

# 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, MA*

### **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
- Contributing to the authorship of scientific publications

### **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

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**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*

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

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

## **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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### **Software**

### **Statistics**

### **Programming**

### **Linguistics**

### **Clinical**

Microsoft Office, Praat, Zotero, RStudio, Markdown, Git, L<sup>A</sup>T<sub>E</sub>X, Emacs  
Bayesian statistics, resampling methods, Monte Carlo simulation, R, Julia  
Julia, R, MATLAB, Praat scripting  
Acoustic phonetic analysis, phonetic transcription, ToBI transcription, Conversation Analysis, normal and abnormal language acquisition, speech production development  
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