Baichen Du

Email: baichen@connect.hku.hk
Webpage: albertbaichendu.github.io
Twitter: _15abcd
Github: albertbaichendu

Research interests

Topics — Phonetics & Phonology: experimental phonology and phonetics, speech production and perception, sound change, cross-modal cue integration.

Methodology — Computer vision as articulometry in audiovisual phonetics research: Emotion and facial expression detection and tracking, facial landmarks tracking.

Education

2023 –
2024 — **University of California, Berkeley**, CA
Undergraduate Visiting Student of Linguistics
Advisor: Dr. Alexandra Pfiffner. *GPA: 4.0 out of 4.0.*

2019 –
2024 — **University of Hong Kong**, HK
Bachelor of Social Sciences in Linguistics and Political Science
Advisors: Dr. Jonathan Havenhill, Dr. Youngah Do, Dr. Haohan Chen. *GPA: 3.93 out of 4.3.*

Publications, Presentations, Manuscripts

Presentation — **Du, B.**, Pfiffner, A., Johnson. K. (Submitted). Visible articulatory variation as a cue to sound change: Lip rounding and lip protrusion variability in the Mandarin sibilant merger.

Du, B., Pfiffner, A., Johnson. K. (Submitted). The role of visible articulatory variation in the Mandarin sibilant contrast and merger.

Du, B. (2023). Acoustic distance effect on the perception of sibilants mergers between retroflexes and alveolars in Taiwan Mandarin. Poster presented at *184th Meeting of Acoustical Society of America 2023 (ASA 184), Chicago, IL.* DOI: doi.org/10.1121/10.0019189.

Du, B. (2023). An audio-visual account for synchronic sound changes towards sibilants merger in Taiwan Mandarin. Talk given at *Seventh Annual Berkeley Undergraduate Linguistics Symposium 2023, University of California, Berkeley, CA.*

Du, B. (2023). The backfire effect in the perception and judgement of congruent and incongruent interpretation of political propaganda. Poster presented at *Undergraduate Research Fellowship Program Poster Session: Student Research Posters, University of Hong Kong, HK.*

Publications — **Du, B.** (To appear). Acoustic distance effect on the perception of sibilants mergers between retroflexes and alveolars in Taiwan Mandarin. In *Proceedings of Seventh Annual Berkeley Undergraduate Linguistics Symposium 2023.* Linguistic Society of University of California, Berkeley, CA

Do, Y.[*], Van Hoey, T., Yu, X., **Du, B.**, Tan, L. (In review). Adults intuitively prefer learning regular novel phonological patterns: A tale of two planets. Under review

Du, B. (In prep). An audio-visual account for synchronic sound changes towards sibilants merger in Taiwan Mandarin. In *Proceedings of Meetings on Acoustics 184ASA*. Acoustical Society of America, 2023

Work-in-progress
Yao, Y.[*], **Du, B.** & Johnson, K. (In prep). Production and perception of smiling speech: Implications for sound change.

Havenhill, J.[*], **Du, B.** (In prep). Cross-modal cue integration and phonological evolution: An audio-visual account for palatalization and sound change in diachronic and synchronic Time

Pfiffner, A.[*], **Du, B.** (In prep). The acoustics of plosive lenition in Dutch

Do, Y.[*], Lung, Z, S., **Du, B.**, Ho, T. Z., Wang, T. K. (In prep). Bilingual speakers' performance in simultaneous generalization of multiple phonological patterns

Thesis
Du, B. (2023). The backfire effect in the perception and judgement of congruent and incongruent interpretation of political propaganda. *Undergraduate Thesis of Political Psychology*

Research experience

2023
Speech and Language Science Lab, Polytechnic Univ. of HK
PI: Dr. Yao Yao
Assistance to study design, experimental programming, participant recruiting, emotion and facial expression detection and tracking using CNN, eye tracking and behavioral data collection.

2023
Undergraduate Research Apprenticeship Program, UC Berkeley
PI: Dr. Alexandra Pfiffner.
Assistance to TextGrid segmentation and auto-alignment of boundaries by Praat scripting.

2022
Undergraduate Research Fellowship Program, Univ. of HK
Supervisor: Dr. Haohan Chen
Independent study titled "The backfire effect in the perception and judgement of congruent and incongruent interpretation of political propaganda".

2022
Department of Politics and Public Administration, Univ. of HK
PI: Dr. Haohan Chen
Assisting web data extraction using R. Analyzing and interpreting text data. Compiling tutorials of advanced data science for POLI3148: Data Science in Politics and Public Administration.

2021 –
2022
Language Development Lab, Univ. of HK
PI: Dr. Youngah Do & Dr. Jonathan Havenhill.
Assistance to experimental programming in PsychoPy and Pavolovia.org using Python and Javascript, data collection, statistical modelling (e.g., Genearlized Linear Mixed-effects Models) using R, Manuscripts preparation.

2022
The Baby Language Lab, Univ. of Manitoba
PI: Prof. Melaine Soderstrom.
Assistance to automatic pitch measurement using Praat, performing statistical analysis in R.

2021
Undergraduate Research Opportunity Program, Univ. of HK
PI: Dr. Jonathan Havenhill
Assistance to experimental programming in PsychoPy, participant recruiting, and data collection.

Honors, Awards, and Grants

Grants   Instructional Grants at Dept of Linguistics, UC Berkeley. US$600
Audiovisual production and perception of Mandarin sibilants & Cross-modal cue integration and weighting in the perception of Mandarin high front vowel contrast.   2023

Transdisciplinary Undergraduate Research Initiative Grant HK$3,830
An audio-visual account for linguistic and social selectivity in the accommodation to sibilant mergers in Mandarin.   2022

Leung Kau Kui Research and Teaching Grant HK$10,000
The backfire effect in the perception and judgement of congruent and incongruent interpretation of political propaganda.   2022

Honors & Awards

Ms Cecilia Prize of Linguistics HK$1,000	2023
Globalink Research Award CA$12,000	2022
The K.K.Ho Prize HK$20,000	2022
Dean's Honor List	2022
Dean's Honor List	2021
Dean's Honor List	2020
Soong Ching-ling Foundation Scholarship CN¥200,000	2019

Skills

Languages   English, Mandarin, Cantonese

Programming   R, Praat Scripting, Python, LATEX, HTML, Markdown

Research Tools   RStudio, Praat, PsychoPy, ffmpeg, OpenFace, ELAN, Qualtrics, Amazon Polly Speech Synthesis, Amazon Mechanical Turk, Montreal Forced Alignment, Emotion and facial expression extraction using CNN, Facial landmarks tracking

Research Skills   Frequentist and Bayesian statistics(e.g., Linear Mixed Effects Regression, Generalized Mixed Effects Regression), Web Data Extraction, Text Data Processing (e.g., Topic Modelling, Sentiment analysis)
*In a descending order of proficiency

Mentorship and Service

Membership   Acoustical Society of America
Linguistic Society of America

Service

Mitacs	Globalink Research Internship Ambassador
Chinese Students & Scholars Association	Undergraduate Mentor to Fu Jiani
Chinese Culture Committee	Chariperson
Social Service Fund	External Secretary
Pad for Hope Foundation	Teaching Assistant
University Service Centre of CUHK	Helper

Key Courses

Linguistics	Phonetics (A), Advanced Phonetics (A), Experimental Phonetics (A+), Phonology (A+), Phonetic-Phonology interface (A+), Variation analysis (A-), Advanced Sociolinguistics (A), Laboratory linguistics (A), Second language research (A+), Languages of the world (A+), Grammatical description (A+), Semantics (A-).
Methodology	Research methods in social sciences (A+), Data science in politics and public administration (A+), Data Analysis with R (A), Policy and program evaluation (A-)

References

Dr. Alexandra Pfiffner
Lecturer at UC Berkeley
apfiffner@berkeley.edu

Prof. Keith Johnson
Professor of Graudate School at UC Berkeley
keithjohnson@berkeley.edu

Dr. Jonathan Havenhil
Assistant Professor at Univ. of HK
jhavenhill@hku.hk

Dr. Youngah Do
Associate Professor at Univ. of HK
youngah@hku.hk