

## **BEN DEEN**

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### **ACADEMIC POSITIONS**

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Tulane University	<i>Assistant Professor of Psychology</i>	2022 – Present
Rockefeller University	<i>Postdoctoral Fellow in Neuroscience</i>	2016 – 2022

### **EDUCATION & TRAINING**

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MIT	<i>Ph.D. in Neuroscience</i>	2010 – 2016
Yale University	<i>B.S. in Physics and Cognitive Science</i> Magna cum laude, distinction in both majors	2005 – 2009

### **AWARDS & FELLOWSHIPS**

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Human Brain Mapping Editor's Choice Award		2020
Leon Levy Fellowship		2020 – 2022
Kavli Neural Systems Institute Pilot Grant		2019
Helen Hay Whitney Fellowship		2017 – 2020
Vision Sciences Society Travel Award		2016
National Science Foundation Graduate Research Fellowship		2012 – 2015 (awarded 2010)
MIT Presidential Fellowship		2010 – 2011

### **GRANTS**

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<i>Probing the functional organization of the anterior temporal lobe with precision fMRI</i> Louisiana Board of Regents RCS Grant (\$159,543). Role: PI	2023 – 2026
<i>Studying the neural basis of infant social understanding using fMRI</i> Tulane Brain Institute Priddy Family Spark Research Award (\$50,000). Role: PI	2023 – 2024
<i>Using infant fMRI to study the early development of social cognition</i> Lavin-Bernick Center Research & Scholarly Activities Grant (\$8,000). Role: PI	2023 – 2024
<i>Probing the functional organization of the anterior temporal lobe with precision fMRI</i> Tulane COR Resesarch Fellowship (\$6,500). Role: PI	2023 – 2024
<i>Investigating the neural mechanisms of theory of mind using human electrocorticography</i> NIH R21. Role: Postdoc, primary author (PIs: Adeen Flinker, Winrich Freiwald)	2020 – 2022

## **PUBLICATIONS**

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**Deen, B.**, Husain, G., Freiwald, W.A. (2024). A familiar face and person processing area in the human temporal pole. *PNAS*, 121(28), e2321346121

**Deen, B.\***, Schwiedrzik, C.\*, Sliwa, J.\*, Freiwald, W.A. (2023). Specialized Networks for Social Cognition in the Primate Brain. *Annual Review of Neuroscience*, 46, 381-401. \*equal contribution

**Deen, B.**, Freiwald, W.A. (2021). Parallel systems for social and spatial reasoning within the cortical apex. *bioRxiv*, doi: 10.1101/2021.09.23.461550.

**Deen, B.**, Saxe, R., Kanwisher, N.G. (2020). Processing communicative facial and vocal cues in the superior temporal sulcus. *NeuroImage*, 221(1), 117191.

**Deen, B.**, Saxe, R. (2019). Parts-based representations of perceived face movements in the superior temporal sulcus. *Human Brain Mapping*, 40(8), 2499-2510.

Powell, L. J., **Deen, B.**, Saxe, R. (2018). Using individual functional channels of interest to study cortical development with fNIRS. *Developmental Science*, 21(e12595).

**Deen, B.**, Richardson, H., Dilks, D., Takahashi, A., Keil, B., Wald, L., Kanwisher, N.G., Saxe, R. (2017). Organization of high-level visual cortex in human infants. *Nature Communications* 8, 13995.

**Deen, B.**, Koldewyn, K., Kanwisher, N.G., Saxe, R. (2015). Functional organization of social perception and cognition in the superior temporal sulcus. *Cerebral Cortex*, 25(11), 4596-4609.

**Deen, B.**, Saxe, R., Bedny, M. (2015). Occipital cortex of blind individuals is functionally coupled with executive-control areas of frontal cortex. *Journal of Cognitive Neuroscience*, 27(8), 1633-1647.

Di Martino, A., Yan, C.-G., Li, Q., Denio, E., Castellanos, F.X., Alaerts, K., Anderson, J.-S., Assaf, M., Berhmann, M., Bookheimer, S.Y., Dapretto, M., **Deen, B.**, Delmonte, S., Dinstein, I., Ertl-Wagner, D., Fair, D.A., Gallagher, L., Kennedy, D.P., Keown, C.L., Keysers, C., Lainhart, J.E., Lord, C., Luna, B., Menon, V., Minshew, N.J., Monk, C.S., Müller, R.-A., Nebel, M.B., Nigg, J.T., O’Hearn, K., Pelphrey, K.A., Peltier, S.J., Rudie, J.D., Sunaert, S., Thioux, M., Tyszka, J.M., Uddin, L.Q., Verhoeven, J.S., Wenderoth, N., Wiggins, J.L., Mostofsky, S.H., Milham, M.P. (2013). The autism brain imaging data exchange: towards a large-scale evaluation of the intrinsic brain architecture in autism. *Molecular Psychiatry*, 19(6), 659-667.

Bolling, D.Z., Pitskel, N.B., **Deen, B.**, Crowley, M.J., Mayes, L.C., Pelphrey, K.A. (2011). Development of neural systems for processing social exclusion from childhood to adolescence. *Developmental Science*, 14(6), 1431-1444.

Bolling, D.Z., Pitskel, N.B., **Deen, B.**, Crowley, M.J., McPartland, J.C., Kaiser, M.D., Vander Wyk, B.C., Wu, J., Mayes, L.C., Pelphrey, K.A. (2011). Enhanced neural responses to rule violation in children with autism: a comparison to social exclusion. *Developmental Cognitive Neuroscience*, 1(3), 280-294.

**Deen, B.**, Pitskel, N.B., Pelphrey, K.A. (2011). Three systems of insular functional connectivity identified with cluster analysis. *Cerebral Cortex*, 21(7), 1489-1506.

Kaiser, M.D., Hudac, C.M., Shultz, S., Lee, S.M., Cheung, C., Berken, A.M., **Deen, B.**, Pitskel, N.B., Sugrue, D.R., Voos, A.C., Saulnier, C.A., Ventola, P., Wolf, J.M., Klin, A., Vander Wyk, B.C., Pelphrey, K.A. (2011). Neural signatures of autism. *Proceedings of the National Academy of Sciences of the USA*, 107(49), 21223-21228.

Bolling, D.Z., Pitskel, N.B., **Deen, B.**, Crowley, M.J., McPartland, J.C., Mayes, L.C., Pelphrey, K.A. (2011). Dissociable brain mechanisms for processing social exclusion and rule violation. *NeuroImage*, 54(3), 2462-2471.

**Deen, B.**, McCarthy, G. (2010). Reading about the actions of others: biological motion imagery and action congruency influence brain activity. *Neuropsychologia*, 48(6), 1607-1615.

## SELECTED INVITED TALKS

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**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Center for Biomedical Informatics and Genomics, Tulane University, October 2023.

**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Grand Rounds in Neurology, Tulane University, October 2023.

**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Psychology Colloquium, Loyola University New Orleans, September 2023.

**Deen, B.** Organization of systems for social cognition in the brain: implications for autism. Grand Rounds in Child Psychiatry, Tulane University, September 2023.

**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Psychology Seminar, University of New Orleans, March 2023.

**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Cognitive Neuroscience Seminar, Johns Hopkins University, June 2022.

**Deen, B.** Functional organization of social perception and cognition in the human brain. Psychology Colloquium, Tulane University, February 2022.

**Deen, B.** Parallel systems for social and spatial reasoning within the cortical apex. Leon Levy Neuroscience Seminar, The Rockefeller University, November 2021.

**Deen, B.** Separate pathways for person and face processing in the anterior temporal lobe. Object Cognition Workshop, Yale University, June 2021.

**Deen, B.** Parallel systems for social and spatial reasoning within the brain's apex network. Frontiers in Neuropsychiatry Seminar, Weill Cornell Department of Psychiatry, May 2021.

**Deen, B.** Studying high-level social cognition with human electrocorticography. Intracranial EEG Meeting, New York University, May 2021.

**Deen, B.** Parallel systems for social and spatial reasoning within the brain's apex network. Center for Brains, Minds, and Machines Research Meeting, MIT, April 2021.

**Deen, B.** Probing the neural basis of high-level social cognition using human electrocorticography. Intracranial EEG Meeting, New York University, October 2019.

**Deen, B.** fMRI investigations of social perception in the superior temporal sulcus. Center for Brains, Minds, and Machines Research Meeting, MIT, May 2014.

**Deen, B.** Selectivity and multifunctionality in the superior temporal sulcus. Social Neuroscience Workshop, Harvard University, March 2012.

## **SELECTED CONFERENCE TALKS**

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**Deen, B.,** Freiwald, W. A familiar face and person processing area in the human temporal pole. Society for Neuroscience, November 2023.

**Deen, B.,** Freiwald, W. A familiar face and person processing area in the human temporal pole. Vision Sciences Society, May 2023.

**Deen, B.,** Freiwald, W. Parallel systems for social and spatial reasoning within the cortical apex. Organization for Human Brain Mapping, June 2022.

**Deen, B.,** Freiwald, W. Parallel systems for social and spatial reasoning within the cortical apex. Cognitive Neuroscience Society, April 2022.

**Deen, B.,** Freiwald, W. Parallel systems for social and spatial reasoning within the cortical apex. Society for Neuroscience, November 2021.

**Deen, B.,** Landi, S., Freiwald, W. Social memory responses in macaque medial prefrontal cortex. neuromatch 3.0, October 2020.

**Deen, B.,** Richardson, H., Dilks, D., Takahashi, A., Keil, B., Wald, L., Kanwisher, N.G., Saxe, R. Organization of high-level visual cortex in human infants. Society for Neuroscience, November 2016.

**Deen, B.,** Richardson, H., Dilks, D., Takahashi, A., Keil, B., Wald, L., Kanwisher, N.G., Saxe, R. Category-selective visual regions in human infants. Vision Sciences Society, May 2016.

**Deen, B.,** Saxe, R. Parts-based representations of perceived face movements in the superior temporal sulcus. Society for Neuroscience, October 2015.

**Deen, B.,** Saxe, R. Neural correlates of social perception: the posterior superior temporal sulcus is modulated by action rationality but not animacy. Cognitive Science Society, August 2012.

**Deen, B.,** Pelphrey, K.A. Large-scale functional connectivity in children with Autism Spectrum Disorders. International Meeting for Autism Research, May 2012.

## SELECTED CONFERENCE POSTERS

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**Deen, B.**, Freiwald, W. Parallel systems for social and spatial reasoning within the cortical apex. Organization for Human Brain Mapping, June 2022.

**Deen, B.**, Kanwisher, N., Saxe, R. Functional organization of the human superior temporal sulcus. Organization for Human Brain Mapping, June 2015.

Powell, L.J., **Deen, B.**, Guo, L., Saxe, R. Using fNIRS to map functional specificity in the infant brain: An fROI approach. Society for Research in Child Development, March 2015.

**Deen, B.**, Kanwisher, N., Saxe, R. Exploring the functional organization of the superior temporal sulcus with a broad set of naturalistic stimuli. Vision Sciences Society, May 2014.

**Deen, B.**, Kanwisher, N., Saxe, R. Exploring superior temporal sulcus responses and patterns with a broad set of naturalistic stimuli. Society for Neuroscience, November 2013.

**Deen, B.**, Bedny, M., Saxe, R. Functional connectivity of frontal and occipital cortex in congenitally blind adults. Organization for Human Brain Mapping, June 2013.

**Deen, B.**, Koldewyn, K., Weigelt, S., Kanwisher, N., Saxe, R. Selectivity and multifunctionality in the superior temporal sulcus. Cognitive Neuroscience Society, April 2012.

**Deen, B.**, Pelphrey, K.A. Functional connectivity of the ventromedial prefrontal cortex in children with Autism Spectrum Disorders. International Meeting for Autism Research, May 2011.

**Deen, B.**, Pitskel, N.B., Pelphrey, K.A. Parcellating the human insula using resting-state functional connectivity. Society for Neuroscience, November 2010.

## ESSAYS & OPINION

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**Deen, B.** (2020). How to Fix Science's Diversity Problem. *Scientific American*.

**Deen, B.**, Pelphrey, K.A. (2012). Perspective: Brain scans need a rethink. *Nature* 491, S20.

## RESEARCH MENTORING

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### *PhD students:*

- Isabel Nichoson (Neuroscience, 2023 – present)
- Abigail Gantz (Psychology, 2024 – present)

### *MA students:*

- Tony Shen (Neuroscience, 2024 – present)

### *MD students:*

- Janis Park (2023 – present)

### *Undergraduate students:*

- Tulane University:
  - 2024 – present: Morgan Tessler, Laci Carpenos, Stephen Graziose, Roma Kolluru, Emily Tong
  - 2024: Tony Shen
  - 2023 – present: Camille Buckner, Ian Faul, Emily Aymond, Zoe Conner-Bennett
  - 2023 – 2024: Talia Lurie (Honors Thesis; Senior Scholar Award in Psychology; Gerall Award in Neuroscience), Andrew Nwacha
  - 2023: Yiran Gong
  - 2022 – present: Didi Ross, Alaina Moskovitz
  - 2022 – 2023: Chloe Friedman
- Rockefeller University: Gazi Husain (student at Hunter College; 2019-2021), Yorkiris Marmol (student at Vassar College; Summer 2018, Tri-I Gateways to Lab Program), Petr Filipenko (student at Hunter College, Summer 2016, MIT CBMM Summer Internship)

## TEACHING

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### *Full courses:*

2024 (Spring) Tulane PSYC/NSCI 4380/6380 Cognitive Neuroscience  
 2023 (Fall) Tulane PSYC/NSCI 4660/6660 Methods for Functional MRI  
 2023 (Spring) Tulane PSYC/NSCI 4380 Cognitive Neuroscience

### *Guest lectures:*

2019 (Fall) Hunter SCI 111 Brains, Minds, and Machines (“The Neural Basis of Face Perception”)  
 2014 (Spring) MIT 9.65 Cognitive Processes (“Face Perception and Theory of Mind”)

### *Teaching assistant:*

2015 (Fall) MIT 9.520 Statistical Learning Theory  
 2015 (Spring) MIT 9.40 Introduction to Neural Computation  
 2014 (Fall) MIT 9.520 Statistical Learning Theory  
 2014 (Summer) MIT Brain, Minds, and Machines Summer Course  
 2013 (Spring) MIT 9.65 Cognitive Processes  
 2011 (Fall) MIT 9.07 Statistics for Brain and Cognitive Sciences

## LEADERSHIP AND SERVICE

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### Tulane University

- Graduate Admissions Committee, Psychology Department (2022 – 2023, 2024 – present)
- Colloquium Committee, Psychology Department (2023 – 2024)
- Equity, Diversity, and Inclusion Council, Psychology Department (2023 – present)
- Cognitive Studies Program Committee (2023 – present)
- Search Committee, Assistant Professor in Developmental Science (2023 – 2024)
- Search Committee, Professor of Practice in Data (2022 – 2023)
- Thesis committee member: Taylor Marcus (Neuroscience PhD), Dehan Elcin (Psychology PhD),

Miquel Vasquez (Psychology PhD), Annabelle Reese (Psychology Master's), Giselle Yao (Psychology Master's)

Rockefeller University

- Rockefeller Inclusive Science Initiative (RiSI) (2020 – 2022)
- Rockefeller Chief Diversity Officer task force (2020)

Extramural

- Graduate Women in Science National Fellowship Reviewer (2021)

*Ad hoc reviewer:* Nature, Science Advances, Molecular Psychiatry, Proceedings of the National Academy of Sciences, eLife, Journal of Neuroscience, Cerebral Cortex, NeuroImage, Neuropsychologia, Network Neuroscience, Neuroscience and Biobehavioral Reviews