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Academic Employment

2018–present *Assistant Professor*, UC Irvine
Department of Language Science
And by courtesy, Department of Computer Science
2017–2018 *Postdoctoral Associate*, MIT
Department of Brain and Cognitive Sciences

Education

2017 PhD in Cognitive Science, Massachusetts Institute of Technology
2012 MA in Linguistics, Stanford University
2010–2011 Inter-University Program for Chinese Language Study, Tsinghua University, Beijing
2010 BA in Linguistics, with Honors, with Distinction, Stanford University

Non-Academic Employment

2013–2014 Intern, Siri Advanced Development Group. Apple, Inc. Cupertino, CA and then Cambridge, MA.
2012 Computational Linguistics Intern. Wordnik, Inc. San Mateo, CA.

Grants & fellowships

2020 NSF CISE Research Initiation Initiative Grant (#1947307)
2020 William K. and Katherine W. Estes Fund Grant (with Lisa Pearl, Gregory Scontras, & Sameer Singh)
2017 NVIDIA GPU Grant
2015 NSF Doctoral Dissertation Research Improvement Grant (#1551543) (with Edward Gibson)
2010 DAAD Graduate Study Fellowship at the Max Planck Institute for Evolutionary Anthropology (declined)

Honors & awards

2021	Excellence in Digital Learning Award, UC Irvine Division of Teaching Excellence and Innovation
2019 & 2021	Outstanding Teaching Award, UCI School of Social Sciences
2016	Angus MacDonald Award for Excellence in Undergraduate Teaching, MIT Department of Brain & Cognitive Sciences
2010	Robert M. Golden Award for Outstanding Undergraduate Thesis, Stanford University
2010	Phi Beta Kappa
2006	National Merit Scholar

Papers

JOURNAL ARTICLES

2021	J26. Richard Futrell . An information-theoretic account of semantic interference in word production. <i>Frontiers in Psychology</i> 12: 672408.
2021	J25. Himanshu Yadav, Samar Husain, and Richard Futrell . Do dependency lengths explain constraints on crossing dependencies? <i>Linguistics Vanguard</i> 7(s3): 20190070.
2021	J24. Michael Hahn, Dan Jurafsky, and Richard Futrell . Sensitivity as a complexity measure for sequence classification tasks. <i>Transactions of the Association for Computational Linguistics</i> .
2021	J23. Michael Hahn, Judith Degen, and Richard Futrell . Modeling word and morpheme order in natural language as an efficient tradeoff of memory and surprisal. <i>Psychological Review</i> .
2021	J22. Hannah Rohde, Richard Futrell , and Christopher Lucas. What's new? A comprehension bias in favor of informativity. <i>Cognition</i> 209: 104491.
2020	J21. Richard Futrell , Edward Gibson, Harry J. Tily, Idan Blank, Anastasia Vishnevetsky, Steven T. Piantadosi, and Evelina Fedorenko. The Natural Stories corpus: A reading-time corpus of English texts containing rare syntactic constructions. <i>Language Resources and Evaluation</i> 55(1):63–77.
2020	J20. Richard Futrell , Roger P. Levy, and Edward Gibson. Dependency locality as an explanatory principle for word order. <i>Language</i> 96(2): 371–413.
2020	J19. Francis Mollica, Matthew Siegelman, Evgeniia Diachek, Steven T. Piantadosi, Zachary Mineroff, Richard Futrell , Hope Kean, Peng Qian, and Evelina Fedorenko. Composition is the Core Driver of the Language-selective Network. <i>Neurobiology of Language</i> 1(1): 104--134.
2020	J18. Richard Futrell , Edward Gibson, and Roger P. Levy. Lossy-context surprisal: An information-theoretic model of memory effects in sentence processing. <i>Cognitive Science</i> 44: e12814.
2020	J17. Michael Hahn, Dan Jurafsky, and Richard Futrell . Universals of word order reflect optimization of grammars for efficient communication. <i>Proceedings of the National Academy of Sciences</i> 117(5): 2347–2353.
2020	J16. Veronica Boyce, Richard Futrell , and Roger P. Levy. Maze made easy: Better and easier measurement of incremental processing difficulty. <i>Journal of Memory and Language</i> 111: 104082.
2020	J15. Bevil Conway, Sivalogeswaran Ratnasingam, Julian Jara-Ettinger, Richard Futrell , and Edward Gibson. 2020. Communication efficiency of color naming across languages provides a new framework for the evolution of color terms. <i>Cognition</i> 195: 104086.
2019	J14. Michael Hahn and Richard Futrell . Estimating predictive rate–distortion curves using neural variational inference. <i>Entropy</i> 21(7): 640.
2019	J13. Edward Gibson, Richard Futrell , Steven Piantadosi, Isabelle Dautriche, Kyle Mahowald, Leon Bergen and Roger P. Levy. How Efficiency Shapes Human Language. <i>Trends in Cognitive Sciences</i> .
2018	J12. Rachel Ryskin, Richard Futrell , Swathi Kiran, and Edward Gibson. Comprehenders model the nature of noise in the environment. <i>Cognition</i> 181: 141–150.
2017	J11. Richard Futrell , Roger P. Levy, and Edward Gibson. Generalizing dependency distance: Comment on “Dependency distance: A new perspective on syntactic patterns in natural languages”

by Haitao Liu et al. *Physics of Life Reviews* 21: 197–199.

- 2017 J10. Edward Gibson, **Richard Futrell**, Julian Jara-Ettinger, Kyle Mahowald, Leon Bergen, Sivalogeswaran Ratnasingam, Mitchell Gibson, Steven T. Piantadosi, and Bevil R. Conway. Color naming across languages reflects color use. *Proceedings of the National Academy of Sciences* 114(40): 10785–10790.
- 2017 J9. Edward Gibson, Caitlin Tan, **Richard Futrell**, Kyle Mahowald, Lars Konieczny, Barbara Hemforth, and Evelina Fedorenko. Don’t underestimate the benefits of being misunderstood. *Psychological Science*: 1–10.
- 2017 J8. **Richard Futrell**, Adam Albright, Peter Graff, and Timothy J. O’Donnell. A generative model of phonotactics. *Transactions of the Association for Computational Linguistics* 5: 73–86.
- 2017 J7. Kyle Mahowald, Ariel James, **Richard Futrell**, and Edward Gibson. Structural priming is most useful when the conclusions are statistically robust (Commentary). *Behavioral and Brain Sciences* 40.
- 2016 J6. Kyle Mahowald, Ariel James, **Richard Futrell**, and Edward Gibson. A meta-analysis of syntactic priming in language production. *Journal of Memory and Language* 91: 5–27.
- 2016 J5. **Richard Futrell**, Laura Stearns, Daniel L. Everett, Steven T. Piantadosi*, and Edward Gibson*. A corpus investigation of syntactic embedding in Pirahã. *PLOS ONE* 11(3): e0145289.
- 2016 J4. **Richard Futrell** and Edward Gibson. L2 processing as noisy channel language comprehension (Commentary). *Bilingualism: Language and Cognition*.
- 2015 J3. **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Response to Liu, Xu, and Liang (2015) and Ferrer-i-Cancho and Gómez-Rodríguez (2015) on dependency length minimization. *Glottometrics* 33: 39–44.
- 2015 J2. **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Large-scale evidence of dependency length minimization in 37 languages. *Proceedings of the National Academy of Sciences* 112(33): 10336–10341.
- 2015 J1. **Richard Futrell**, Tina Hickey, Aldrin Lee, Elena Luchkina, and Edward Gibson. Cross-linguistic gestures reflect typological universals: A subject-initial, verb-final bias in speakers of diverse languages. *Cognition* 136: 215–221.

REFEREED CONFERENCE PROCEEDINGS

- 2021 C23. Huteng Dai and **Richard Futrell**. Simple induction of (deterministic) probabilistic finite-state automata for phonotactics by stochastic gradient descent. In *SIGMORPHON*.
- 2021 C22. Isabel Papadimitriou, Ethan Chi, **Richard Futrell**, and Kyle Mahowald. Deep subjecthood: Higher-order grammatical features in Multilingual BERT. In *Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics*, pages 2522–2532.
- 2020 C21. Kartik Sharma, **Richard Futrell***, and Samar Husain*. What determines the order of verbal dependents in Hindi? Effects of efficiency in comprehension and production. In *Proceedings of the Workshop on Cognitive Modeling and Computational Linguistics*, pages 1–10.
- 2020 C20. Ethan Wilcox, Peng Qian, **Richard Futrell**, Ryosuke Kohita, Roger P. Levy, and Miguel Ballesteros. Structural Supervision Improves Few-Shot Learning and Syntactic Generalization in Neural Language Models. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing*, pages 4640–4652.
- 2020 C19. **Richard Futrell**, William Dyer, and Gregory Scontras. What determines the order of adjectives in English? Comparing efficiency-based theories using dependency treebanks. In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, Seattle, WA.
- 2019 C18. **Richard Futrell**. Information-theoretic locality properties of natural language. In *Proceedings of the First International Conference on Quantitative Syntax*, Paris.
- 2019 C17. **Richard Futrell**, Peng Qian, Edward Gibson, Evelina Fedorenko, and Idan Blank. Syntactic dependencies correspond to word pairs with high mutual information. In *Proceedings of the Fifth International Conference on Dependency Linguistics (DepLing 2019)*, Paris.

- 2019 C16. Himanshu Yadav, Samar Husain*, and **Richard Futrell***. Are formal restrictions on crossing dependencies epiphenomenal? In *Proceedings of the 18th International Workshop on Treebanks and Linguistic Theory*, Paris.
- 2019 C15. Ethan Wilcox, Roger P. Levy, and **Richard Futrell**. Hierarchical representation in neural language models: Suppression and recovery of expectations. In *Proceedings of BlackboxNLP 2019*, Florence.
- 2019 C14. Ethan Wilcox, Roger P. Levy, and **Richard Futrell**. What syntactic structures block dependencies in RNN language models? In *Proceedings of the 41st Annual Meeting of the Cognitive Science Society (CogSci)*, Montreal.
- 2019 C13. Yingtong Liu, Rachel Ryskin, **Richard Futrell**, and Edward Gibson. Verb frequency explains the unacceptability of factive and manner-of-speaking islands in English. In *Proceedings of the 41st Annual Meeting of the Cognitive Science Society (CogSci)*, Montreal.
- 2019 C12. **Richard Futrell**, Ethan Wilcox, Takashi Morita, Peng Qian, Miguel Ballesteros and Roger P. Levy. Neural language models as psycholinguistic subjects: Representations of syntactic state. In *Proceedings of the 18th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, Minneapolis.
- 2019 C11. Ethan Wilcox, Peng Qian, **Richard Futrell**, Miguel Ballesteros and Roger P. Levy. Structural supervision improves learning of non-local grammatical dependencies. In *Proceedings of the 18th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, Minneapolis.
- 2019 C10. **Richard Futrell** and Roger P. Levy. Do RNNs learn human-like abstract word order preferences? In *Proceedings of the Society for Computation in Linguistics*, New York. Pages 50–59.
- 2018 C9. Ethan Wilcox, Roger P. Levy, Takashi Morita, and **Richard Futrell**. What do RNN language models learn about filler–gap dependencies? In *Proceedings of BlackboxNLP 2018*, Brussels. Pages 211–221.
- 2018 C8. Michael Hahn, Judith Degen, Noah Goodman, Dan Jurafsky, and **Richard Futrell**. An information-theoretic explanation of adjective ordering preferences. In *Proceedings of the 40th Annual Meeting of the Cognitive Science Society (CogSci)*.
- 2018 C7. **Richard Futrell**, Edward Gibson, Hal Tily, Idan Blank, Anastasia Vishnevetsky, Steven T. Piantadosi, and Evelina Fedorenko. The Natural Stories Corpus. In *Proceedings of the Language Resource Evaluation Conference (LREC) 2018*, Miyazaki, Japan.
- 2017 C6. Melody Dye, Petar Milin, **Richard Futrell**, and Michael Ramscar. Cute little puppies and nice cold beers: An information theoretic analysis of prenominal adjectives. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*, London, UK. Winner of the Marr Prize for Best Student Paper.
- 2017 C5. **Richard Futrell** and Roger P. Levy. Noisy-context surprisal as a human sentence processing cost model. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics*, Valencia, Spain. Pages 688–698.
- 2016 C4. Cory Shain, Marten van Schijndel, **Richard Futrell**, Edward Gibson and William Schuler. Memory access during incremental sentence processing causes reading time latency. In *Proceedings of COLING Workshop “Computational Linguistics for Linguistic Complexity”*.
- 2015 C3. **Richard Futrell** and Edward Gibson. Experiments with generative models for dependency tree linearization. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, Lisbon, Portugal. Pages 1978–1983.
- 2015 C2. **Richard Futrell**, Kyle Mahowald, and Edward Gibson. Quantifying word order freedom in dependency corpora. In *Proceedings of the Third International Conference on Dependency Linguistics (DepLing 2015)*, Uppsala, Sweden. Pages 91–100.
- 2014 C1. Michael Ramscar, Asha Halima Smith, Melody Dye, **Richard Futrell**, Peter Hendrix, Harald Baayen, and Rebecca Starr. The ‘universal’ structure of name grammars and the impact of social engineering on the evolution of natural information systems. *Proceedings of the 35th Meeting of the Cognitive Science Society*, Berlin, Germany.

IN EDITED VOLUMES

- 2017 V2. Melody Dye, Petar Milin, **Richard Futrell**, and Michael Ramscar. A functional theory of gender paradigms. In F. Kiefer, J.P. Blevins, & H. Bartos (Eds.) *Morphological Paradigms and Functions*. Brill: Leiden.
- 2015 V1. Stephanie Shih, Jason Grafmiller, **Richard Futrell**, & Joan Bresnan. Rhythm's role in the genitive construction choice in spoken English. In Vogel, R. and R. van de Vijver (ed). *Rhythm in phonetics, grammar, and cognition*. Berlin, Germany: De Gruyter Mouton. 208–234.

MANUSCRIPTS

- 2018 A2. **Richard Futrell**, Ethan Wilcox, Takashi Morita, and Roger P. Levy. RNNs as psycholinguistic subjects: Syntactic state and grammatical dependency. *arXiv abs/1809.01329*.
- 2017 A1. **Richard Futrell**, Roger P. Levy, and Matthew Dryer. A statistical comparison of some theories of NP word order. *arXiv abs/1709.02783*.

Patents

- 2014 **Richard Futrell** and Thomas Gruber. Exemplar-Based Natural Language Processing. US Patent 9,430,463. Assigned to Apple, Inc.

OTHER PUBLICATIONS

- 2010 Translation of *The Key*, by Dezső Kosztolányi, from Hungarian. *Inventory* 1.

THESES

- 2017 *Memory and Locality in Natural Language*. Massachusetts Institute of Technology: PhD Thesis.
- 2012 *Processing Effects of the Expectation of Informativity*. Stanford University: MA Thesis.
- 2010 *German Grammatical Gender as a Nominal Protection Device*. Stanford University: Senior Thesis. (Robert M. Golden Award)

Conference Presentations

- 2021 P34. Neil Rathi, Michael Hahn, and **Richard Futrell**. Information-theoretic characterization of morphological fusion. Paper presented at the 3rd Workshop on Research in Computational Typology and Multilingual NLP. **Best paper award**
- 2021 P33. Kyle Mahowald, Isabel Papadimitriou, Dan Jurafsky, and **Richard Futrell**. Accessibility-based constraints on morphosyntax in corpora of 54 languages. Poster presented at the 34th Annual CUNY Conference on Sentence Processing.
- 2021 P32. Isbael Papadimitriou, Ethan A. Chi, **Richard Futrell**, and Kyle Mahowald. Multilingual BERT, ergativity, and grammatical subjecthood. Society for Computation in Linguistics, 2021.
- 2021 P31. Michael Hahn and **Richard Futrell**. Crosslinguistic word orders enable an efficient tradeoff of memory and surprisal. Society for Computation in Linguistics, 2021.
- 2020 P30. Isabel Papadimitriou, Ethan A. Chi, **Richard Futrell**, and Kyle Mahowald. Multilingual BERT learns abstract case representations. ACL Special Interest Group on Typology (SIGTYP), 2020.
- 2020 P29. Michael Hahn, **Richard Futrell**, and Edward Gibson. Lexical Effects in Structural Forgetting: Evidence for Experience-Based Accounts and a Neural Network Model. Talk presented at the 33rd Annual CUNY Conference on Sentence Processing. Amherst, MA.
- 2020 P28. Yingdong Liu, Rachel Ryskin, **Richard Futrell** and Edward Gibson. Structural Frequency

- Effects in Comprehenders' Noisy-Channel Inferences. Poster presented at the 33rd Annual CUNY Conference on Sentence Processing. Amherst, MA.
- 2020 P27. Huteng Dai and **Richard Futrell**. Work in Progress: Information-theoretic characterization of the Sub-regular Hierarchy. Society for Computation in Linguistics, 2020.
- 2019 P26. Michael Hahn, Judith Degen, and **Richard Futrell**. Crosslinguistic word orders enable an efficient tradeoff of memory and surprisal. Talk presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P25. Michael Hahn and **Richard Futrell**. Testing processing explanations of word order universals. Talk presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P24. **Richard Futrell**, Ethan Wilcox, Takashi Morita, Peng Qian, Miguel Ballesteros, and Roger P. Levy. Large neural network language models learn representations of incremental parse states. Poster presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P23. **Richard Futrell**, Evgeniia Diachek, Nafisa Syed, Edward Gibson, and Evelina Fedorenko. Formal marking is redundant with lexico-semantic cues to meaning in transitive clauses. Poster presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P22. Yingtong Liu, Rachel Ryskin, **Richard Futrell**, and Edward Gibson. Factive and manner-of-speaking islands are an artifact of nonlinearity in the acceptability judgment task. Poster presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P21. Ethan Wilcox, Peng Qian, **Richard Futrell**, Miguel Ballesteros, and Roger P. Levy. Syntactic Structure aids Learning of Grammatical Dependencies in Neural Networks. Poster presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2019 P20. Veronica Boyce, **Richard Futrell**, and Roger P. Levy. Maze made easy: Better and easier measurement of incremental processing difficulty. Poster presented at the 32nd Annual CUNY Conference on Sentence Processing. Boulder, CO.
- 2018 P19. Michael Hahn and **Richard Futrell**. Testing processing explanations of word order universals. Talk presented at California Meeting on Psycholinguistics (CAMP) 2018. Los Angeles, CA.
- 2018 P18. Michael Hahn, **Richard Futrell**, Judith Degen, Dan Jurafsky, and Noah Goodman. Mutual information impacts adjective ordering across languages. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 P17. **Richard Futrell**, Edward Gibson, and Roger P. Levy. Generalizing dependency length minimization: Crosslinguistic corpus evidence for information locality. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 P16. Cory Shain, **Richard Futrell**, Marten van Schijndel, Edward Gibson, William Schuler, and Evelina Fedorenko. Evidence of semantic processing difficulty in naturalistic reading. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2018 P15. Michael Hahn, **Richard Futrell**, and Judith Degen. Exploring adjective ordering preferences via artificial language learning. Poster presented at the 31st CUNY Conference on Human Sentence Processing. Davis, CA.
- 2017 P14. Cory Shain, Marten van Schijndel, **Richard Futrell**, Edward Gibson, and William Schuler. Memory access during incremental sentence processing causes reading time latency. Presented at the 30th Annual CUNY Conference on Human Sentence Processing. Cambridge, MA.
- 2017 P13. **Richard Futrell** and Roger P. Levy. Noisy-context surprisal as a human sentence processing cost model. Presented at the 30th Annual CUNY Conference on Human Sentence Processing. Cambridge, MA.
- 2016 P12. Kyle Mahowald, Ariel James, **Richard Futrell**, and Edward Gibson. A meta-analysis of syntactic priming. Presented at the 29th Annual CUNY Conference on Human Sentence Processing. Gainesville, FL.
- 2016 P11. **Richard Futrell**, Adam Albright, Peter Graff, and Timothy J. O'Donnell. Subsegmental structure facilitates learning of phonotactic distributions. Presented at the 2016 Annual Meeting of the Linguistic Society of America. Washington, DC.
- 2014 P10. **Richard Futrell**, Kyle Mahowald, and Edward Gibson. CLIQS: Crosslinguistic Investigations

in Quantitative Syntax. Poster presented at AMLaP 2014.

- 2014 P9. **Richard Futrell**, Tina Hickey, Aldrin Lee, Elena Luchkina, & Edward Gibson. A Cross-Linguistic Verb-Final Bias in Gesturing Paradigms. Presented at the 27th Annual CUNY Conference on Human Sentence Processing. Columbus, OH.
- 2014 P8. **Richard Futrell**, Kyle Mahowald, Steven Piantadosi, & Edward Gibson. Efficient Communication Forward and Backward. Poster presented at the 27th Annual CUNY Conference on Human Sentence Processing. Columbus, OH.
- 2012 P7. **Richard Futrell** & Hannah Rohde. Expecting the unexpected: How discourse expectations can reverse predictability effects in reading time. Poster presented at the 25th Annual CUNY Conference on Human Sentence Processing. CUNY Graduate Center.
- 2012 P6. **Richard Futrell** & Michael Ramscar. German grammatical gender contributes to communicative efficiency. Presented at the 86th Annual Meeting of the Linguistic Society of America. Portland, OR.
- 2011 P5. **Richard Futrell** & Michael Ramscar. German grammatical gender manages nominal entropy. Poster presented at the Workshop on Information-Theoretic Approaches to Linguistics. University of Colorado, Boulder.
- 2011 P4. Michael Ramscar & **Richard Futrell**. The predictive function of prenominal adjectives. Poster presented at the Workshop on Information-Theoretic Approaches to Linguistics. University of Colorado, Boulder.
- 2009 P3. Stephanie Shih, Jason Grafmiller, **Richard Futrell**, & Joan Bresnan. Rhythm's role in the genitive construction choice in spoken English. Presented at 31st Annual Meeting of the Deutsche Gesellschaft für Sprachwissenschaft: Rhythm beyond the word. Osnabruck, Germany.
- 2009 P2. Laura Staum Casasanto, **Richard Futrell**, & Ivan A. Sag. Parallels between production and comprehension of multiple that: What's good for the goose... Poster presented at the 22nd Annual CUNY Conference on Sentence Processing. UC Davis.
- 2008 P1. Laura Staum Casasanto, **Richard Futrell**, & Ivan A. Sag. Extra complementizers increase syntactic predictability. Poster presented at the 14th Annual Conference on Architectures and Mechanisms for Language Processing. Cambridge, UK.

Conference Tutorials

- 2019 Language processing and learning in people and machines. Tutorial presented at the North American Chapter of the Association for Computational Linguistics (NAACL) with Aida Nematzadeh and Roger P. Levy.

Invited Presentations

- 2021 Investigating information-theoretic influences on the order of words, phrases, and morphemes. SIGTYP Lecture Series, 7/23/2021.
- 2021 Information-theoretic models of natural language. McGill Quantitative Language Lab (McQLL), 2/25/2021.
- 2020 Information-theoretic models of natural language. 4th NeurIPS Workshop on Emergent Communication, Remote, 12/12/2020.
- 2020 Information processing, communication, and word order. Workshop on Cognitive Modeling and Computational Linguistics, Remote, 11/19/2020.
- 2020 Efficiency-based models of natural language: Predicting word order universals using information theory. Institute of Cognitive and Brain Sciences Colloquium, UC Berkeley, 9/18/2020.
- 2020 An information-theoretic model of word production. MIT Language Lab Talk, 9/15/2020.
- 2020 Information-theoretic models of natural language. Institute for Mathematical Behavioral Sciences

- Colloquium, UC Irvine, 2/28/2020.
- 2019 Language as a code: Modeling human language using information theory. Complexity Sciences Center, UC Davis, 7/10/2019.
- 2019 Memory and Locality in Natural Language. Psycholinguistics Lab, Indian Institute of Technology, Delhi, 5/29/2019.
- 2019 Representation of syntactic structures in neural-network language models. Linguistics Department Colloquium, UC Davis, 5/6/2019.
- 2019 Language as a code: Modeling human language using information theory. Computational Intelligence, Learning, Vision, and Robotics (CILVR) Lab, New York University, 4/29/2019.
- 2019 Memory, Locality, and Word Order Universals. Center for Language Research, UC San Diego, 2/19/2019.
- 2019 Natural language as a code: Modeling human language using information theory. Institute for Mathematical Behavioral Sciences Colloquium, UC Irvine, 2/14/2019.
- 2018 Natural language as a code: Modeling human language using information theory. AI and Machine Learning Seminar, UC Irvine, 11/26/2018.
- 2018 Information locality: An information-theoretic principle of natural language word order. Conference on Quantitative Approaches to Language Science, UC Irvine, 5/4/2018.
- 2018 How Natural Language Wants to be Understood: Language processing in humans and machines. Siri Data Science Group, Apple, Inc., 4/12/2018.
- 2018 Information Locality: An information-theoretic principle of natural language word order. Language and Cognition Lab, UC Berkeley, 4/6/2018.
- 2018 Memory and locality in natural language. Cognition and Language Workshop, Stanford University, 4/5/2018.
- 2018 Memory and locality in natural language. Harvard Language & Cognition, Language Development Lab, 2/20/2018.
- 2018 Memory and locality in natural language. Language Learning Laboratory, Boston College, 1/26/2018.
- 2017 Memory and locality in natural language. LingLangLunch, Brown University, 9/27/2017.
- 2017 A generative model of phonotactics. Workshop on Simplicity in Grammar Learning, MIT, 9/23/2017.
- 2017 Memory and locality in natural language. Linguistics Colloquium, University of Arizona, 9/15/2017.
- 2017 Information locality in natural language. Workshop on the Relationship between Executive Functions and Language Processing, MIT, 5/25/2017.
- 2017 Memory and locality in natural language. Language Science Colloquium, UC Irvine, 2/6/2017.
- 2017 Memory and locality in natural language. Computation & Language Discussion Group Meeting, MIT, 2/2/2017.
- 2016 Memory and locality in natural language. CogLunch, MIT, 11/8/2016.
- 2016 Crosslinguistic investigations in quantitative syntax: Dependency length minimization and beyond. Edinburgh Center for Language Evolution Colloquium, 5/17/2016.
- 2015 A generative model of phonotactics. Spoken Language Systems Seminar, MIT, 4/7/2015.
- 2014 Crosslinguistic investigations in quantitative syntax. Talk at Stanford University Department of Linguistics, 8/12/2014.
- 2014 A tier-based probabilistic phonotactics model. Phonology Circle, MIT, 5/5/2014.
- 2014 Efficiency and robustness in word order universals. CogLunch, MIT, 4/1/2014.

Academic Service

- 2021– Director of Graduate Studies, Department of Language Science, UC Irvine
- 2019-2021 Colloquium Director, Department of Language Science, UC Irvine
- 2020-2022 Member of Organizing Committee, UCI Summer School on Computational Cognitive Modeling for Language
- 2020-2021 Chair of Local Organizing Committee, 2021 California Psycholinguistics Meetup (CAMP)

- 2020 Acting Department Chair, Department of Language Science, UC Irvine (two weeks)
- 2018-2019 Chair of UC Postdoctoral Fellows Recruitment Committee, Department of Language Science, UC Irvine
- 2016-2018 Founder & Organizer, MIT Language & Computation Discussion Group [WEBSITE]
- 2016-2017 Member of Organizing Committee, 2017 CUNY Conference on Human Sentence Processing [WEBSITE]
- 2021 Guest Editor of Special Issue on “Information-Theoretic Approaches to Explaining Linguistic Structure” in journal *Entropy*; Area Chair in Psycholinguistics & Linguistic Theories for NAACL; Reviewer for ACL, EMNLP, CoNLL, TACL, SIGTYP, *Frontiers in Psychology*, *Journal of Experimental Psychology: Learning, Memory, and Cognition*; *Journal of Psycholinguistic Research*.
- 2020 Reviewer for ACL, EMNLP, EACL, CMCL, SIGTYP, SIGMORPHON, *Journal of Memory & Language*, *Cognition*, *Psychonomic Bulletin & Review*, *Psychological Review*, CogSci conference, PNAS.
- 2019 Area Chair in Computational Modeling & Psycholinguistics for EMNLP.
- 2019 Reviewer for *Cognition* (twice); NAACL-HLT; *Sem; Workshop on Quantitative Syntax (Quasy); Workshop on Typology in NLP (TypNLP); CUNY Sentence Processing Conference; CogSci conference; *Glossa*; *Computational Linguistics*; PNAS; SCiL; TACL
- 2018 Reviewer for *Entropy*; *Cognition* (twice); NAACL-HLT; EMNLP; CUNY Sentence Processing Conference; COLING; *Glossa*; *Lingua*; *Language, Cognition and Neuroscience*; CogSci conference; *Journal of the Royal Society Interface*; *Computational Linguistics*; *Journal of Germanic Linguistics*; SCiL
- 2017 Reviewer for *Journal of Experimental Psychology: General*; SCiL; CoNLL; CogSci conference; PLOS ONE; *Australian Journal of Linguistics*; *Neural Networks*; *Cognitive Science*
- 2016 Reviewer for *Cognitive Science*; CogSci conference; PLOS ONE.

Teaching experience

- 2021 Instructor, Information-theoretic Linguistics (European Summer School in Logic, Language and Information) (with Ryan Cotterell, Clara Meister, Tiago Pimentel, Lucas Torroba Hennigen, and Adina Williams).
- 2021 Instructor, [Introduction to Linguistics](#) (UCI Lsci 3).
- 2021 Instructor, [Linguistic Data Science](#) (UCI Lsci 109).
- 2020 Instructor, [Computational Skills for Language Science Research](#) (UCI Lsci 202A)
- 2020 Instructor, [Language Processing](#) (UCI Lsci 159).
- 2020 Instructor, [Linguistic Data Science](#) (UCI Lsci 109).
- 2019 Instructor, [Language Processing](#) (UCI Lsci 159).
- 2019 Instructor, [Introduction to Linguistics](#) (UCI Lsci 3).
- 2019 Instructor, [Information-theoretic Approaches to Linguistics](#) (UC Davis Linguistic Institute, 6/22/2019 – 7/21/2019)
- 2019 Instructor, [Linguistic Data Science](#) (UCI Ling 109).
- 2019 Instructor, [Introduction to Linguistics](#) (UCI Ling 3).
- 2018 Instructor, [Language Processing](#) (UCI Ling 159).
- 2018 Teaching Assistant, Computational Psycholinguistics (MIT 9.19). Main instructor: Roger P. Levy.
- 2016 Teaching Assistant, Cognitive Science (MIT 9.012). Main instructors: Pawan Sinha, Josh Tenenbaum, and Edward Gibson.
- 2015 Teaching Assistant, Lab in Psycholinguistics (MIT 9.59). Main instructor: Edward Gibson.
- 2014 Teaching Assistant, Cognitive Processes (MIT 9.65). Main instructor: Molly Potter.

Natural Languages

Conversant in: English, German, Mandarin (HSK 7), Spanish, Hungarian

Programming Languages

Python, R, Julia, Scheme, Haskell, Java, C++, perl