

Employment and research status

- 2017–. *Maître de conférences* (similar to assistant professor),
UFR Linguistique, Université Paris Diderot (Paris 7).
Member, Laboratoire de Linguistique Formelle (LLF: Paris 7/CNRS UMR 7110).
Affiliated member, Cognitive Machine Learning
(CoML: ENS-PSL/EHESS/CNRS/Inria; part of LSCP: ENS/EHESS/CNRS
UMR 8554).
- 2013–2017. 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.

Grants

- 2018-2020. GEOMPHON: Speech perception and learning in the geometric typology of
phonological inventories. 298,900€. PI. ANR (French *Agence nationale de la
recherche*).
- 2017-2018. Acoustic and semantic analysis of animal vocalization across ages. Secondary PI with
Emmanuel Chemla, Robin Ryder, and Philippe Schlenker. IRIS-PSL industrial chair.

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.

Peer-reviewed journal 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

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.**

Peer-reviewed conference papers

Dunbar, E., Cao, X-N., Benjumea, J., Karadayi, J., Bernard, M., Besacier, L., Anguera, X., and Dupoux, E. 2017. The Zero-Resource Speech Challenge 2017. In *2017 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*. DOI: 10.1109/ASRU.2017.8268953 . Preprint available at <https://arxiv.org/abs/1712.04313>

Chaabouni, R., **Dunbar, E.,** Zeghidour, N., and Dupoux, E. 2017. Learning weakly supervised multimodal phoneme embeddings. In *INTERSPEECH 2017: 18th Annual Conference of the International Speech Communication Association*. Preprint available at <https://arxiv.org/abs/1704.06913>

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>

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.
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Book 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
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Edited volumes

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

- 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.
- Dunbar, E. (2014). Cyclic opacity facilitates phonological interpretation. Main colloquium talk at **GLOW 37** (Generative Linguistics in the Old World), Brussels.
- 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.
- 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.

Conferences with peer review

- Bjorkman, B., and Dunbar, E. (2015). Eliminating cyclicity: A reanalysis of Chamorro stress. Poster at **LSA (Linguistic Society of America)**, Portland.
- 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.
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Workshops

- Dunbar, E., and Linzen, T. (2016). Three important properties of Bayesian inference. Talk at **MFMM Fringe Workshop on Computational Phonology**, Manchester.
- Dunbar, E. (2012). Simplicity in grammar and the Bayesian evaluation measure. Presented at **NECPhon 6 (Northeast Computational Phonology)**, University of Maryland, 2012.
- Dunbar, E., Dillon, B., and Idsardi, W. (2010). Bayesian learning of allophones. 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.
- Dunbar, E. (2009). Pitfalls of distributional allophone learning. Presented at the **Montreal-Ottawa Toronto Workshop in Phonology (MOT)**, Toronto, Ontario, Canada.
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Committee membership and hosting of research activities

- 2011–2012. Organizing committee, Mayfest 2012 Workshop, *The role of computational models in linguistic theory* (two-day workshop). Department of Linguistics, University of Maryland.
2011. Organizing committee, Mid-Atlantic Student Colloquium on Speech, Language and Learning (one-day conference). Johns Hopkins University, September 23, 2011.
- 2010–2011. Organizer, IGERT lunch talk series (weekly seminar series). University of Maryland.
2010. Organizing committee, FASL 19: Formal Approaches to Slavic Linguistics (three-day international conference). University of Maryland, April 23–25, 2011.
- 2009–2011. Organizer, colloquium series. Department of Linguistics, University of Maryland.
- 2010–2011. Selection committee member, Graduate Mentor of the Year Award (special award given by the university to thesis supervisors, nominated by students). University of Maryland.
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Peer review

- Book proposal reviewer, *Oxford University Press* (2016).
- Journal reviewer, *Frontiers in Psychology: Language Sciences*, *Language Acquisition*, *Cognitive Science*, *Canadian Journal of Linguistics*, *PLoS One*, *Behavior Research Methods*, *Transactions of the Association for Computational Linguistics*, *Phonology*.
- Conference reviewer, *European Association for Computational Linguistics* (2014), *Association for Computational Linguistics International Joint Conference on NLP* (2015), *North American Association for Computational Linguistics Conference* (2015), *Boston University Conference on Language Development* (2016).
- Program Committee, *Cognitive Science 2014 Conference*.

Teaching

- 2019 (winter/spring), 24h.** *Méthodes expérimentales en linguistique*. Licence 3 (bachelors) in Language Sciences, Université Paris Diderot.
- 2019 (winter/spring), 24h.** *Phonologie 2*. Licence 3 (bachelors) in Language Sciences, Université Paris Diderot.
- 2018-2019, 24h.** *Statistique*. Master 2 in Language Sciences, Université Paris Diderot.
- 2018 (fall), 24h.** *Phonologie 1*. Licence 3 (bachelors) in Language Sciences, Université Paris Diderot.
- 2018 (fall), 30h.** *Phonologie*. Master 1 in Language Sciences, Université Paris Diderot.
- 2016, 17.5h.** *Atelier d'initiation à la programmation niv. 2*. Cogmaster, Ecole Normale Supérieure. Teaching assistant, guest lecturer (one lecture, 2.5h).
- 2016, 2.5h.** *Topics in phonology*. LingMaster, Ecole Normale Supérieure. Guest lecture on theoretical computational phonology.
- 2015, 12.5h.** *Computational phonology*. European Generative Grammar, Brno. Two-week summer school course on theoretical computational phonology for linguistics students (from undergraduate to PhD) with no previous experience.
- 2012, 36h.** *Discrete mathematical models of grammatical structure*. Department of Linguistics, Univ. of Maryland. Undergraduate course on theoretical computational phonology.
- 2011, 36h.** *Phonology I*. Department of Linguistics, Univ. of Maryland. Teaching assistant (including weekly tutorial sessions), guest lecturer (two lectures, total 2.5h).
- 2010, 36h.** *Phonology I*. Department of Linguistics, Univ. of Maryland. Teaching assistant (including weekly tutorial sessions), guest lecturer (one lecture, total 1.25h).
- 2009, 36h.** *Introduction to language*. Department of Linguistics, Univ. of Maryland. Teaching assistant (including weekly tutorial sessions).
- 2007, 36h.** *Field methods*. Department of Linguistics, Univ. of Toronto. Teaching assistant, guest lecturer (one lectures, total 2h).
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Supervision

- 2018.** Co-supervision of Masters research internship, with Adriana Guevara-Rukoz (LSCP, 6 months). *Neural acoustic-articulatory inversion*. Paul Andrey.
- 2018.** Supervision of undergraduate research internship. (Université Paris Diderot). *Quantifying dispersion in natural language sound inventories*. Sébastien Gadioux.
- 2017-2018.** Supervision of first-year Masters final project. (Université Paris Diderot). *Audio-visual perception of emotional speech*. Clara Delacourt.
- 2017-2018.** Supervision of first-year Masters final project. (Université Paris Diderot). *Second-language speech perception modelling*. Nika Jurov.
- 2016-2017.** Co-supervision of internship project, with Emmanuel Dupoux and Neil Zeghidour. (LSCP, 6 months). Rahma Chaabouni. *Learning weakly supervised multimodal phoneme embeddings*. (Submitted to *Interspeech*.)

- 2016.** Supervision of internship project (LSCP, 6 months).
Ambroise Petit-Hoang, ESPCI ParisTech.
Modelling of Phonotactics with Neural Networks.
- 2015, 2016.** Supervision of mini-projects. Ecole Normale Supérieure, 1 week.
2016 : Samuel Delbecq, Tomas Rigaux, and Haowen Zhang.
2015 : Antonin Affholder et Noémi Fong.
Google peut-il réussir un test QI ?
- 2011.** Supervision of honors thesis. Department of Linguistics, Univ. of Maryland. 14 weeks.
Jesse Shawl.
Statistical Learning of Spanish Vowel Categories.
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Workshops

- 2016, 10h.** *Introduction to statistics with SPSS.* Invited workshop, University of Kent.
- 2012, 6h.** *Introduction to statistics with R.* Workshop, University of Maryland.
- 2011, 10h.** *Introduction to statistics with R.* Workshop, University of Maryland.
- 2010, 2h.** *Introduction to R.* Workshop, Second Language Research Forum (conference).
University of Maryland.
- 2010, 10h.** *Introduction to statistics with R.* Invited workshop, Stony Brook University.