui, Z., Sydnor, V., Bertolero, M., Adebimpe, A., Alexander-Bloch, A., Davatzikos, C., Fair, D., Gur, R.C., Gur R.E., Li, H., Milham, M., Moore, T., Murtha, K., Parkes, L., Thompson-Schill, S., Shanmugan, S., Shinohara, T., Weinstein, S., Bassett, D., Fan, Y., & Satterthwaite T. (2022) Dissociable Multi-scale Patterns of Development in Personalized Brain Networks. *Nature Communications*.

Pines, A, Keller, A., Larsen, B., Bertolero, M., Ashourvan, A., Bassett, D., Cieslak, M., Covitz, S., Fan, Y., Feczcko, E., Houghton A., Rueter, A., Tapera, T., Vogel, J., Weinstein, S., Shinohara, R., Fair, D., & Satterthwaite, T. (2022). Development of Top-Down Cortical Propagations in Youth. *Neuron*.

Pines, A., Cieslak M., Larsen, B., Baum, G., Cook, P., Adebimpe, A., Dávila, D., Elliott, M., Jirsaraie, R., Murtha, K., Oathes, D., Piiwaa, K., Rosen, A., Rush, S., Shinohara, R., Bassett, D., & Satterthwaite, T. (2020) Leveraging multi-shell diffusion for studies of brain development in youth and young adulthood. *Developmental Cognitive Neuroscience*.

Pines, A., Sacchet, M., Kullar, M., Ma., J., & Williams, L. (2018) Multi-unit relations among neural, self-report, and behavioral correlates of emotion regulation in comorbid depression and obesity. *Scientific Reports*.

Cui, Z., **Pines, A.**., Larsen, B., Sydnor, V. J., Li, H., Adebimpe, A., Alexander-Bloch, A. F., Bassett, D. S., Bertolero, M., Calkins, M. E., Davatzikos, C., Fair, D. A., Gur, R. C., Gur, R. E., Moore, T. M., Shanmugan, S., Shinohara, R. T., Vogel, J. W., Xia, C. H., Fan, Y., & Satterthwaite, T. D. (2022). Linking Individual Differences in Personalized Functional Network Topography to Psychopathology in Youth. *Biological Psychiatry*.

Cieslak, M., Cook, P., He, X., [and 39 others, including **Pines, A.**] (2021). QSIPrep: An integrative platform for preprocessing and reconstructing diffusion MRI. *Nature Methods*.

Larsen, B., Cui, Z., Adebimpe, A., **Pines, A.**, Alexander-Bloch, A., Bertolero, M., Calkins, M. E., Gur, R. E., Gur, R. C., Mahadevan, A. S., Moore, T. M., Roalf, D. R., Seidlitz, J., Sydnor, V. J., Wolf, D. H., & Satterthwaite, T. D. (2021). A Developmental Reduction of the Excitation:Inhibition Ratio in Association Cortex during Adolescence. *Science Advances*.

Shah, P., Ashourvan, A., Mikhail, F., **Pines, A.**, Kini, L., Shinohara, R., Bassett, D., Litt, B., & Davis, K. (2019). Characterizing the role of the structural connectome in seizure dynamics. *Brain*.

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. (2022). Compression supports low-dimensional representations of behavior across neural circuits. Available from https://www.biorxiv.org/content/10.1101/2022.11.29.518415v1

Sydnor, V., Larsen, B., Bassett, D., Alexander-Bloch, A., Fair, D., Liston, C., Mackey, A., Milham., M., **Pines, A.**, Roalf., D., Seidlitz, J., Xu, T., Raznahan, A., & Sattertwhaite, T. (2021) Neurodevelopment of the association cortices: patterns, mechanisms, and implications for psychopathology. *Neuron*.

Keller, A. S., Sydnor, V., **Pines**, **A**., Fair, D., Bassett, D., & Satterthwaite T., (2022). Hierarchical

functional system development supports executive function. *Trends in Cognitive Sciences*.

Keller, A. S., Mackey, A. P., **Pines. A.**, Fair, D., Hoffman, M.S., Salum, G., Barzilay, R., & Satterthwaite, T. (2022). Caregiver monitoring, but not caregiver warmth, is associated with general cognition in two large sub-samples of youth. *Developmental Science.*

Ashourvan, A., Shah, P., **Pines, A**., Gu, S., Lynn, C., Bassett, D., Davis, K., & Litt, B. (2021). Pairwise maximum entropy model explains the role of white matter structure in shaping emergent co-activation states**.** *Nature Communications Biology.*

Xia, C., Barnett, I., Tapera, T., Cui, Z., Moore, T., Adebimpe, A., Rush-Goebel, S., Piiwaa, K., Murtha, K., Linguiti, S., Leibenluft, E., Brotman, M., Martin, M., **Pines, A.**, Calkins, M., Roalf, D., Wolf, D., Bassett, D., Lydon-Staley, D., Baker, J., Ungar, L., & Satterthwaite T. (2022). Mobile Footprinting: Linking Individual Distinctiveness in Mobility Patterns to Mood, Sleep, and Brain Functional Connectivity. *Neuropsychopharmacology*.

Williams, L., **Pines, A**., Goldman Rosas, L., Goldstein-Piekarski, A., Lavori, P., Dagum, P., Wandell, B., Correa, C., Greenleaf, W., Suppes, T., Perry, L., Smyth, J., Lewis, M., Venditti, E., Snowden, M., Simmons J., & Ma, J. (2018). The ENGAGE study: Integrating neuroimaging, virtual reality and smartphone sensing to understand self-regulation for managing depression and obesity in a precision medicine model. *Behaviour Research and Therapy.*

Li, B., Bailenson, J., **Pines, A.** Greenleaf, W., & Williams, L. (2017) A public database of immersive VR videos with corresponding ratings of arousal, valence, and correlations between head movements and self report measures. *Frontiers in Psychology.*

Shanmugan, S., Seidlitz, J., Cui, Z., Adebimpe, A., Bassett, D., Bertolero, M., Davatzikos, C., Fair, D., Gur, R. E., Gur, R. C., Larsen, B., Li, H., **Pines, A**., Raznahan, A., Roalf, D., Shinohara, R., Vogel, J., Wolf., D., Fan., Y., Alexander-Bloch, A., & Satterthwaite, T. (2021). Sex differences in functional topography of association networks. *Proceedings of the National Academy of Sciences.*

Murtha, K., Larsen, B., **Pines, A**., Parkes, L., Moore, T. M., Adebimpe, A., Bertolero, M., Alexander-Bloch, A., Calkins, M. E., Davila, D. G., Lindquist, M. A., Mackey, A. P., Roalf, D. R., Scott, J. C., Wolf, D. H., Gur, R. C., Gur, R. E., Barzilay, R., & Satterthwaite, T. D. (2022). Associations between neighborhood socioeconomic status, parental education, and executive system activation in youth. *Cerebral Cortex*.

Baller, E. B., Valcarcel, A. M., Adebimpe, A., Alexander-Bloch, A., Cui, Z., Gur, R. C., Gur, R. E., Larsen, B. L., Linn, K. A., O'Donnell, C. M., **Pines, A.**, Raznahan, A., Roalf, D. R., Sydnor, V. J., Tapera, T. M., Tisdall, M. D., Vandekar, S., Xia, C. H., Detre, J. A., Shinohara, R. T., & Satterthwaite, T. D. (2022). Developmental coupling of cerebral blood flow and fMRI fluctuations in youth. *Cell Reports*.

Richie-Halford, A., Cieslak, M., Ai, L., Caffarra, S., Covitz, S., Franco, A., Karipidis, I., Kruper, J., Milham, M., Avelar-Pereira, B., Roy, E., Sydnor, V., Yeatman, J., **The Fibr Community Science Consortium,** Satterthwaite T., & Rokem, A. (2022). An analysis-ready and quality controlled resource for pediatric brain white-matter research. *Scientific Data.*

Under revision

Mehta, K., **Pines, A**, Adebimpe, A., Larsen, B., Bassett, D., Calkins, M., Baller, E., Gell, M., Patrick, L., Gur, R.E., Gur, R.C., Roalf, D., Romer, D., Wolf., D., Kable, J., & Satterthwaite, T. (2023). Individual Differences in Delay Discounting are Associated with Dorsal Prefrontal Cortex Connectivity in Youth. Available from https://www.biorxiv.org/content/10.1101/2023.01.25.525577v1

Keller, A. S., **Pines, A.**, Sydnor, V. J., Cui, Z., Bertolero, M. A., Barzilay, R., Alexander-Bloch, A. F., Byington, N., Chen, A., Conan, G. M., Davatazikos, C., Feczko, E., Hendrickson, T. J., Houghton, A., Larsen, B., Li, H., Miranda-Dominguez, O., Roalf, D. R., Perrone, A., Shanmugan, S., Shinohara, R., Fan, Y., Fair, D., & Satterthwaite, T. D. (2022). Personalized Functional Brain Network Topography Predicts Individual Differences in Youth Cognition. Available from https://www.biorxiv.org/content/10.1101/2022.10.11.511823v1

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. (2022). Compression supports low-dimensional representations of behavior across neural circuits. Available from https://www.biorxiv.org/content/10.1101/2022.11.29.518415v1

Vogel, J. W., Alexander-Bloch, A., Wagstyl, K., Bertolero, M., Markello, R., **Pines, A.**, Sydnor, V. J., Diaz-Papkovich, A., Hansen, J., Evans, A. C., Bernhardt, B., Misic, B., Satterthwaite, T., & Seidlitz, J. (2022). Conserved whole-brain spatiomolecular gradients shape adult brain functional organization. Available from https://www.biorxiv.org/content/10.1101/2022.09.18.508425v1

Hermosillo, R., Moore, L., Fezcko, E., Dworetsky, A., **Pines, A.,** Conan, G., Mooney, M., Randolph, A., Adeyemo, B., Earl, E., Perrone, A., Carrasco, C., Uriarte-Lopez, J., Snider, K., Doyle., O., Cordova, M., Nagel, B., Feldstein Ewin, S., Satterthwaite, T., Dosenbach, N., Gratton, C., Peterson, S., Miranda-Domínguez, O., & Fair., D. (2022). A Precision Functional Atlas of Network Probabilities and Individual-Specific Network Topography. In Revision, *Nature Neuroscience*. Available from https://www.biorxiv.org/content/10.1101/2022.01.12.475422v1

Teaching

Hierarchical Neuroaesthetics. Guest lecturer, University of San Francisco, October 2022

Introduction to the Brain and Behavior. Teaching Assistant, University of Pennsylvania, Fall 2019

Professional Presentations

Pines, A. *Dissociable Multi-scale Patterns of Developmentin Personalized Brain Networks.* Masonic Institute of Brain Development Science Discussions, July 2021

Pines, A., Cui, Z., Li, H., Larsen, B., Adebimpe, A., Murtha, K., Milham, M.P., Fair, D.A., Alexander-Bloch, A.F., Gur, R.C., Gur R.E., Fan, Y., Bassett, D.S., & Satterthwaite, T.D., *Segregation of Personalized functional Communities in Development is Associated with Position in Functional Hierarchy.* Poster presented at the Organization for Human Brain Mapping, Online, June 2020

Pines, A., Cieslak M., Baum, G., Cook, P., Adebimpe, A., Dávila, D., Elliott, M., Jirsaraie, R., Murtha,

K., Oathes, D., Piiwaa, K., Rosen, A., Rush, S., Shinohara, R.T., Bassett, D.S., & Satterthwaite, T., *Advantages of Multi-shell Diffusion Models for Studies of Brain Development in Youth.* Poster presented at the Flux Congress, New York City, August 2019

Pines, A., Ma, J. *Engaging Self-Regulation Targets to Understand the Mechanisms of Behavior Change and Improve Mood and Weight Outcomes*. Presentation at the NIH Science of Behavior Change Steering Committee, Bethesda, MD, January 2017

Pines, A. *Emergency Room Usage by Los Angeles Homeless: The Role of Race and Problem Perceptions.* Poster presented at the IFCU International Psychology Congress, Los Angeles, CA, March 2015.

Ad Hoc Reviewer

Proceedings of the National Academy of the Sciences, 2019, 2020
Neuroimage, 2020
Developmental Science, 2021
Science Advances, 2021
Nature Medicine, 2022