

## DANIEL C. BURNSTON, PH.D.

Assistant Professor  
Philosophy Department, Tulane University  
Member Faculty, Tulane Brain Institute  
Director, Tulane Cognitive Studies Program

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## CURRICULUM VITAE

### POSITIONS HELD

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Assistant Professor, Philosophy Department, Tulane University (2015-Present)  
Junior Fellow, Center for History and Philosophy of Science, University of  
Pittsburgh (Spring 2019)  
Visiting Scholar, Australia National University (Fall 2018)  
Junior Research Fellow, KLI Institute (Summer 2015)

### EDUCATION

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Ph.D. in Philosophy and Cognitive Science, University of California, San  
Diego, 2015.  
—Dissertation: *Perceptual Context and the Nature of Neural Function*  
—Committee: William Bechtel (Director), Jonathan Cohen, Rick Grush,  
Thomas Albright, John Serences.  
M.A. in Philosophy, Georgia State University. Neurophilosophy Track, 2009,  
—Master's Thesis: *Teleosemantics, Externalism, and the Content of*  
*Theoretical Concepts*  
—Committee: Andrea Scarantino (Director), George Graham, Eddy  
Nahmias.  
B.A. in Philosophy, Rutgers University, 2007.  
—Undergraduate Thesis: *Evolutionary Game Theory and Morality*  
—Director: Martin Bunzl

### PUBLICATIONS

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Burnston, D. C. (Forthcoming). Getting over Atomism: Functional  
Decomposition in Complex Neural Systems. *British Journal for the*  
*Philosophy of Science*.  
Burnston, D. C. (2017). Real patterns in biological explanation. *Philosophy of*  
*Science*, 84(5), 879-891.  
Burnston, D. C. (2017). Interface problems in the explanation of action.  
*Philosophical Explorations*, 20(2), 242-258.  
Burnston, D. C. (2017). Is aesthetic experience evidence for cognitive

- penetration? *New Ideas in Psychology*, 47, 145-156.
- Burnston, D. C. (2017). Cognitive penetration and the cognition–perception interface. *Synthese*, 194(9), 3645-3668.
- Burnston, D. C. (2016). Computational neuroscience and localized neural function. *Synthese*, 193(12), 3741–3762.
- Burnston, D. C. (2016). A contextualist approach to functional localization in the brain. *Biology & Philosophy*, 31(4), 527-550.
- Burnston, D. C. (2016). Data graphs and mechanistic explanation. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, 57, 1-12.
- Burnston, D. C., & Cohen, J. (2015). Perceptual Integration, Modularity, and Cognitive Penetration. In A. Raftopolous and J. Zembiek (Eds.), *Cognitive Influences on Perception: Implications for Philosophy of Mind, Epistemology, and Philosophy of Action* (pp. 123-143). Oxford University Press.
- Burnston, D. C., Sheredos, B., Abrahamsen, A., & Bechtel, W. (2014). Scientists' Use of Diagrams in Developing Mechanistic Explanations: A Case Study from Chronobiology. *Pragmatics and Cognition*, 22(2), 224-243.
- Uithol, S., Burnston, D. C., & Haselager, P. (2014). Why we May not Find Intentions in the Brain. *Neuropsychologia*, 56, 129-139.
- Bechtel, W., Burnston, D., Sheredos, B., & Abrahamsen, A. (2014). *Representing time in scientific diagrams*. Paper presented at the Proceeding of the 36th Annual Conference of the Cognitive Science Society.
- Burnston, D. C. (2013). Mechanistic Diagrams as Search Organizers. *Proceedings of the 36<sup>th</sup> Annual Meeting of the Cognitive Science Society* (pp. 1952-1957). Cognitive Science Society.
- Sheredos, B., Burnston, D. C., Abrahamsen, A., & Bechtel, W. (2013). Why Do Biologists Use so many Diagrams? *Philosophy of Science*, 80(5), 931-944.
- Burnston, D. C., & Cohen, J. (2012). Perception of Features and Perception of Objects. *Croatian Journal of Philosophy*, 12(3), 283-314.
- Burnston, D. (2012). Naturalism and Scientific Creativity: New Tools for Analyzing Science (Review of the Book: Models of Discovery and Creativity, J. Meheus & T. Nickels, Eds.). *Metascience*, 21, 115-118.
- Burnston, D., Sheredos, B., & Bechtel, W. (2011). HIT on the Psychometric Approach. *Psychological Inquiry*, 22, 108-114.

## TALKS

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- 'Complex Mapping Tools and Task Ontologies' NeuroTech, Pittsburgh Center for Philosophy of Science, January 2020.
- 'Embodied Agency and Pluralistic Folk Psychology', New Orleans Workshop on Agency and Responsibility, New Orleans, November 2019.

- ‘Neural Decoding and Neural Representation’, Deep South Philosophy of Neuroscience Workshop, Pensacola, September 2019.
- ‘A Plea for Task Ontology,’ Natural Kinds in Cognitive Science Workshop, York University, June 2019.
- ‘Multimodality and Defining the Senses,’ AISC Midterm Conference, Symposium on Multimodality, Lucca, May 2019.
- ‘The Neuroscience of Decision as a Basis for Social Neuroscience,’ AISC Midterm Conference, Lucca, May 2019.
- ‘Tools, Skills, and the Organization of the Mind,’ Re-Tuning Cognition with a Box of Rocks Workshop, University of Pittsburgh, March 2019.
- ‘Causal and Semantic Relations between Cognitive and Sensorimotor States,’ University of Pittsburgh, January 2019.
- ‘Inferentialism and Maker’s Knowledge,’ Modeling and Reasoning in the Sciences Workshop, National Yang-Ming University, Taiwan, December 2019.
- ‘Modularity, Learning, and Cognitive Penetration,’ University of Auckland, October 2018.
- ‘Causal and Semantic Relations between Cognitive and Sensorimotor States,’ Macquarie University, October 2018.
- ‘A Deflationary Approach to the Cognitive Penetration Debate,’ Australia National University, October 2018.
- ‘The Multiple Senses of “Hierarchy” in Systems Neuroscience,’ (with Philipp Haueis), Neural Mechanisms Online Conference, October 2018.
- ‘Causal and Semantic Relations between Cognitive and Sensorimotor States,’ Australasian Association of Philosophy, Wellington, July 2018.
- ‘Pluralism and Representation in Biology,’ Society for Philosophy of Science in Practice, Ghent, June 2018.
- ‘The Multiple Senses of “Hierarchy” in Systems Neuroscience,’ (with Philipp Haueis), Levels of Cognition, Italian Association for Cognitive Science, Genoa, June 2018.
- ‘Abstraction in Diagrams and Explanation,’ 10th International Conference on the Theory and Application of Diagrams, Edinburgh, June 2018.
- ‘Getting over Atomism: Functional Decomposition in Complex Neural Systems’, Neural Mechanisms Online Workshop, March 2018.
- ‘Argument through Visualization: Image and Text in Biology Papers,’ International Society for the History, Philosophy, and Social Science of Biology, Sao Paulo, Brazil, July 2017.
- ‘Getting over Atomism,’ International Society for the History, Philosophy, and Social Science of Biology, Sao Paulo, Brazil, July 2017.
- ‘There is no Diachronic Cognitive Penetration,’ American Philosophical Association, Pacific Division, Seattle, WA, April 2017.
- ‘Inferentialism in Biological Practice,’ Deep South Philosophy of Biology Workshop, Birmingham, AL, April 2017.
- ‘Real Patterns in Biological Explanation,’ Philosophy of Science Association, Atlanta, GA, November 2016.

- ‘A Contextualist Approach to Functional Localization,’ Tulane University, Neuroscience Colloquium, New Orleans, September 2016.
- ‘There is no Diachronic Cognitive Penetration,’ Joint Session of the Aristotelian Society, Cardiff, Wales, July 2016.
- ‘Getting Over Atomism,’ British Society for the Philosophy of Science, Cardiff, Wales, July 2016.
- ‘Inferentialism in Biological Practice,’ Society for the Philosophy of Science in Practice, Glassboro, NJ, June 2016.
- ‘Getting Over Atomism,’ Society for Philosophy and Psychology, Austin, TX, June 2016. (Poster)
- ‘A Contextualist Approach to Functional Localization,’ University of California, San Diego, May 2016
- ‘Functional Integration, Neural Coding, and Consumer Semantics’: Rethinking the Taxonomy of Psychology Workshop. University of Western Ontario. April 2016. (Poster)
- ‘Getting over Atomism’: Georgia State University, April 2016.
- ‘Interface Problems in Cognitive Architecture’: Research in Progress Talk, Tulane University, November 2016.
- ‘Data Graphs, Explanatory Relations, and Mechanistic Explanation’: Society for Philosophy of Science in Practice. Aarhus, June 2015.
- ‘Multi-Modality and Defining the Senses’: Ecological Perception: Amodal and Multi-Modal Trends. Edinburgh, May 2015.
- ‘A Contextualist Theory of Functional Localization’: Tulane University, February 2016.
- ‘A Contextualist Theory of Functional Localization’: University of Indiana, Bloomington, January 2016.
- ‘Perceptual Integration, Modularity, and Cognitive Penetration’: (with Jonathan Cohen). Symposium paper. American Philosophical Association, Eastern Division. Philadelphia, December 2014.
- ‘Perceptual Context and the Nature of Neural Function’: Society for Philosophy and Psychology. Vancouver, June 2014. (Poster)
- ‘Re-Cognizing Perception and Cognition’: American Philosophical Association Central Division Meeting. Chicago, February 2014.
- ‘Perceptual Context and the Nature of Neural Function’: Methodology in Neuroscience Workshop, University of Pittsburgh History and Philosophy of Science, November 2013. (Poster)
- ‘Scientific Reasoning and Scientific Diagrams’: Diagrammatic Cognition: Discovery and Design workshop, Cognitive Science Society, Berlin, August 2013.
- ‘Mechanistic Diagrams as Search Organizers’: Cognitive Science Society, Berlin, August 2013. (Poster)
- ‘Perceptual Context and the Nature of Neural Function’: University of Parma, July 2013.
- ‘Between Phenomenon and Mechanism: Diagrams as Vehicles of Intermediate Explanatory Reasoning’: International Society for the History, Philosophy, and Social Science of Biology, Montpellier, July 2013.

- ‘Homogeneity Constraints and Reasoning about Complex Mechanisms’: Society for Philosophy of Science in Practice, Toronto, June 2013.
- ‘Re-Cognizing Perception and Cognition’: Society for Philosophy and Psychology, Providence, RI, June 2013. (Poster)
- ‘Why do Biologists Use so many Diagrams?’ (with Adele Abrahamsen, William Bechtel, and Ben Sheredos): Philosophy of Science Association, San Diego, November 2012.
- ‘Perception of Features and Perception of Objects’ (with Jonathan Cohen): Society for Philosophy and Psychology, Boulder, June 2012. (Poster)
- Commentary on Joseph MacCaffrey, ‘Reconceiving Semantic Vehicles: Lessons from Semantic Dementia’: Society for Philosophy and Psychology, Boulder, June 2012.
- ‘Perception of Features and Perception of Objects’ (with Jonathan Cohen): Symposium paper. American Philosophical Association, Pacific Division, Seattle, March 2012.
- ‘Intentions and the Brain’: Southern Society for Philosophy and Psychology, Savannah, March 2012.
- Commentary on Gualtiero Piccinini, ‘The Ontology of Functions’: Southern Society for Philosophy and Psychology, Savannah, March 2012.
- ‘Empirical Explication’: Biology in the Desert Workshop, Arizona State University, January 2011.
- ‘Finding Discrete Content in Continuous Networks’: Biology by the Sea Workshop, University of California, San Diego, January 2010.
- ‘What do Philosophical Theories of Content Have to do with Cognitive Neuroscience?’: Neuroscience Institute Retreat, Georgia State University, May 2009.
- ‘What do Philosophical Theories of Content Have to do with Cognitive Neuroscience?’: Graduate Research Interdisciplinary Team of Scholars meeting, Emory University, April 2009.
- ‘Teleosemantics, Externalism, and the Content of Theoretical Concepts’: Southeast Graduate Philosophy Conference. University of Florida, March 2009.
- ‘Teleosemantics, Externalism, and the Content of Theoretical Concepts’: Georgia State Philosophy Symposium, Georgia State University, March 2009.

## EXTERNAL GRANTS

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Investigator, NSF Grant No. 1127640, 2012-2013.

## TEACHING

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### Awards:

Mortar Board Teaching Award, Tulane University, Spring 2016.

### Courses:

Tulane University

PHIL 6180: Mental Representation (Fall 2019)

PHIL 6170: Philosophy of Perception (Fall 2016, Spring 2018)

PHIL 6105: Philosophy of Neuroscience (Spring 2016, Fall 2017, Spring 2020)

PHIL 3931: Altered Experience (Spring 2017, Spring 2020)

PHIL 3933: Philosophy of Science (Fall 2015)

PHIL 1210: Elementary Symbolic Logic (Each semester, Fall 2015 – Fall 2019)

## PROFESSIONAL EXPERIENCE

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Guest Editor, The Brains Blog, June 2017 – present.

Book Review Editor, *Philosophical Psychology*, August 2012 – present.

Editorial Assistant, *Philosophical Psychology*, August 2010 – June 2012.

Program committee member: *Philosophy of Science Association*, 2019-2020.

### Reviewer:

*Avant, Biology & Philosophy, Cognitive Processing, Cognitive Science Society, British Journal for the Philosophy of Science, Dialectica, European Journal for Philosophy of Science, Ergo, History and Philosophy of the Life Sciences, Journal of Consciousness Studies, Minds and Machines, MIT Press, New Ideas in Psychology, Philosophy and Phenomenological Research, Philosophical Psychology, Philosophy of Science, Society for Philosophy and Psychology, Society for the Metaphysics of Science, Studies in History and Philosophy of Science, Synthese*