

Tal Linzen

Laboratoire de Sciences Cognitives et Psycholinguistique
29, rue d'Ulm, Pavillon jardin
75005 Paris

Email: tal.linzen@ens.fr

Website: <http://tallinzen.net>

Last updated: May 3, 2017

ACADEMIC EMPLOYMENT

- | | |
|-----------|---|
| 2017- | Assistant Professor |
| 2016-2017 | Assistant Research Professor
Department of Cognitive Science
Johns Hopkins University |
| 2015-2017 | Postdoctoral researcher
Laboratoire de Sciences Cognitives et Psycholinguistique & Institut Jean Nicod
Ecole Normale Supérieure, Paris |

EDUCATION

- | | |
|-----------|--|
| 2010-2015 | New York University , Ph.D., Linguistics
<i>Thesis title:</i> Probabilistic linguistic representations: Between learning and processing
<i>Committee:</i> Alec Marantz (chair), Gillian Gallagher, Maria Gouskova, Liina Pykkänen, Florian Jaeger |
| 2008-2010 | Tel Aviv University , M.A., Linguistics, <i>summa cum laude</i>
<i>Thesis title:</i> Hebrew Possessive Datives: The effects of affectedness
<i>Advisor:</i> Mira Ariel |
| 2005-2010 | Tel Aviv University , B.Sc., Mathematics & Linguistics, <i>summa cum laude</i> |

Other courses:

- | | |
|------|---|
| 2016 | Machine Learning Summer School, Cádiz, Spain |
| 2008 | Spring School on Linguistic Diversity, Leipzig, Germany |

PEER-REVIEWED JOURNAL ARTICLES

- | | |
|------|--|
| 2016 | Tal Linzen, Emmanuel Dupoux & Yoav Goldberg. Assessing the ability of LSTMs to learn syntax-sensitive dependencies. <i>Transactions of the Association for Computational Linguistics</i> 4, 521–535. |
| 2016 | Einat Shetreet, Tal Linzen & Naama Friedmann. Against all odds: Exhaustive activation of verb complementation options disregards word order and verb bias information. <i>Language, Cognition & Neuroscience</i> 31(9), 1206–1214. |

- 2016 Tal Linzen. The diminishing role of inalienability in the Hebrew Possessive Dative. *Corpus Linguistics and Linguistic Theory* 12(2), 325–354.
- 2016 Tal Linzen & Florian Jaeger. Uncertainty and expectation in sentence processing: Evidence from subcategorization distributions. *Cognitive Science* 40(6), 1382–1411
- 2015 Joseph Fruchter*, Tal Linzen*, Masha Westerlund & Alec Marantz. Lexical Preactivation in Basic Linguistic Phrases. *Journal of Cognitive Neuroscience* 27(10), 1912–1935. (* indicates equal contribution.)
- 2015 Maria Gouskova & Tal Linzen. Morphological conditioning of phonological regularization. *The Linguistic Review* 32(3), 427–473.
- 2015 Mira Ariel, Elitzur Dattner, John W. Du Bois & Tal Linzen. Pronominal datives: The royal road to argument status. *Studies in Language* 39(2), 257–321.
- 2014 Tal Linzen. Parallels between cross-linguistic and language-internal variation in Hebrew possessive constructions. *Linguistics* 52(3), 759–792.
- 2014 Allyson Ettinger, Tal Linzen & Alec Marantz. The role of morphology in phoneme prediction: Evidence from MEG. *Brain and Language* 129, 14–23.
- 2013 Tal Linzen, Alec Marantz & Liina Pykkänen. Syntactic context effects in single word recognition: An MEG study. *The Mental Lexicon* 8(2), 117–139.
- 2013 Tal Linzen, Sonia Kasyanenko & Maria Gouskova. Lexical and phonological variation in Russian prepositions. *Phonology* 30(3), 453–515.

PROCEEDINGS PAPERS

- 2017 Gaël Le Godais, Tal Linzen & Emmanuel Dupoux. Comparing character-level neural language models using a lexical decision task. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics: Volume 2, Short Papers*, pages 125–130.
- 2016 Tal Linzen. Issues in evaluating semantic spaces using word analogies. In *Proceedings of the First Workshop on Evaluating Vector Space Representations for NLP*, pages 13–18.
- 2016 Allyson Ettinger & Tal Linzen. Evaluating vector space models via implicit cognitive measures. In *Proceedings of the First Workshop on Evaluating Vector Space Representations for NLP*, pages 72–77.
- 2016 Tal Linzen, Emmanuel Spector & Benjamin Spector. Quantificational features in distributional word representations. In *Proceedings of the Fifth Joint Conference on Lexical and Computational Semantics (*SEM 2016)*, pages 1–11.
- 2015 Tal Linzen & Timothy J. O'Donnell. A model of rapid phonotactic generalization. In *Proceedings of Empirical Methods in Natural Language Processing (EMNLP 2015)*, pages 1126–1131.
- 2014 Tal Linzen & Florian Jaeger. Investigating the role of entropy in sentence processing. In *Proceedings of the 2014 ACL Workshop on Cognitive Modeling and Computational Linguistics*, pages 10–18.

- 2014 Tal Linzen & Gillian Gallagher. The timecourse of generalization in phonotactic learning. In *Proceedings of Phonology 2013*. (Only the abstract was peer-reviewed.)

INVITED PRESENTATIONS

- 2017 *Information and representations in the neurobiology of morphology*. Workshop on usage statistics, semantic transparency and segmentability in the selection, access and (de)composition of complex words, University of Freiburg, Germany, May 4-6.
- 2017 *Entropy in language comprehension*. Invited talk at the “Information-theoretic modeling of linguistic variation in context” workshop at the 39. Jahrestagung der Deutschen Gesellschaft für Sprachwissenschaft (German Linguistics Society), Saarbrücken, Germany, March 9.
- 2017 *Can recurrent neural networks acquire hierarchical representations from natural texts?* Ling Lunch, Paris Diderot University, January 26.
- 2016 *Using English subject-verb number agreement to evaluate the syntactic capabilities of contemporary neural networks*, Ling Lunch, Queen Mary University of London, November 21.
- 2016 *Can contemporary recurrent neural networks learn syntax-sensitive dependencies?* Language Research Cluster, University of Potsdam, Germany, July 6.
- 2016 *Probabilistic computation and formal representations*. Colloquium given at the Department of Linguistics at UCLA, February 22.
- 2016 *Understanding probabilistic prediction in sentence processing*. Colloquium given at the Cognitive Science Department at Johns Hopkins University, January 6.
- 2015 *Understanding probabilistic prediction in sentence processing*. Language Learning and Processing Lab, The Hebrew University of Jerusalem, Israel, December 27.
- 2015 *How might entropy affect comprehension difficulty?* FEAST (Forum Entwicklung und Anwendung von Sprach-Technologien), Saarland University, Germany, December 7.
- 2015 *Generalization in phonotactic learning:*
Linguistics Seminar, Tufts University, February 17.
Computational Cognitive Science Group, MIT, February 18.
- 2015 *Probabilistic representations in language: between learning and processing*. Language and Cognition Lab, Stanford University, January 13.
- 2014 *Statistical prediction in language comprehension*. Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Israel, June 2.
- 2014 *Prediction and competition as a window into linguistic representations*. Colloquium given at the Linguistics Department at Tel Aviv University, Israel, May 29.
- 2014 *Competition and prediction in language comprehension*. Language Processing Brown Bag, University of Illinois at Urbana-Champaign, April 10.

CONFERENCE AND WORKSHOP PRESENTATIONS WITHOUT PROCEEDINGS

- 2017 Tal Linzen, Yoav Goldberg and Emmanuel Dupoux. Agreement attraction errors in neural networks. Poster presentation, *30th Annual CUNY Conference on Human Sentence Processing*, Cambridge, MA, March 30–April 1.
- 2016 Ewan Dunbar and Tal Linzen. Three important properties of Bayesian inference. Tutorial, *MFMM Fringe Workshop on Computational Phonology*, Manchester.
- 2016 Tal Linzen. Variation and Change in the Hebrew Dative. Oral presentation, *The Second Usage-Based Linguistics Conference*, Tel Aviv, June 16.
- 2016 Tal Linzen, Timothy J. O'Donnell & Gillian Gallagher. Rapid phonotactic generalization: Behavioral evidence and a Bayesian model. Oral presentation, *LSA 2016 Annual Meeting*, Washington, D.C., January 6–10.
- 2016 Tal Linzen & Yohei Oseki. The reliability of acceptability judgments beyond English. Oral presentation, *LSA 2016 Annual Meeting*, Washington, D.C., January 6–10.
- 2015 Tal Linzen & Timothy J. O'Donnell. A model of rapid phonotactic generalization. Poster, *Workshop on Computational Phonology and Morphology at the Linguistic Summer Institute*, Chicago, July 11.
- 2014 Tal Linzen & Gillian Gallagher. The time course of phonotactic learning. Oral presentation, *Eighth Northeast Computational Phonology Meeting*, New York, November 15.
- 2014 Tal Linzen, Phoebe Gaston, Laura Gwilliams & Alec Marantz. Competition and prediction in the auditory processing of morphologically complex words. Poster, *Sixth Annual Society for the Neurobiology of Language Conference*, Amsterdam, August 27–29.
- 2014 Joseph King, Tal Linzen & Alec Marantz. Noun/verb entropy: An MEG study of word-level syntactic category ambiguity. Poster, *Sixth Annual Society for the Neurobiology of Language Conference*, Amsterdam, August 27–29.
- 2014 Tal Linzen & Gillian Gallagher. The time course of generalization in phonotactic learning. Member abstract presented as a poster, *36th Annual Conference of the Cognitive Science Society*, Québec, Canada, July 23–26.
- 2013 Maria Gouskova & Tal Linzen. Less than words: Morphological effects in lexical variation. Poster, *Phonology 2013*, Amherst, MA, November 8–10.
- 2013 Tal Linzen & Florian Jaeger. Uncertainty and surprisal in sentence processing. Poster, *Architectures and Mechanisms for Language Processing 2013*, Marseille, September 5–7.
- 2013 Tal Linzen, Joseph Fruchter, Masha Westerlund & Alec Marantz. Predicting the foreseeable future: MEG evidence for preactivation of predicted words. Poster, *20th Annual meeting of the Cognitive Neuroscience Society*, San Francisco, April 13–16.
- 2013 Allyson Ettinger, Tal Linzen & Alec Marantz. The role of morphology in phoneme prediction: Evidence from MEG. Poster, *20th Annual meeting of the Cognitive Neuroscience Society*, San Francisco, April 13–16.
- 2013 Tal Linzen, Joseph Fruchter, Masha Westerlund & Alec Marantz. Predicting the foreseeable future: MEG evidence for preactivation of predicted words. Oral

- presentation, *26th Annual CUNY Conference on Human Sentence Processing*, Columbia, SC, March 21-23.
- 2013 Allyson Ettinger, Tal Linzen & Alec Marantz. The role of morphology in phoneme prediction: Evidence from MEG. Poster, *26th Annual CUNY Conference on Human Sentence Processing*, Columbia, SC, March 21-23.
- 2012 Tal Linzen, Alec Marantz, & Liina Pykkänen. Syntactic effects in single word recognition: Evidence from MEG. Oral presentation, *Eighth Mental Lexicon Conference*, Montreal, October 24-26.
- 2012 Tal Linzen & Masha Westerlund. Predicting the foreseeable future: Do readers use collocational transition probability to predict upcoming words? Oral presentation, *Eighth Mental Lexicon Conference*, Montreal, October 24-26.
- 2012 Tal Linzen, Sonia Kasyanenko & Maria Gouskova. Lexical and phonological variation in Russian prepositions. Oral presentation, *Ninth Old World Conference in Phonology*, Berlin, January 18-21.
- 2011 Tal Linzen, Einat Shetreet & Naama Friedmann. Exploring the neural basis of dependency resolution using coordination sentences. Poster, *Third Annual Neurobiology of Language Conference*, Annapolis, MD, November 10-11.
- 2011 Einat Shetreet, Tal Linzen & Naama Friedmann. The effects of complement predictability on the processing of verbs' complementation options. Poster, *Third Annual Neurobiology of Language Conference*, Annapolis, MD, November 10-11.
- 2011 Einat Shetreet, Tal Linzen & Naama Friedmann. Are all complementation options activated when accessing the verb? Oral presentation, *Structuring the Argument*, Paris. September 5-7.
- 2010 Tal Linzen. Tracking the change in Hebrew possessive constructions using a blog corpus. Poster, *New Ways of Analyzing Variation 40*, Washington, D.C., October 27-30.
- 2010 Tal Linzen. Hebrew statistical linguistics using a morphologically analyzed blog corpus. Oral presentation, *Israeli Seminar on Computational Linguistics*, Tel Aviv, June 16.
- 2010 Tal Linzen. The Hebrew possessive dative: From affectedness to possession. Oral presentation, *Variation and Change in Argument Realization*, Naples, May 27-30.

AWARDS

- 2012 Dean's Travel Grant, New York University
- 2010-2015 Henry M. MacCracken Fellowship, New York University
- 2008-2009 Graduate fellowship, Department of Linguistics, Tel Aviv University
- 2008 Excellence Prize, School of Mathematics, Tel Aviv University
- 2007 Excellence Prize, The Adi Lautman Interdisciplinary Program for Outstanding Students, Tel Aviv University
- 2005-2009 Fellowship, The Adi Lautman Interdisciplinary Program for Outstanding Students, Tel Aviv University

TEACHING

Classes at New York University:

- 2013 Psychology and Neural Science: *Math Tools for Cognitive Science and Neuroscience*. Teaching assistant for Nathaniel Daw.
- 2012 Linguistics: *Language*. Teaching assistant for Maria Gouskova.

Classes at Tel Aviv University:

- 2008 Linguistics: *Foundations of Theoretical Linguistics*. Teaching assistant for Aya Meltzer and Lior Laks.

Other:

- 2013 Statistics workshop, NYU Linguistics (six meetings on regression and mixed-effects modeling in R, co-taught with Sean Martin).

SERVICE

Ad-hoc reviewing:

- 2017 Association for Computational Linguistics (ACL), *Neuroscience & Biobehavioral Reviews*, Empirical Methods in Natural Language Processing (EMNLP), Computational Natural Language Learning (CoNLL).
- 2016 *Brain and Language, Cognition* (x3); Computational Natural Language Learning (CoNLL); CUNY Sentence Processing Conference; Deutsche Gesellschaft für Sprachwissenschaft; Empirical Methods in Natural Language Processing (EMNLP); European Association for Computational Linguistics (EACL); *Frontiers in Human Neuroscience*; International Conference on Computational Linguistics (COLING); *Journal of Neuroscience*; Penn Linguistics Colloquium; Usage-Based Linguistics Conference.
- 2015 *Cortex*; Empirical Methods in Natural Language Processing (EMNLP); *Language, Cognition and Neuroscience, Phonology*; Israeli Association for Theoretical Linguistics.
- 2014 *Cognitive Science, Lingua*; Penn Linguistics Colloquium.
- 2013 *Phonology, Language and Cognitive Processes; The Mental Lexicon*.

NON-ACADEMIC EXPERIENCE

- 2006-2012 **Freelance consultant**
Data science, natural language processing, software engineering.
- 2008-2010 **IBM**
Software engineer.
- 2006-2008 **Gita Technologies**
Researcher and software engineer.

2004-2006 **Imperva**
Researcher.

LANGUAGES

Hebrew: Native

English: Fluent

Spanish, French: Conversational

Arabic: Reading knowledge

Italian, Russian, German, Latin: Advanced beginner