Elaine Kearney

POSTDOCTORAL RESEARCH ASSOCIATE

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

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Speech scientist focused on the sensorimotor control of speech in individuals with acquired motor speech disorders. I conduct both basic science and clinical research that capitalizes on 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
Canada

UNIVERSITY OF TORONTO
Januray 2013–June 2018

- 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
Ireland

UNIVERSITY COLLEGE CORK
September 2007–June 2011

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

Employment

Postdoctoral Research Associate
Boston, MA

BOSTON UNIVERSITY
January 2018–Present

- Speech Neuroscience Laboratory
- Advisors: Drs. Frank H. Guenther and Jason A. Tourville

Course Instructor
Boston, MA

BOSTON UNIVERSITY
September 2019–December 2019

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

Course Instructor
Toronto, Canada

UNIVERSITY OF TORONTO
September 2017–December 2017

- Principles of Clinical Practice, Clinical MSc.

Research Assistant
Toronto, Canada

UNIVERSITY OF TORONTO
January 2013–December 2017

- Vocal Tract Visualization Laboratory, Toronto Rehabilitation Institute
- Project: Visual Feedback Systems in Speech Rehabilitation
- Advisor: Dr. Yana Yunusova

Teaching Assistant
Toronto, Canada

UNIVERSITY OF TORONTO
September 2013–June 2017

- Augmentative and Alternative Communication, Clinical MSc.
- Linguistics in the Workforce: Clinical Practice and Research, BSc.
- Applied Audiology, Clinical MSc.
- Advanced Principles of Clinical Practice, Clinical MSc.
- Motor Speech Disorders, Clinical MSc.
- Neurocognitive Communication, Clinical MSc.
- Motor Speech Disorders, Clinical MSc.

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 UNIVERSITY

- 500 USD

Boston, MA
August 2019

Rehabilitation Sciences Institute Presentation Award

UNIVERSITY OF TORONTO

- 300 CAD

Toronto, Canada
May 2017

Rehabilitation Sciences Institute Peer Mentorship Award

UNIVERSITY OF TORONTO

- 100 CAD

Toronto, Canada
May 2017

Polatajko-Howell Student Conference Presentation Fund

UNIVERSITY OF TORONTO

- 300 CAD

Toronto, Canada
June 2017

ASHA's Research Mentoring: Pathways Program

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

- Travel, accommodation and food costs for duration of workshop

USA
June 2019

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

Speech-Language Pathology Travel Award

UNIVERSITY OF TORONTO

- 425 CAD

Toronto, Canada
March 2014

School of Graduate Studies Conference Grant

UNIVERSITY OF TORONTO

- 850 CAD

Toronto, Canada
November 2014

Undergraduate College Scholarship

UNIVERSITY COLLEGE CORK

- 1000 EUR

Cork, Ireland
May 2010

Professional Affiliations and Service

Professional Associations

2018–Present

- Non-Clinical Member, American Speech-Language-Hearing Association (ASHA)
- Postdoctoral Member, Society for the Neurobiology of Language (SNL)

Manuscript Reviews

2018–Present

- American Journal of Speech-Language Pathology, Reviews: 7
- Journal of Speech, Language, and Hearing Research, Reviews: 6
- Neurorehabilitation and Neural Repair, Reviews: 2
- Journal of Communication Disorders, Reviews: 1
- Journal of Voice, Reviews: 1
- Clinical Linguistics & Phonetics, Reviews: 1

Conference Reviews

2019–2020

- International Clinical Phonetics and Linguistics Association Symposium 2020/21
- Boston Speech Motor Control Symposium 2019

Grant Reviews

2019–2020

- LVST Small Student Grant

Conference Organization

- Organizing Committee, Boston Speech Motor Control Symposium 2019

Publications

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

Peer-Reviewed

Contributions of auditory and somatosensory feedback to vocal motor control

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

Journal of Speech, Language, and Hearing Research

2020

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

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.

Frontiers in Psychology

2020

Articulating: The neural mechanisms of speech production

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

Language, Cognition, and Neuroscience

2019

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

BAILEY, K., KEARNEY, E., ROBERTS, E., & YUNUSOVA, Y.

Aphasiology

2019

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

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

Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization

2019

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

KEARNEY, E., SHELLIKERI, S., MARTINO, R., & YUNUSOVA, Y.

Disability and Rehabilitation

2019

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

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

Journal of Speech, Language, and Hearing Research

2018

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

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

Journal of Speech, Language, and Hearing Research

2017

Game-based augmented visual feedback for enlarging speech movements in Parkinson's disease

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

Journal of Speech, Language, and Hearing Research

2017

Outcome measures in developmental speech sound disorders with a motor basis

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

Current Developmental Disorders

2015

Motor Speech Treatment Protocol for developmental motor speech disorders

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

Developmental Neurorehabilitation

2015

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

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

International Journal of Speech-Language Pathology

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

2014

Presentations

Contributions of auditory and somatosensory feedback to vocal motor control
Santa Barbara, CA
Kearney, E., Smith, D. J, Stepp, C. E, & Guenther, F. H.
2020
- 20th Biennial Conference on Motor Speech

SimpleDIVA: A 3-parameter model for examining adaptation in speech and voice production
Helsinki, Finland
Kearney, E., Nieto-Castanon, A., Daliri, A., & Guenther, F. H.
2019
- 11th Annual Meeting of the Society for Neurobiology of Language

Investigating the Neural Mechanisms of Speech Rate, Clarity, and Emphasis. Boston Speech Motor Control Symposium
Boston, MA
Kearney, E., Tourville, J.A., Nieto-Castanon, A., & Guenther, F.
2019
- Boston Speech Motor Control Symposium

A 3-parameter model for fitting and interpreting speech sensorimotor adaptation data
San Francisco, CA
Guenther, F., Kearney, E., Daliri, A., & Nieto-Castanon, A.
2019
- Neural Bases of Speech Production

The speech movement disorder in Parkinson's disease and its rehabilitation using augmented visual feedback
Boston, MA
Kearney, E., Haworth, M. B., Faloutsos, P., Baljko, M., & Yunusova, Y.
2017
- Boston Speech Motor Control Working Group

Game-based speech therapy using visual feedback in Parkinson's disease
Groningen, Netherlands
Kearney, E., Haworth, B., Scholl, J., Giles, R., Faloutsos, P., Baljko, M., & Yunusova, Y.
2017
- 7th International Conference on Speech Motor Control

The speech movement disorder and its rehabilitation in Parkinson's disease using augmented visual feedback
Montreal, Canada
Kearney, E., Haworth, M. B., Faloutsos, P., Baljko, M., & Yunusova, Y.
2017
- Universite de Montreal

Speech movements in apraxia of speech
Calgary, Canada
Roberts, E., Kearney, E., Bailey, K., Graham, N., Rochon, E., & Yunusova, Y.
2017
- Canadian Stroke Congress

Game-based augmented visual feedback treatment for apraxia of speech after stroke
Calgary, Canada
Yunusova, Y., Kearney, E., Scholl, J., Janik-Jones, C., Haworth, B., Roberts, E., Faloutsos, P., & Baljko, M.
2017
- Canadian Stroke Congress

Speech movements and intelligibility in Parkinson's disease
Newport Beach, CA
Kearney, E., Shellikeri, S., Giles, R., Haworth, M. B., Faloutsos, P., Baljko, M., & Yunusova, Y.
2016
- 18th Biennial Conference on Motor Speech

Movement-based speech therapy for dysarthria in Parkinson's disease and apraxia of speech
Newport Beach, CA
Yunusova, Y., Kearney, E., Haworth, M. B., Faloutsos, P., & Baljko, M.
2016
- 18th Biennial Conference on Motor Speech

Development of augmented feedback targets for speech rehabilitation in Parkinson's disease
Cork, Ireland
Kearney, E., Haworth, M. B., Faloutsos, P., Baljko, M., & Yunusova, Y.
2015
- University College Cork

Measuring participation in developmental speech sound disorders with a motor basis
Denver, CO
Kearney, E., Granata, F., Yunusova, Y., van Lieshout, P., Hayden, D., & Namasivayam, A.
2015
- American Speech-Language-Hearing Association Convention

Instrumental outcome measures in developmental speech sound disorders with a motor basis
Orlando, FL
Granata, F., Kearney, E., Yunusova, Y., van Lieshout, P., Hayden, D., & Namasivayam, A.
2015
- International Association of Orofacial Myology Convention

Artifact removal techniques for 3D electromagnetic articulography
Montreal, Canada
Moghaddam, A., Haworth, B., Kearney, E., Faloutsos, P., Baljko, M., & Yunusova, Y.
2015
- 3rd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy

Articulatory working space in older adults across speaking conditions
KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.
- American Speech-Language-Hearing Association Convention

Orlando, FL

2014

Electromagnetic articulography in the development of serious games for speech rehabilitation
HAWORTH, M. B., KEARNEY, E., BALJKO, M., FALOUTSOS, P., YUNUSOVA, Y.
- 2nd International Workshop on Biomechanical and Parametric Modeling of Human Anatomy

Vancouver, Canada

2014

Articulatory working space as a kinematic target in augmented feedback applications
KEARNEY, E., HAWORTH, M. B., FALOUTSOS, P., BALJKO, M., & YUNUSOVA, Y.
- . 17th Biennial Conference on Motor Speech

Sarasota, FL

2014

Rehabilitative speech computer game calibration using empirical characterizations of articulatory working space
YUNUSOVA, Y., FALOUTSOS, P., & BALJKO, M.
- . 17th Biennial Conference on Motor Speech

Sarasota, FL

2014

Tongue-palate contact during selected vowels in children with speech sound disorder of unknown origin
LEE, A., KEARNEY, E., & GIBBON, F. E.
- International Clinical Phonetics and Linguistics Association Conference

Cork, Ireland

2012

Tongue-palate contact during selected vowels in children with speech sound disorder of unknown origin
LEE, A., KEARNEY, E., & GIBBON, F. E.
- Irish Association of Speech and Language Therapists Biennial Conference

Dublin, Ireland

2011

Software

SimpleDIVA
KEARNEY, E., NIETO-CASTANON, A., FALSINI, R., KEARNEY,E. & WEERATHUNGE, H.R.
- An app 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 Experience

Research Methods in Speech-Language Pathology and Audiology
COURSE INSTRUCTOR

Boston University

September 2019-December 2019

Research to Practice, Principles of Clinical Practice
COURSE INSTRUCTOR

University of Toronto

September 2017-December 2017

Neuroanatomy for Motor Speech Disorders, Motor Speech Disorders
GUEST LECTURER

University of Toronto

September 2015

Principles of Motor Learning, Motor Speech Disorders
GUEST LECTURER

University of Toronto

September 2014

Technology for Assessment and Intervention in Motor Speech Disorders, Motor Speech Disorders
GUEST LECTURER

University of Toronto

September 2014

Quantitative Methods, Linguistics in the Workforce: Clinical Practice and Research.
GUEST LECTURER

University of Toronto

October 2016

SimpleDIVA Software Tutorial, Neural Control of Speech
GUEST LECTURER

Boston University

November 2019

Introduction to Motor Speech Disorders, Adult Language Disorders
GUEST LECTURER

University of Toronto

November 2015

Communicative Excellence, Advanced Principles of Clinical Practice
GUEST LECTURER

University of Toronto

March 2016

Advancements in Treatment for Dysarthria, Neuromotor Speech Disorders

GUEST LECTURER

"Outcome Measures in Articulation Disorders, Articulation and Related Disorders

GUEST LECTURER

Outcome Measures in Developmental Speech Sound Disorders With a Motor Basis, Research in Speech-Language Pathology

GUEST LECTURER

Technical Skills

Speech Acoustics

PRAAT, AUDACITY, TF32

Speech Kinematics

ELECTROMAGNETIC ARTICULOGRAPHY, 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 Software

AFFINITY DESIGNER, ADOBE INDESIGN

Bibliographic Management

ENDNOTE, ZOTERO