

SPEECH SCIENTIST

Brisbane, Australia

Speech scientist focused on the sensorimotor control of speech production in individuals with and without motor speech disorders. I conduct both basic science and clinical research that leverages my expertise in behavioral, computational modeling, and neuroimaging methods. The long-term aim of my research program is to expand the evidence-based treatment options available to those with communication disorders.

Education

PhD in Speech-Language Pathology

Toronto, Canada

SPEECH PRODUCTION LABORATORY, REHABILITATION SCIENCES INSTITUTE, UNIVERSITY OF TORONTO

January 2013-June 2018

- Thesis: The Speech Movement Disorder and its Rehabilitation in Parkinson's Disease Using Augmented Visual Feedback
- Committee: Drs. Yana Yunusova (Advisor), Luc de Nil, and Luc Tremblay

BSc in Speech and Language Therapy

Cork, Ireland

DEPT. OF SPEECH AND HEARING SCIENCES, UNIVERSITY COLLEGE CORK

September 2007-June 2011

- Thesis: Tongue-Plate Contact During Selected Vowels in Typical and Disordered Articulation
- · Advisor: Dr. Alice Lee

Research Employment

Postdoctoral Research Fellow

Brisbane, Australia

LANGUAGE, COGNITION AND BRAIN SCIENCES LABORATORY, QUEENSLAND UNIVERSITY OF TECHNOLOGY

April 2022-present

- Projects: A Prospective Study of Language Impairment and Recovery Following Surgery for Brain Tumours; A More Sound Approach to the Neurobiology of Language
- Advisor: Dr. Greig de Zubicaray

Consultant Speech Scientist

Brisbane, Australia

INDEPENDENT CONTRACTOR

April 2022-present Boston, MA, USA

Postdoctoral Research Associate

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Speech Neuroscience Laboratory, Boston University

January 2018–January 2022

- Projects: Neural Modeling and Imaging of Speech; Voice and Speech Sensorimotor Control in Parkinson's Disease
- · Advisors: Drs. Frank H. Guenther and Jason A. Tourville

Research Assistant

Toronto, Canada

Vocal Tract Visualization Laboratory, Toronto Rehabilitation Institute

January 2013-December 2017

- Project: Visual Feedback Systems in Speech Rehabilitation
- Advisor: Dr. Yana Yunusova

Research Assistant
Speech and Stuttering Institute

Toronto, Canada

June 2012-December 2012

- Project: Motor Speech Treatment Protocol for Developmental Motor Speech Disorders
- · Advisor: Dr. Aravind Namasivayam

Research Awards and Honors ____

ASHA Research Mentoring Network: Lessons for Success

USA April 2021

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

• Attendance at 3-day virtual workshop

Professional Development and Postdoctoral Affairs Travel Award

Boston, MA, USA

BOSTON UNIVERSITY

August 2019

• 500 USD

ASHA Research Mentoring Network: Pathways Program

USA June 2019

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

• Travel, accommodation and food costs for duration of workshop

MAY 2022

Polatajko-Howell Student Conference Presentation Fund

University of Toronto

Toronto, Canada

• 300 CAD

Rehabilitation Sciences Institute Peer Mentorship Award

University of Toronto

• 100 CAD

Rehabilitation Sciences Institute Presentation Award

University of Toronto

• 300 CAD

Office of Research Trainees Conference Travel Award

UNIVERSITY HEALTH NETWORK

• 500 CAD

Graduate Scholarship Prize

TORONTO REHABILITATION INSTITUTE - UNIVERSITY HEALTH NETWORK

• 1000 CAD

School of Graduate Studies Conference Grant

University of Toronto

• 850 CAD

Speech-Language Pathology Travel Award

University of Toronto

• 425 CAD

Undergraduate College Scholarship

University College Cork

• 1000 EUR

June 2017

Toronto, Canada May 2017

Toronto, Canada

May 2017

March 2016

Toronto, Canada

Toronto, Canada

November 2015

November 2014

Toronto, Canada

Toronto, Canada

Cork, Ireland

May 2010

March 2014

Professional Affiliations

American Speech-Language-Hearing Association Special Interest Group 19: Speech

Science

MEMBER November 2021-Present

International Myositis Assessment & Clinical Studies Group (IMACS)

MEMBER March 2021-Present

American Speech-Language-Hearing Association

Non-Clinical Member October 2018-Present

Society for the Neurobiology of Language

POSTDOCTORAL MEMBER April 2018-Present

National Student Speech Language Hearing Association

November 2014-November 2015

Irish Association of Speech and Language Therapists

New Graduate Member June 2011-December 2013

Service .

Open Science Initiative https://CSDisseminate.com

CO-FOUNDER, CONTRIBUTOR July 2020-Present

· CSDisseminate: A grassroots initiative aimed at promoting the culture of self-archiving legal versions of research manuscripts in the field of communication sciences and disorders

Manuscript Reviews

Reviewer 2018–Present

- · Journal of Speech, Language, and Hearing Research (9)
- American Journal of Speech-Language Pathology (7)
- Neurorehabilitation and Neural Repair (2)
- Journal of the Acoustical Society of America (1)
- · Cerebral Cortex (2)
- Journal of Communication Disorders (1)
- Journal of Voice (1)
- Clinical Linguistics & Phonetics (1)
- International Journal of Speech-Language Pathology (1)
- Infant and Child Development (1)

Conference Reviews

Reviewer 2019–Present

- Conference on Motor Speech 2022
- International Clinical Phonetics and Linguistics Association Symposium 2020
- Boston Speech Motor Control Symposium 2019

Grant Reviews

REVIEWER 2019–2020

· LVST Small Student Grant

Conference Organization

Organizing Committee Member 2018–Present

- American Speech-Language-Hearing Association Convention 2022 (Motor Speech Disorders and Other Speech Sound Disorders in Adults Topic)
- Boston Speech Motor Control Symposium 2019

Publications.

Available for download at https://elaine-kearney.com/publication/

PEER-REVIEWED

Contributions of auditory and somatosensory feedback to vocal motor control

JSLHR

Smith, D. J., Stepp, C. E., Guenther, F. H., & Kearney, E.

• DOI: 10.1044/2020_JSLHR-19-00296

A simple 3-parameter model for examining adaptation in speech and voice production

Front. Psychol.

Kearney, E., Nieto-Castanon, A., Weerathunge, H. R., Falsini, R., Daliri, A., Abur, D., Ballard, K. J., Chang, S-E.,

2020

Chao, S-C., Heller Murray, E. S., Scott, T. L., & Guenther, F. H.

• DOI: 10.3389/fpsyg.2019.02995

Articulating: The neural mechanisms of speech production

Lang. Cogn. Neurosci.

Kearney, E., & Guenther, F. H.

• DOI:10.1080/23273798.2019.1589541

Towards movement-based outcome measures for apraxia of speech: A systematic review

Aphasiology

2019

Bailey, K., Kearney, E., Roberts, E., & Yunusova, Y.

2019

• DOI: 10.1080/02687038.2018.1510111

Electromagnetic articulography (EMA) for real-time feedback application: Computational techniques

CMBBE

HAWORTH, B., KEARNEY, E., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.

2019

• DOI:10.1080/21681163.2018.1434423

• DOI:10.1080/09638288.2017.1419292

Augmented visual feedback-aided interventions in motor rehabilitation in Parkinson's disease: A systematic review

Disabil. Rehabil.

Kearney, E., Shellikeri, S., Martino, R., & Yunusova, Y.

2019

Treating speech-movement hypokinesia in Parkinson's disease: Does movement size

JSI HR

Kearney, E., Haworth, M. B., Scholl, J., Faloutsos, P., Baljko, M., & Yunusova, Y.

2018

• DOI:10.1044/2018_JSLHR-S-17-0439

matter and to what extent?

Sentence-level movements in Parkinson's disease: Loud, clear, and slow speech JSI HR KEARNEY, E., GILES, R., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. 2017 • DOI: 10.1044/2017_JSLHR-S-17-0075 Game-based augmented visual feedback for enlarging speech movements in Parkinson's JSI HR disease Yunusova, Y., Kearney, E., Kulkarni, M., Haworth, M. B., Baljko, M., & Faloutsos, P. • DOI:10.1044/2017_JSLHR-S-16-0233 Outcome measures in developmental speech sound disorders with a motor basis Curr. Dev. Disord. Rep. Kearney, E., Granata, F., Yunusova, Y., van Lieshout, P., Hayden, D., & Namasivayam, A. • DOI: 10.1007/s40474-015-0058-2 Motor Speech Treatment Protocol for developmental motor speech disorders Dev. Neurorehabil. Namasivayam, A., Pukonen, M., Hard, J., Jahnke, R., Kearney, E., Kroll, R., & van Lieshout, P. 2015 • DOI: 10.3109/17518423.2013.832431 Tongue-palate contact during selected vowels in children with speech sound disorders IJSI P LEE, A., GIBBON, F. E., KEARNEY, E., & MURPHY, D. 2014 • DOI: 10.3109/17549507.2013.862857 SUBMITTED Open science practices in communication sciences and disorders: A survey **JSLHR** EL AMIN, M., BORDERS, J. C., LONG, H., KELLER, M. A., & KEARNEY, E. • DOI: 10.31219/osf.io/jwba3 Paucity of bulbar function measures in IBM trials: A commentary on Roy et al Current status of clinical outcome measures in inclusion body myositis: a systematized review Eur. J. Neurol. on behalf of the Inclusion Body Myositis Scientific Interest Group from International **Myositis Assessment and Clinical Studies (IMACS)** Garand, K. L., Malandraki, G. A., Stipancic, K. L., Kearney, E., Roy, B., & Alfano, L. N. 2022 Quantitatively characterizing reflexive responses to pitch perturbations Front Hum Neurosci KEARNEY, E., NIETO-CASTANON, A., FALSINI, R., DALIRI, A., HELLER MURRAY E. S., SMITH, D. J., & GUENTHER, F. H. 2022 **PROCEEDINGS** Electromagnetic articulography in the development of "serious games" for speech Proceedings from PMHA 2014 rehabilitation HAWORTH, M. B., KEARNEY, E., BALJKO, M., FALOUTSOS, P., & YUNUSOVA, Y. 2014 **EDITORIALS** Enhancing accessibility of communication sciences and disorders research: Open access Audiology Today and self-archiving GAETA, L., PFEIFFER, D., & KEARNEY, E. **Presentations** INTERNATIONAL **Invited** DIVA explained: Applying models of speech production to clinical populations (oral New Orleans, LA, USA presentation) KEARNEY, E., MILLER, H., CHANG, S-E., & GUENTHER, F. H. November 2022 · American Speech-Language-Hearing Association Convention Modeling adaptive and reflexive responses to auditory perturbations during speech Bloorview Research Institute production (oral presentation)

KEARNEY, F.

Connect Laboratory

lune 2022

Sensorimotor control of speech and voice production: Insights from experimental and Macquarie University, Sydney, modeling studies (oral presentation) Australia KEARNEY, E. April 2021 • Centre for Language Sciences Speaker Series 2021 The speech movement disorder in Parkinson's disease and its rehabilitation using Boston, MA, USA augmented visual feedback (oral presentation) KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. September 2017 • Boston Speech Motor Control Working Group, Boston University Development of augmented feedback targets for speech rehabilitation in Parkinson's Cork, Ireland disease (oral presentation) KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. March 2015 • Dept. of Speech and Hearing Sciences, University College Cork Conference Contributions of auditory and somatosensory feedback to vocal motor control (poster) Santa Barbara, CA, USA KEARNEY, E., SMITH, D. J, STEPP, C. E, & GUENTHER, F. H. February 2020 • 20th Biennial Conference on Motor Speech SimpleDIVA: A 3-parameter model for examining adaptation in speech and voice Helsinki, Finland production (poster) KEARNEY, E., NIETO-CASTANON, A., DALIRI, A., & GUENTHER, F. H. August 2019 • 11th Annual Meeting of the Society for Neurobiology of Language Game-based speech therapy using visual feedback in Parkinson's disease (poster) Groningen, Netherlands KEARNEY, E., HAWORTH, B., SCHOLL, J., GILES, R., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. July 2017 • 7th International Conference on Speech Motor Control Speech movements and intelligibility in Parkinson's disease (oral presentation) Newport Beach, CA, USA KEARNEY, E., SHELLIKERI, S., GILES, R., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. March 2016 • 18th Biennial Conference on Motor Speech Movement-based speech therapy for dysarthria in Parkinson's disease and apraxia of Newport Beach, CA, USA speech (oral presentation) YUNUSOVA, Y., KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., & BALJKO, M. March 2016 • 18th Biennial Conference on Motor Speech Measuring participation in developmental speech sound disorders with a motor basis Denver, CO, USA (poster) Kearney, E., Granata, F., Yunusova, Y., van Lieshout, P., Hayden, D., & Namasivayam, A. November 2015 · American Speech-Language-Hearing Association Convention Instrumental outcome measures in developmental speech sound disorders with a motor Orlando, FL, USA basis (poster) Granata, F., Kearney, E., Yunusova, Y., van Lieshout, P., Hayden, D., & Namasivayam, A. October 2015 • International Association of Orofacial Myology Convention 2015 Artifact removal techniques for 3D electromagnetic articulography (oral presentation) Montreal, Canada Moghaddam, A., Haworth, B., Kearney, E., Faloutsos, P., Baljko, M., & Yunusova, Y. August 2015 3rd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy Articulatory working space in older adults across speaking conditions (oral presentation) Orlando, FL, USA KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. November 2014 • American Speech-Language-Hearing Association Convention Electromagnetic articulography in the development of serious games for speech Vancouver, Canada

rehabilitation (oral presentation)

HAWORTH, M. B., KEARNEY, E., BALJKO, M., FALOUTSOS, P., YUNUSOVA, Y.

• 2nd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy

Articulatory working space as a kinematic target in augmented feedback applications (poster)

KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.

• 17th Biennial Conference on Motor Speech

Sarasota, FL, USA February 2014

5

August 2014

Rehabilitative speech computer game calibration using empirical characterizations of articulatory working space (poster)

Sarasota, FL, USA

Yunusova, Y., Faloutsos, P., & Baljko, M.

• 17th Biennial Conference on Motor Speech

Tongue-palate contact during selected vowels in children with speech sound disorder of unknown origin (poster)

Cork, Ireland

February 2014

LEE, A., KEARNEY, E., & GIBBON, F. E.

June 2012

• International Clinical Phonetics and Linguistics Association Conference

NATIONAL

Invited

Sensorimotor control of speech and voice production: What can modeling of auditory perturbation data tell us? (oral presentation)

University of Sydney, Sydney,

Australia June 2022

March 2021

May 2017

KEARNEY, E.

Discipline of Specch Pathology

Arizona State University, AZ, USA

Sensorimotor control of speech and voice production: Insights from experimental and modeling studies (oral presentation)

KEARNEY, E.

• Speech and Hearing Science Research Colloquium

The speech movement disorder and its rehabilitation in Parkinson's disease using augmented visual feedback (oral presentation)

Montreal, Canada

KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.

• Ecole d'Orthophonie et d'Audiologie, Universite de Montreal

Conference

Open science practices in communication sciences and disorders (oral presentation)

Washington, DC, USA

November 2021

EL AMIN, M., LONG, H., L., BORDERS, J. C., KELLER, M. A., & KEARNEY, E. • American Speech-Language-Hearing Association Convention

Converging neural representations of the speech subsystems: A meta-analysis (poster)

Virtual June 2021

KEARNEY, E., JIANG, L., & GUENTHER, F. H.

Boston Speech Motor Control Symposium

Quantitative modeling of reflexive responses to auditory perturbations (oral presentation)

Virtual May 2021

Guenther, F., Kearney, E., Heller-Murray, E. S., & Nieto-Castanon, A.

• Neural Bases of Speech Production Symposium

Boston, MA, USA

June 2019

KEARNEY, E., TOURVILLE, J. A., NIETO-CASTANON, A., & GUENTHER, F. H.

• Boston Speech Motor Control Symposium

A 3-parameter model for fitting and interpreting speech sensorimotor adaptation data (oral presentation)

Investigating the neural mechanisms of speech rate, clarity, and emphasis (poster)

San Francisco, CA, USA

GUENTHER, F., KEARNEY, E., DALIRI, A., & NIETO-CASTANON, A.

March 2019

• Neural Bases of Speech Production Symposium

Speech movements in apraxia of speech (poster)

Calgary, Canada September 2017

ROBERTS, E., KEARNEY, E., BAILEY, K., GRAHAM, N., ROCHON, E., & YUNUSOVA, Y.

• Canadian Stroke Congress

Calgary, Canada

Game-based augmented visual feedback treatment for apraxia of speech after stroke (poster) Yunusova, Y., Kearney, E., Scholl, J., Janik-Jones, C., Haworth, B., Roberts, E., Faloutsos, P., & Baljko, M.

September 2017

· Canadian Stroke Congress

Tongue-palate contact during selected vowels in children with speech sound disorder of unknown origin (poster)

Dublin, Ireland

LEE, A., KEARNEY, E., & GIBBON, F. E.

November 2011

• Irish Association of Speech and Language Therapists Biennial Conference

Improve research dissemination through access: Self-archiving 101 (oral presentation)

Virtual

Spratford, M., Long., H. L., Harold, M.P., & Kearney, E.

January 2021

CSDisseminate

Evidence-based practice: Critical appraisal and quality of evidence in clinical research (oral presentation)

Toronto, Canada

Namasivayam, A. K., Kearney, E., Sanjeevan, T., Wong, W.Y.S., Granata, F., & Rampersaud, D.

June 2016

· The Hanen Centre

Software_

SimpleDIVA https://bit.ly/2XY1n7f

Guenther, F.H., Nieto-Castanon, A., Falsini, R., Kearney, E., & Weerathunge, H.R.

2019

An application that allows users to apply a simplified version of the DIVA model to data collected from auditory sensorimotor adaptation experiments

Research Mentoring

Alexander Acosta Boston, MA, USA

DEPT. OF SPEECH, LANGUAGE AND HEARING SCIENCES, BOSTON UNIVERSITY

2021-Present

• BA Student

Yash Shroff Boston, MA, USA

DEPT. OF SPEECH, LANGUAGE AND HEARING SCIENCES, BOSTON UNIVERSITY

2020-2021

• BSc Student (funding through the Undergraduate Research Opportunities Program (UROP))

Lauren Jiang Boston, MA, USA

DEPT. OF SPEECH, LANGUAGE AND HEARING SCIENCES, BOSTON UNIVERSITY

2020-2021

• BSc Student (funding through UROP)

Dante Smith Boston, MA, USA

DEPT. OF SPEECH, LANGUAGE AND HEARING SCIENCES, BOSTON UNIVERSITY

2018-2019

• PhD Student

Kristen Bailey Toronto, Canada

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

2016-2018

MHSc Student

Renuka Giles Toronto, Canada

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

2015-2016

• BSc Student

Teaching

CERTIFICATE

Teaching in Higher Education Toronto, Canada

WOODSWORTH COLLEGE, UNIVERSITY OF TORONTO

April 2016

EXPERIENCE

Course Instructor

Boston, MA, USA

DEPT. OF SPEECH, LANGUAGE AND HEARING SCIENCES, BOSTON UNIVERSITY

September 2019-December 2019

Research Methods in Speech-Language Pathology and Audiology, Clinical MSc

Guest LecturerBoston, MA, USA

Dept. of Speech, Language and Hearing Sciences, Boston University

November 2019

• SimpleDIVA Software Tutorial, Neural Control of Speech, MSc/PhD

Guest Lecturer Boston, MA, USA

MASSACHUSETTS GENERAL HOSPITAL - INSTITUTE OF HEALTH PROFESSIONS

· Advancements in Treatment for Dysarthria, Neuromotor Speech Disorders, Clinical MSc

Course Instructor Toronto, Canada

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

· Principles of Clinical Practice, Clinical MSc

Teaching Assistant/Guest Lecturer

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

- Motor Speech Disorders, Clinical MSc
- Articulation and Related Disorders, Clinical MSc
- Research in Speech-Language Pathology, MSc
- Linguistics in the Workforce: Clinical Practice and Research, BSc
- Augmentative and Alternative Communication, Clinical MSc
- Applied Audiology, Clinical MSc
- Neurocognitive Communication, Clinical MSc
- Advanced Principles of Clinical Practice, Clinical MSc
- · Adult Language Disorders, BSc

Technical Skills_

Speech Acoustics

PRAAT, AUDACITY, TF32

Speech Kinematics

SPEECH MOVEMENT ANALYSIS FOR SPEECH AND HEARING RESEARCH (SMASH)

Auditory Feedback Perturbation

AUDAPTER

Signal Processing and Analysis

Neuroimaging Analysis

STATISTICAL PARAMETRIC MAPPING (SPM), FREESURFER, FUNCTIONAL CONNECTIVITY TOOLBOX (CONN)

Statistical Analysis

R, MATLAB

Version Control

GITHUB

Design and Video Software

Affinity Designer, Adobe Suite (InDesign, Illustrator, Photoshop, Premier Pro), draw.io

Bibliographic Management

ENDNOTE, ZOTERO

Website Builders

BLOGDOWN, WIX

ELAINE KEARNEY · CURRICULUM VITAE MAY 2022

July 2019

8

Toronto, Canada

September 2013-June 2017

September 2017-December 2017