

Education and academic background

DIPLOMAS

2012	Baccalauréat Général Littéraire
2016	BACHELOR in <i>Linguistics Literature and Civilization of Spain and Latin America</i> (Sorbonne Nouvelle)
2018	MASTER of Science of Language SPECIALITY phonetics and phonology (Sorbonne Nouvelle)
2023	PHD in phonetics, phonology and speech science (Sorbonne Nouvelle)

EMPLOYMENT

2018-2022	Fully funded PhD student at the Phonetics and Phonology Laboratory (CNRS/Sorbonne Nouvelle)
2019-2021	Lecturer – Institut de Linguistique et de Phonétique Générales et Appliquées, Sorbonne Nouvelle University
2022-2023	Lecturer – Conservatoire National des Arts et Métiers (CNAM)
2022	Research Engineer at the Laboratoire de Phonétique et Phonologie
2023-2025	Temporary Teaching and Research Associate in Phonetics and Phonology - Institut de Linguistique et de Phonétique Générales et Appliquées, Université Sorbonne Nouvelle

CONTINUING EDUCATION

2017	Training on the physiological platform of the Laboratoire de Phonétique et Phonologie (CNRS/Sorbonne Nouvelle) ¹
2018	Training in university teaching methods, Université Sorbonne Paris Cité (USPC)
2019	Programming basics, CNRS
2019	Statistics and linear mixed models, LPP
2025	Media Training, Coopaname

Teaching (since 2019)

UNIVERSITÉ SORBONNE NOUVELLE

Institut de Linguistique et de Phonétique Générales et Appliquées

Phonetics 1

1st year students

117h

Articulatory phonetics: study of the phonatory apparatus (lungs, larynx, pharynx, supra-glottic resonators); mechanisms of consonant and vowel production; introduction to phonetic instrumentation; articulatory classification and IPA transcription of sounds from French and other languages; reading of palatograms and medio-sagittal sections. Acoustic phonetics: simple and complex periodic sounds; fundamental frequency; notions of resonance and formant; spectrographic representation of speech. Perceptual phonetics: acoustic cues used; segmentation of the speech stream by the listener; speech variability and perceptual normalization; study of some perceptual effects.

¹ <https://lpp.cnrs.fr/la-recherche/plateforme-physiologique/>

*Introduction to Language
Sciences*

1st year students

93h

Introductory course in language science for undergrads. Introduces fundamental concepts in language science: descriptive approach, language/languages/speech, levels of analysis (phonological, morphological, etc.), double articulation.

Statistics

1st year students

229h

The fundamental concepts essential to modern linguistic analysis will be covered and applied in class: representation of linguistic data in a quantifiable form, graphical representation of data, choice of a statistical approach suited to both the form of the data and the hypotheses to be tested, usual checks before carrying out statistical tests, presentation of statistical results in a scientific article or dissertation. Examples of data from a variety of disciplines will be used.

*Comparative phonetics of
the world's languages*

3rd year students

48h

Advanced course on phonetic phenomena in the world's languages. Theoretical and methodological notions on physiological and acoustic phonetics, on the world's languages and introduction to research (scientific articles) will be covered. Phenomena from languages of the world (mainly non-Romance languages) will be studied: nasal vowels, phonatory types, tones, multiple and secondary articulations, stops and fricatives, non-pulmonic and rhotic consonants.

Statistics

Master

21h

The aim of the course is to make students autonomous in the process of quantitative reasoning in linguistics: 1. Recognition of observations suitable for statistical analysis. 2. Formulation of a hypothesis and establishment of parameters. 3. Choosing a suitable statistical tool 4. Transforming data into the tool's format. 5. Visualizing and interpreting results. After recalling the fundamental principles of statistics, we'll focus on the choice of a statistical test to extract significant differences or correlations. This will involve a number of mathematical concepts, such as random variables, distribution, population, and various tests such as Fisher's test and Student's t-test. Practical exercises will be carried out using a spreadsheet program (LibreOffice Calc or Excel) at the start of the semester, followed by the free R software.

Introduction to Praat

Master

12h

Introductory course on Praat software for Master students in Language Science (excluding phonetics and phonology). The basics of using Praat were introduced: segmentation and transcription, data visualization and manual analysis, formant analysis and creation of vowel charts, illustrations and figures on Praat Picture, exercises and automated analysis with Praat.

Ethics and deontology

PhD

2h

Seminar for doctoral students. Ethics ("Science which deals with the regulating principles of action and moral conduct", CNRTL) and Deontology ("Set of moral rules which govern the exercise of a profession or the social relations of its members") are two aspects have importance in the scientific approach. The 2nd half of the 20th century saw the establishment of the legal principles of ethics and deontology in research involving people. The first ethics committees appeared. We propose here to present the legal framework and the French institutions (CNIL "Commission nationale de l'informatique et des libertés", CER "Comité d'Éthique de la Recherche", CPP "Comité de Protection des Personnes") governing research involving human subjects.

Introduction to Praat

PhD

2h

Seminar for doctoral students. The aim was to provide an introduction to Praat software for manual phonetic analysis. It was proposed to focus on formant measurements in order to create vowel triangles on Visible Vowels (<https://www.visiblevowels.org/>).

AFRICAN LINGUISTICS SCHOOL 6

Porto Novo (Bénin)

Fieldwork Phonetics

Master, PhD

10h

Summer school in linguistics for master and PhD students. The course introduced basic and advanced notions of phonetics: anatomy, physiology and acoustics. Phenomena from African languages were covered: vowel harmony, labiovelar consonants, non-pulmonic consonants, labialized consonants. Individual appointments were set up with students to discuss their research topics and data.

CONSERVATOIRE NATIONAL DES ARTS ET MÉTIERS (CNAM)

Centre de préparation au diplôme d'état d'audioprothésiste

Linguistics and Phonetics

2nd year students

36h

Introductory course in linguistics and phonetics for students training to become hearing aid specialists. The course introduces basic notions of linguistics: descriptive approach, language/speech, linguistic units and levels of analysis, world languages. Introduction to basic phonetics: API transcription, anatomy and physiology, articulatory phonetics, acoustic and preceptual phonetics.

TOTAL TEACHING HOURS: 570h

RESEARCH SUPERVISION

2024-2025	Master	Co-supervisor of the MA dissertation of Iliana Messadi <i>The acoustics of subharmonics in singing</i> . (co-supervisor : Claire Pillot-Loiseau)
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Collective Duties

TEACHING

2022	In charge of the course Linguistics and Phonetics at the CNAM
2023-2025	In charge of the course Comparative Phonetics of World's Languages

ELECTIVE MANDATE

2019-2021	PhD students' representative elected to the Doctoral School Council 622
2021-2023	Doctoral student representative elected to the council of the Phonetics and Phonology Laboratory (UMR 7018 - CNRS/Sorbonne Nouvelle)
2021-2023	PhD student representative elected at the Research Commission of Université Sorbonne Nouvelle

Research

AWARDS

- 2019 *Student Award* from the International Phonetic Association. This prize enabled me to present my research at the International Conference of Phonetic Sciences in Melbourne (ICPhS)
- 2021 *Best Paper Award - Speech Communication* (2nd prize) awarded by the Acoustical Society of America ².

ORGANIZATION OF SCIENTIFIC EVENTS

- 2019 Rencontres Jeunes Chercheurs, *Variation in Language Sciences: approaches, data and uses* - ED 622, Université Sorbonne Nouvelle
- 2019-2021 Organizing Committee for *methodological doctoral workshops*, Sorbonne Nouvelle University
- 2019 *'R-atics 6: Phonetics, Phonology et Sociophonetics of rhotics* - Laboratoire de Phonétique et Phonologie, Université Sorbonne Nouvelle
- 2023 Experimental phonetics: an interdisciplinary journey through time and space
- 2024 The larynx in all its states: from the clinic to phonetics

SCIENTIFIC PROJECTS

- 2020-2023 *Language and Music, Speech and Human Beatboxing: Theoretical issues for research in general and applied linguistics; a mono-centric exploratory study*" project (ID-RCB: 2020-A00246-33) in partnership with the ENT and Cervical/Facial Surgery Department & the Clinical Research and Innovation Delegation at Hôpital Foch (Suresnes)

SCIENTIFIC COMMUNICATIONS

Articles	10
<i>Proceedings</i>	7
<i>Book chapters</i>	1
<i>Peer-reviewed articles</i>	2 (+1 in prep)
Communications without proceedings	20
<i>Talks</i>	8
<i>Seminars</i>	2
<i>Invited Talks</i>	3
<i>Popularization of science</i>	7

TOTAL : 30 COMMUNICATIONS

² Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L. & Demolin, D. (2022). In and out: production mechanisms in Human Beatboxing. *Proceedings of Meetings on Acoustics*, Vol. 45, 060005. <https://doi.org/10.1121/2.0001543>

PEER REVIEW

2025 Papers in language and speech
Scientific Projects – LABEX Persyval, Université de Grenoble

Publications

PEER-REVIEWED ARTICLES

1. Dehais-Underdown, A. (accepted). Human Beatboxing: ejectives, implosives and the pharyngeal mechanism. *Journal of the International Phonetics Association*.
2. Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L. & Demolin, D. (2022). In and out: production mechanisms in Human Beatboxing. *Proceedings of Meetings on Acoustics*, Vol. 45, 060005. <https://doi.org/10.1121/2.00015432>

BOOK CHAPTERS

3. Dehais-Underdown, A. (à paraître). Human Beatboxing. In B. Sands, D. Demolin, M. Percival, & A.-M. Fehn (Eds.), *Non-Pulmonic Consonants*. Equinox.

PROCEEDINGS

4. Dehais-Underdown, A., Paul Vignes, Lise Crevier-Buchman, Didier Demolin Dehais-Underdown, A., Crevier-Buchman, L., Demolin, D., Vuissoz, P. A., Fauvel, M, Laprie, Y & Felblinger, J. (2024). Are glottalic mechanisms in Human Beatboxing really glottalic? *13th International Seminar of Speech Production*. Autrans, France.
5. Dehais-Underdown, A., Paul Vignes, Lise Crevier-Buchman, Didier Demolin Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L., Demolin, D., Vuissoz, P. A., Isaieva, K, Fauvel, M, Laprie, Y & Felblinger, J. (2023). Non-pulmonic initiation in human Beatboxing: a real-time MRI study. In: Radek Skarnitzl & Jan Volín (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences* (pp. 1176–1180). Guarant International. (hal-04180282)
6. Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L., & Demolin, D. (2023). Speed rate effects on human Beatboxing: an aerodynamic study. In: Radek Skarnitzl & Jan Volín (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences* (pp. 1181–1185). Guarant International. (hal-04180283)
7. Dehais Underdown, A., Vignes, P., Buchman, L. C., & Demolin, D. (2020). Human Beatboxing: A preliminary study on temporal reduction. In *12th International Seminar on Speech Production*. (hal-03281118)
8. Dehais Underdown, A., Vignes, P., Buchman, L. C., & Demolin, D. (2020). Rythme et contrôle articulatoire : étude préliminaire du Human Beatbox. In *Actes de la 6e conférence conjointe Journées d'Études sur la Parole (JEP, 31e édition), Traitement Automatique des Langues Naturelles (TALN, 27e édition), Rencontre des Étudiants Chercheurs en Informatique pour le Traitement Automatique des Langues (RÉCITAL, 22e édition)*. Volume 1: Journées d'Études sur la Parole (pp. 136-144). ATALA. (hal-02798527v3)
9. Dehais Underdown, A., Crevier Buchman, L., Demolin, D. (2019). Acoustico-Physiological coordination in the Human Beatbox: A pilot study on the beatboxed Classic Kick Drum. In Sasha Calhoun, Paola Escudero, Marija Tabain & Paul Warren (eds.) *Proceedings of the 19th International Congress of Phonetic Sciences*, Melbourne, Australia 2019 (pp. 142-146). Canberra, Australia: Australasian Speech Science and Technology Association Inc. (hal-02284132)
10. Dehais Underdown, A. (2018). Étude acoustique du cluster /tr/ et de ses allophones à Santiago du Chili. *32e journées d'études sur la Parole (JEP) 2018*, (pp. 532-540). Aix-en-Provence. (hal-02284140)

TALKS AND POSTERS

11. Dehais-Underdown, A., & Demolin, D. (2025). Affricating and hypercorrecting: a sociophonetic study on Spanish r in Chile. *r-atics 8*, Valletta, Malta.
12. Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L., & Demolin, D. (2022). Human Beatboxing: Linking articulation, aerodynamics and acoustics of phonation types. *14th Pan-European Voice Conference*. Publicon. ⟨hal-03777101⟩ (POSTER)
13. Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L., & Demolin, D. (2022). Human Beatboxing: Laryngeal Articulations. *14th Pan-European Voice Conference*. Publicon. ⟨hal-03777102⟩
14. Dehais-Underdown, A., Vignes, P., Crevier-Buchman, L., & Demolin, D. (2021). Human Beatboxing: Physiological aspects of drum imitation. *The Journal of the Acoustical Society of America*, 150, A189–A189. <https://doi.org/10.1121/10.0008080> (POSTER)
15. Crevier-Buchman, L., Dehais-Underdown, A., Amelot, A., Demolin, D., & Pillot-Loiseau, C. (2021, May). Video-fiberscopic laryngopharyngeal examination in Beatboxing. In *13th Congress of the European Laryngological Society*. ⟨hal-03504696⟩
16. Dehais Underdown, A., Vignes, P., Crevier-Buchman, L., & Demolin, D. (2019). Human Beatboxing: A multi-instrumental pilot. *The Journal of the Acoustical Society of America*, 146(4), 3082–3082. ⟨10.1121/1.5137702⟩ ⟨hal-02502486⟩ (POSTER)
17. Dehais Underdown, A., Vignes, P., Crevier Buchman, L. & Demolin, D. (2019). Embodying Human Beatboxing. *Embodied Speech International Workshop*.
18. Demolin, D., Dehais Underdown, A., Trouville, R. Wang, R., Hassid, S. & Signorello R. (2017). Oral and nasal vowels effects on subglottal pressure. *The Journal of the Acoustical Society of America*, 142(4), 2582–2582. ⟨10.1121/1.5014450⟩. ⟨hal-02393672⟩

SEMINARS

19. Dehais-Underdown, A. (2025). Ejectives and implosives in Human Beatboxing. *Séminaires de Recherches en Phonétique et Phonologie*.
20. Dehais Underdown, A., Vignes, P., Buchman, L. C., & Demolin, D. (2022). Human Beatboxing: A physiological approach to voice production. *Séminaires de Recherches en Phonétique et Phonologie*.

INVITED TALKS

21. Julien-Laferrrière, A. & Dehais-Underdown, A. (2024). Crescendo : du chant au Beatbox. *Le larynx dans tous ses états : de la clinique à la phonétique*. Suresnes, France.
22. Dehais-Underdown, A. (2024). Apports du Human Beatbox pour la phonétique clinique. *50 ans du Laboratoire de Phonétique et Phonologie* (CNRS/USN). Université Sorbonne Nouvelle.
23. Dehais-Underdown, A., Vignes, P., Buchman, L. C., & Demolin, D. (2022). Physiologie du Human Beatbox. *Arts Sciences Santé – Beatboxday*. Grenoble.

POPULARIZATION OF SCIENCE

24. Dehais-Underdown, A. (2024). Le Human Beatbox. *Rencontres de la recherche 2024*. Université Sorbonne Nouvelle.
25. Nutarelli, D. & Dehais-Underdown, A. (2023). Ondes Lyriques : Spectacle conférence-concert sur les ondes, la voix et le chant lyrique (fête de la science). La diagonale (Paris Saclay) & Mairie de Bruyères L Châtel.
26. Dehais-Underdown, A., Crevier-Buchman, L., Pillot-Loiseau, C. (2022). Le Human Beatbox, interview pour le magazine de la santé, France 5, 27 juin 2022 diffusé le 28 octobre 2022.

27. Dehais-Underdown, A. (2022). Beatboxers : Comment ils imitent les instruments avec leur voix, reportage de Laura Brunet pour E=M6 (diffusé le 15 mai 2022)
28. Dehais-Underdown, A. (2022). Beatbox : un moyen pour rééduquer les personnes opérées de la langue?, reportage d'Adrien Lac pour le 1245 de M6 (diffusé le 12 mai 2022)
29. Dehais-Underdown, A. (2022). Beatbox, voix et comportements laryngés. Interview pour France 3 Ile de France le 2 juin 2022.
30. Dehais-Underdown, A. (2022). Le beatbox, quand l'art rencontre la phonétique. Vox : La linguistique sous toutes ses formes. (Podcast du Labex EFL, réalisation de Maxime Hébert)

IN PREPARATION

Dehais-Underdown, A. (in prep.). Human Beatboxing: speed rate effect on ejectives. *Journal of phonetics*.

OTHER

I also run a (French) blog called "Sur le bout de la langue" (On the tip of the tongue) on my website, where I discuss (psycho)linguistics and phonetics for dissemination purposes: <https://www.alex-under.fr/blog/>. Since December 2025, I am working on a (non-scientific) book project called "Once upon a voice" in which I talk about languages from a mythological/theological, linguistic and evolutionary perspectives.