

Elaine Kearney

POSTDOCTORAL RESEARCH ASSOCIATE

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

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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 Associate

Boston, MA, USA

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

January 2018–Present

- 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

Professional Development and Postdoctoral Affairs Travel Award

Boston, MA, USA

BOSTON UNIVERSITY

August 2019

- 500 USD

ASHA's Research Mentoring Network: Pathways Program

USA

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

June 2019

- Travel, accommodation and food costs for duration of workshop

Polatajko-Howell Student Conference Presentation Fund

Toronto, Canada

UNIVERSITY OF TORONTO

June 2017

- 300 CAD

Rehabilitation Sciences Institute Peer Mentorship Award

Toronto, Canada

UNIVERSITY OF TORONTO

May 2017

- 100 CAD

Rehabilitation Sciences Institute Presentation Award

Toronto, Canada

UNIVERSITY OF TORONTO

May 2017

- 300 CAD

Office of Research Trainees Conference Travel Award

UNIVERSITY HEALTH NETWORK

- 500 CAD

Toronto, Canada

March 2016

Graduate Scholarship Prize

TORONTO REHABILITATION INSTITUTE - UNIVERSITY HEALTH NETWORK

- 1000 CAD

Toronto, Canada

November 2015

School of Graduate Studies Conference Grant

UNIVERSITY OF TORONTO

- 850 CAD

Toronto, Canada

November 2014

Speech-Language Pathology Travel Award

UNIVERSITY OF TORONTO

- 425 CAD

Toronto, Canada

March 2014

Undergraduate College Scholarship

UNIVERSITY COLLEGE CORK

- 1000 EUR

Cork, Ireland

May 2010

Professional Affiliations

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 (7)
- American Journal of Speech-Language Pathology (7)
- Neurorehabilitation and Neural Repair (2)
- Journal of the Acoustical Society of America (1)
- Cerebral Cortex (1)
- Journal of Communication Disorders (1)
- Journal of Voice (1)
- Clinical Linguistics & Phonetics (1)

Conference Reviews

REVIEWER

2019–2020

- 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

April 2018–June 2019

- 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., CHAO, S-C., HELLER MURRAY, E. S., SCOTT, T. L., & GUENTHER, F. H. 2020
• 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

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

Presentations

INTERNATIONAL

Invited

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)

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 production (poster)

Helsinki, Finland

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 speech (oral presentation)

Newport Beach, CA, USA

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 (poster)

Denver, CO, USA

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 basis (poster)

Orlando, FL, USA

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 rehabilitation (oral presentation)

Vancouver, Canada

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

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)

Sarasota, FL, USA

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

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.

- 17th Biennial Conference on Motor Speech

Sarasota, FL, USA

February 2014

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

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

- International Clinical Phonetics and Linguistics Association Conference 2012

Cork, Ireland

June 2012

NATIONAL

Invited

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

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

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

Montreal, Canada

May 2017

Conference

Investigating the Neural Mechanisms of Speech Rate, Clarity, and Emphasis (poster)

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

- Boston Speech Motor Control Symposium

Boston, MA, USA

June 2019

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

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

- Neural Bases of Speech Production Symposium

San Francisco, CA, USA

March 2019

Speech movements in apraxia of speech (poster)

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

- Canadian Stroke Congress

Calgary, Canada

September 2017

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.

- Canadian Stroke Congress

Calgary, Canada

September 2017

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

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

- Irish Association of Speech and Language Therapists Biennial Conference

Dublin, Ireland

November 2011

Software

SimpleDIVA

GUENTHER, F.H., NIETO-CASTANON, A., FALSINI, R., KEARNEY, E., & WEERATHUNGE, H.R.

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

<https://bit.ly/2XY1n7f>

2019

Teaching

CERTIFICATE

Teaching in Higher Education

WOODSWORTH COLLEGE, UNIVERSITY OF TORONTO

Toronto, Canada

April 2016

EXPERIENCE

Course Instructor

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

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

Boston, MA, USA

September 2019-December 2019

Guest Lecturer

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

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

Boston, MA, USA

November 2019

Guest Lecturer

MASSACHUSETTS GENERAL HOSPITAL - INSTITUTE OF HEALTH PROFESSIONS

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

Boston, MA, USA

July 2019

Course Instructor

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

- Principles of Clinical Practice, Clinical MSc

Toronto, Canada

September 2017-December 2017

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

Toronto, Canada

September 2013-June 2017

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