

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

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

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

UNIVERSITY OF TORONTO

- 300 CAD

Toronto, Canada

May 2017

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 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:

CMBBE

Computational techniques

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

NAMASIVAYAM, A., PUKONEN, M., HARD, J., JAHNKE, R., KEARNEY, E., KROLL, R., & VAN LIESHOUT, P.

- DOI: 10.3109/17518423.2013.832431

Dev. Neurorehabil.

2015

Tongue-palate contact during selected vowels in children with speech sound disorders

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

- DOI: 10.3109/17549507.2013.862857

IJSLP

2014

PROCEEDINGS

Electromagnetic articulography in the development of “serious games” for speech rehabilitation

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

Proceedings from PMHA 2014

2014

Presentations

INTERNATIONAL

Invited

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

KEARNEY, E.

- Centre for Language Sciences Speaker Series 2021

Macquarie University, Sydney, Australia

April 2021

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

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

- Boston Speech Motor Control Working Group, Boston University

Boston, MA, USA

September 2017

Development of augmented feedback targets for speech rehabilitation in Parkinson’s disease (oral presentation)

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

- Dept. of Speech and Hearing Sciences, University College Cork

Cork, Ireland

March 2015

Conference

Contributions of auditory and somatosensory feedback to vocal motor control (poster)

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

- 20th Biennial Conference on Motor Speech

Santa Barbara, CA, USA

February 2010

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

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

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

Helsinki, Finland

August 2019

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.

- 7th International Conference on Speech Motor Control

Groningen, Netherlands

July 2017

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.

- 18th Biennial Conference on Motor Speech

Newport Beach, CA, USA

March 2016

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.

- 18th Biennial Conference on Motor Speech

Newport Beach, CA, USA

March 2016

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.

- American Speech-Language-Hearing Association Convention

Denver, CO, USA

November 2015

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. • International Association of Orofacial Myology Convention 2015	Orlando, FL, USA October 2015
Artifact removal techniques for 3D electromagnetic articulography (oral presentation) MOGHADDAM, A., HAWORTH, B., KEARNEY, E., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. • 3rd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy	Montreal, Canada August 2015
Articulatory working space in older adults across speaking conditions (oral presentation) KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y. • American Speech-Language-Hearing Association Convention	Orlando, FL, USA November 2014
Electromagnetic articulography in the development of serious games for speech 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	Vancouver, Canada August 2014
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
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	Cork, Ireland June 2012
NATIONAL	
Invited	
Sensorimotor control of speech and voice production: Insights from experimental and modeling studies (oral presentation) KEARNEY, E. • Speech and Hearing Science Research Colloquium	Arizona State University, AZ, USA March 2021
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, Université de Montréal	Montreal, Canada May 2017
Conference	
Open science practices in communication sciences and disorders (oral presentation) EL AMIN, M., LONG, H. L., BORDERS, J. C., KELLER, M. A., & KEARNEY, E. • American Speech-Language-Hearing Association Convention	Washington, DC, USA November 2021
Converging neural representations of the speech subsystems: A meta-analysis (poster) KEARNEY, E., JIANG, L., & GUENTHER, F. H. • Boston Speech Motor Control Symposium	Boston, MA, USA June 2021
Investigating the neural mechanisms of speech rate, clarity, and emphasis (poster) KEARNEY, E., TOURVILLE, J. A., NIETO-CASTANON, A., & GUENTHER, F. H. • 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

WORKSHOPS

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

SPRATFORD, M., LONG, H. L., HAROLD, M.P., & KEARNEY, E.

- CSDisseminate

Virtual

January 2021

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

NAMASIVAYAM, A. K., KEARNEY, E., SANJEEVAN, T., WONG, W.Y.S., GRANATA, F., & RAMPERSAUD, D.

- The Hanen Centre

Toronto, Canada

June 2016

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

Research Mentoring

Alexander Acosta

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

- BA Student

Boston, MA, USA

2021-Present

Yash Shroff

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

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

Boston, MA, USA

2020-2021

Lauren Jiang

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

- BSc Student (funding through UROP)

Boston, MA, USA

2020-2021

Dante Smith

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

- PhD Student

Boston, MA, USA

2018-2019

Kristen Bailey

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

- MSc Student

Toronto, Canada

2016-2018

Renuka Giles

DEPT. OF SPEECH-LANGUAGE PATHOLOGY, UNIVERSITY OF TORONTO

- BSc Student

Toronto, Canada

2015-2016

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 Workplace: 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