

Terri L. Scott, PhD.

Education

- 2014 – 2020 **Doctor of Philosophy in Neuroscience**, *Thesis: Neural Bases of Phonological Working Memory.*
Boston University, Boston, MA
- 2010 – 2012 **Master of the Arts in Astronomy.**
Boston University, Boston, MA
- 2004 – 2008 **Bachelor of the Arts in Physics, Minor in Mathematics.**
New York University, New York, NY

Grants and Research Support

- 2021 – 2024 **Neural dynamics of speech encoding and maintenance during phonological working memory.**
NIH National Institute on Deafness and Other Communication Disorders, Grant: F32DC019531, Role: PI
- 2015 – 2017 **Training in computational neuroscience: Integrating experiment, theory, and technology.**
NIH National Institute on Drug Abuse, Grant: T90DA032484, Role: Trainee

Awards and Honors

- Oct. 2023 Society for the Neurobiology of Language Postdoc Abstract Merit Award - Honorable Mention
- Aug. 2019 International Phonetic Association Student Award
- Nov. 2018 Society for Neuroscience Nancy Rutledge Zahniser Trainee Development Award
- June 2015 BU CompNet Travel Award
- 2004 – 2008 NYU College of Arts and Sciences Academic Scholarship

Refereed Journal Publications

- Schneider, J. M., **Scott, T. L.**, Legault, J., and Qi, Z. (*accepted*). "Limited but specific engagement of the mature language network during linguistic statistical learning." *Cerebral Cortex*.
- Lee, J. J., **Scott, T. L.**, and Perrachione, T. K. (2024) "Efficient functional localization of language regions in the brain." *NeuroImage*, 285: 120489. doi: 10.1016/j.neuroimage.2023.120489
- Levy, D. F., Silva, A. B., **Scott, T. L.**, Liu, J. R., Harper, S., Zhao, L., Hullett, P., Kurteff, G., Wilson, S. M., Leonard, M. K., and Chang, E. F. (2023) "Apraxia of speech with phonological alexia and agraphia following resection of the left middle precentral gyrus: illustrative case." *Journal of Neurosurgery: Case Lessons*, 5(13): CASE22504. doi: 10.3171/CASE22504.
- Silva, A. B., Liu, J. R., Zhao, L., Levy, D. F., **Scott, T. L.**, and Chang, E. F. (2022) "A neurosurgical functional dissection of the middle precentral gyrus during speech production." *Journal of Neuroscience*, 42(45): 8416-8426. doi: 10.1523/JNEUROSCI.1614-22.2022
- **Scott, T. L.**, Haenchen, L., Daliri, A., Chartove, J., Guenther, F. H., and Perrachione, T. K. (2020) "Noninvasive neurostimulation of left ventral motor cortex enhances sensorimotor adaptation in speech production." *Brain and Language*, 209, 104840. doi: 10.1016/j.bandl.2020.104840

- Kearney, E., Nieto-Castañón, A., Weerathunge, H. R., Falsini, R., Daliri, A., Abur, D., Ballard, K. J., Chang, S.-E., Chao, S.-C., Heller Murray, E. S., **Scott, T. L.**, and Guenther, F. H. (2020) "A simple 3-parameter model for explaining adaptation in speech and voice production." *Frontiers in Psychology*, doi: 10.3389/fpsyg.2019.02995
- **Scott, T. L.** and Perrachione, T. K. (2019) "Common cortical architectures for phonological working memory identified in individual brains." *NeuroImage*, 202: 116096. doi: 10.1016/j.neuroimage.2019.116096
- **Scott, T. L.**, Gallée, J., and Fedorenko, E. (2017). "A new fun and robust version of an fMRI localizer for the frontotemporal language system." *Cognitive Neuroscience*, 8(3): 167-176. doi: 10.1080/17588928.2016.1201466
- Fedorenko, E., **Scott, T. L.**, Brunner, P., Schalk, G., and Kanwisher, N. (2016). "A neural marker of the construction of sentence meaning." *Proceedings of the National Academy of Sciences*, 113(41): E6256–E6262. doi: 10.1073/pnas.1612132113
- Jorstad, S., Marscher, A., Smith, P., ... **Scott, T. L.** (36/45), ... Strelitski, V. (2013). "A tight connection between gamma-ray outbursts and parsec-scale jet activity in the quasar 3C 454.3." *The Astrophysical Journal*, 773(2):147–174. doi: 10.1088/0004-637X/773/2/147
- Marscher, A., Jorstad, S., Agudo, I., MacDonald, N., and **Scott, T. L.**, (2012). "Relation between events in the millimeter-wave core and gamma-ray outbursts in blazer jets." *Proceedings of Fermi and Jansky: Our Evolving Understanding of AGN*, eConf C1111101
- Jorstad, S., Marscher, A., Joshi, M., MacDonald, N., **Scott, T. L.**, Williamson, K., Smith, P., Larionov, V., Agudo, I, and Gurwell, M. (2012). "Parsec-scale jet behavior of the quasar 3C 454.3 during the high gamma-ray states in 2009 and 2010." *Proceedings of Fermi and Jansky: Our Evolving Understanding of AGN*, eConf C1111101
- Hu, D., Nirody, J., **Scott, T. L.**, and Shelley, M. (2009). "The mechanics of slithering locomotion." *Proceedings of the National Academy of Sciences*, 106(25):10081–10085. doi: 10.1073/pnas.0812533106

Manuscripts in Preparation

- **Scott, T. L.**, Leonard, M. K., and Chang E. F. (*in preparation*). "Cortical organization of shared neural computations for reading and auditory speech perception."
- **Scott, T. L.** and Perrachione, T. K. (*in preparation*). "Subject-specific conjunction maps reveal functional dissociation between language and working memory."
- **Scott, T. L.** and Perrachione, T. K. (*in preparation*). "The roles of language-specific and domain-general systems in phonological working memory."
- Lee, J. J., Belisle, R. M., Moore, A. A, **Scott, T. L.**, and Perrachione, T. K. (*in preparation*). "Structural organization and functional selectivity of the cortical language network in dyslexia."
- Torre, G. A., **Scott, T. L.**, Gabrieli, J. D. E., Christodoulou, J. A., and Perrachione, T. K. (*in preparation*). "Convergence of phonological awareness in text and speech in dyslexia and typical reading development."
- Belisle, R. M., **Scott, T. L.**, Choi, J. Y., and Perrachione, T. K. (*in preparation*). "A structural connectivity-based parcellation of the human superior temporal lobe."

Presentations and Proceedings

- 2023 • **Scott, T. L.**, Leonard, M. K., and Chang, E. F. (2023, October). "Cortical organization of shared neural computations for reading and auditory speech perception." Poster to be presented at the 15th Annual Meeting of the Society for the Neurobiology of Language, Marseille, France.
 - Belisle, R. M., **Scott, T. L.**, and Perrachione, T.K. (2023, October). "Language selectivity may be highly localized: Evidence from univariate and multivoxel analyses." Poster to be presented at the 15th Annual Meeting of the Society for the Neurobiology of Language, Marseille, France.
 - Moore, A. A., **Scott, T. L.**, and Perrachione, T.K. (2023, October). "Task-dependent functional connectivity of language-selective regions." Poster to be presented at the 15th Annual Meeting of the Society for the Neurobiology of Language, Marseille, France.
- 2022 • Schneider, J. M., **Scott, T. L.**, Legault, J., and Qi, Z. (2022, June). "The heterogeneous engagement of the neural language network in statistical learning." Conference on Interdisciplinary Advances in Statistical Learning, San Sebastian, Spain.
 - Lee, J. J., **Scott, T. L.**, Carter, Y. D., Choi, J. Y., and Perrachione, T. K. (2022, April). "Functional selectivity and structural connectivity of the cortical language network are intact in dyslexia." 29th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
 - Lee, J. J., **Scott, T. L.**, Carter, Y., Choi, J. Y., and Perrachione, T. K. (2022, March) "Cortical language network functional neuroanatomy in dyslexia." Neurobiology of Language: Key Issues and Ways Forward II.
- 2020 • Lee, J. J., **Scott, T. L.**, and Perrachione, T. K. (2020, Oct.) "Reliability and stability in shortened versions of an auditory functional language localizer." Poster presented at the 12th Annual Meeting of the Society for the Neurobiology of Language, Virtual Conference.
 - Choi, J. Y., Torre, G. A., Carter, Y. D., **Scott, T. L.**, and Perrachione, T. K. (2020, May) "Multivoxel pattern analyses of brain structure to classify dyslexia." Poster presented at the 27th Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
 - Kapadia, A. M., Torre, G. A., **Scott, T. L.**, Carter, Y. D., and Perrachione, T. K. (2020, May) "Macroanatomical morphology of superior temporal lobe in adults with dyslexia." Poster presented at the 27th Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
 - Torre, G. A., Choi, J. Y., **Scott, T. L.**, Carter, Y. D., and Perrachione, T. K. (2020, May) "Differences in left fusiform gyrus morphometry in adults with dyslexia: Voxel- and surface-based analyses." Poster presented at the 27th Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- 2019 • **Scott, T. L.**, Carter, Y. D., Choi, J. Y., and Perrachione, T. K. (2019, Aug.) "Relationships between phonological working memory and language processing in adults with dyslexia." Poster presented at the 11th Annual Meeting of the Society for the Neurobiology of Language, Helsinki, Finland.
 - **Scott, T. L.**, Haenchen, L., Daliri, A., Chartove, J., Guenther, F. H., and Perrachione, T. K. (2019, Aug.) "Speech motor adaptation during perturbed auditory feedback is enhanced by noninvasive brain stimulation." Proceedings of the International Congress of Phonetic Sciences, Melbourne, Australia.
 - Perrachione, T. K. and **Scott, T. L.** (2019, June) "Functional neuroanatomy of phonological working memory in dyslexia." 4th Annual Meeting of the New England Research on Dyslexia Society, Boston, MA.

- 2018 • **Scott, T. L.** and Perrachione, T. K. (2018, Nov.) "Functional dissociation of language and working memory revealed by pattern analysis of subject-specific conjunction maps." Poster presented at Society for Neuroscience, San Diego, CA.
- **Scott, T. L.**, Dougherty, S., Choi, J. Y., and Perrachione, T. K. (2018, Aug.) "Nonword repetition recruits distinct and overlapping nodes of language and working memory networks." Poster presented at the 10th Annual Meeting of the Society for the Neurobiology of Language, Québec City, Québec, Canada.
- **Scott, T. L.**, Dougherty, S., Choi, J. Y., and Perrachione, T. K. (2018, March) "Common recruitment of neural resources for phonological working memory regardless of behavioral demands." Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- 2017 • **Scott, T. L.**, Dougherty, S., Choi, J. Y., and Perrachione, T. K. (2017, June) "The role of language-specific vs. domain-general systems in phonological working memory." Poster presented at the Organization for Human Brain Mapping, Vancouver, BC, Canada.
- **Scott, T. L.** (2017, May) "The role of language-specific vs. domain-general systems in phonological working memory." Workshop: The Relationship Between Executive Functions And Language Processing, MIT, Cambridge, MA.
- 2016 • **Scott, T. L.**, Brunner, P., Schalk, G., Kanwisher, N., and Fedorenko, E. (2015, June) "The time-course of information processing within the language system." Poster presented at the Organization for Human Brain Mapping, Honolulu, HI.
- Saygin, Z., **Scott, T. L.**, Feather, J., Youssoufian, D., Fedorenko, E., and Kanwisher, N. (2015, May) "The VWFA and FFA have sharply contrasting functional selectivities and patterns of connectivity." Poster presented at the Vision Sciences Society, St. Pete's Beach, FL.

Research Experience

2020 – **Postdoctoral Scholar.**

Weill Institute of Neurosciences, University of California, San Francisco, CA
 Supervisor: Edward F. Chang, MD.

2014 – 2020 **Graduate Research Assistant.**

Department of Speech, Language, and Hearing Sciences, Boston University, Boston, MA
 Supervisor: Tyler K. Perrachione, PhD.

2012 – 2014 **Technical Assistant.**

Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA
 Supervisor: Nancy G. Kanwisher, PhD.

2011 – 2012 **Graduate Research Assistant.**

Institute for Astrophysical Research, Boston University, Boston, MA
 Supervisor: Alan P. Marscher, PhD.

2010 – 2011 **Graduate Research Assistant.**

Center for Space Physics, Boston University, Boston, MA
 Supervisor: Theodore Fritz, PhD.

Summer 2007 **Undergraduate Research Assistant.**

Physics Division, Lawrence Berkeley National Laboratory, Berkeley, CA
 Supervisor: Marco Battaglia, PhD.

2006 – 2008 **Undergraduate Research Assistant.**

Courant Institute of Mathematical Sciences, New York University, New York, NY
 Supervisors: David Hu, PhD. and Michael Shelley, PhD.

Mentoring Experience

2022 - **Graduate Student.**

Alex Silva - MD/PhD Student in the Bioengineering Program at UC Berkeley (joint UCSF)
Currently advising on a project investigating neural representations during writing. Additionally helped to prepare for qualifying exam and F30 grant submission.

2021 - **Graduate Student.**

Irina Bhaya-Grossman - PhD Student in the Bioengineering Program at UC Berkeley (joint UCSF)
Currently advising on a project investigating cross-linguistic neural representation of phonemes and helped prepare F31 grant application.

Teaching Experience

Spring 2018 **Teaching Assistant.**

CAS NE 202/PS 399 - Introduction to Cognitive Neuroscience
Boston University Department of Psychology and Brain Sciences, Boston, MA
Instructor: David Somers, PhD.

Spring 2011, **Teaching Assistant.**

2012 CAS AS 109 - Cosmology
Boston University Department of Astronomy, Boston, MA
Instructor: Alan P. Marscher, PhD.

Summer **Teaching Assistant.**

2009, 2010 Astronomy
Johns Hopkins Center for Talented Youth, Baltimore, MD
Instructor: Julie Langenbrunner, PhD.

2008 – 2010 **Instructor.**

Astrocamp, Idyllwild, CA

Service

2021 – 2023 Volunteer, Envision Internship Program in partnership with UCSF Department of Neurosurgery and non-profit organization Oasis For Girls

2015, 2017 Volunteer, Afterschool Program Outreach at Lincoln School

2017 Volunteer, AAAS Family Science Days

2015 – 2016 Treasurer, Computational Neuroscience Student Organization

2015 Volunteer, Science Night at the Peabody School

2008, 2009 Volunteer, World Science Festival

Affiliations

2019 – Member, International Phonetic Association

2018 – Member, Society for Neuroscience

2018 – Member, Society for the Neurobiology of Language

2018 – Member, Cognitive Neuroscience Society

2015 – Member, American Association for the Advancement of Science

2015 – Member, Organization for Human Brain Mapping

References

Edward F. Chang.

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Evelina Fedorenko.

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