Elaine Kearney

SPEECH SCIENTIST

Brisbane, Australia

✉ elainek.kearney@gmail.com | ⌂ elaine-kearney.com | ⌂ elainekearney | 🐦 ek_kearney

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 University (Boston, MA, USA)
- Speech Research Centre (Toronto, Canada)

Postdoctoral Research Associate
Boston, MA, USA

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
Toronto, Canada

SPEECH AND STUTTERING INSTITUTE
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

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION
April 2021

- 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
AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION
USA
June 2019
- Travel, accommodation and food costs for duration of workshop

Polatajko-Howell Student Conference Presentation Fund
UNIVERSITY OF TORONTO
Toronto, Canada
June 2017
- 300 CAD

Rehabilitation Sciences Institute Peer Mentorship Award
UNIVERSITY OF TORONTO
Toronto, Canada
May 2017
- 100 CAD

Rehabilitation Sciences Institute Presentation Award
UNIVERSITY OF TORONTO
Toronto, Canada
May 2017
- 300 CAD

Office of Research Trainees Conference Travel Award
UNIVERSITY HEALTH NETWORK
Toronto, Canada
March 2016
- 500 CAD

Graduate Scholarship Prize
TORONTO REHABILITATION INSTITUTE - UNIVERSITY HEALTH NETWORK
Toronto, Canada
November 2015
- 1000 CAD

School of Graduate Studies Conference Grant
UNIVERSITY OF TORONTO
Toronto, Canada
November 2014
- 850 CAD

Speech-Language Pathology Travel Award
UNIVERSITY OF TORONTO
Toronto, Canada
March 2014
- 425 CAD

Undergraduate College Scholarship
UNIVERSITY COLLEGE CORK
Cork, Ireland
May 2010
- 1000 EUR

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
MEMBER
November 2014–November 2015

Irish Association of Speech and Language Therapists
NEW GRADUATE MEMBER
June 2011–December 2013

Service

Open Science Initiative
CO-FOUNDER, CONTRIBUTOR
https://CSDisseminate.com
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 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. *2020*
- 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. *2019*
- DOI:10.1080/23273798.2019.1589541

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

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

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*
- DOI:10.1080/09638288.2017.1419292

Treating speech-movement hypokinesia in Parkinson's disease: Does movement size matter and to what extent? *JSLHR*

Kearney, E., Haworth, M. B., Scholl, J., Faloutsos, P., Baljko, M., & Yunusova, Y. *2018*
- DOI:10.1044/2018_JSLHR-S-17-0439

Sentence-level movements in Parkinson's disease: Loud, clear, and slow speech

JSLHR

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 disease

JSLHR

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

2017

- 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.

2015

- 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

IJSLP

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.

2022

- 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 on behalf of the Inclusion Body Myositis Scientific Interest Group from International Myositis Assessment and Clinical Studies (IMACS)

Eur. J. Neurol.

GARAND, K. L., MALANDRAKI, G. A., STIPANCIC, K. L., KEARNEY, E., ROY, B., & ALFANO, L. N.

2022

PROCEEDINGS

Electromagnetic articulography in the development of "serious games" for speech rehabilitation

Proceedings from PMHA 2014

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

2014

EDITORIALS

Enhancing accessibility of communication sciences and disorders research: Open access and self-archiving

Audiology Today

GAETA, L., PFEIFFER, D., & KEARNEY, E.

2022

Presentations

INTERNATIONAL

Invited

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

Macquarie University, Sydney, Australia

KEARNEY, E.

April 2021

- Centre for Language Sciences Speaker Series 2021

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

Boston, MA, USA

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 disease (oral presentation)

Cork, Ireland

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)

KEARNEY, E., SMITH, D. J, STEPP, C. E, & GUENTHER, F. H.

Santa Barbara, CA, USA
February 2020

- 20th Biennial Conference on Motor Speech

SimpleDIVA: A 3-parameter model for examining adaptation in speech and voice production (poster)

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

Helsinki, Finland
August 2019

- 11th Annual Meeting of the Society for Neurobiology of Language

Game-based speech therapy using visual feedback in Parkinson's disease (poster)

KEARNEY, E., HAWORTH, B., SCHOLL, J., GILES, R., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.

Groningen, Netherlands
July 2017

- 7th International Conference on Speech Motor Control

Speech movements and intelligibility in Parkinson's disease (oral presentation)

KEARNEY, E., SHELLIKERI, S., GILES, R., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.

Newport Beach, CA, USA
March 2016

- 18th Biennial Conference on Motor Speech

Movement-based speech therapy for dysarthria in Parkinson's disease and apraxia of speech (oral presentation)

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

Newport Beach, CA, USA
March 2016

- 18th Biennial Conference on Motor Speech

Measuring participation in developmental speech sound disorders with a motor basis (poster)

KEARNEY, E., GRANATA, F., YUNUSOVA, Y., VAN LIESHOUT, P., HAYDEN, D., & NAMASIVAYAM, A.

Denver, CO, USA
November 2015

- American Speech-Language-Hearing Association Convention

Instrumental outcome measures in developmental speech sound disorders with a motor basis (poster)

GRANATA, F., KEARNEY, E., YUNUSOVA, Y., VAN LIESHOUT, P., HAYDEN, D., & NAMASIVAYAM, A.

Orlando, FL, USA
October 2015

- International Association of Orofacial Myology Convention 2015

Artifact removal techniques for 3D electromagnetic articulography (oral presentation)

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

Montreal, Canada
August 2015

- 3rd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy

Articulatory working space in older adults across speaking conditions (oral presentation)

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

Orlando, FL, USA
November 2014

- American Speech-Language-Hearing Association Convention

Electromagnetic articulography in the development of serious games for speech rehabilitation (oral presentation)

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

Vancouver, Canada
August 2014

- 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.

Sarasota, FL, USA
February 2014

- 17th Biennial Conference on Motor Speech

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

YUNUSOVA, Y., FALOUTSOS, P., & BALJKO, M.

Sarasota, FL, USA
February 2014

- 17th Biennial Conference on Motor Speech

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

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

Cork, Ireland
June 2012

- International Clinical Phonetics and Linguistics Association Conference

NATIONAL

Invited

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

Arizona State University, AZ, USA

Kearney, E.

March 2021

- 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.

May 2017

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

Conference

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

Washington, DC, USA

El Amin, M., Long, H., L., Borders, J. C., Keller, M. A., & Kearney, E.

November 2021

- American Speech-Language-Hearing Association Convention

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

Virtual

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

June 2021

- Boston Speech Motor Control Symposium

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

Virtual

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

May 2021

- Neural Bases of Speech Production Symposium

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

Boston, MA, USA

Kearney, E., Tourville, J. A., Nieto-Castanon, A., & Guenther, F. H.

June 2019

- Boston Speech Motor Control Symposium

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

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

Roberts, E., Kearney, E., Bailey, K., Graham, N., Rochon, E., & Yunusova, Y.

September 2017

- Canadian Stroke Congress

Game-based augmented visual feedback treatment for apraxia of speech after stroke (poster)

Calgary, Canada

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

Workshops

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 Lecturer *Boston, 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 *July 2019*
- Advancements in Treatment for Dysarthria, Neuromotor Speech Disorders, Clinical MSc

Course Instructor *Toronto, Canada*
Dept. of Speech-Language Pathology, University of Toronto *September 2017-December 2017*
- Principles of Clinical Practice, Clinical MSc

Teaching Assistant/Guest Lecturer *Toronto, Canada*
Dept. of Speech-Language Pathology, University of Toronto *September 2013-June 2017*
- 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

MATLAB

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