

Jacob Hoover VIGLY*

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jahoo.github.io

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Room 46-3027 MIT, 77 Massachusetts Ave, Cambridge MA 02139, USA

- 2025–PRES. | Scientific Program Coordinator, **CHI FRO, LLC**
- 2024–2025 | Postdoctoral Fellow (NSF SPRF), **Massachusetts Institute of Technology**
Department of Brain and Cognitive Sciences
[Computational Psycholinguistics Laboratory](#) | PI: Roger Levy

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”
- 2006–12 | ALB, *cum laude*, **Harvard University Extension School**
Field of Study: Mathematics | Minor: Linguistics

Teaching

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

- 2026 R. S. M. Chan, T. Liu, S. Kiegeleland, C. Pasti, **J. H. Vigly**, T. J. O’Donnell, R. Cotterell, and T. Vieira. Mar. 5, 2026. *Ensembling Language Models with Sequential Monte Carlo*. arXiv: 2603.05432 [cs]. (Visited on 04/14/2026). Pre-published.
- 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. Pre-published.
- T. H. Clark, **J. H. Vigly**, E. Gibson, and R. Levy. July 2025. “A Model of Approximate and Incremental Noisy-Channel Language Processing”. In: *Proceedings of the 47th Annual Meeting of the Cognitive Science Society*. San Francisco, CA.
- 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).
- B. Lipkin, B. LeBrun, **J. H. Vigly**, J. Loula, D. R. Maclver, L. Du, J. Eisner, R. Cotterell, V. Mansinghka, T. J. O’Donnell, A. K. Lew, and T. Vieira. Oct. 7, 2025. “Fast Controlled Generation from Language Models with Adaptive Weighted Rejection Sampling”. In: Second Conference on Language Modeling (COLM). Montréal, Canada: OpenReview.net.
- 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).
- 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). doi: 10.48448/jqwa-9g33.
- 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.
- 2022 **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).
- 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.
- 2021 **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: Cascadilla Proceedings Project, pp. 231–241.
- 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.

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.