

Curriculum Vitae

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Citizenship United States, Canada (dual)

Languages English, French

Employment

2013– Postdoctoral researcher, Ecole des Hautes Etudes en Sciences Sociales (EHESS)
Laboratoire de Sciences Cognitives et Psycholinguistique (ENS, EHESS, CNRS)
Département des Etudes Cognitives / Institut d'Etude de la Cognition
Ecole Normale Supérieure / PSL Research University (Paris)

Education

2008–2013. Ph.D. Linguistics, University of Maryland, College Park.
Dissertation: *Statistical Knowledge and Learning in Phonology*
Principal advisor, William Idsardi; co-advisor, Naomi Feldman.
University of Maryland Flagship Fellow.
Participant, University of Maryland IGERT: Biological and Computational
Foundations of Language Diversity (NSF IGERT DGE-0801465).
2007–2008. M.A. Linguistics, University of Toronto.
Thesis: *The Acquisition of Morphophonology Under a Derivational Theory: A Basic
Framework and Simulation Results*
2003–2007. Hon. B.Sc. with high distinction, Linguistics and Computing, New College,
University of Toronto.

Honours and awards

2011–2012. Doctoral Award, Social Sciences and Humanities Research Council.
2007–2008. Joseph-Armand Bombardier CGS Master's Scholarship, Social Sciences and
Humanities Research Council.
2007. University of Toronto Excellence Award for Undergraduate Research in Social
Sciences and Humanities.

Journal papers and peer-reviewed conference proceedings papers

Dunbar, E., and Dupoux, E. 2016. Geometric constraints on human speech sound inventories.
Frontiers in Psychology: Language Sciences 7, article 1061. DOI: 10.3389/fpsyg.2016.01061
Dunbar, E., and Wellwood, A. 2016. Addressing the 'two interface' problem: Comparatives and
superlatives. *Glossa* 1(1), article 5. DOI: 10.5334/gjgl.9
Bjorkman, B., and **Dunbar, E.** 2016. Finite-state phonology predicts a typological gap in cyclic
stress assignment. *Linguistic Inquiry* 47(2) 353-363. DOI: 10.1162/ling_a_00214
Versteegh, M., Kuhn, J., Synnaeve, G., Ravoux, L., Chemla, E., Cäsar, C., Fuller, J., Murphy, D.,
Schel, A., and **Dunbar, E.** 2016. Classification and automatic transcription of primate calls.
In *Journal of the Acoustical Society of America: Express Letters*. DOI: 10.1121/1.4954887
Dunbar, E., Synnaeve, G., and Dupoux, E. 2015. Quantitative methods for comparing featural
representations. In The Scottish Consortium for ICPhS 2015 (Ed.), *Proceedings of the 18th*

International Congress of Phonetic Sciences. Glasgow, UK: The University of Glasgow. Paper number 1024 retrieved from <http://www.internationalphoneticassociation.org/icphs-proceedings/ICPhS2015/Papers/ICPHS1024.pdf>

Thiollière, R.,* Dunbar, E.,* Synnaeve, G.,* Versteegh, M., and Dupoux, E. 2015. A hybrid dynamic time warping-deep neural network architecture for unsupervised acoustic modeling. In *INTERSPEECH 2015: 16th Annual Conference of the International Speech Communication Association*, September 6-10, Dresden. ***Joint first authors.**

Fourtassi, A., **Dunbar, E.**, and Dupoux, E. 2014. Self consistency as an inductive bias in early language acquisition. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society (Cog Sci 2014)*, July 23-26, Québec City. Paper 90 retrieved from <https://mindmodeling.org/cogsci2014/papers/090/paper090.pdf>

Dillon, B.,* Dunbar, E.,* and Idsardi, W. 2013. A single-stage approach to learning phonological categories. *Cognitive Science* 37(2):344–377. DOI: 10.1111/cogs.12008 ***Joint first authors.**

Jansen, A., Dupoux, E., Goldwater, S., Johnson, M., Khudanpur, S., Church, K., Feldman, N., Hermansky, H., Metze, F., Rose, R., Seltzer, M., Clark, P., McGraw, I., Varadarajan, B., Bennett, E., Börschinger, B., Chiu, J., **Dunbar, E.**, Fourtassi, A., Harwath, D., Lee, C.-Y., Levin, K., Norouzian, A., Peddinti, V., Richardson, R., Schatz, T., Thomas, S. 2013. A summary of the 2012 JHU workshop on zero resource speech technologies and models of early language acquisition. In *ICASSP 2013: 2013 IEEE International Conference on Acoustics, Speech and Signal Processing*, May 26-31, Vancouver. DOI: 10.1109/ICASSP.2013.6639245

Dicker, J., **Dunbar, E.**, & Johns, A. 2009. Developing intermediate language learning materials: A Labrador Inuttitut story database. In J. Reyhner & L. Lockard (Eds.), *Indigenous Language Revitalization: Encouragement, Guidance & Lessons Learned* (pp. 155–166). Flagstaff: Northern Arizona University.

Book chapters

Dunbar, E., and Idsardi, W. To appear. The acquisition of phonological inventories. In Lidz, J., W. Snyder & J. Pater (eds). *Oxford Handbook of Developmental Linguistics*. Oxford: Oxford University Press.

Dunbar, E., Dillon, B., and Idsardi, W. 2013. A Bayesian evaluation of the cost of abstractness. In Sanz, M., I. Laka & M. Tanenhaus (eds). *Language Down the Garden Path: The Cognitive and Biological basis for Linguistic Structure*, 360-383. Oxford: Oxford University Press.

Reviews

Dunbar, E., and Idsardi, W. 2010. Review of Daniel Silverman, “A Critical Introduction to Phonology”. *Phonology* 27(2):325–331. DOI: 10.1017/S095267571000014X

Volumes edited

Bailyn, J., **Dunbar, E.**, LaTerza, C., and Kronrod, Y. (eds). 2012. *Proceedings of FASL 19: The Maryland meeting*. Ann Arbor, MI: Michigan Slavic Publications.

Under review

Dunbar, E., and Dupoux, E. Submitted August 2016. Where does systematicity in phonology come from? An exploration of acoustic and articulatory spaces. *Cognition*.

Invited talks

- The first year of life and the first years of unsupervised speech recognition: How we are using big corpora to understand infant language development. University of Antwerp, Computational Linguistics and Psycholinguistics Research Center (CLiPS), February 24, 2016.
- Quantitative investigations of speech sounds and sound systems. University of California Irvine, Department of Linguistics, February 17, 2016.
- Phonology and its neighbours: Using computation to tell us about architecture. Leipzig University, January 22, 2016.
- Phonetic grammar and phonological development. Newcastle University, June 17, 2014.
- Context in phonological development: Computational approaches. University of California Irvine, Department of Cognitive Sciences, February 24, 2014.
- Computational Approaches to Theoretical Problems in Phonology. University of Colorado Boulder, Department of Linguistics, February 3, 2014.
- Phonological categories and phonetic grammar: from statistics to knowledge. University of Ottawa, Department of Linguistics, February 8, 2013.

Conference presentations and posters not listed above

- Dunbar, E., and Linzen, T. (2016). Three important properties of Bayesian inference. Talk at **MFMM Fringe Workshop on Computational Phonology**, Manchester.
- Dunbar, E., and Dupoux, E. (2016). Evidence for two kinds of geometric effects on natural inventories. Talk at **OCP 13** (Old World Conference in Phonology), Budapest.
- Dunbar, E., and Dupoux, E. (2015). The typology of inventories: Non-trivial patterns versus non-trivial bias. Talk at **DGfS** (Deutsche Gesellschaft für Sprachwissenschaft), Leipzig.
- Bjorkman, B., and Dunbar, E. (2015). Eliminating cyclicity: A reanalysis of Chamorro stress. Poster at **LSA** (Linguistic Society of America), Portland.
- Dunbar, E. (2014). Cyclic opacity facilitates phonological interpretation. Main colloquium talk at **GLOW 37** (Generative Linguistics in the Old World), Brussels.
- Dunbar, E. (2012). Simplicity in grammar and the Bayesian evaluation measure. Presented at **NECPhon 6** (Northeast Computational Phonology), University of Maryland College Park, 2012.
- Dunbar, E., Dillon, B., and Idsardi, W. (2012). Learning inventories by learning allophony and vice versa. Presented at **GLOW 35** (Generative Linguistics in the Old World), Potsdam, 2012.
- Dunbar, E., Dillon, B., and Idsardi, W. (2011). Unsupervised phoneme discovery in Turkish: Very large is not enough. Presented at **New Tools and Methods for Very-Large-Scale Phonetics Research**, University of Pennsylvania, 2011.
- Dunbar, E., Dillon, B., and Idsardi, W. (2010). Bayesian allophone learning. Presented at **Northeast Computational Phonology (NECPhon) 4**, University of Massachusetts Amherst, 2010.
- Dillon, B., Dunbar, E., and Idsardi, W. (2010). A single-stage computational model of phoneme category acquisition. Presented at **Computational Modeling of Sound Pattern Acquisition Workshop**, University of Alberta, 2010.
- Dillon, B., Dunbar, E., and Idsardi, W. (2009). Seeing through the surface: A model for direct acquisition of phoneme categories. Presented at **Boston University Conference on Language Development**, 2009.
- Dunbar, E. (2009). Pitfalls of distributional allophone learning. Presented at the **Montreal-Ottawa Toronto Workshop in Phonology (MOT)**, Toronto.

Teaching and short seminars

- Basic statistics using SPSS. Invited workshop, University of Kent. (10 hours, June 6-7, 2016.)
- Computational phonology and stress systems, Ecole Normale Supérieure, May 2016. (2.5 hour guest lecture in Masters phonology seminar.)
- Research best practices seminar, Ecole Normale Supérieure, September 2015. (Two hour session with second year Masters students on pre-registration of studies.)
- Basics of the computational theory of phonology: How morphology and syntax are different from phonology. EGG Summer School, Brno, August 2015. (One week course for undergraduate, Masters, and doctoral students in Linguistics. 6.25 hours, designed and taught.)
- Computational problems for phonology: Why talking to morphology and syntax is hard. EGG Summer School, Brno, 2015. (One week course for undergraduate, Masters, and doctoral students in Linguistics. 6.25 hours, designed and taught.)
- Discrete mathematical models of grammatical structure (LING499B), University of Maryland. (Spring 2012. Upper-year semester-long course on computational phonology for Linguistics undergraduates: designed and taught.)
- Statistics intensive workshop. IGERT Winter Storm, University of Maryland. (January 9–20, 2012. Designed and taught three sessions.)
- Statistics and programming intensive workshop. IGERT Winter Storm, University of Maryland. (January 10–21, 2011. Designed and taught five sessions, co-taught.)
- Introduction to R. Second Language Research Forum (SLRF), University of Maryland. (October 14, 2010. Designed and taught one session.)
- Data analysis and statistics mini-course. Invited workshop, Stony Brook University. (October 1–2, 2010. Designed and taught four sessions.)
- Phonology I (LING321), University of Maryland. (Spring 2011. Teaching assistant. Grading, weekly tutorial sessions and occasional guest lectures on topics in psycholinguistics.)
- Phonology I (LING321), University of Maryland. (Spring 2010. Teaching assistant. Grading, weekly tutorial sessions and occasional guest lectures on topics in psycholinguistics.)
- Introduction to language (LING200), University of Maryland. (Fall 2009. Teaching assistant. Grading and weekly tutorial sessions.)
- Field methods (JAL401), University of Toronto. (Fall 2007. Teaching assistant. Grading.)

Advising and guided projects

- Ambroise Petit-Hoang. Summer research internship, Ecole Normale Supérieure. May 2016-present.
- Antonin Affholder and Noémi Fong, Projet de rentrée des sciences, Ecole Normale Supérieure, September 2015. *Google peut-il réussir un test QI ?* (Designed and supervised 12 hour project replicating a previous computational semantics result.)
- Jesse Shawl. B.A. Hons. (2011), Linguistics, University of Maryland. Joint supervisor (with Bill Idsardi; supervised semester-long project doing annotation, formant extraction, and machine learning of vowels from Spanish phonetic corpora). *Statistical learning of Spanish vowel categories*.

Professional activities

2016. Organizer, *Vector representations and language cognition*, one-day workshop, Laboratoire de Sciences Cognitives et Psycholinguistique.
- 2011–2012. Organizing committee, Mayfest 2012 Workshop, *The role of computational models in linguistic theory*. Department of Linguistics, University of Maryland.
2011. Organizing committee, Mid-Atlantic Student Colloquium on Speech, Language and Learning. Johns Hopkins University, September 23, 2011.
- 2010–2011. Committee member, Graduate Mentor of the Year Award. University of Maryland.
- 2010–2011. Organizer, lunch talk series. IGERT, University of Maryland.
2010. Organizing committee, FASL 19 (Formal Approaches to Slavic Linguistics). University of Maryland, April 23–25, 2011.
- 2009–2011. Organizer, colloquium series. Department of Linguistics, University of Maryland.

- Book proposal reviewer, *Oxford University Press*.
- Reviewer, *Language Acquisition*.
- Reviewer, *EACL 2014 Conference*.
- Reviewer, *Cognitive Science (journal)*.
- Reviewer, *ACL 2014 Conference*.
- Reviewer, *Canadian Journal of Linguistics*.
- Reviewer, *PLoS One*.
- Reviewer, *NAACL 2015 Conference*.
- Reviewer, *ACL 2015 Conference*.
- Reviewer, *Behavior Research Methods*.
- Program Committee, *Cognitive Science 2014 Conference*.