

Jacob Hoover VIGLY*

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2024–PRES.	Postdoctoral Fellow (NSF SPRF), Massachusetts Institute of Technology Department of Brain and Cognitive Sciences Computational Psycholinguistics Laboratory PI: Roger Levy
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Education

2018–24	PhD, McGill University , Department of Linguistics , and Mila – Québec AI Institute advisor: Timothy J. O'Donnell dissertation: “The Cost of Information: Looking beyond Predictability in Language Processing” [Fast-tracked from MA program in 2019]
2006–12	ALB, <i>cum laude</i> , Harvard University Extension School Field of Study: Mathematics Minor: Linguistics

Teaching

WINTER '23	Instructor, McGill COMP/LING 445 <i>Computational Linguistics</i>
FALL '21	Guest lecture for McGill COMP/LING 445 <i>Computational Linguistics</i>
2019–22	Teaching Assistant, 6 McGill courses in linguistics/computer science COMP/LING 596 <i>Probabilistic Programming</i> (WINTER '21, WINTER '22) COMP/LING 445 <i>Computational Linguistics</i> (FALL '20, '21) LING 201 <i>Introduction to Linguistics</i> (FALL '19, WINTER '20)

Community

2020–22	Graduate student representative, McGill Linguistics Department
2020	Graduate Program changes Committee, student member
2019–22	Vice President, Academic, GLAM , Graduate Linguistics Association of McGill
2019–20	Founding member, EARTH-LING , McGill Linguistics department environmental working group
2018–24	Student member, webmaster, MCQLL (Montréal Computational & Quantitative Linguistics Lab)

Reviewer for: [ARR](#), 2025; [CogSci](#), 2021; 2025; [CoNLL](#) 2020, 2023, 2025; [TACL](#), 2022;

Fellowships and Awards

2024–26	National Science Foundation SBE Postdoctoral Research Fellowship (SPRF) : “Algorithmic models of incremental human language comprehension” (SMA 2404644). Co-funded by NSF’s Perception, Action and Cognition (PAC) program. Faculty sponsor: Roger Levy, MIT. US\$160k.
2023	McGill International Graduate Mobility Award , for research visit at MIT. CA\$6k.
2019	CRBLM Graduate Scholar Stipend , Centre for Research on Brain, Language and Music (CRBLM). “What neural network models can tell us about linguistic structure.” CA\$3k.

*Note: my surname is Vigly. Prior to Sept. 2024, I published under the surname Hoover, which is now a middle name.

Research

- 2025 **J. H. Vigly**, P. Qian, M. Sonderegger, and T. J. O'Donnell. June 18, 2025. *Comprehension Effort as the Cost of Inference*. DOI: [10.31234/osf.io/2498w_v1](https://doi.org/10.31234/osf.io/2498w_v1). URL: <https://osf.io/2498w> (visited on 06/18/2025). Pre-published.
- B. Lipkin, B. LeBrun, **J. H. Vigly**, J. Loula, D. R. MacIver, L. Du, J. Eisner, R. Cotterell, V. Mansinghka, T. J. O'Donnell, A. K. Lew, and T. Vieira. Apr. 7, 2025. *Fast Controlled Generation from Language Models with Adaptive Weighted Rejection Sampling*. DOI: [10.48550/arXiv.2504.05410](https://doi.org/10.48550/arXiv.2504.05410). arXiv: [2504.05410](https://arxiv.org/abs/2504.05410) [cs]. Pre-published.
- J. H. Vigly**, P. Qian, M. Sonderegger, and T. J. O'Donnell. July 31, 2025. "When Unpredictable Does Not Mean Difficult to Process". Poster. Annual Meeting of the Cognitive Science Society (San Francisco, CA).
- J. H. Vigly**, V. Boyce, M. Socolof, J. Michaelov, T. von der Malsburg, and R. Levy. Mar. 2025. "Implicit Gender Bias in Linguistic Descriptions for Expected Events: The Case of the 2024 United States Presidential Election". Poster. The 38th Annual Conference on Human Sentence Processing (University of Maryland, College Park).
- T. H. Clark, **J. H. Vigly**, E. Gibson, and R. Levy. Mar. 2025. "Modeling Human Inferences and Reading Behavior with an Incremental, Resource-Rational Model of Noisy-Channel Language Processing". Poster. The 38th Annual Conference on Human Sentence Processing (University of Maryland, College Park).
- T. H. Clark, **J. H. Vigly**, E. Gibson, and R. Levy. 2025f. "A Model of Approximate and Incremental Noisy-Channel Language Processing". In: *Proceedings of the 47th Annual Meeting of the Cognitive Science Society*. Annual Meeting of the Cognitive Science Society. Vol. 47. San Francisco, CA.
- 2024 **J. L. Hoover**. Aug. 2024. "The Cost of Information: Looking beyond Predictability in Language Processing". PhD thesis. Montréal, Canada: McGill University. xi, 110.
- H. Rahimi, D. Mimno, **J. Hoover**, H. Naacke, C. Constantin, and B. Amann. Mar. 2024. "Contextualized Topic Coherence Metrics". In: *Findings of the Association for Computational Linguistics: EACL 2024*. Findings 2024. Ed. by Y. Graham and M. Purver. St. Julian's, Malta: Association for Computational Linguistics, pp. 1760–1773.
- 2023 **J. L. Hoover**, M. Sonderegger, S. T. Piantadosi, and T. J. O'Donnell. July 21, 2023. "The Plausibility of Sampling as an Algorithmic Theory of Sentence Processing". In: *Open Mind: Discoveries in Cognitive Science* 7, pp. 350–391. ISSN: 2470-2986. DOI: [10.1162/opmi_a_00086](https://doi.org/10.1162/opmi_a_00086).
- 2022 M. Socolof, **J. L. Hoover**, R. Futrell, A. Sordoni, and T. J. O'Donnell. Oct. 12, 2022. "Measuring Morphological Fusion Using Partial Information Decomposition". In: *Proceedings of the 29th International Conference on Computational Linguistics*. COLING 2022. Gyeongju, Republic of Korea: International Committee on Computational Linguistics, pp. 44–54.
- J. L. Hoover**, M. Sonderegger, and T. J. O'Donnell. Sept. 6, 2022. "With Better Language Models, Processing Time Is Superlinear in Surprisal". Poster. Architectures and Mechanisms for Language Processing (AMLaP 28) (York, England).
- 2021 **J. L. Hoover**, W. Du, A. Sordoni, and T. J. O'Donnell. Nov. 2021. "Linguistic Dependencies and Statistical Dependence". In: *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*. EMNLP 2021. Online and Punta Cana, Dominican Republic: Association for Computational Linguistics, pp. 2941–2963. DOI: [10.18653/v1/2021.emnlp-main.234](https://doi.org/10.18653/v1/2021.emnlp-main.234).
- J. L. Hoover**. June 2021. "Accounting for Variation in Number Agreement in Icelandic Dative-Nominative Constructions". In: *Proceedings of the 38th West Coast Conference on Formal Linguistics*. WCCFL38, March 6–8, 2020, University of British Columbia, Vancouver. Ed. by R. Soo, U. Y. Chow, and S. Nederveen. Somerville, Mass., USA: Cascadia Proceedings Project, pp. 231–241.

Languages

English	Native
Estonian	Intermediate (2½ years living and working in Estonia: ~ CEF level B2)
French	Intermediate (~ B2)
Japanese	Novice (two years' undergraduate study, rather atrophied)
Russian, Spanish	Basic knowledge

Ballet career

2008–18	I worked full-time as professional dancer from 2008 until 2018. Trained as a ballet dancer at Walnut Hill School and Miami City Ballet School, I danced soloist roles at José Mateo Ballet Theatre in Cambridge, MA (2008–12), and Vanemuine Theatre in Tartu, Estonia (2013–15), and was a company dancer for Festival Ballet Providence , now Ballet RI (2015–18).
2018–PRES.	I retired from full-time dancing in 2018, when I began my graduate study at McGill. I have continued with occasional appearances as an independent artist including with Ballet RI , Choreography Project , Revolve Dance Project in Providence, RI, and Robinson Ballet in Bangor, ME.