

KIRSTEN ZIMAN

Princeton University
Princeton Neuroscience Institute, Office 282a
Princeton, New Jersey, 08542

Email: kz0108@Princeton.edu · Phone: (310) 920-5973 · Website: KirstenZiman.com

ACADEMIC APPOINTMENTS

Princeton University Postdoctoral Researcher Princeton Neuroscience Institute Advisor: Michael Graziano	<i>2022 - Present</i>
---	-----------------------

EDUCATION

Dartmouth College Ph.D., Cognitive Neuroscience Psychological and Brain Sciences Dissertation: Attending and remembering the external world Committee: Jeremy Manning (Advisor), Tor Wager, Theresa Desrochers, Emily Finn	<i>2022</i>
University of Southern California B.S., Neuroscience B.S., Neuroscience Brain and Creativity Institute Advisors: Antonio Damasio, Assal Habibi	<i>2014</i>

FUNDING

NIH Institutional Training Grant (t32) Postdoctoral Research Fellow	<i>2022-2024</i>
NSF Established Program to Stimulate Competitive Research Graduate Student	<i>2017-2022</i>

HONORS & AWARDS

Graduate Travel Award, Dartmouth Graduate Studies	<i>2021</i>
Neukom Prize for Outstanding Graduate Research in Computational Science	<i>2020</i>
Tau Sigma Honors Society, University of Southern California	<i>2013</i>
Phi Theta Kappa Honors Society, Beta Kappa Delta Chapter	<i>2012</i>
National Merit Scholar Semifinalist	<i>2007</i>

PUBLICATIONS

*Undergraduate trainees are underlined, * Indicates equal first authorship*

1. **Ziman K.**, Kimmel S. C., Christian I., Thompson J., Graziano M. S. A. (In preparation). Predictive modeling of others' attention in the brain: Increased activity when expectations are violated.
2. Farrell K. T., **Ziman K.**, Graziano M. S. A. (In preparation). The attention schema theory in machine learning: training agents to classify the attention patterns of others.
3. Premakumar V. N., Vaiana M., Pop F., Rosenblatt J., Scwerz de Lucena, D., **Ziman K.**, Graziano M. S. A. (2024). Unexpected Benefits of Self-Modeling in Neural Systems. *Submitted: Proceedings of the royal society B; arXiv: <https://arxiv.org/abs/2407.10188>*
4. **Ziman K.**, Kimmel S. C., Farrell K. T., Graziano M. S. A. (2023). Predicting the Attention of Others. *Proceedings of the National Academy of Sciences*.
5. Saleki, S., **Ziman, K.**, Hartstein, K. C., Cavanagh, P., Peter, U. T. (2022). Endogenous attention biases transformational apparent motion based on high-level shape representations. *Journal of Vision*, 22(12), 16-16.
6. Hartstein K. C., Saleki S., **Ziman K.**, Cavanagh P., Tse P. U. (2021). First- and second-order transformational apparent motion rely on common shape representations. *Vision Research*.
7. **Ziman K.**, Heusser A. C., Fitzpatrick P. C., Field C. E., & Manning J. R. (2018). Is automatic speech-to-text transcription ready for use in psychological experiments? *Behavior Research Methods*.
8. Heusser A. C.*, **Ziman K.***, Owen L. L. W., & Manning J. R. (2018). HyperTools: A Python toolbox for gaining geometric insights into high-dimensional data. *Journal of Machine Learning Research*.
9. Heusser A. C., Fitzpatrick C. P., Field C. E., **Ziman K.**, & Manning J. R. (2017). Quail: A Python toolbox for analyzing and plotting free recall data. *The Journal of Open Source Software*, 2, 424.

PREPRINT PUBLICATIONS

10. **Ziman K.**, Lee M. R., Martinez A. R., Adner, E. D. & Manning J. R. (2023). Category-based and location-based volitional covert attention affect memory at different timescales. *PsyArXiv: 10.31234/osf.io/2ps6e*.
11. **Ziman K.**, Manning, J. R. & Manning J. R. (2020). Unexpected false feelings of familiarity about faces are associated with increased pupil dilations. *bioRxiv*, 2021-02.

TALKS

Predicting the Attention of Others, *Barnard Vision Lab*, Upcoming: 9/2024, New York, NY.

Attention Modeling and Social Cognition. *Princeton Neuroscience Institute Seminar Series*, 3/21/2024, Princeton, NJ.

Attentional Modelling in the Brain. *Society for Neuroscience*, 11/11/2023, Washington, DC.

Modelling and Predicting the Attention of Others, *Association for the Scientific Study of Consciousness*, 6/22/2023, New York, NY.

Pupil dilation increases when participants report familiarity for images of faces they have not seen before, *Association for the Scientific Study of Consciousness*, 6/16/2021, Virtual.

First & Second-order Transformational Apparent Motion Rely on Common Shape Representations, *Barnard Vision Lab*, 11/15/2021, Virtual.

Cognitive Markers of Psychiatric Traits, *Dartmouth College Cognitive Brown Bag Series*, 2020, Hanover, NH.

Cognitive Markers of Psychiatric Traits, *Dartmouth College Cognitive Brown Bag Series*, 2020, Hanover, NH.

Attention and Memory, *Dartmouth College Specialist Presentation*, 2019, Hanover, NH.

Volitional Attention Modulates Encoding and Retrieval, *Dartmouth College Cognitive Brown Bag Series*, 2018, Hanover, NH.

Speaker at EPSCoR Attention Consortium Talk Series, *Montana State University*, 2017, Bozeman, Montana.

POSTERS & ABSTRACTS

Undergraduate trainees are underlined

Kimmel S. C., **Ziman K.**, Christian I., Thompson J., Graziano M. S. A. (Upcoming: November, 2024). Predictive modeling of others' attention in the brain: Increased activity when expectations are violated. *Society for Neuroscience*. Chicago, IL.

Farrell K. T., **Ziman K.**, Graziano M. S. A. (Upcoming: November, 2024). The attention schema theory in machine learning: training agents to classify the attention patterns of others. *Society for Neuroscience*. Chicago, IL.

Ziman K., Kimmel S. C., Farrell K. T., Graziano M. S. A. (2024). Neural activity when predicting the attention of others. *Princeton Neuroscience Retreat*. Atlantic City, NJ.

Kimmel S. C., Farrell K. T., **Ziman K.**, Graziano M. S. A. (2023). Modelling and Predicting the Attention of Others. *Association for the Scientific Study of Consciousness*. New York, NY.

Ziman K., Kimmel S. C., Farrell K. T., Graziano M. S. A. (2023). Predicting the Attention of Others. *Princeton Neuroscience Retreat*. Philadelphia, PA.

Ziman K., Manning J. R. (2021). Increased pupil dilations are associated with unexpected false familiarity for faces. *Society for Neuroscience*. Chicago, IL.

Ziman K., Manning J. R. (2021). Pupil dilation increases when participants report familiarity for images of faces they have not seen before. *Association for the Scientific Study of Consciousness*. Virtual from Tel-Aviv, Israel.

Ziman K., Lee M. R., Martinez A. R., Manning J. R. (2019). Volitional attention modulates memory encoding and retrieval. *Society for Neuroscience Conference*. Chicago, IL.

Ziman K., Heusser A. C., Fitzpatrick P. C., Field C. E., & Manning J. R. (2018). Is automatic speech-to-text transcription ready for use in psychological experiments? *Context and Episodic Memory Symposium*. Philadelphia, PA.

Fitzpatrick P. C., **Ziman K.**, Heusser A. C., Field C. E., Manning J. R. (2018) The utility of speech-to-text software for transcription of verbal response data. Wetterhan Science Symposium. Hanover, NH.

Pak EK, **Ziman K**, Manning JR (2018) How does attention affect memory? Wetterhan Science Symposium. Hanover, NH.

Lee M. R., Chacko RS, Whitaker EC, Fitzpatrick P. C., Field C. E., **Ziman K**, Bollinger BJ, Heusser AC, Manning JR (2018) Adaptive Free Recall: Enhancing (Or Diminishing) Memory. Wetterhan Science Symposium. Hanover, NH.

Ziman K., Heusser A.C., Manning J.R. (2017). Effects of Study Context on Recall Organization. *Society for Neuroscience Conference*. Washington, DC.

Ziman K., Heusser A.C., Manning J.R. (2017). Harnessing the power of mnemonic fingerprints: Maximizing learning potential by personalizing stimulus organization during adaptive list learning. *Context and Episodic Memory Symposium*. Philadelphia, PA.

Heusser A.C., **Ziman, K.**, Manning J.R. (2017). HyperTools: A Python toolbox for visualizing and manipulating high-dimensional data. *Context and Episodic Memory Symposium*. Philadelphia, PA.

Manning JR, **Ziman, K**, Heusser AC (2017) Efficient Learning: Manipulating context to enhance (or diminish) memory. *Society for Neuroscience*. *Washington, DC*. Washington, DC.

Ziman, K., Familiar, A.M., Shim, W.M. (2016). Positive affect worsens ensemble coding performance. *Vision Science Society Conference*. Saint Pete Beach, Florida.

Deirdre B., Lennon J., **Ziman K.** (2016). Content of Sleep-talking Transcripts versus Dream Accounts and Waking Language. *International Association for the Study of Dreams Conference*. Virginia Beach, Florida.

Wong, W.O., Suthana, N.A., Pourshaban, D., **Ziman, K.**, Bookheimer, S., Fried, I., Knowlton, B. (2012). Comparison of Medial Temporal Subregional Thickness and Overall Brain Volume to Episodic Memory Performance in Humans. *UCLA Undergraduate Poster Session*. Los Angeles, California.

SOFTWARE DEVELOPMENT

HyperTools toolbox for analyzing & visualizing high-dimensional data (Python, open-source)
*featured in Kaggle “No Free Hunch” blog and over 1,500 stars on GitHub

AutoFR toolbox to automatically transcribe verbal free recall data (Python, open-source)

Quail toolbox for analyzing and plotting free recall data (Python, open-source)

AD HOC REVIEWER

Journal of Open Source Software
Frontiers (Open Access Research Journal)

TEACHING

Functional Neuroanatomy , Princeton University Teaching Assistant to Professor Michael Graziano	<i>Fall 2024</i>
Introduction to Programming in Python , Princeton University Course designer and instructor; six-week undergraduate workshop	<i>Summer 2024</i>
Laboratory in Principles of Neuroscience , Princeton University Teaching Assistant to Lecturer Anthony Ambrosini	<i>Spring 2023</i>
Functional Neuroanatomy , Princeton University Teaching Assistant to Professor Michael Graziano	<i>Fall 2022</i>
Laboratory in Psychological Science , Dartmouth College Teaching Assistant to Professor Keilah Worth	<i>Winter 2020</i>
Experiment Design, Methodology & Data Analysis , Dartmouth College Teaching Assistant to Professor Catherine Cramer	<i>Spring 2019</i>
Principles of Human Brain Mapping with MRI , Dartmouth College Teaching Assistant to Professor Jeremy Huckins	<i>Fall 2019</i>
Principles of Human Brain Mapping with MRI , Dartmouth College Teaching Assistant to Professor Jeremy Huckins	<i>Fall 2018</i>

MENTORSHIP

GRADUATE MENTEES:

1. Yeo Bi Choi, *graduate student in the Robertson Laboratory at Dartmouth College*
2. Byeol Kim, *graduate student in the Wager Laboratory at Dartmouth College*

UNDERGRADUATE MENTEES:

1. Paxton Fitzpatrick, *current graduate student at Dartmouth College*
2. Ethan Adner, *recipient of Neukom undergraduate research fellowship at Dartmouth College*
3. Natalie Schroeder, *recipient of David C. Hodgson Endowment at Dartmouth College*
4. Darren Gu, *recipient of David C. Hodgson Endowment at Dartmouth College*
5. Madeline Lee, *Sophomore Research Scholar at Dartmouth College*
6. Sarah Kimmel, *Recipient of Lenfest Scholar Foundation Special Education Expenses Fund*

7. Jack Thompson, *Recipient of ReMatch+ research funding, Princeton University*

8. Kathryn Farrell	12. Alex Chivers	16. Eowyn Pak
9. Campbell Field	13. Marisol Tracy	17. Alejandro Martinez
10. Sarah Park	14. William Chen	18. Chetan Pavuluri
11. Chelsea Uddenberg	15. Swestha Jain	19. Christina Lu

PROFESSIONAL ACTIVITIES

Association for the Scientific Study of Consciousness Student Committee Chair, 2023-2024
Princeton Neuroscience Institute Social Committee, 2023
Association for Women in Science member, 2022
Association for the Scientific Study of Consciousness Student Committee Member, 2022
National Center for Faculty Development & Diversity Member, 2022
National Postdoctoral Association Member, 2022
Interviewer for Dartmouth College graduate recruitment, 2021
Dartmouth College representative at Society for Neuroscience, 2021
Leader of Graduate Student Roundtable weekly meetings (one academic year), 2018
Methods in Neuroscience at Dartmouth Workshop Attendee, 2017
Leader of Attention Consortium (EPSCoR) Graduate Student Journal Club, 2017

EDUCATIONAL OUTREACH

HomeWork residential student visit to Princeton Neuroscience Institute, 2/5/24
Re-Match+ undergraduate mentorship program at Princeton University, 2023 - 2024
Scientific Reviewer for Mass STEM Hub, 2023 (reviewing high school research proposals)
Mill Hill student laboratory tour and science activity, 2023
Association for the Scientific Study of Consciousness Panelist, Career Panel, 2023
Letters to a Pre-Scientist STEM professional letter writer, 2020
Guest Speaker at Brain Speaker Series, Richmond Middle School 2017, 2019-2020
Presenter at Dartmouth College Brain Bee, 2018

EMPLOYMENT HISTORY

Contextual Dynamics Laboratory, Dartmouth College Laboratory Manager	<i>2016-2017</i>
Perception and Cognition Laboratory, Dartmouth College Laboratory Manager	<i>2015-2016</i>
Brain and Creativity Institute, University of Southern California Research Assistant	<i>2013-2014</i>
Cognitive Neurophysiology Lab, University of California, Los Angeles Research Assistant	<i>2011-2012</i>

CLINICAL EXPERIENCE

Children's Hospital Los Angeles, Medical Preceptorship Program	<i>2013</i>
UCLA Orthopedic Hospital, Child Life Volunteer	<i>2011</i>