

# TIMOTHY BEECHEY

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Orcid: <https://orcid.org/0000-0001-8858-946X>

## EDUCATION

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### **Ph.D. in Audiology/Linguistics**

*Macquarie University*

November 2015–February 2019

*Sydney, Australia*

- Thesis title: *Communication difficulty and effort in conversation*
- Thesis URL: <http://hdl.handle.net/1959.14/1268694>

### **Master of Audiology Studies**

*The University of Queensland*

February 2009–December 2010

*Brisbane, Australia*

### **Master of Arts in Linguistics**

*The University of Massachusetts Amherst*

September 2003–June 2007

*Amherst, United States*

### **Bachelor of Arts**

*The University of Melbourne*

February 1999–December 2002

*Melbourne, Australia*

- Graduated with First Class Honours in Linguistics

## EMPLOYMENT

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### **Postdoctoral Associate**

*The University of Minnesota, Twin Cities*

July 2019 - Present

*Minneapolis, United States*

- Teaching and coordinating graduate and undergraduate speech and hearing classes, online and in-person
- Planning research projects investigating hearing impairment, speech perception, speech production and communication
- Experimental design
- Developing realistic functional assessments of communication
- Authoring research protocols
- Statistical analysis and data visualization using R and Julia
- Authorship of scientific publications

### **Research Scientist**

*National Acoustic Laboratories*

October 2014–June 2019

*Sydney, Australia*

- Planning of individual and collaborative audiological research projects, particularly in relation to linguistic aspects of hearing assessments, and connections between hearing impairment, speech production and speech perception
- Experimental design
- Developing realistic speech assessment assessments
- Linguistic analysis of speech data including acoustic phonetic, grammatical and discourse pragmatic analysis
- Authoring scientific publications
- Authoring research grant proposals
- Authoring research protocols
- Creation of psychoacoustic test stimuli including synthesized speech
- Testing audiological research subjects using a range of clinical and psychoacoustic tests

- Digital signal processing
- Statistical analysis and simulation using R, Julia and MATLAB

### **Clinical Specialist**

December 2013–October 2014

*MED-EL Hearing Implants Australasia*

*Sydney, Australia*

- Provided face-to-face and phone-based clinical and technical support to audiologists
- Provided individual and group training on all aspects of hearing implants including candidature, device selection, mapping, objective measures, rehabilitation, troubleshooting and minor repairs
- Authored written documentation, presentations and training materials
- Conducted intra-operative monitoring and testing of implant function and neural responses
- Conducted electrophysiological testing including electrically-evoked cochlear microphonic, EABR and ECAPs

### **Clinical Leader**

June 2013–December 2013

*Australian Hearing*

*Perth, Australia*

- Held responsibility for oversight of audiologists and clinical standards across Western Australia, South Australia and The Northern Territory
- Provided face-to-face, phone and internet-based clinical and technical support to clinicians
- Monitored clinical quality and compliance with federal government regulations
- Delivered face-to-face mentoring and training to clinicians individually and in groups
- Modeled excellent clinical practice and acting as a clinical role model
- Developed of written training materials and presentations
- Monitored hearing aid, FM and ALD sales across clinics and regions
- Development of computer programs to summarize and analyze clinical and sales data
- Liaised with centre and regional managers, clinical leaders and principle audiologists

### **Clinical Audiologist**

January 2011–June 2013

*Australian Hearing*

*Hobart, Australia*

- Conducted hearing assessments to determine type and degree of hearing impairment
- Completed behavioral testing including pure-tone audiometry and speech audiometry
- Completed objective testing including tympanometry, otoacoustic emissions and acoustic stapedial reflexes
- Fitted, verified and fine-tuned of hearing aids, FMs and assistive listening devices
- Provided counseling on hearing loss, communication skills and strategies

### **Teaching Associate/Teaching Assistant**

September 2003–June 2007

*University of Massachusetts Amherst*

*Amherst, United States*

- Authored and delivered lectures, in-person and online, on theoretical linguistics, including syntax, morphology, semantics, phonetics and phonology
- Lead tutorials related to introductory theoretical linguistics
- Authored course policies
- Graded student assignments and exams

## **PEER-REVIEWED PUBLICATIONS**

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Orcid ID: <https://orcid.org/0000-0001-8858-946X>

1. **Beechey, T.**, Buchholz, J.M. & Keidser, G. (2020). Hearing aid amplification reduces communication effort of people with hearing impairment and their conversation partners. *Journal of Speech, Language, and Hearing Research*, 63(4), 1299–1311. [https://doi.org/10.1044/2020\\_JSLHR-19-00350](https://doi.org/10.1044/2020_JSLHR-19-00350)
2. Miles, K., Keidser, G., Freeston, K., **Beechey, T.**, Best, V. & Buchholz, J.M. (2020). Development of the everyday conversational sentences in noise test. *Journal of the Acoustical Society of America*. 147(3), 1562–1576. <https://doi.org/10.1121/10.0000780>
3. **Beechey, T.**, Buchholz, J.M. & Keidser, G. (2020). Hearing impairment increases communication effort during conversations in noise. *Journal of Speech, Language, and Hearing Research*. 63(1), 305–320. [https://doi.org/10.1044/2019\\_JSLHR-19-00201](https://doi.org/10.1044/2019_JSLHR-19-00201)
4. Weisser, A., Buchholz, J.M., Oreinos, C., Badajoz-Davila, J., Galloway, J., **Beechey, T.**, & Keidser, G. (2019). The ambisonics recordings of typical environments (ARTE) database. *Acta Acustica United with Acustica*. 105, 695–713. <https://doi.org/10.3813/AAA.919349>
5. **Beechey, T.**, Buchholz, J.M. & Keidser, G. (2019). Eliciting naturalistic conversations: a method for assessing communication ability, subjective experience, and the impacts of noise and hearing impairment. *Journal of Speech, Language, and Hearing Research*, 62(2), 470–484. [https://doi.org/10.1044/2018\\_JSLHR-H-18-0107](https://doi.org/10.1044/2018_JSLHR-H-18-0107)
6. **Beechey, T.**, Buchholz, J.M. & Keidser, G. (2018). Measuring communication difficulty through effortful speech production during conversation. *Speech Communication*. 100, 18–29. <https://doi.org/10.1016/j.specom.2018.04.007>
7. Cameron, S., Chong-White, N., Mealings, K., **Beechey, T.**, Dillon, H., & Young, T. (2018). The Parsing Syllable Envelopes Test for Assessment of Amplitude Modulation Discrimination Skills in Children: Development, Normative Data, and Test–Retest Reliability Studies. *Journal of the American Academy of Audiology*. 29(2). 151–163. <https://doi.org/10.3766/jaaa.16146>
8. Cameron, S., Chong-White, N., Mealings, K., **Beechey, T.**, Dillon, H., & Young, T. (2018). The Phoneme Identification Test for Assessment of Spectral and Temporal Discrimination Skills in Children: Development, Normative Data, and Test–Retest Reliability Studies. *Journal of the American Academy of Audiology*. 29(2). 135–150. <https://doi.org/10.3766/jaaa.16145>

## CONFERENCE PRESENTATIONS AND POSTERS

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1. Nelson, P., Anderson, E., **Beechey, T.**, Waggenspack, M., & Westmann, M. (2020). Virtual Scenarios for Evaluating Communication, Sensory Aids, and Social Engagement. *47th Annual Scientific and Technology Conference of the American Auditory Society*, Scottsdale, AZ, United States.
2. **Beechey, T.**, Buchholz, J., & Nelson, P.(2020). How representative of everyday speech signals are clinical speech test materials? *Association for Research in Otolaryngology 43rd Annual Mid-Winter Meeting*, San Jose, CA.
3. Nelson, P., Anderson, E., & **Beechey, T.** (2019). Laboratory simulations of conversation scenarios: Questionnaire results from patient and partner. *Proceedings of Meetings on Acoustics*, 39, 050004. <https://doi.org/10.1121/2.0001245>
4. **Beechey, T.**, Keidser, G. & Buchholz, J. (2018). On the impact of hearing impairment on spoken conversation. *51st Australian Association of Gerontology Conference*, Melbourne, Australia.

5. **Beechey, T.**, Keidser, G. & Buchholz, J.M. (2017). Measuring communication effort in patterns of speech variability during conversations in realistic noise. *Fourth International Conference on Cognitive Hearing Science for Communication*. Linköping, Sweden.
6. **Beechey, T.**, Buccholz, J.M., & Keidser, G. (2016) Eliciting natural conversational Lombard speech in realistic acoustic environments. *Fifth joint meeting of the Acoustical Society of America and the Japanese Acoustic Society*. Honolulu, HI.  
<https://doi.org/10.1121/1.4970120>
7. Buchholz, J.M., Weisser, A., **Beechey, T.**, Galloway, J., Keidser, G., & Freeston, K. (2016). Estimating realistic speech levels for virtual acoustic environments. *Fifth joint meeting of the Acoustical Society of America and the Japanese Acoustic Society*. Honolulu, HI.  
<https://doi.org/10.1121/1.4971077>
8. Cameron, S., Dillon, H., Chong-White, N., **Beechey, T.**, Young, T., & Mealings, K. (2016). Development and evaluation of the Phoneme Identification Test (PIT) for assessment of frequency and timing discrimination skills in children. *Audiology Australia National Conference 2016*, Melbourne, Australia.
9. Cameron, S., Dillon, H., Chong-White, N., **Beechey, T.**, Young, T., & Mealings, K. (2016). Development and evaluation of a test for the assessment of syllabic parsing ability in children. *Audiology Australia National Conference 2016*, Melbourne, Australia.
10. Mejia, J., Dillon, H., Van Hoessel, R., Beach, E., Glyde, H., Yeend, I., **Beechey, T.**, McClelland, M., O'Brien, A., Buchholz, J., Sharma, M., Valderrama, J., & Williams, W. (2015). Loss of speech perception in noise – causes and compensation. *Proceedings of the International Symposium on Auditory and Audiological Research*, 5, 205-216.  
<https://proceedings.isaar.eu/index.php/isaarproc/article/view/2015-24>

## TEACHING

### **The physics and biology of spoken language** *Department of Speech-Language-Hearing Sciences*

Spring 2021  
*University of Minnesota, Twin Cities*

- Role: Lecturer
- Course type: Undergraduate
- Modality: Online

### **Advanced rehabilitative audiology** *Department of Speech-Language-Hearing Sciences*

Spring 2020  
*University of Minnesota, Twin Cities*

- Role: Lecturer
- Course type: Graduate
- Modality: In-person and online

### **Introductory phonetics for linguists** *Department of Linguistics*

Spring 2007  
*University of Massachusetts, Amherst*

- Role: Teaching assistant
- Course type: Undergraduate
- Modality: In-person

### **Introduction to linguistic theory** *Department of Linguistics*

Spring 2006; Autumn 2006  
*University of Massachusetts, Amherst*

- Role: Teaching associate (Lecturer)

- Course type: Undergraduate
- Modality: In-person

**People and their language**  
*Department of Linguistics*

Spring 2005; Autumn 2005  
*University of Massachusetts, Amherst*

- Role: Teaching assistant
- Course type: Undergraduate
- Modality: In-person

## GRANTS

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**Starkey Hearing Technologies**

January 2017–December 2017

- Project title: *Changes in the conversational behavior of people with hearing impairment across realistic acoustic environments*
- Amount: \$50,000 (USD)

## PEER-REVIEWING

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**Ad-hoc reviewer**

- *Journal of Speech, Language, and Hearing Research*
- *Ear and Hearing*
- *Trends in Hearing*
- *Frontiers in Psychology*

Publons profile: <https://publons.com/researcher/1681512/timothy-beechey/peer-review/>

## CLINICAL CERTIFICATION

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**Accredited Audiologist**  
*Audiology Australia*

January 2012–Present

## PROFESSIONAL MEMBERSHIPS

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**Audiology Australia**  
*Full member*

January 2011–Present

**Acoustical Society of America**  
*Associate member*

January 2016–Present

## SKILLS AND KNOWLEDGE

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<b>Software</b>	Microsoft Office, Praat, Zotero, RStudio, Markdown, Git, L <sup>A</sup> T <sub>E</sub> X, Emacs
<b>Statistics</b>	Bayesian statistics, resampling methods, Monte Carlo simulation, R, Julia
<b>Programming</b>	Julia, R, MATLAB, Praat scripting
<b>Linguistics</b>	Acoustic phonetic analysis, phonetic transcription, ToBI transcription, Conversation Analysis, normal and abnormal language acquisition, speech production development
<b>Clinical</b>	Principles of person-centred and family-centred care, adult and pediatric objective and behavioral hearing assessment, hearing aid fitting and verification, cochlear implant mapping, intra-operative monitoring of hearing implant function, counselling and auditory training