

Timothy Verstynen Ph.D.

contact

Dept. of Psychology
Carnegie Mellon
University
5000 Forbes Ave
Pittsburgh, PA 15213

+1-412-533-AXN1
(412-533-2961)
timothyv@cmu.edu

www.cognitiveaxon.com

position(s)

Professor
Psychology
Neuroscience Institute
BME (by courtesy)

expertise

decision-making
exploration & curiosity
reinf. learning
basal ganglia circuits
comp neuroimaging
cognitive comp neuro
health neuroscience

education

1996–2001	BA in Psychology	University of New Mexico
2001–2006	Ph.D. in Psychology [Cognition, Brain and Behavior]	University of California, Berkeley
2006–2009	Postdoc in Neuroscience	University of California, San Francisco
2009–2011	Postdoc in Cognitive Neuroscience	University of Pittsburgh

experience

2025–now	Neuro. Institute <i>Director (interim)</i>	Carnegie Mellon University, Pittsburgh, PA
2024–now	Dept. Psychology, Neuro. Institute <i>Professor</i>	Carnegie Mellon University, Pittsburgh, PA
2019–now	Biomedical engineering (courtesy) <i>Professor</i>	Carnegie Mellon University, Pittsburgh, PA
2018–2024	Dept. Psychology, Neuro. Institute <i>Associate Professor (with tenure)</i>	Carnegie Mellon University, Pittsburgh, PA
2018–2023	CMU-Pitt BRIDGE Center <i>Co-Director</i>	Carnegie Mellon University, Pittsburgh, PA
2017–2018	Dept. Psychology, Neuro. Institute <i>Associate Professor (non-tenured)</i>	Carnegie Mellon University, Pittsburgh, PA
2014–now	Learning Research & Development Center <i>Adjunct Professor</i>	University of Pittsburgh, Pittsburgh, PA
2012–2017	Dept. Psychology, Neuro. Institute <i>Assistant Professor</i>	Carnegie Mellon University, Pittsburgh, PA
2011–2012	Learning Research & Development Center <i>Research Associate</i>	University of Pittsburgh, Pittsburgh, PA
2007–2009	NeuroScouting LLC <i>Co-founder</i>	San Francisco, CA

awards & honors

2025	Guggenheim Fellowship	The Guggenheim Foundation
2017–2018	Young Scientist Award	World Economic Forum
2014	PROSE Book Award in Biomedicine and Neuroscience	Assoc. American Publishers
2013	Distinguished Alumni Award (Lobo Livingroom)	UNM
2008–2009	Swartz Foundation Fellowship, Theoretical Neurobiology	UCSF
2006–2007	Vision Science Training Grant	UCSF
2002–2004	Cognitive Neuroscience Training Grant	UC Berkeley
2001	University Honors, Suma Cum Laude	UNM
2000	Departmental Honors, Psychology	UNM
1999–2001	New Mexico Access to Research Careers-COR Fellowship	UNM
1996–2000	University Scholars Scholarship	UNM

grants & contracts

Submitted	Co-PI: "CRCNS US-France Research Proposal: Neural and computational substrates of for-aging"	NSF-CRCNS, \$1,473,217
2023–2027	PI: "CRCNS: Decision dynamics in cortico-basal ganglia-thalamic networks"	NIH-NIDA, \$1,582,994
2023–2027	Co-I: "Dissecting Behavioral and Neural Mechanisms of Hand Dexterity after Stroke for Effective Rehabilitation"	NIH-NINDS, \$468,455
2021–2022	PI: "Artificial curiosity to inspire real-life learning"	TRI, \$110,123
2020–2023	PI: "CRCNS: Circuit-level mechanisms of adaptive decision-making"	NIH-NIDA R01, \$1,026,831
2020–2022	Co-PI: "AI Institute: Planning: From Biological Intelligence to Human Intelligence to Artificial General Intelligence (B2A)"	NSF-IIS, \$500,000
2018–2022	Co-PI: "Center of Excellence: Trusted Human-Machine Teaming"	AFRL, \$2,000,000
2018–2023	Co-PI: "Biobehavioral studies of cardiovascular disease, Core-C Lead"	NIH-NHLBI, \$715,331
2016–2021	Co-I: "Investigating Gains in Neurocognition in an Intervention Trial of Exercise (IGNITE)"	NIH-NIDDK R01 (AG053952) \$21,800,00
2014–2019	PI: "Action binding during long-term sequential skill learning: computational and neural mechanisms"	NSF-CAREER, \$507,836
2016–2019	PI: "Local connectome fingerprinting"	CAN-CTA (DCS Corp), \$400,000
2014–2017	Co-I: "Covert Sensorimotor Mapping for Guiding Brain-Computer Interfaces"	VHA-RRDA, \$808,256
2012–2017	Co-I: "Influence of Physical Activity and Weight Loss on Brain Plasticity"	NIH-NIDDK R01, \$2,723,812
2015–2016	Co-I: "Quantitative Big Brain Data: Personalized predictive neuromarkers for stress-related health risks"	NSF-IIS, \$100,000
2013–2016	Co-I: "BIGDATA: Mid-Scale: DA: Distribution-based machine learning for high dimensional datasets"	NSF-IIS, \$1,000,000
2015–2015	PI: "ConnPort: A standardized interface accessing human connectome data"	PRO-SEED/BRAINHub Seed Grant, \$45,000
2015–2016	PI: "Structure-Function Integration in Neural Systems"	CAN-CTA (DCS Corp), \$350,000
2007–2007	PI: "Translational Neuroscience Research Award"	Sandler Foundation, \$15,000

trainees

Postdoctoral fellows

2024–now	Zhuojun Yu, Ph.D.	Jonathan Rubin, Univ. Pitt
2022–now	Robert Vargas, Ph.D.	co-mentor with Kevin Jarbo, CMU
2021–2023	Jyotika Bahuguna, Ph.D.	co-mentor with Jonathan Rubin, Univ. Pitt
2019–2023	Javier Rasero, Ph.D.	co-mentor with Peter Gianaros, Univ. Pitt
2018–2022	Erik Peterson, Ph.D.	primary mentor
2017–2019	Kyle Dunovan, Ph.D.	primary mentor
2016–2017	Fatma Uyar, Ph.D.	primary mentor
2016	Regina Leckie, Ph.D.	co-mentor with Peter Gianaros, Univ. Pitt
2014–2018	Greg Lieberman, Ph.D.	co-mentor with Jean Vettel, ARL
2014–2017	Frank Yeh, Ph.D.	primary mentor

Ph.D. students

2024–now	Cristina Giossi, (UIB, Math & CS)	co-primary mentor with Catalina Vich, UIB
2022–now	Jack Burgess, (CMU PNC)	primary mentor
2019–2024	Matthew Clapp, (CMU PNC)	primary mentor
2021–2023	Kimberly Nestor, (CMU Psychology)	primary mentor
2019–2023	Amy Sentis, (Pitt MSTP, CMU PNC)	co-mentor with Peter Gianros, Univ. Pitt
2021–2022	Robert Vargas, (CMU Psychology)	primary mentor
2017–2022	Krista Bond, (CMU Psychology)	primary mentor
2014–2018	Patrick Beukema, Ph.D. (Pitt CNUP)	primary mentor
2014–2017	Kyle Dunovan, Ph.D. (Pitt Psychology)	primary mentor
2013–2018	Kevin Jarbo, Ph.D. (CMU Psychology)	primary mentor
2012–2013	Brian Kent, Ph.D. (CMU Statistics)	co-mentor with Alissandro Rinaldo, Statistics

Masters students

2015–2017	YJ Choe, MS (CMU Statistics-Machine Learning) MLD/Statistics	co-mentor with Aarti Singh & Shivam Kalhan,
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Ph.D. committees

2024–now	Maud Schaffhauser (INMED/INSERM)	committee member
2024–now	Kaylee Foor (CMU Psychology)	committee member
2024–now	Alana Hodson (CMU Psychology)	committee member
2023–now	Ricky Choi (CMU Psychology)	committee member
2023–now	Kushani Shah (CMU Psychology)	committee member
2022–now	Max Kramer (CMU Psychology)	committee member
2022–now	Maria Chroneos (CMU Psychology)	committee member
2021–2024	Austin Luor (CMU Psychology)	committee member
2022–2023	Maxwell Wang (Pitt PNC/MSTP)	committee member
2020–2023	Antonija Kolobaric (Pitt CNUP)	external reader
2019–2023	Maya Schumer (Pitt CNUP)	committee member
2018–2023	Pierre Gianferrara (CMU Psychology)	committee member
2021–2023	Felix Proessl (Pitt Physical Therapy)	external reader
2018–2023	Alex Hsu (CMU Biology)	committee member
2018–2023	Yang Terng Seow (CMU Psychology)	committee member
2021–2022	Jennifer Williams (CMU PNC)	committee member
2021	Sankirthana Sathiyakumar (Univ. Toronto, BME)	external reader
2016–2022	Robert Vargas (CMU Psychology)	committee member
2015–2020	Carillon Skrzynski (CMU Psychology)	committee member
2014–2019	Dylan Royston (Pitt BME)	external reader
2014–2019	Cory Derringer (Pitt Psychology)	external reader

2013–2019	Juliet Shafto (CMU Psychology)	committee member
2014–2017	Ruben Sanchez Romero (CMU Philosophy)	committee member
2013–2017	Bart Larsen (Pitt CNUP)	external reader
2013–2017	David Montez (Pitt CNUP)	external reader
2014–2017	Scott Marek (Pitt CNUP)	external reader
2013–2017	Sarah Lichtenstein (Pitt Psychology)	external reader

editorial boards

eLife: Review Board Editor (2016-2023); **Frontiers in Human Neuroscience**: Special Topic Editor, "Explicating the interplay between anatomical and functional connectivity in the human brain."; **Proceedings of the National Academy of Sciences**: Guest Editor.

teaching

2016–now	CMU (85-432/732): Data Science Psychology & Neuroscience	instructor
2018–now	CMU (85-435/735): Biologically Intelligent Exploration	instructor
2017	CMU (85-732): Volition, Agency, & the Brain	co-instructor
2014-2015	Pitt-CMU: Multimodal Neuroimaging Training Program (MNTP)	specialty instructor
2015	CMU (85-173): Virtual Neuroanatomy	instructor
2013–2015	CMU (85-314): Research Methods in Cognitive Neuroscience	instructor
2013–2015	CMU (85-111): Immortui Cerebrum: The neuroanatomy of zombie minds	instructor
2012	Pitt (499): Brain Connectivity	guest instructor
2012	Brown Univ: In-vivo Fiber Tractography Workshop	instructor
2011	Pitt: In-vivo Fiber Tractography Workshop	guest instructor
2003	UCB Psychology 101: Research Design and Statistics	teaching assistant
2002	UCB Cog Sci. 84: Transcranial Magnetic Stimulation	teaching assistant

scientific advisory boards

2009–2014	NeuroScouting LLC
2010–2020	Zombie Research Society

invited talks

2025	UNM Psychology Seminar	invited talk
2025	NYU Thalamus Workshop	invited talk
2024	CRCNS PI Meeting, Minneapolis	invited talk
2023	Neuroscience Institute Alumni Series	invited talk
2023	CRCNS Basal Ganglia Working Group (Mallorca)	organized talk

2022	Rutgers-Princeton Brain Health Institute	virtual talk
2022	Human Neuro Colloquium, University of Alabama Birmingham	virtual talk
2022	INMED/INSERM, Marseille France	CENTUIR seminar talk
2021	Toyota Research Institute	invited talk
2021	CRCNS PI Meeting, NYC	invited talk
2021	Neuroimaging Seminar, Univ. Georgia	virtual talk
2021	Society for Mathematical Biology	virtual talk
2021	AFRL-CMU COE Seminar	invited talk
2019	Cog. Sci Colloquium, Indiana University	invited talk
2019	TWIN Colloquium, Western University	invited talk
2019	Psychological & Brain Sciences Seminar, Johns Hopkins University	invited talk
2019	Kavli Neuro. Disc. Inst. Seminar, Johns Hopkins University	invited talk
2018	Visual Brain Core, University of Alabama at Birmingham	virtual talk
2017	Statistical Analysis of Neural Data (SAND8), Carnegie Mellon University	invited talk
2017	Department of Psychological & Brain Sciences, Univ. Mass., Amherst	invited talk
2016	Café Sci Lecture. Carnegie Science Center, Pittsburgh	invited talk
2016	Natural History Museum of Los Angeles County	invited talk
2016	Stanford Cognitive & Systems Neuroscience Group, Stanford Univ.	invited talk
2016	Department of Psychology Colloquium, Univ. California, Berkeley	invited talk
2016	Cent. for Mol. & Beh. Neuro. Colloquium, Rutgers Univ.	invited talk
2015	Hooks Books Events, Janelia Farm Research Center	invited talk
2015	Molecular, Cellular & Int. Neuro, Colorado State Univ.	invited talk
2015	Neuroimaging Center Symposium, Colorado University, Boulder	invited talk
2015	Students Seminar, West Virginia University	invited talk
2015	Magnetic Resonance Research Center Lecture, UPMC	invited talk
2014	Pittsburgh MRI Retreat, University of Pittsburgh	invited talk
2014	Google Cambridge	invited talk
2014	Harvard Bookstore, Cambridge	invited talk
2013	Cognitive Lunch Seminar, Princeton University	invited talk
2013	Lobo Living Room Lecture, University of New Mexico	invited talk
2013	Cafe Sci Lecture, Carnegie Science Center, Pittsburgh	invited talk
2011	Bio & Health Psych Brown Bag, University of Pittsburgh	invited talk
2010	Psychology Afternoon Lecture Series, University of New Mexico	invited talk
2010	ZombiCon, Seattle, WA	invited talk
2009	Sloan-Swartz Comp. Neuro. Meeting, Harvard University	invited talk
2008	Cog. Neuro Seminar, University California, San Francisco	invited talk
2006	Human Motor Control Seminar, National Institute of Health	invited talk
2006	Department of Psychology Seminar, University of Auckland, New Zealand	invited talk
2006	CBB Symposium, University of California, Berkeley	invited talk

Books

Verstynen, T., & Voytek, B. (2014). Do Zombies Dream of Undead Sheep?. Princeton University Press.

Preprints

Yu, Z., Verstynen, T., & Rubin, J. E. (2025). How the dynamic interplay of cortico-basal ganglia-thalamic pathways shapes the time course of deliberation and commitment. bioRxiv, 2025-03.

Bahuguna, J., Verstynen, T., & Rubin, J. E. (2025). How cortico-basal ganglia-thalamic subnetworks can shift decision policies to maximize reward rate. bioRxiv, 2024-05.

Peterson, E. J., & Verstynen, T. D. (2019). A way around the exploration-exploitation dilemma. bioRxiv

Agarwal, A., Kumar, V., Dunovan, K., Peterson, E., Verstynen, T., & Sycara, K. (2018). Better Safe than Sorry: Evidence Accumulation Allows for Safe Reinforcement Learning. arXiv

Millette, A., Lynch, B., & Verstynen, T. (2017). Abdominal adiposity negatively associates with the rate of long term sequential skill learning. bioRxiv

Verstynen, T., & Sabes, P. N. (2011). An analysis of the emergence of adaptive Bayesian priors from Hebbian learning in a simple attractor network model. arXiv

Reviews, perspectives, & chapters

Giossi, C., Rubin, J. E., Gittis, A., Verstynen, T., & Vich, C. (in press). Rethinking the external globus pallidus and information flow in cortico-basal ganglia-thalamic circuits. European Journal of Neuroscience

Verstynen, T., & Kording, K. P. (2023). Overfitting to 'predict' suicidal ideation. Nature Human Behaviour, 1-2.

Rubin, J. E., Vich, C., Clapp, M., Noneman, K., & Verstynen, T. (2021). The credit assignment problem in cortico basal ganglia thalamic networks: A review, a problem and a possible solution. European Journal of Neuroscience, 53(7), 2234-2253.

Porter, A., Leckie, R., & Verstynen, T. (2018). White matter pathways as both a target and mediator of health behaviors. Annals of the New York Academy of Sciences, 1428(1), 71-88.

Beukema, P., & Verstynen, T. (2018). Predicting and binding: interacting algorithms supporting the consolidation of sequential motor skills. Current opinion in behavioral sciences, 20, 98-103.

Vettel, J. M., Cooper, N., Garcia, J. O., Yeh, F. C., & Verstynen, T. D. (2017). White Matter Tractography and Diffusion Weighted Imaging. eLS, 1-9.

Lichenstein, S. D., Verstynen, T., & Forbes, E. E. (2016). Adolescent brain development and depression: a case for the importance of connectivity of the anterior cingulate cortex. Neuroscience & Biobehavioral Reviews, 70, 271-287.

Dunovan, K., & Verstynen, T. (2016). Believer-Skeptic meets Actor-Critic: Rethinking the role of basal ganglia pathways during decision-making and reinforcement learning. Frontiers in neuroscience, 10, 106.

Verstynen, T. D. (2015). How form constrains function in the human brain. Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource, 1-16.

Erickson, K. I., Creswell, J. D., Verstynen, T. D., & Gianaros, P. J. (2014). Health neuroscience: defining a new field. Current directions in psychological science, 23(6), 446-453.

Diedrichsen, J., Verstynen, T., Schlerf, J., & Wiestler, T. (2010). Advances in functional imaging of the human cerebellum. Current opinion in neurology, 23(4), 382-387.

Verstynen, T., Oliver, M., & Ivry, R. B. (2010). Experiencing the future: the influence of self-initiation on temporal perception. Space and Time in Perception and Action.

Peer reviewed articles

- Kasarda, J. P., Zhang, A., Tong, H., Tan, Y., Wang, R., Verstynen, T., & Tarr, M. J. (2025). The Oomplet dataset toolkit as a flexible and extensible system for large-scale, multi-category image generation. *Scientific Reports*, 15(1), 9287.
- Vargas, R., & Verstynen, T. (2025). Informational ecosystems partially explain differences in socioenvironmental conceptual associations between US American racial groups. *Communications Psychology*, 3(1), 5.
- Spencer, C., Rasero, J., Reed, R. G., Verstynen, T. D., & Gianaros, P. J. (2025). Resting-State Functional Connectivity Does Not Predict Individual Differences in Perceived Psychological Stress Among Midlife Adults: Evidence From a Preregistered Cross-Validation Study. *Biopsychosocial Science and Medicine*, 87(2), 138-145.
- Giossi, C., Bahuguna, J., Rubin, J. E., Verstynen, T., & Vich, C. (2024). Arkypallidal neurons in the external globus pallidus can mediate inhibitory control by altering competition in the striatum. *Proceedings of the National Academy of Sciences*, 121(47), e2408505121.
- Rasero, J., Verstynen, T. D., DuPont, C. M., Kraynak, T. E., Barinas-Mitchell, E., Scudder, M. R., ... & Gianaros, P. J. (in press). Stressor-evoked brain activity, cardiovascular reactivity, and subclinical atherosclerosis in midlife adults. *Journal of the American Heart Association*.
- Clapp, M., Bahuguna, J., Giossi, C., Rubin, J. E., Verstynen, T., & Vich, C. (2025). CBGTPy: An extensible cortico-basal ganglia-thalamic framework for modeling biological decision making. *PloS one*, 20(1), e0310367.
- Banuelos, C., Creswell, K., Walsh, C., Manuck, S. B., Gianaros, P. J., & Verstynen, T. (2024). D2 dopamine receptor expression, sensitivity to rewards, and reinforcement learning in a complex value-based decision-making task. *Social, Cognitive, and Affective Neuroscience*, 19(1).
- Rasero, J., Betzel, R., Sentis, A. I., Kraynak, T. E., Gianaros, P. J., & Verstynen, T. (2024). Similarity in evoked responses does not imply similarity in macroscopic network states. *Network Neuroscience*, 1-20.
- De Silva, A., Ramesh, R., Ungar, L., Shuler, M. H., Cowan, N. J., Platt, M., ... & Vogelstein, J. T. (2023). Prospective Learning: Principled Extrapolation to the Future. In *Conference on Lifelong Learning Agents* (pp. 347-357). PMLR.
- Bond, K.A., Rasero, J., Madan, R., Bahuguna, J., Rubin, J., & Verstynen, T. (2023). Competition between action plans tracks with evidence accumulation during flexible decision-making. *eLife*, 12, e85223 *** **peer reviewed, before new model**
- Vich, C., Clapp, M., Rubin, J. E., & Verstynen, T. (2022). Identifying control ensembles for information processing within the cortico-basal ganglia-thalamic circuit. *PLOS Computational Biology*, 18(6), e1010255.
- Sentis, A. I., Rasero, J., Gianaros, P. J., & Verstynen, T. (2022). Integrating Multiple Imaging Modalities does not Boost Prediction of Carotid Artery Intima-Media Thickness in Midlife Adults. *Neuroimage: Clinical*, 35, 103134.
- Tsay, J. S., Kim, H. E., Saxena, A., Parvin, D. E., Verstynen, T., & Ivry, R. B. (2022). Dissociable use-dependent processes for volitional goal-directed reaching. *Proceedings of the Royal Society B*, 289(1973), 20220415.
- Gianaros, P.J., Rasero, J., DuPont, C.M., Kraynak, T.E., Gross, J.L., McRae, K., Wright, A., Verstynen, T., & Barinas-Mitchell, E. (2022). Multivariate Brain Activity while Viewing and Reappraising Affective Scenes Does Not Predict the Multiyear Progression of Preclinical Atherosclerosis in Otherwise Healthy Midlife Adults. *Affective Science*, 3(2), 406-424
- Bond, K., Dunovan, K., Porter, A., Rubin, J. E., & Verstynen, T. (2021). Dynamic decision policy re-configuration under outcome uncertainty. *eLife*, 10, e65540. *** **peer reviewed, before new model**
- Banihashemi, L., Peng, C. W., Verstynen, T., Wallace, M. L., Lamont, D. N., Alkhars, H. M., ... & Germain, A. (2021). Opposing relationships of childhood threat and deprivation with stria terminalis white matter. *Human brain mapping*, 42(8), 2445-2460.
- Rasero, J., Sentis, A. I., Yeh, F. C., & Verstynen, T. (2021). Integrating across neuroimaging modalities boosts prediction accuracy of cognitive ability. *PLoS computational biology*, 17(3), e1008347.

- Skrzynski, C. J., Creswell, K. G., Verstynen, T., Bachrach, R. L., & Chung, T. (2021). The influence of negative mood on solitary drinking preference: An experiment with young adult solitary drinkers. *PloS one*, 16(2), e0247202.
- Verstynen, T., Dunovan, K., Walsh, C., Kuan, C. H., Manuck, S. B., & Gianaros, P. J. (2020). Adiposity covaries with signatures of asymmetric feedback learning during adaptive decisions. *Social Cognitive and Affective Neuroscience*, 15(10), 1145-1156.
- Jarbo, K., Colaço, D., & Verstynen, T. (2020). Contextual framing of loss impacts harm avoidance during risky spatial decisions. *Journal of Behavioral Decision Making*, 33(5), 657-670.
- Peterson, E., Müyesser, N. A., Verstynen, T., & Dunovan, K. (2020). Combining Imagination and Heuristics to Learn Strategies that Generalize. *Neurons, Behavior, Data analysis, and Theory*, 3(4), 1-19.
- Gianaros, P. J., Kraynak, T. E., Kuan, D. C., Gross, J. J., McRae, K., Hariri, A. R., ... & Verstynen, T. D. (2020). Affective brain patterns as multivariate neural correlates of cardiovascular disease risk. *Social cognitive and affective neuroscience*, 15(10), 1034-1045.
- Vich, C., Dunovan, K., Verstynen, T., & Rubin, J. (2020). Corticostriatal synaptic weight evolution in a two-alternative forced choice task. *Communications in Nonlinear Science and Numerical Simulation*, 105048.
- Bañuelos, C., & Verstynen, T. (2019). How structural brain network topologies associate with cognitive abilities in a value-based decision-making task. *Impulse* (19343361).
- Erickson, K. I., Grove, G. A., Burns, J. M., Hillman, C. H., Kramer, A. F., McAuley, E., ... & Huang, H. (2019). Investigating gains in neurocognition in an Intervention Trial of Exercise (IGNITE): Protocol. *Contemporary clinical trials*, 85, 105832.
- Beukema, P., Diedrichsen, J., & Verstynen, T. (2019). Binding during sequence learning does not alter cortical representations of individual actions. *Journal of Neuroscience*, 2669-18.
- Ashourvan, A., Telesford, Q. K., Verstynen, T., Vettel, J. M., & Bassett, D. S. (2019). Multi-scale detection of hierarchical community architecture in structural and functional brain networks. *PloS one*, 14(5), e0215520.
- Dunovan, K., Vich, C., Clapp, M., Verstynen, T., & Rubin, J. (2019). Reward-driven changes in striatal pathway competition shape evidence evaluation in decision-making. *PLoS computational biology*, 15(5), e1006998.
- Bansal, K., Garcia, J. O., Tompson, S. H., Verstynen, T., Vettel, J. M., & Muldoon, S. F. (2019). Cognitive chimera states in human brain networks. *Science Advances*, 5(4), eaau8535.
- Dunovan, K., & Verstynen, T. (2019). Errors in action timing and inhibition facilitate learning by tuning distinct mechanisms in the underlying decision process. *Journal of Neuroscience*, 39(12), 2251-2264.
- Balakrishnan, S., Choe, Y. J., Singh, A., Vettel, J., & Verstynen, T. (2018). Local White Matter Architecture Defines Functional Brain Dynamics. In 2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 595-602). IEEE. * Co-winner of Franklin V. Taylor Memorial Award
- Yeh, F. C., Panesar, S., Fernandes, D., Meola, A., Yoshino, M., Fernandez-Miranda, J. C., ... & Verstynen, T. (2018). Population-averaged atlas of the macroscale human structural connectome and its network topology. *NeuroImage*, 178, 57-68.
- Jarbo, K., Flemming, R., & Verstynen, T. D. (2018). Sensory uncertainty impacts avoidance during spatial decisions. *Experimental brain research*, 236(2), 529-537.
- Powell, M. A., Garcia, J. O., Yeh, F. C., Vettel, J. M., & Verstynen, T. (2018). Local connectome phenotypes predict social, health, and cognitive factors. *Network neuroscience*, 2(1), 86-105.
- Larsen, B., Verstynen, T. D., Yeh, F. C., & Luna, B. (2017). Developmental changes in the integration of affective and cognitive corticostriatal pathways are associated with reward-driven behavior. *Cerebral Cortex*, 28(8), 2834-2845.
- Gianaros, P. J., Sheu, L. K., Uyar, F., Koushik, J., Jennings, J. R., Wager, T. D., ... & Verstynen, T. D. (2017). A brain phenotype for stressor evoked blood pressure reactivity. *Journal of the American Heart Association*, 6(9), e006053.

- Lynch, B., Beukema, P., & Verstynen, T. (2017). Differentiating visual from response sequencing during long-term skill learning. *Journal of cognitive neuroscience*, 29(1), 125-136.
- Muraskin, J., Dodhia, S., Lieberman, G., Garcia, J. O., Verstynen, T., Vettel, J. M., ... & Sajda, P. (2016). Brain dynamics of post task resting state are influenced by expertise: Insights from baseball players. *Human brain mapping*, 37(12), 4454-4471.
- Yeh, F. C., Vettel, J. M., Singh, A., Poczós, B., Grafton, S. T., Erickson, K. I., ... & Verstynen, T. D. (2016). Quantifying differences and similarities in whole-brain white matter architecture using local connectome fingerprints. *PLoS computational biology*, 12(11), e1005203.
- Yeh, F. C., & Verstynen, T. D. (2016). Converting multi-shell and diffusion spectrum imaging to high angular resolution diffusion imaging. *Frontiers in neuroscience*, 10, 418.
- Lichenstein, S. D., Bishop, J. H., Verstynen, T. D., & Yeh, F. C. (2016). Diffusion capillary phantom vs. human data: outcomes for reconstruction methods depend on evaluation medium. *Frontiers in neuroscience*, 10, 407.
- Muraskin, J., Sherwin, J., Lieberman, G., Garcia, J. O., Verstynen, T., Vettel, J. M., & Sajda, P. (2016). Fusing multiple neuroimaging modalities to assess group differences in perception–action coupling. *Proceedings of the IEEE*, 105(1), 83-100.
- Barredo, J., Verstynen, T. D., & Badre, D. (2016). Organization of cortico-cortical pathways supporting memory retrieval across subregions of the left ventrolateral prefrontal cortex. *Journal of neurophysiology*, 116(3), 920-937.
- Oberlin, L. E., Verstynen, T. D., Burzynska, A. Z., Voss, M. W., Prakash, R. S., Chaddock-Heyman, L., ... & Phillips, S. M. (2016). White matter microstructure mediates the relationship between cardiorespiratory fitness and spatial working memory in older adults. *Neuroimage*, 131, 91-101.
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