# G. LYNN KURTEFF, PHD, MS-SLP

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[ORCiD] • [website]

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### **CURRENT POSITION**

Postdoctoral researcher in the department of Cognitive Sciences, UC Irvine

#### RESEARCH INTERESTS

- · Neurobiology of speech perception & production
- · Speech motor control and auditory feedback processing
- · Reorganization of language after stroke & surgical intervention
- · Brain-to-text decoding, brain-computer interfaces

#### CLINICAL INTERESTS

- · Neurogenic communication disorders: aphasia & apraxia of speech
- · Head & neck cancer, dysphagia
- · Gender-affirming voice therapy

#### **EDUCATION**

## PhD in Speech, Language & Hearing Sciences

2018 - 2024

University of Texas at Austin

Austin, TX

- · Mentor: Liberty Hamilton
- · Other committee members: Jun Wang, Rosemary Lester-Smith, Maya Henry, Stephanie Riès
- · Dissertation: Cortical Suppression of Auditory Feedback during Speech Production and Perception

#### M.S. in Speech, Language & Hearing Sciences

2018 - 2020

University of Texas at Austin

Austin, TX

- · Mentors: Liberty Hamilton, Rosemary Lester-Smith
- · Thesis: Modulation of Neural Responses to Naturalistic Speech Production and Perception

#### B.A. in Linguistics and Psychology

2012 - 2015

University of California, Berkeley

 $Berkeley,\ CA$ 

· Mentors: Keith Johnson, Lev Michael, Joseph Campos

- · UT Austin CARE Research Day, Best Poster award, Spring 2024, \$50
- · Texas Speech-Language-Hearing Foundation, International travel grant, Spring 2024, \$1,700
- · William Orr Dingwall Foundation Dissertation Fellowship in the Cognitive, Clinical, and Neural Foundations of Language recipient, Fall 2023 Spring 2024, \$40,000
- · UT Austin Graduate School Fellowship recipient, Summer 2023 (declined), \$10,672
- · Texas Speech-Language-Hearing Foundation, President's Research Endowment Fund recipient, Spring 2023, \$1,375
- · Cold Spring Harbor Laboratory Regeneron Scholarship recipient, Genetics & Neurobiology of Language course, Summer 2022, \$1,750
- · TSHA 2022 Audiology Research Symposium award winner, Winter 2022, \$250
- · TSHA 2021 Audiology Research Symposium award winner, Spring 2021, \$250
- $\cdot$  UT Austin Moody Doctoral Fellowship recipient, Fall 2019 Spring 2022, \$5,000
- · UT Austin Provost Fellowship recipient, Fall 2018 & Summer 2019, \$5,000
- · UC Berkeley Dean's Honors, Spring 2015 & Fall 2015

#### PEER-REVIEWED JOURNAL ARTICLES

PDFs of all my publications are available on my website: [link]

- Zhao, L., Silva, A.B., Kurteff, G.L., & Chang, E.F. (accepted). Inhibitory control of speech production in the human premotor frontal cortex. Nature Human Behavior. Preprint available on bioRxiv: doi:10.1101/2023.03.01.530698
- Kurteff, G.L., Field, A.M., Asghar, S., Tyler-Kabara, E.C., Clarke, D., Weiner, H.L., Anderson, A.E., Watrous, A., Buchanan, R.J., Modur, P.N., & Hamilton, L.S. (2024). Spatiotemporal mapping of auditory onsets during speech production. Journal of Neuroscience. doi:10.1523/JNEUROSCI.1109-24.2024
- 3. Kurteff, G.L., Lester-Smith, R.A., Martinez, A., Currens, N., Holder, J., Villarreal, C., Mercado, V.R., Truong, C., Huber, C., Pokharel, P., & Hamilton, L.S. (2023). Speaker-induced suppression in EEG during a naturalistic reading and listening task. Journal of Cognitive Neuroscience. doi:10.1162/jocn\_a\_02037
- Levy, D.F., Silva, A.B., Scott, T., Liu, J., Harper, S., Zhao, L., Hullett, P., Kurteff, G., Andrews, J., Wilson, S.M., Leonard, M., & Chang, E.F. (2023). Apraxia of speech with phonological alexia and agraphia following resection of the left middle precentral gyrus. Journal of Neurosurgery: Case Lessons. doi:10.3171/case22504
- 5. Ammanuel, S., Almeida, N.C., **Kurteff, G.**, Kakaizada, S., Molinaro, A., Berger, M.S., Chang, E.F., & Hervey-Jumper, S.L. (2021). *Natural language assessment correlates with health-related quality of life in adult glioma patients*. Journal of Neuro-Oncology. doi:10.1093/neuonc/noaa215.575
- Chang, E.F., Kurteff, G., Andrews, J., Briggs, R.G., Conner, A.K., Battiste, J.D., & Sughrue, M.E. (2020). Pure apraxia of speech after focal surgical resection of area 55b in dorsal premotor cortex. Neurosurgery. doi:10.1093/neuros/nyaa002
- De Witte, E., Piai, V., Kurteff, G., Cai, R., Mariën, P., Dronkers, N., Chang, E.F., & Berger, M.S. (2018). A valid alternative for in-person language assessments in brain tumor patients: Feasibility and validiy measures of the new TeleLanguage test. Neuro-Oncology Practice. doi:10.193/nop/npy020
- 8. Chang, E.F., **Kurteff, G.**, & Wilson, S.M. (2018). Selective interference with syntactic encoding during sentence production by direct electrocortical stimulation of the inferior frontal gyrus. Journal of Cognitive Neuroscience. doi:10.1162/jocn\_a\_01215

- 1. **Kurteff, G.L.**, Tyler-Kabara, E.C., Clarke, D., Weiner, H.L., Anderson, A.E., Watrous, A., Asghar, S., Field, A., & Hamilton, L.S. (2024). *Intracranial EEG Processing of Auditory Feedback in Perisylvian Cortex*. Poster session presented at the Annual Meeting of the Cognitive Neuroscience Society, Toronto, ON, Canada.
- 2. Hamilton, L.S., Asghar, S., Desai, M., Kurteff, G.L., Field, A., Nussbaum, N.L., Clarke, D., Tyler-Kabara, E.C., Anderson, A., & Weiner, H.L. (2023). *Utilizing Clinical Intracranial Epilepsy Monitoring Infrastructure for Basic Science Research of Speech and Language Development*. Poster session presented at the Annual Meeting of the Child Neurology Society, Vancouver, BC, Canada.
- 3. **Kurteff, G.**, & Hamilton, L.S. (2022). Stereo EEG mapping of sensorimotor responses to self-generated speech. Poster session presented at the Annual Meeting of the Texas Speech-Language Hearing Association, Fort Worth, TX; Association for Research in Otolaryngology, virtual meeting due to COVID-19.
- 4. Cheng, C., Young, N., Teplansky, K., **Kurteff, G.**, Salman, R., Mau, T., & Wang, J. (2022). *Fricative production in laryngeal, electrolaryngeal, and tracheoesophageal speech.* Poster session presented at the biannual meeting of the Conference on Motor Speech, Charleston, SC.
- 5. **Kurteff, G.**, & Hamilton, L.S. (2021). Encoding of phonological features in intracranial recordings of human speech cortex during a dual perception-production task. Poster session presented at the Annual Meeting of Advances and Perspectives in Auditory Neuroscience, virtual meeting due to COVID-19.
- 6. Kurteff, G., Martinez, A., Currens, N., Holder, J., Mercado, V., Truong, C., Huber, C., Pokharel, P., & Hamilton, L.S. (2020a; 2021b). Methods for Investigating Continuous Speech Production and Perception with EEG. Poster session presented at a. the Annual Meeting of the Society for Neurobiology of Language; b. Texas Speech-Language Hearing Association, virtual meetings due to COVID-19.
- 7. **Kurteff, G.**, Fox, N.P., Dronkers, N.F., Desai, M., Shafi, A., & Chang, E.F. (2019). *Behavioral and neuroanatomical description of stimulation-induced speech arrest*. Poster session presented at the Annual Meeting of the Cogntive Neuroscience Society, San Francisco, CA, USA.
- 8. Chang, E.F., **Kurteff, G.**, & Wilson, S.M. (2017). Selective interference with syntactic encoding during sentence production by direct electrocortical stimulation of the inferior frontal gyrus. Poster session presented at the Annual Meeting of the Society for the Neurobiology of Language, Baltimore, MD, USA.
- 9. De Witte, E., Piai, V., **Kurteff, G.**, Cai, R., Berger, M.S., Chang, E.F., & Dronkers, N. (2016). Usability and validity of a phone battery to assess language functions in brain tumor patients undergoing awake surgery. Poster session presented at the Annual Meeting of the Academy of Aphasia, Llandudno, Wales; UK and Society of Neurooncology, Scottsdale, AZ, USA.

#### THESES AND DISSERTATIONS

- 1. Kurteff, G.L. (2024). Cortical Suppression of Auditory Feedback during Speech Production and Perception. PhD dissertation. doi:10.26153/tsw/56510
- 2. **Kurteff, G.** (2020). Modulation of neural responses to naturalistic speech production and perception. Masters thesis. doi:10.26153/tsw/14461

#### RESEARCH EXPERIENCE

#### UC Irvine Department of Cognitive Sciences

2024 - Present

Irvine, CA

- · Principal Investigator: Greg Hickok
- · Postdoctoral fellowship funded through the Center for the Study of Aphasia Recovery (C-STAR) project, focused on investigating patterns of dorsal stream impairment in people with apraxia of speech
- · Working to establish local intracranial EEG data collection at UCI Douglas Hospital and accompanying analysis pipeline

## UT Austin Department of Speech, Language, and Hearing Sciences

2024

Hamilton Lab - Postdoctoral Scholar

Austin, TX

- · Principal Investigator: Liberty Hamilton
- · Brief postdoc with my PhD advisor focused on the role of posterior insula in auditory processing

#### UT Austin Department of Speech, Language, and Hearing Sciences

2018 - 2024

Hamilton Lab - Graduate Research Assistant

Austin, TX

- · Principal Investigator: Liberty Hamilton; rotation with Jun Wang Fall 2021
- · Researching processing of auditory feedback during speech production with invasive and noninvasive electrophysiology (ECoG, sEEG, EEG, EMG)
- · Rotation with Jun Wang focused on decoding of linguistic features from EEG

#### **UCSF** Department of Neurological Surgery

2016 - 2018

Chang Lab - Research Specialist

San Francisco, CA

- · Principal Investigator: Edward F. Chang
- · Performed research on recovery from a phasia in postoperative neurosurgical patients and intraoperative cortical stimulation mapping
- · Maintained active collaborations on multiple projects after leaving lab

#### UC Berkeley Department of Linguistics

2015

 $Under graduate\ Researcher$ 

Berkeley, CA

- · Principal Investigators: Keith Johnson & Sarah Bakst
- · Transcribed/aligned phonetic information in Praat and scripted ultrasound image extraction for Sarah Bakst's dissertation research

#### UC Berkeley Department of Linguistics

2015

Undergraduate Researcher

Berkeley, CA

- · Principal Investigator: Dr. Lev Michael
- · Used FLEx to create and maintain a corpus of the morphology of Matsigenka, an Arawakan language

#### UC Berkeley Department of Psychology

2014 - 2015

Research Assistant & Morning Supervisor

Berkeley, CA

- · Principal Investigator: Dr. Allison Harvey
- · Recruited participants and administered cognitive-behavioral tasks to assess early-morning wakefulness in teenagers with sleep disorders
- · Trained other RAs to collect data and oversaw morning experiments

UT Austin 2019 - 2023

Guest Lecturer Austin, TX

· Guest lecturer for departments of Speech, Language and Hearing Sciences, Linguistics, and Natural Sciences

· Lecture titles: "Introduction to EEG," "Broca and Wernicke are Dead," "Cortical Stimulation Mapping"

UT Austin

Assistant Instructor

Austin, TX

- · Served as the primary instructor for undergraduate course "Language and the Brain"
- · Designed all course materials and led lectures for class of  $\sim 70$  students and supervised two TAs

UT Austin 2019 - 2020

Teaching Assistant

Austin, TX

· TA for "Language and the Brain," taught by Dr. Liberty Hamilton in Fall 2019 and Fall 2020 semesters

#### UC Berkeley "DeCal" Program

2013 - 2015

Student Instructor

Berkeley, CA

· With three other student instructors, instructed a two unit course at UC Berkeley, "Intro to 3D Modeling" for three semesters

#### **MENTORSHIP**

- · Giselle Pedraza, undergraduate, UT Austin (2024)
- · Tasha Anslyn, undergraduate, UT Austin (2020 2021)
- · Valerie Rae Mercado, undergraduate, UT Austin (2019 2021)
- · Christopher Truong, undergraduate, UT Austin (2019 2021)
- · Claire Huber, undergraduate, UT Austin (2019 2021)
- · Nicole Currens, undergraduate, UT Austin (2019 2021)
- · Amanda Martinez, undergraduate, UT Austin (2019 2021)
- · Jade Holder, undergraduate, UT Austin (2019 2020)
- · Cassandra Villarreal, undergraduate, UT Austin (2019 2020)
- · Paranjaya Pokharel, undergraduate, UT Austin (2019)

#### CLINICAL EXPERIENCE

Ascension Seton 2021

 $Speech ext{-}Language\ Pathology\ Externship}$ 

Austin, TX

- · Supervisor: Elizabeth Otterbein, MS, CCC-SLP
- · Treated adult clients in a mixture of inpatient and outpatient hospital settings
- · Inpatient treatment focused on bedside swallow examinations, modified barium swallow studies, and dysphagia treatment
- · Outpatient treatment focused on management of tracheoesophageal voice prostheses in people with total laryngectomees, voice and lymphedema therapy for survivors of head and neck cancer, modified barium swallow studies, cognitive-linguistic therapy, and gender-affirming voice therapy

2020

Speech-Language Pathology Externship

Georgetown, TX

- · Supervisors: Holly Mouton, MS, CCC-SLP; Lynzy Melzer, MA, CCC-SLP
- · Treated pediatric and adult clients in a private practice setting
- · Treatment focused on early language, articulation and phonological disorders, and autism spectrum disorders

Round Rock ISD 2020

Speech-Language Pathology Externship

Round Rock, TX

- · Supervisors: Vanessa Baca, MA, CCC-SLP; Jeanette Fields, MA, CCC-SLP
- · Delivered speech-language pathology services to special education students at Stony Point High School with autism spectrum disorders, cognitive deficits, and developmental disorders
- · Services focused on social communication, receptive and expressive language through AAC, fluency, articulation, and joint attention

UT Austin 2019

Graduate Student Clinician

Austin, TX

- · Rotation with Nickole Hines-Staples, MA, CCC-SLP, BIES: Evaluation and treatment of children with expressive language, phonological, and articulation disorders at the UT Speech and Hearing Clinic (UTSHC)
- · Rotation with Jessica H. Franco, PhD, CCC-SLP, BCBA-D: Treated adults with Autism Spectrum Disorder and Down syndrome in a group setting as part of UTSHC's "Convo Club;" evaluated children with phonological disorders
- · Rotation with Kristy Armer, M.S., CCC-SLP: Evaluation and treatment of varying adult populations, including Autism Spectrum Disorder and aphasia

#### UCSF Department of Neurological Surgery

2016 - 2018

Assistant Specialist

San Francisco, CA

- · Performed aphasia evaluations using WAB, BNT, and QAB (Quick Aphasia Battery) in presurgical and postsurgical patients
- · Worked with team of neurologists and neurosurgeons to intraoperatively map language in the brain using nonstandardized language assessments and electrocortical stimulation
- · Collected data to help develop new aphasia assessments (QAB, TeleLanguage)

#### ACADEMIC AND COMMUNITY SERVICE

## Trans Voice Initiative (TVI)

2024 - Present

Member

Member

Irvine, CA

- · Member of a volunteer organization for and by gender-diverse speech-language pathologists focused on advocacy and training
- · Attend continuing education regarding topics in gender-affirming voice therapy

## Out in Science, Technology, Engineering, and Mathematics (oSTEM)

2022 - 2024

Austin, TX

- · Member of an on-campus chapter of an organization for LGBT+ students in STEM
- · Discussed my experience as a trans PhD student with undergraduates/recent graduate members considering graduate school

## Neuroscience Undergraduate Reading Program (NURP)

2020

Mentor Austin, TX

· Mentored student who conducted original research on an EEG dataset through student organization in the Department of Neuroscience

· Project title: "Do speech errors affect EEG activity in naturalistic perception and production?"

brainWaves Podcast

Co-Host

2019 - 2020

Austin, TX

- · Co-host of "brainWaves" podcast with Maansi Desai, fellow graduate student at UT
- · Podcast topics included auditory neuroscience, communication disorders, and how to effectively communicate science to the general public as a researcher
- · Prominent researchers from the fields of auditory neuroscience and communication sciences and disorders are invited as guests onto the podcast to communicate their research in a fashion suitable for the general public

## Society for Linguistics Undergraduate Students (SLUgS)

2014 - 2015

Member & President

Berkeley, CA

- · Revitalized dormant organization for linguistics undergraduates at UC Berkeley
- · Coordinated talks for the club from various guest speakers across the disciplines of linguistics (John Ohala, David J. Peterson, John Quijada)
- Served as club president from May 2015 to December 2015; returned as an invited speaker/alumnus to discuss my research in the Chang Lab in April 2017

## 3D Modeling Club (3DMC)

2013 - 2015

Founding Member

Berkeley, CA

- · Created UC Berkeley's first 3D modeling and printing club with other students
- · Expanded club by hosting weekly meetings and teaching a student-taught course through the university's "DeCal" program
- · Secured funding for club-owned 3D printing equipment and a dedicated "makerspace" on campus
- · Networked with professional organizations in the 3D printing industry such as Autodesk

#### AD HOC REVIEW

· Brain, Neurobiology of Language

#### RESEARCH SKILLS

- · Data collection: EEG, ECoG/sEEG, MRI/fMRI, EMG, cortical stimulation, clinical speech and language assessment
- · Analysis techniques: Event-related potentials, neural time series extraction, encoding/decoding models, temporal receptive field modeling, mixed-effects modeling, voxel-based lesion symptom mapping, stereotactic electrode localization, corpus analysis, nonnegative matrix factorization, phonetic transcription and forced alignment
- · Programming languages: Python (numpy, scipy, sklearn, pandas, mne, torch), MATLAB, R, Swift (Apple fork of Objective-C)
- · Miscellaneous software: GNU/Linux, Praat, FreeSurfer, MRIcron, FLEx, XCode, ffmpeg/Audacity, Adobe Creative Cloud (Illustrator, Photoshop, Premiere), LATEX