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Dept. Psychology, 340U Baker Hall
Carnegie Mellon Univ., Pittsburgh, PA

Education

Ph.D. in Psychology, Emphasis: Cognition, Brain and Behavior
University of California, Berkeley (December 2006)

B.A. in Psychology, University of New Mexico (May 2001)

Professional Experience

2017-Present Associate (tenured) Professor, Psychology & CNBC, Carnegie Mellon Univ.
2017-2018 Associate (non-tenured) Professor, Psychology & CNBC, Carnegie Mellon Univ.
2014-Present Adjunct Faculty, LRDC, Univ. Pittsburgh
2012-2017 Assistant Professor, Psychology & CNBC, Carnegie Mellon Univ.
2011-2012 Research Associate, LRDC, Univ. Pittsburgh
2009-2011 Post-doctoral Fellow, Psychology, Univ. Pittsburgh
2007-2009 Co-founder, NeuroScouting LLC
2006-2009 Post-doctoral Fellow, Neuroscience, UCSF

Awards & Honors

2017-2018 World Economic Forum Young Scientist
2014 PROSE Book Award in Biomedicine and Neuroscience
2013 Distinguished Alumni Award, University of New Mexico
2008-2009 Swartz Foundation Fellowship, Theoretical Neurobiology
2007 Society for Neuroscience Postdoctoral Travel Award
2006 Travel Award, Human Brain Mapping Conference, Florence Italy
2006 Time Magazine Person of the Year (*shared*)
2006-2007 Vision Science Training Grant Fellowship, UCSF
2002-2004 Cognitive Neuroscience Training Grant Fellowship, UC Berkeley
2001 University Honors, Suma Cum Laude, University of New Mexico
2000 Departmental Honors, Dept. of Psychology, University of New Mexico
1999 Travel Award, HealthEmotions Institute, Madison Wisconsin.
1999-2001 New Mexico Access to Research Careers-COR Fellowship.
1996-2000 University Scholars Scholarship from the University of New Mexico

Funded Grants & Contracts

Principal Investigator: “Action binding during long-term sequential skill learning: computational and neural mechanisms”, NSF-CAREER: \$507,836 (#1351748); Status: Funded. Dates: 6/1/2014-5/31/2019.

Principal Investigator (Contract, DCS Corp, Army Research Lab): “Local connectome fingerprinting”, CTA-CAN: \$400,000; Status: Funded. Dates: 5/26/2016-10/08/2018.

Co-Principal Investigator: “Biobehavioral Studies of Cardiovascular Disease”, NIH-PO1: \$300,400; Status: Funded (PI: P. Gianaros). Dates: 10/01/18 – 9/30/24.

Co-Principal Investigator: “Trusted Human Agent Teaming”, AFRL Center of Excellence: \$2,000,000; Status: Funded (PI: K. Sycara). Dates: 07/15/18-07/14/21.

Co-Investigator: “Investigating Gains in Neurocognition in an Intervention Trial of Exercise (IGNITE)”, NIH-R01 (AG053952): \$21,800,00; Status: Funded (PI: K. Erickson), Dates: 9/15/2016-5/31/2021.

Co-Investigator: “Covert Sensorimotor Mapping for Guiding Brain-Computer Interfaces”, VHA-RRDA: \$808,256; (PI: J. Collinger). Status: Funded. Dates: 10/1/2014-9/30/2017

Co-Investigator: “Influence of Physical Activity and Weight Loss on Brain Plasticity”, NIH-R01 (DK095172-02): \$2,723,812; Status: Funded (PI: K. Erickson), Dates: 6/1/2012-5/31/2017

Co-Investigator: “Quantitative Big Brain Data: Personalized predictive neuromarkers for stress-related health risks” NSF (#1557572): \$100,000. Status: Completed (PI: A Singh). Dates: 09/01/2015-8/31/2016.

Co-Investigator: “BIGDATA: Mid-Scale: DA: Distribution-based machine learning for high dimensional datasets”, NSF (#1247658): \$1,000,000; Status: Completed (PI: A. Singh), Dates: 1/1/2013-12/31/2016.

Principal Investigator: “ConnPort: A standardized interface accessing human connectome data.” ProSEED/BrainHub Seed grant: \$45,000; Status: Completed. Dates: 1/1/2015-12/31/2015.

Principal Investigator (Contract, DCS Corp, Army Research Lab): “Connectome-Based Advancement of Brain Systems Analysis”, CTA-CAN Seedling: \$133,972; Status: Completed. Dates: 5/26/2012-5/25/2013.

Principal Investigator (Contract, DCS Corp, Army Research Lab): “Network-Based Advancement of Brain Systems Analysis”, CTA-CAN Seedling: \$230,000; Status: Funded. Dates: 5/26/2013-5/25/2015.

Principal Investigator (Contract, DCS Corp, Army Research Lab): “Structure-Function Integration in Neural Systems”, CTA-CAN: \$350,000; Status: Completed. Dates: 5/26/2015-5/25/2016.

Principal Investigator: Translational Neuroscience Research Award, Sandler Foundation: \$15,000; Status: Completed, Dates: 1/1/2007 – 12/31/2007.

Books

T. Verstynen and B. Voytek. “Do Zombies Dream of Undead Sheep? A Neuroscientific View of the Zombie Brain.” 1st ed. Princeton: Princeton, NJ, 2014. *Winner of the 2014 PROSE Award in Biomedicine & Neuroscience.

Theoretical and Supplementary Analyses

“DeBaCl: A Python Package for Interactive DENSITY-BASED CLUSTERING” B.P. Kent, A. Rinaldo, **T. Verstynen**. arXiv:1307.8136

“FuSSO: Functional Shrinkage and Selection Operator.” J. B. Oliva, B. Poczoz, **T. Verstynen**, A. Singh, J. Schneider, F-C Yeh, W-Y Tseng. arXiv:1311.2234

“An analysis of the emergence of adaptive Bayesian priors from Hebbian learning in a simple attractor network model.” **T. Verstynen**, P. N. Sabes. arXiv:1106.2977

Manuscripts in Submission

“Multi-scale detection of hierarchical community architecture in structural and functional brain networks” A. Ashourvana, Q. K. Telesford, **T. Verstynen**, J. M. Vettel, D. Bassett (submitted). <https://arxiv.org/abs/1704.05826>

"Population-Averaged Atlas of the Macroscale Human Structural Connectome and Its Network Topology " F-C Yeh, S. Panesar, D. Fernandes, A. Meola, M. Yoshino, J.C. Fernandez-Miranda, J. M. Vettel, & **T. Verstynen** (submitted). <http://biorxiv.org/content/early/2017/05/10/136473>

"Errors in action timing and inhibition facilitate learning by tuning distinct mechanisms in the underlying decision process" Kyle Dunovan & Timothy Verstynen (in revision)
<https://www.biorxiv.org/content/early/2017/10/28/153676.full.pdf>

“Obesity is associated with signatures of asymmetric feedback learning during adaptive decision making.” **T. Verstynen**, K. Dunovan, C. Walsh, C-H Kuan, S. Manuck, P. Gianaros (in revision).

Peer Reviewed Publications

"Population-Averaged Atlas of the Macroscale Human Structural Connectome and Its Network Topology" Fang-Cheng Yeh, Sandip Panesar, David Fernandes, Antonio Meola, Masanori Yoshino, Juan C. Fernandez-Miranda, Jean Vettel, **Timothy Verstynen**. *NeuroImage* (2018) 178; 57-68

“White matter pathways as both a target and mediator of health behaviors" Alexis Porter, Regina Leckie, & **Timothy Verstynen**. *Annals of the NY Academy of Sciences*. (in press)

"Sensory uncertainty impacts avoidance during spatial decisions" K. Jarbo, R. Flemming, **T. Verstynen**. *Experimental Brain Research* (in press)

"Local Connectome Phenotypes Predict Social, Health, and Cognitive Factors" M. Powell, J. Garcia, F-C Yeh, J. Vettel, & **T. Verstynen**. *Network Neuroscience* (in press).

“Developmental changes in the integration of affective and cognitive corticostriatal pathways are associated with reward-driven behavior.” B. Larsen, **T. Verstynen**, F-C Yeh, & B. Luna, *Cereb Cortex* (in press).

"Predicting and binding: interacting algorithms supporting the consolidation of sequential motor skills" P. Beukema & **T. D. Verstynen**. *Current Opinion in Behavioral Sciences* (2018) 20:98-103.

“A brain phenotype for stressor-evoked blood pressure reactivity.” P. Gianaros, L. K. Sheu, F. Uyar, J. Koushik, J. R. Jennings, T. Wager, A. Singh, and **T. Verstynen**. *Journal of the American Heart Association* (2017);6:e006053

“Differentiating visual from response sequencing during long-term skill learning.” B. Lynch, P. Bekuema, & **T. Verstynen**. *J. Cog. Neuro* 29(1):125-136 (2017).

“Quantifying differences and similarities in whole-brain white matter architecture using local connectome fingerprints.” F-C Yeh, J. Vettel, A. Singh, B. Poczos, S. Grafton, K. Erickson, W-Y Tseng, **T. Verstynen** *PLoS Comp Bio* 12(11):e1005203. (2016).

"Converting multi-shell and diffusion spectrum imaging to high angular resolution diffusion imaging." F-C Yeh & **T. Verstynen**. *Frontiers in Neuroscience* 10:418. (2016)

“Adolescent brain development and psychopathology: A case for connectivity of the anterior cingulate cortex in affective and substance use disorders.” S. Lichenstein, **T. Verstynen**, E. Forbes. *Neuroscience & Biobehavioral Reviews* 70:271-287 (2016).

“Brain dynamics of post-task resting state are influenced by expertise: Insights from baseball players.” J. Muraskin, S. Dodhia, J. O. Garcia, **T. Verstynen**, J. M. Vettel, J. Sherwin, P. Sajda. *Human Brain Mapping* doi.10.1002/hbm.23321 (2016).

“Diffusion capillary phantom vs. human data: Outcomes for reconstruction methods depend on evaluation medium.” S. Lichenstein, J. Bishop, **T. Verstynen**, F-C Yeh. *Frontiers in Neuroscience* fnins.2016.00407 (2016)

“Organization of cortico-cortical pathways supporting memory retrieval across subregions of the left ventrolateral prefrontal cortex” J Barredo, **T. Verstynen**, D. Badre. *J. Neurophys.* 116:920-937 (2016)

“Fusing multiple neuroimaging modalities to assess group differences in perception-action coupling” J Muraskin, J. Sherwin, G. Lieberman, J. O. Garcia, **T. Verstynen**, J. M. Vettel, P. Sajda. *Proceedings of the IEEE*, 105 (1), 83-100 (2016).

“Believer-Skeptic meets Actor-Critic: Rethinking the role of basal ganglia pathways during decision-making and reinforcement learning.” K. Dunovan & **T. Verstynen**. *Frontiers in Neuroscience*, doi: 10.3389/fnins.2016.00106 (2016)

“Connectometry: A statistical approach harnessing the analytical potential of the local connectome.” Yeh F.C., Badre D., **Verstynen T.** *NeuroImage*.125:162-171 (2016).

“Competing basal-ganglia pathways determine the difference between stopping and deciding not to go.” K. Dunovan, B. Lynch, T. Molesworth, **T. Verstynen**. *eLife* pii: 08723 (2015)

“White matter microstructure mediates the relationship between cardiorespiratory fitness and spatial working memory in older adults.” Oberlin LE, **Verstynen TD**, Burzynska AZ, Voss MW, Prakash RS, Chaddock-Heyman L, Wong C, Fanning J, Awick E, Gothe N, Phillips SM, Mailey E, Ehlers D, Olson E, Wojcicki T, McAuley E, Kramer AF, Erickson KI. *Neuroimage* S1053-8119(15)00875-7 (2015).

“Brain volume and white matter in youth with type 2 diabetes compared to obese and normal weight, non-diabetic peers: A pilot study.” Rofey DL, Arslanian SA, El Nokali NE, **Verstynen T**,

Watt JC, Black JJ, Sax R, Krall JS, Proulx C, Dillon M, Erickson KI. *Int J Dev Neurosci*. Nov;46:88-91 (2015).

"In vivo characterization of the connectivity and subcomponents of the human globus pallidus." P. Beukema, F-C Yeh, **T. Verstynen** *NeuroImage* 120(15), 382–393 (2015).

"Convergence of superior parietal, orbitofrontal and lateral prefrontal inputs into the human striatum." K. Jarbo & **T. Verstynen**. *J. Neurosci*. 35(9):3865-78 (2015)

"Asymmetry, connectivity, and segmentation of the arcuate fascicle in the human brain." JC Fernández-Miranda, Y Wang, S Pathak, L Stefaneau, **TD Verstynen**, FC Yeh. *Brain Struct Funct*. 220(3):1665-80 (2015).

"Social network diversity predicts white matter microstructural integrity in humans." T. Molesworth, L. Sheu, S. Cohen, P.J. Gianaros, **T. Verstynen**. *Social, Cognitive & Affective Neuroscience* 10(9):1169-76 (2015).

"The organization and dynamics of corticostriatal pathways link the medial orbitofrontal cortex to future behavioral responses." **T. Verstynen**. *J. Neurophys* 112 (10): 2457-2469 (2014).

"Mapping Topographic Structure in White Matter Pathways with Level Set Trees" B.P. Kent, A. Rinaldo, F. Yeh, **T. Verstynen**. *PLoS ONE* 9(4):e93344 (2014).

"Cerebral Blood Flow Links Insulin Resistance and Baroreflex Sensitivity" J.P. Ryan, L.K. Sheu, **T. Verstynen**, I.C. Onyewuenyi, P.J. Gianaros. *PLoS ONE*. 8(12):e83288. (2013).

"Explicating the Face Perception Network with White Matter Connectivity." JA Pyles, **T Verstynen**, W Schneider, MJ Tarr. *PLoS ONE* 8(4): e61611. doi:10.1371/journal.pone.0061611 (2013).

"Competing physiological pathways link individual differences in weight and abdominal adiposity to white matter microstructure." **T. Verstynen**, AM Weinstein, KI Erickson, L Sheu, A Marsland, PJ Gianaros. *NeuroImage* 79:129-37 (2013).

"Deterministic diffusion fiber tracking improved by quantitative anisotropy." F-C. Yeh, **T. Verstynen**, Y. Wang, J.C. Fernandez-Miranda, W-Y. Tseng. *PLoS One* 8(11): e80713. (2013).

"Inflammatory pathways link socioeconomic inequalities to white matter architecture." P. Gianaros, A. Marsland, L. Sheu, K. Erickson, **T. Verstynen** *Cerebral Cortex* 23(9):2058-71 (2013).

"Rethinking the role of the middle longitudinal fascicle in language and auditory pathways." Y. Wang, JC. Fernández-Miranda, **T. Verstynen**, S. Pathak, W. Schneider, F.-C. Yeh. *Cerebral Cortex* Oct;23(10):2347-56 (2013).

"Dynamic sensorimotor planning during long-term sequence learning: the role of variability, response chunking and planning errors." **T. Verstynen**, J. Phillips, E. Braun, B. Workman, C. Schunn, and W. Schneider. *PLoS ONE* 7(10):e47336 (2012)

"Caudate nucleus volume mediates the link between cardiorespiratory fitness and cognitive flexibility in older adults." **T. Verstynen***, B. Lynch*, D. Miller, M. W. Voss, R. S. Prakash, L. Chaddock, C. Basak, A. Szabo, E. A. Olson, T. R. Wojcicki, J. Fanning, N. P. Gothe, E. McAuley, A.F. Kramer, K. I. Erickson. *Journal of Aging Research*, 2012, Article ID 939285 (2012). * authors contributed equally

"Increased body mass index is associated with global decreases in white matter microstructural integrity." **T. Verstynen**, A. Weinstein, D. Rofey, W. Schneider, J. Jakicic, K. Erickson. *Psychosomatic Medicine* 74(7):682-90 (2012).

"Microstructural organizational patterns in the human corticostriatal system." **T. Verstynen**, D. Badre, K. Jarbo and W. Schneider. *J Neurophys.* 107(11):2984-95 (2012).

"High definition fiber tractography of the human brain: Neuroanatomical validation and neurosurgical applications." J.C. Fernandez-Miranda, J. Engh, S. Pathak, K. Jarbo, **T. Verstynen**, Y. Wang, F. Boada, W. Schneider, R. Friedlander *Neurosurgery* 71(2):430-53 (2012).

"Visuotopic cortical connectivity underlying attention revealed with white-matter tractography." A. Greenberg, **T. Verstynen**, Y.C. Chiu, S. Yantis, W. Schneider, M. Behrmann. *J. Neuroscience* 32(8), 2773-2782 (2012).

"In vivo quantification of global connectivity in the human corpus callosum." K. Jarbo, **T. Verstynen**, W. Schneider. *NeuroImage* 59(3): 1988-1996 (2012).

"How each movement changes the next: an experimental and theoretical study of fast adaptive priors in reaching." **T. Verstynen** and P.N. Sabes. *J. Neuroscience* 31(27):10050-10059 (2011).

"Using pulse oximetry to account for high and low frequency physiological artifacts in the BOLD signal" **T. Verstynen** and V. Deshpande. *NeuroImage*. 55(4):1633-44 (2011).

"Network dynamics mediating ipsilateral motor cortex activity during unimanual actions." **T. Verstynen** and R.B. Ivry. *J Cog Neuro* 23(9):2468-80. (2011).

"In vivo assessment of microstructural topographies in the human corticospinal pathways." **T. Verstynen**, K. Jarbo, S. Pathak, and W. Schneider. *J Neurophysiol.* 105: 336-346 (2011).

"Transcranial magnetic stimulation of posterior parietal cortex affects decisions of hand choice." F. Olivera, J. Diedrichsen, **T. Verstynen**, J. Duque and R.B. Ivry. *Proc Natl Acad Sci U S A.* (2010). 107(41):17751-177556

"Evidence of somatotopy in the lateral cerebellar hemisphere for coordinated actions." J. Schlerf*, **T. Verstynen***, R.B. Ivry, and R. Spencer. *J. Neurophysiol.* 103(6):3330-3336 (2010). *co-first authors

"Prefrontal and parietal contributions to refreshing: An rTMS study" B.T. Miller, **T. Verstynen**, M. K. Johnson, M. D'Esposito. *NeuroImage* 39:436-440 (2008).

"Voluntary and involuntary attention affect face discrimination differently " M. Esterman, W. Prinzmetal, J. DeGutis, A. Landau, E. Hazeltine, **T. Verstynen**, and L. Robertson. *Neuropsychologia* 46(4):1032-40 (2008).

"Cerebellar activation during discrete and not continuous timed movements: an fMRI study" Rebecca Spencer, **T. Verstynen**, M. Brett & R. B. Ivry. *NeuroImage* 36, 378-87 (2007). * Winner of the Editors Choice Award for Systems Neuroscience 2007.

"Attenuating illusory binding with TMS of the right parietal cortex" M. Esterman, **T. Verstynen** & L. C. Robertson. *NeuroImage* 35, 1247-1255 (2007).

"Ipsilateral corticospinal projections do not predict congenital mirror movements: A case report." **T. Verstynen**, R. Spencer, C. Stinear, T. Konkle, J. Diedrichsen, W. Byblow & R. B. Ivry. *Neuropsychologia* 45(4), 844-852 (2007).

"Illusions of force perception: the role of sensori-motor predictions, visual information, and motor errors." J. Diedrichsen*, **T. Verstynen***, A. Hon, Y. Zhang & R.B. Ivry. *J Neurophysiol* 97, 3305-3313 (2007). *co-first authors

"Coming Unbound: disrupting automatic integration of synesthetic color and graphemes by TMS of the right parietal lobe" M. Esterman, **T. Verstynen**, R.B. Ivry & L.C. Robertson. *J Cog Neuro* 18, 1570-1576 (2006).

"Two types of TMS-induced movement variability following stimulation of the primary motor cortex." **T. Verstynen**, T. Konkle, & R. B. Ivry. *J Neurophysiol* 96, 1018-1029 (2006).

"Ipsilateral motor cortex activity during unimanual hand movements relates to task complexity" **T. Verstynen***, J. Diedrichsen*, N. Albert, P. Aparicio, and R.B. Ivry. *J Neurophysiol* 93(3), 1209-1222 (2005). *co-first authors

"Cerebellar involvement in anticipating the consequences of self-produced actions during bimanual movement." J. Diedrichsen, **T. Verstynen**, S. Lehman, & R.B. Ivry. *J Neurophysiol* 93(2), 801-812 (2005).

"Anticipatory adjustments in the unloading task: Is an efference copy necessary for learning?" J. Diedrichsen, **T. Verstynen**, A. Hon, S. Lehman and R.B. Ivry, *Exp Brain Res* 148, 272-276 (2003).

"Early life exposure to a novel environment modulates 'handedness' in rats" A. C. Tang and **T. Verstynen**, *Behavioural Brain Research* 131, 1-7 (2002).

"Neonatal novelty exposure modulates hippocampal volumetric asymmetry in the rat" **T. Verstynen**, R. Tierney, T. Urbanski, and A. Tang. *NeuroReport* 12(14), 3019-3022 (2001).

Book Chapters and Invited Reviews

J. Vettel, N. Cooper, J. Garcia, F-C Yeh, & **T. Verstynen** (2017) "White matter tractography and diffusion weighted imaging." *eLS*,

T. Verstynen (2015). "How form constrains function in the human brain" In R. Scott & S. Kosslyn (Eds), *Emerging Trends in Social & Behavioral Sciences*. New York, NY: Wiley.

K. Erickson, J.D. Creswell, **T. Verstynen**, & P. Gianaros (2014). "Health Neuroscience: Defining a New Field." *Current Directions in Psychological Science* Dec;23(6):446-453.

J. Schlerf, **T. Verstynen**, J. Diedrichsen (2014). Big challenges from the "little brain" – Imaging the cerebellum. In T. Papageorgiou, G. Christopoulos, & S. Smirnakis (Eds), *Advanced Brain Neuroimaging Topics in Health and Disease- Methods and Applications* (pp. 199-223). Rijeka, Croatia: InTech.

J. Diedrichsen, **T. Verstynen**, J. Schlerf, and T. Wiester (2010). "Advances in functional imaging of the human cerebellum." *Current Opinion in Neurology*. 23(4):382-387.

T. Verstynen, M. Oliver, & R. B. Ivry (2010). "Experiencing the future: The influence of self-initiation on temporal perception." In R. Nijhawan, *Space and Time in Perception and Action* (pp. 164-180). Cambridge, UK: Cambridge University Press.

Mentorship

Postdoctoral Scholars:

- Fang-Cheng Yeh, 2014-2016.
 - Currently Research Professor in Neurological Surgery, UPMC.
- Regina Leckie, 2015-2016.
 - Currently Postdoctoral Fellow in Psychiatry, UPMC
- Fatma Uyar, 2014-present.
 - Co-mentored with Aarti Singh (Machine Learning, CMU) & Peter Gianaros (Psychology, University of Pittsburgh)
- Greg Lieberman, 2014-present.
 - Co-mentored with Jean Vettel (Army Research Laboratory).
- Kyle Dunovan, 2016-present

Graduate Students:

- Brian Kent (Statistics, CMU) 2012-2013.
 - Co-mentored with Allesandro Rinaldo (Statistics, CMU)
 - Currently machine learning engineer (Turi Creative Intelligence).
- Kyle Dunovan (Psychology, University of Pittsburgh), 2014-2016.
 - Currently postdoctoral fellow in Psychology, CMU.
- Kevin Jarbo (Psychology, CMU), 2013-present
- Patrick Beukema (CNUP, University of Pittsburgh), 2014-present.

Editorial Boards

Board Review Editor, *eLife*

Guest Editor, *Frontiers in Human Neuroscience*. Special Topic: Explicating the interplay between anatomical and functional connectivity in the human brain.

Guest Editor, *Proceedings of the National Academy of Sciences*.

Ad Hoc Review Experience

Journal of Neuroscience	Clinical Neurology and Neurosurgery
Cerebral Cortex	Neuropsychologia
Journal of Cognitive Neuroscience	Journal of Motor Behavior
Journal of Neurophysiology	Experimental Brain Research
JEP: Human Percept. & Performance	Quarterly Review of Exercise & Sport Science
Journal of Neuroscience Methods	
Psychosomatic Medicine	

Teaching Experience

- 2017 *Carnegie Mellon University (86-732): Volition, Agency, & the Brain.*
Duties: Upper level undergraduate seminar on philosophical, cognitive, and neural properties of agency and action. Co-designed and co-structured.
- 2016-present *Carnegie Mellon University (86-732): Data Science Approaches for Psychology & Neuroscience*
Duties: Graduate core statistics course. Designed and structured.
- 2014-2015 *Multimodal Neuroimaging Training Program (MNTP): DWI Module*
Duties: Supervise 6-week summer training in using diffusion weighted imaging as part of an NIH funded training grant in collaboration with the University of Pittsburgh.
- 2014 *Carnegie Mellon University (86-173): Virtual Neuroanatomy*
Duties: Graduate lab-based seminar using interactive imaging tools to learn functional neuroanatomy. Completely designed and structured.
- 2013-15 *Carnegie Mellon University (85-314): Research Methods in Cognitive Neuroscience*
Duties: Upper level, lab-based undergraduate course. Designed and structured.
- 2013, 2015 *Carnegie Mellon University (86-111): Immortui Cerebrum: The neuroanatomy of zombie minds. (Renamed in 2015)*
Duties: Freshmen seminar on diagnosing the zombie brain using neuropsychology and neuroanatomy.
- 2012 *University of Pittsburgh Psychology 499: Brain Connectivity Class*
Duties: Guest lecturer and guided laboratory tutorials.
- 2012 *Brown University: In-vivo Fiber Tractography Workshop*
Duties: Two day accelerated workshop on white matter tractography methods.
- 2011 *University of Pittsburgh: In-vivo Fiber Tractography Short Courses*
Duties: Instructor of workshop designed to train basic proficiency at white matter tractography methods. Also designed as independent guest lectures in diffusion imaging classes.

- 2003 *UCB Psychology 101: Research Design and Statistics*
 Duties: Graduate student instructor that involved teaching 2 weekly discussion sections, statistical laboratories, reviewing and assisting students in homework problems.
- 2002 *UCB Cognitive Science 84: Transcranial Magnetic Stimulation*
 Duties: Technical assistant that was primarily involved in demonstrations of TMS experiments, assisting in programming group designed experiments and training students to use TMS

Scientific Advisory Boards

- 2009-Present Neuroscouting, LLC
 2010-Present Zombie Research Society

Professional Affiliations

- Cognitive Neuroscience Society Organization for Human Brain Mapping
 Society for Neuroscience American Psychosomatic Society
 American Physiological Society

Invited Talks

May 31, 2017: Statistical Analysis of Neural Data (SAND8), Carnegie Mellon University, Pittsburgh, PA.

March 20, 2017: Department of Psychological & Brain Sciences, University of Massachusetts, Amherst. Amherst, MA.

Oct. 3, 2016: Café Sci Lecture. Carnegie Science Center. Pittsburgh, PA.

June 3, 2016: Natural History Museum of Los Angeles County, Los Angeles, CA.

March 31, 2016: Stanford Cognitive & Systems Neuroscience Group, Stanford University, CA.

March 9, 2016: Department of Psychology Colloquium, University of California, Berkeley, CA.

Feb. 17, 2016: Center for Molecular and Behavioral Neuroscience Colloquium, Rutgers University, NJ.

Aug 14, 2015: Hooks Books Events, Janelia Farm Research Center, Ashburn, VA

March 10, 2015: Molecular, Cellular and Integrative Neurosciences Program Lecture. Colorado State University, Fort Collins, CO.

March 9, 2015: Neuroimaging Center Symposium. Colorado University, Boulder, CO.

March 4, 2015: WVU Student Seminar. West Virginia University, Morgantown, WV

Feb 25, 2015: Magnetic Resonance Research Center Lecture: UPMC, Pittsburgh, PA

Nov 3, 2014: Pittsburgh MRI Retreat. University of Pittsburgh, Pittsburgh, PA

Oct 31, 2014: Google Cambridge, Cambridge, MA

Oct 31, 2014: Harvard Bookstore, Cambridge, MA

Oct 16, 2013: Cognitive Lunch Seminar. Princeton University, Princeton, NJ

Feb 28, 2013: UNM Lobo Living Room Lecture. University of New Mexico, Albuquerque, NM

June 7, 2013: Café Sci Lecture. Carnegie Science Center. Pittsburgh, PA.

Oct 7, 2011: Biological & Health Psychology Brown Bag Series. University of Pittsburgh, Pittsburgh

May 14, 2010: Psychology Afternoon Lecture Series. University of New Mexico, Albuquerque

Oct. 31, 2010: ZombiCon, Seattle, WA.

July 27, 2009: Sloan-Swartz Annual Meeting on Computational Neuroscience, Harvard University, Cambridge

April 2, 2008: Interdisciplinary Forum on Cognitive Neuroscience Seminar, University of California, San Francisco

March 20, 2007: Interdisciplinary Forum on Cognitive Neuroscience Seminar, University of California San Francisco, San Francisco, CA

October 19, 2006: Informal Seminar: Human Motor Control Section, National Institute of Health (NIH), Bethesda, MD

April 26, 2006: Department of Psychology Seminar, University of Auckland, New Zealand

February 16, 2006: Cognition, Brain and Behavior Symposium, Department of Psychology, University of California, Berkeley

Conference Abstracts

"Dissociable cortical networks encode cue sequences and movement sequences." P. Beukema & **T Verstynen**. Cosyne 2018.

"Interpretable model-based strategies arising from hierarchical neural networks" N. A. Muyesser, K. Dunovan, **T. Verstynen**. Cosyne 2018.

"Dopaminergic changes in striatal pathway competition modify specific decision parameters." K. Dunovan, C. Vich, M. Clapp, J. Rubin, T. Verstynen. Cosyne 2018.

“The Association Between Health and Component Decision Processes.” A. Porter, T. Verstynen. Cog Neurosci Society 2018.

“Long-term sequence training alters movement representations in primary motor cortex.” P. Beukema & **T Verstynen**. Society for Neuroscience 2016.

“Sensory uncertainty influences value-based risky decisions.” R. Flemming, K. Jarbo, & **T. Verstynen**. Society for Neuroscience 2016.

“Neural substrates of risky spatial decisions under conditions of perceptual uncertainty.” K. Jarbo & **T. Verstynen**. Society for Neuroscience 2016.

“A biologically-constrained hybridization of reinforcement learning and accumulator models for adaptive decision-making.” K. Dunovan & **T. Verstynen**. Society for Neuroscience 2016.

“Long-term skill learning is associated with a reorganization of cortical motor representations.” P. Beukema & **T Verstynen**. Human Brain Mapping 2016.

“Topography of the Fornix and Stria Terminalis in the Living Human Brain.” L. Banihashemi & **T. Verstynen**. Human Brain Mapping 2016.

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