Land Acknowledgement

McGill University is on land which has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations. We acknowledge and thank the diverse Indigenous peoples whose presence marks this territory on which peoples of the world now gather.

LING ABC: Laboratory Phonology

Course Information

Instructor:	Roger Yu-Hsiang Lo (`roger.lo@xxx.yyy`)
Credits:	3
Time:	Tues/Thur 11:00 AM–12:30 PM
Location:	TBD
Online discussion forum:	TBD
Instructor office hours:	By appointment

Course Overview

This course centres on experimental methods as tools for phonological analysis, with additional exploration of related approaches such as corpus-based and computational methods. We will approach laboratory phonology from two primary perspectives: the *speaker/signer* (i.e., production) and the *listener/receiver* (i.e., perception), with a greater focus on perception.

The coursework will consist principally of readings from published research exemplifying the laboratory phonology approach. These readings will cover a range of phonological topics, including contrast, allophony, syllable structure, and other suprasegmentals. Through these texts, we will explore a fundamental question in both theoretical and laboratory phonology: *What is the nature of phonological representation?*

Learning Objectives

Upon completion of this course, you will be able to:

- Critically read and assess literature on laboratory phonology, focusing on the logic, reasoning, and validity of theoretical frameworks and methodological approaches;
- Understand the impact of the phonology of a language on its users' production and perception;
- Formulate and test phonological hypotheses through well-designed experimental methods;
- Present and lead discussions based on published research or your own work, effectively communicating complex ideas.

Prerequisites

This course assumes that you have basic knowledge in phonology, as that covered in LING 331 *Phonology 1*. Although there is no official prerequisite, familiarity with experimental design and statistical analysis will be beneficial for reading assigned papers.

Course Materials

There is no required textbook; readings will be made available through myCourses. See Tentative Schedule & Topical Outline for the assigned reading for each week. A list of assigned journal articles and handbook chapters is attached to the end of this syllabus for easy reference.

Course Format

This course will be discussion based, but I will also present notes from time to time to clarify some of the concepts in phonology or experimental design.

Assessment

- **Reading digesting reports** (50%): This component is inspired by a graduate seminar taught by Kathleen Currie Hall. For each reading, you will be creating a report summarizing your interaction with the article. Details and an example can be found on the separate document titled "How to write a digesting report for in-class discussion". Generally, you should end up with a 1-2 page report for each article that contains the following information:

  1. Bibliographic reference for the article
  2. Motivation / research questions / goals
  3. Vocabulary
  4. Surprises / interesting observations
  5. Argumentation
  6. Summary in your own words
  7. Points for/from class discussion
  8. Potentially follow-up research questions

  You should be preparing the first draft **before** the class and bring it to the class to facilitate the discussion. Shortly **after** the class, you should finalize it by incorporating ideas from that discussion. You will need to submit your digesting reports as a single PDF file at the end of the term, by **5:00 PM** on **Thursday, December 5**.

- **Project proposal** (40%): You will write a 3-6 page project proposal on some area of laboratory phonology. Please see the separate guidelines on myCourses for the details. Note that there are deadlines for the various components of the proposal over the course of the term. There will be a final presentation during the last week of class, and the final proposal write-up will be due during the exam period.

- **In-class participation** (10%): You are expected to actively participate in the in-class discussion for each paper. This includes both leading discussions and being engaged when others are leading. At the beginning of each class, I will announce the leader of that day's discussion; each person will lead discussions roughly the same number of times by the end of the term. As a leader, you are not expected to understand everything in the article, but you should be prepared to give a brief summary of the article and to have a couple of questions for discussion. It is everyone's responsibility, however, to participate in the discussion by contributing additional thoughts and questions.

  At the end of the term, you will be asked to anonymously evaluate the participation of everyone (yourself included!) using the following three brackets:

Category	Description
Excellent	- Always prepared and contributed productively to discussion - Performed well both as a leader and as a follower - Able to contribute new ideas or encourage others to share ideas - Positive and respectful
Satisfactory	- Generally prepared and contributed from time to time - Might have had some issues as a leader or as a follower
Unsatisfactory	- Often unprepared or did not contribute properly to discussion - Performed poorly as a leader or as a follower - Domineering or disrespectful

  Altogether, 30% of the participation grade will be based on your own assessment, 30% will be based on your peers' assessment, and 40% will be based on my evaluation of your performance.

Grading Scale

Percentage grades will be assigned for all assessments and converted to final letter grades based on the scale published by the university:

Letter grade	% grade	Definition
A	85–100	Excellent performance
A−	80–84	
B+	75–79	Good performance
B	70–74	
B−	65–69	
C+	60–64	Satisfactory performance
C	55–59	
D	50–54	
F	0–49	Unsatisfactory performance (fail)

Communication

For course-related questions, please follow these steps for the quickest response:

1. Consult this syllabus.
2. Post your question on the online discussion forum or ask classmates.
3. Meet with me during office hours.

For personal questions, feel free to email me directly. I aim to respond within 48 hours.

Accessibility

- **Accommodation for students with disabilities**: Students requiring academic accommodations due to a disability or medical condition should reach out to Student Accessibility & Achievement. More information is available on this page.
- **Well-being**: Being a student at any level can be challenging. You should always prioritize your well-being if you experience physical or psychological difficulties. Please refer to Student Wellness Hub for resources provided by the university.

McGill Policy Statements

Academic integrity

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures. (See McGill's guide to academic honesty for more information.)

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et procédures disciplinaires. (Pour de plus amples renseignements, veuillez consulter le guide pour l'honnêteté académique de McGill.)

Language of submission

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French written work that is to be graded. This does not apply to courses in which acquiring proficiency in a language is one of the objectives.

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté, sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue.

Copyright

Use of generative artificial intelligence (GenAI) tools

You may choose to use GenAI tools as you work through the assignments in this course. However, you should be aware that the code/text generated by GenAI may by inaccurate, biased, or incomplete. You are ultimately accountable for the work you submit, and any content generated or supported by an artificial intelligence tool must be documented appropriately. The documentation should include what tool(s) were used, how they were used, and how the results from the GenAI were incorporated into the submitted work.

Extraordinary circumstances

In the event of extraordinary circumstances beyond the University's control, the content and/or assessment tasks in this course are subject to change and students will be advised of the change.

Tentative Schedule & Topical Outline

Wk #	Date	Topics	Readings	Due
1	08/29 (Thur)	Welcome!		
2	09/03 (Tues) 09/05 (Thur)	Introduction Conceptual foundations	Beckman and Kingston (2012) Pierrehumbert et al. (2012)	
3	09/10 (Tues)	Feature: production	Mielke (2012)	
	Tuesday, September 10, is the add/drop deadline			
	09/12 (Thur)	Feature: perception	Johnson and Babel (2010)	
4	09/17 (Tues) 09/19 (Thur)	Contrast: production Contrast: perception	Warner and Tucker (2011) Boomershine et al. (2008)	 Proj. 1
5	09/24 (Tues) 09/26 (Thur)	Categorical perception Perceptual magnet effect	McMurray (2022) Kuhl (1991)	
6	10/01 (Tues) 10/03 (Thur)	Allophony: production Allophony: perception	Roettger et al. (2014) Kharlamov (2015)	
7	10/08 (Tues) 10/10 (Thur)	Syllable: production Syllable: perception	Strycharczuk and Kohlberger (2016) Gaskell et al. (2002)	
	~~10/15 (Tues)~~ ~~10/17 (Thur)~~	Fall reading break (no class)		

[continued on the next page]

Wk #	Date	Topics	Readings	Due
8	10/22 (Tues) 10/24 (Thur)	Tone: production Tone: perception	Yuan and Chen (2014) Huang and Johnson (2011)	 Proj. 2
9	10/29 (Tues) 10/31 (Thur)	Stress: production Stress: perception	Dauer (1983) Nespor et al. (2011)	
10	11/05 (Tues) 11/07 (Thur)	Intonation: production Intonation: perception	Wheeldon and Lahiri (1997) Ladd and Morton (1997)	
11	11/12 (Tues) 11/14 (Thur)	Lexicon: production Lexicon: perception	Wright (2004) Baese-Berk and Goldrick (2009)	
12	11/19 (Tues) 11/21 (Thur)	Sign language I Sign language II	Emmorey et al. (2003) Corina and Hildebrandt (2002)	
13	11/26 (Tues) 11/28 (Thur)	Computational I Computational II	Mayer (2020) Silfverberg et al. (2018)	
14	12/03 (Tues)	In-class presentation		Proj. 3
	12/05 (Thur)	Reading digesting reports due by 5:00 PM		
	12/10 (Tues)	Finalized project proposal due by 5:00 PM (Proj. 4)		

Readings

Baese-Berk, Melissa, and Matthew Goldrick. 2009. Mechanisms of interaction in speech production. *Language and Cognitive Processes* 24:527–554.

Beckman, Mary E., and John Kingston. 2012. Introduction, *Papers in Laboratory Phonology I: Between the Grammar and Physics of Speech* (reprint). In *The Oxford handbook of laboratory phonology*, ed. Abigail C. Cohn, Cécile Fougeron, and Marie K. Huffman, chapter 2, 10–16. Oxford: Oxford University Press.

Boomershine, Amanda, Kathleen Currie Hall, Elizabeth Hume, and Keith Johnson. 2008. The impact of allophony versus contrast on speech perception. In *Contrast in phonology: Theory, perception, acquisition*, ed. Peter Avery, B. Elan Dresher, and Keren Rice, 145–172. New York: De Gruyter Mouton.

Corina, David P., and Ursula C. Hildebrandt. 2002. Psycholinguistic investigations of phonological structure in ASL. In *Modality and structure in signed and spoken languages*, ed. Richard P. Meier, Kearsy Cormier, and David Quinto-Pozos, chapter 4, 88–111. Cambridge: Cambridge University Press.

Dauer, R.M. 1983. Stress-timing and syllable-timing reanalyzed. *Journal of Phonetics* 11:51–62.

Emmorey, Karen, Stephen McCullough, and Diane Brentari. 2003. Categorical perception in American Sign Language. *Language and Cognitive Processes* 18:21–45.

Gaskell, M. Gareth, Elsa Spinelli, and Fanny Meunier. 2002. Perception of resyllabification in French. *Memory & Cognition* 30:798–810.

Huang, Tsan, and Keith Johnson. 2011. Language specificity in speech perception: Perception of Mandarin tones by native and nonnative listeners. *Phonetica* 67:243–267.

Johnson, Keith, and Molly Babel. 2010. On the perceptual basis of distinctive features: Evidence from the perception of fricatives by Dutch and English speakers. *Journal of Phonetics* 38:127–136.

Kharlamov, Viktor. 2015. Perception of incompletely neutralized voicing cues in word-final obstruents: The role of differences in production context. *Laboratory Phonology* 6:147–165.

Kuhl, Patricia K. 1991. Human adults and human infants show a "perceptual magnet effect" for the prototypes of speech categories, monkeys do not. *Perception & Psychophysics* 50:93–107.

Ladd, D. Robert, and Rachel Morton. 1997. The perception of intonational emphasis: Continuous or categorical. *Journal of Phonetics* 25:313–342.

Mayer, Connor. 2020. An algorithm for learning phonological classes from distributional similarity. *Phonology* 37:91–131.

McMurray, Bob. 2022. The myth of categorical perception. *The Journal of the Acoustical Society of America* 152:3819–3842.

Mielke, Jeff. 2012. The nature of distinctive features and the issue of natural classes. In *The Oxford handbook of laboratory phonology*, ed. Abigail C. Cohn, Cécile Fougeron, and Marie K. Huffman, chapter 9.1, 185–196. Oxford: Oxford University Press.

Nespor, Marina, Mohinish Shukla, and Jacques Mehler. 2011. Stress-timed *vs.* syllable-timed languages. In *The Blackwell companion to phonology*, ed. Marc van Oostendorp, Colin J. Ewen, Elizabeth Hume, and Keren Rice, volume II, chapter 48, 1147–1159. Hoboken, NJ: Wiley-Blackwell.

Pierrehumbert, Janet B., Mary E. Beckman, and D. Robert Ladd. 2012. Conceptual foundations of phonology as a laboratory science (reprint). In *The Oxford handbook of laboratory phonology*, ed. Abigail C. Cohn, Cécile Fougeron, and Marie K. Huffman, chapter 3, 17–39. Oxford: Oxford University Press.

Roettger, T.B., B. Winter, S. Grawunder, J. Kirby, and M. Grice. 2014. Assessing incomplete neutralization of final devoicing in German. *Journal of Phonetics* 43:11–25.

Silfverberg, Miikka, Lingshuang Jack Mao, and Mans Hulden. 2018. Sound analogies with phoneme embeddings. In *Proceedings of the Society for Computation in Linguistics (SCiL) 2018*, 136–144.

Strycharczuk, Patrycja, and Martin Kohlberger. 2016. Resyllabification reconsidered: On the durational properties of word-final /s/ in Spanish. *Laboratory Phonology* 7:1–24.

Warner, Natasha, and Benjamin V. Tucker. 2011. Phonetic variability of stops and flaps in spontaneous and careful speech. *The Journal of the Acoustical Society of America* 130:1606–1617.

Wheeldon, Linda, and Aditi Lahiri. 1997. Prosodic units in speech production. *Journal of Memory and Language* 37:356–381.

Wright, Richard. 2004. Factors of lexical competition in vowel articulation. In *Phonetic interpretation: Papers in laboratory phonology VI*, ed. John Local, Richard Ogden, and Rosalind Temple, chapter 4, 75–87. Cambridge: Cambridge University Press.

Yuan, Jiahong, and Yiya Chen. 2014. 3rd tone sandhi in Standard Chinese: A corpus approach. *Journal of Chinese Linguistics* 42:218–236.