

## **CURRICULUM VITAE**

### **E. Fiona Bailey**

#### **CONTACT INFORMATION**

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#### **CHRONOLOGY OF EDUCATION**

- 1982 Bachelor of Science  
LaTrobe University  
Melbourne, Victoria AUSTRALIA
- 1986 Post Graduate Diploma (Audiology)  
Melbourne University  
Melbourne, Victoria AUSTRALIA
- 1992 Master of Science  
University of North Carolina at Chapel Hill, NC USA  
Advisor: Dr. Donald D. Warren DDS, Ph.D.
- 1999 Doctorate of Philosophy  
The University of Arizona, Tucson, AZ USA  
Advisor: Dr. Tom Hixon
- 2002 Postdoctoral Fellow  
The University of Arizona, Tucson, AZ USA  
Advisor: Dr. Ralph F. Fregosi

#### **CHRONOLOGY OF EMPLOYMENT**

- 01/83-01/92 Senior Clinician (Speech Pathology), Head and Neck Surgery, Royal Melbourne Hospital, Australia
- 12/99-04/00 Postdoctoral Fellow, Department of Speech and Hearing Sciences, University of Arizona, Tucson, Arizona, USA
- 05/00-09/02 Postdoctoral Fellow, Department of Physiology, College of Medicine, University of Arizona, Tucson, Arizona, USA
- 10/02-10/07 Research Assistant Professor, Department of Physiology, College of Medicine, University of Arizona, Tucson, Arizona, USA
- 10/07-07/13 Assistant Professor, Department of Physiology, College of Medicine Adjunct Assistant Research Professor, Speech and Hearing Sciences Assistant Professor, Evelyn F. McKnight Brain Institute University of Arizona, Tucson, Arizona, USA
- 07/13-07/18 Associate Professor, Department of Physiology, College of Medicine, Associate Professor, Speech and Hearing Sciences Associate Professor, Evelyn F. McKnight Brain Institute, University of Arizona, Tucson, Arizona, USA
- 07/18-present Professor, Department of Physiology, College of Medicine, Professor, Speech, Language and Hearing Sciences Professor, Evelyn F. McKnight Brain Institute The University of Arizona, Tucson, Arizona, USA

#### **HONORS AND AWARDS (Since 2015)**

- 2015 Honorary Visiting Professor, University of Western Sydney Medical School, Campbelltown, New South Wales, Australia
- 2017 The Honors College, University of Arizona, Outstanding Mentor Award
- 2018 The Honors College, University of Arizona, Outstanding Mentor Award

## **SERVICE/OUTREACH (Since 2015)**

### **Local/State Outreach**

2016 University of Arizona, College of Science, Science Café Series  
2013-2020 Coordinator, Department of Physiology Seminar Series  
2022 American Heart Association of Southern Arizona, Executive Breakfast in Red  
2022 Sarver Heart Center's Lunch & Learn on Hypertension  
**2022** Sarver Heart Center's Women's Heart Health Education/Minority Outreach Committee

### **National/International Outreach**

2008-present Editorial Board - American Physiologic Society: Journal of Applied Physiology 2010-2013  
Standing member - American Physiological Society International Committee 2011-2013  
Standing member - American Physiological Society, Respiration Section  
Nominations Committee  
2011-present Editorial Board, Frontiers in Respiratory Physiology  
2017 Chair: Respiration Section Featured Topic: *Ventilatory control and function following perinatal insults*. Federation of Experimental Biology.  
2019 Co-Editor: Highlighted Topic Series: *Respiratory modulation of cardiovascular function*. Journal of Applied Physiology. American Physiological Society  
2020-present Associate Editor, Journal of Applied Physiology. American Physiological Society

### Grant Reviewer:

2013-16 NIH/NIDCD R21 Applications – ZDC1 SRB-R (33)  
2015 NIH F31 and F32 Applications – IRG/SRG: ZDC1 SRB-R (36)  
2017 NIH Common Fund - Stimulating Peripheral Activity to Relieve Conditions (SPARC Program OT2)  
2021 R& D Merit Review (RRD6-Chronic Medical Conditions and Aging)  
2022 NIH Respiratory Sciences (SBIR/STTR) - ZRG1 CVRS-B (11) B

### **Other**

#### Ad Hoc Reviewer for:

Archives of Oral Biology  
European Journal of Applied Physiology  
Journal of Diabetes Research  
Journal of Applied Physiology  
Journal of Physiology (London)  
The Anatomical Record  
American Review of Respiratory and Critical Care Medicine  
American Journal of Physiology, Regulatory, Integrative Comparative Physiology  
Clinical Anatomy  
Neuroscience Letters  
Journal of Neuroscience  
Journal of Neurophysiology

### **Departmental Committees**

2012-15 Department of Physiology Advisory Committee (Faculty Development) 2014-15  
Department of Physiology/Applied Math Search Committee  
2016 Department of Physiology Peer Review Committee  
2016-17 Department of Physiology Administrative Review Committee  
2017-present Department of Physiology Search Committee - Assistant Professor I  
2017-present Department of Physiology Search Committee - Assistant Professor II  
2017-18 Department of Physiology Search Committee - Assistant Professor III  
2019-2020 Department of Physiology Advisory Committee

## College Committees

2016-2020 Dean's Research Council, U of A College of Medicine

## University Committees

2012-2017 Admissions and Recruitment Committee, Biomedical Engineering GIDP  
2014-2017 Program Committee, Physiological Sciences GIDP, University of Arizona  
2017-2022 Chair, Program Committee, Physiological Sciences GIDP, University of Arizona  
2017-2022 Executive Committee, Physiological Sciences GIDP, University of Arizona  
2019-2021 Promotion and Tenure Committee, College of Medicine, University of Arizona  
2020-present Student Progress Committee, College of Medicine, University of Arizona

## Professional Memberships

2003-present American Physiological Society  
2005-2016 Society for Neuroscience  
2016-2018 American Heart Association  
2016-present Sleep Research Society  
2022-present American College of Sports Medicine

## PUBLICATIONS (Since 2015)

### PUBLISHED REFEREED JOURNAL ARTICLES:

1. †S Barreda, IJ Kidder, JA Mudery, & **EF Bailey** (2015). Developmental nicotine exposure adversely effects respiratory patterning in the barbiturate anesthetized neonatal rat. **Respiratory Physiology & Neurobiology** 208:45-50. PMID: 25596542
2. †JR Vranish & **EF Bailey** (2015). A comprehensive assessment of genioglossus electromyographic activity in healthy adults. **Journal of Neurophysiology** 113(7):2692-9. PMID: 25695653, PMCID: PMC4416595
3. †KR Shumway, DJ Porfirio, & **EF Bailey** (2015). Phonation-related rate coding and recruitment in the genioglossus muscle. **Experimental Brain Research** 233(7):2133-40. PMID: 25899868, PMCID: PMC4466132
4. †JR Vranish & **EF Bailey** (2015). Daily respiratory training with large intrathoracic pressures but not large lung volumes, lowers blood pressure in normotensive adults. **Respiratory Physiology & Neurobiology** 216:63-9. PMID: 26112283
5. †JR Vranish & **EF Bailey** (2016). Inspiratory muscle training improves sleep and mitigates cardiovascular dysfunction in OSA. **Sleep** 39(6):1179-85. PMID 27091540
6. †IJ Kidder, JA Mudery & **EF Bailey** (2016). Evaluating the control: Minipump implantation and breathing behavior in the neonatal rat. **Journal of Applied Physiology** 121(3):615-22. PMID:27402557
7. †A LaCross, PJ Watson & **EF Bailey** (2017). Association between laryngeal airway aperture and the discharge rates of genioglossus motor units. **Frontiers in Physiology: Respiratory Physiology**: <https://doi.org/10.3389/fphys.2017.00027>
8. †CM DeLucia, RM DeAsis & **EF Bailey** (2017). Daily inspiratory muscle training lowers blood pressure and vascular resistance in healthy men and women. **Experimental Physiology**: 103(2):201-211. PMID:29178489
9. †DH Craighead, TC Heinbockel, MN Hamilton, **EF Bailey**, MJ MacDonald, MJ Gibala & DR Seals (2019). Time-efficient physical training for enhancing cardiovascular function in midlife and older adults: promise and current research gaps. **J Appl Physiol (1985)** 127(5): 1427-1440.

10. AW Sheel & **EF Bailey** (2020). "Mechanisms of respiratory modulation of cardiovascular control." J Appl Physiol (1985) **128**(1): 212-213.
11. ‡GE Ramos-Barrera, CM DeLucia & **EF Bailey**. (2020). Inspiratory muscle strength training lowers blood pressure and sympathetic activity in older adults with OSA: A randomized controlled pilot trial. J Appl Physiol (1985) **129**(3): 449-458.
12. **EF Bailey** (2020). Reply to Beltrami: Is inspiratory muscle training a magic bullet to lower blood pressure? J Appl Physiol (1985) **129**(6): 1440.
13. ‡CM DeLucia, D Debonis, S Schwyhart & **EF Bailey** (2021). Acute cardiovascular responses to a single bout of high intensity inspiratory resistance exercise in healthy young adults. J Appl Physiol (1985) **130**: 1114-1121, 2021.
14. ‡DH Craighead, TC Heinbockel, KA Freeberg, MJ Rossman, RA Jackman, LR Jankowski, MN Hamilton, BP Ziemba, JA Reisz, A D'Alessandro, LM Brewster, CA DeSouza, Z You, M Chonchol, **EF Bailey**, DR Seals (2021). Time-efficient inspiratory muscle strength training lowers blood pressure and improves endothelial function in midlife and older adults. J Am Heart Assoc. 2021;10:e020980. DOI: 10.1161/JAHA.121.020980
15. ‡CM DeLucia, D Debonis, S Schwyhart & **EF Bailey**. High-intensity, low-volume inspiratory strength training extends cardio-respiratory endurance in constant load testing. Resp. Physiol. Neurobiol. September 2022. <https://doi.org/10.1016/j.resp.2022.103974>
16. ‡DH Craighead, D Tavoian, KA Freeberg, JL Mazzone, JR Vranish, CM DeLucia, DR Seals & **EF Bailey**. A multi-trial analysis of the antihypertensive effects of high-resistance, low-volume inspiratory muscle strength training. J. Appl. Physiol. <https://doi.org/10.1152/jappphysiol.00425.2022>

‡ Trainee-related publications

## IN SUBMISSION

### PUBLISHED ABSTRACTS

1. MR Goldstein, RK Lewin, **EF Bailey**, JJB Allen (2016). Effects of yogic breathing and cognitively based psychosocial workshops for college students on stress physiology and well-being: A randomized controlled trial. International Symposium for Contemplative Studies; San Diego, CA.
2. MR Goldstein, RK Lewin, **EF Bailey**, JJB Allen (2016). Effects of preceding sleep on physiological responses to a laboratory stress induction. 30th Anniversary Meeting of the Associated Professional Sleep Societies, LLC; Denver, CO.
3. RK Lewin, MR Goldstein, **EF Bailey**, Allen JJB (2016). Personality Trait Predictors of Psychophysiological Changes Following Two Stress-Management Workshops in College Students. 17<sup>th</sup> Annual Psychology Honors Research Forum; Tucson, AZ.
4. MR Goldstein, RK Lewin, **EF Bailey**, JJB Allen (2017). Alterations in stress physiology following yogic breathing and cognitively based psychosocial workshops for college students: A randomized controlled trial. Society for Psychophysiological Research Annual Meeting; Vienna, Austria.
5. CM DeLucia, RM DeAsis & **EF Bailey** (2017). Six weeks inspiratory muscle strength training lowers blood pressure but not baroreflex sensitivity or cardiac output in healthy young adults. Federation of Experimental Biology Meeting; Chicago, USA.
6. ‡ GE Ramos Barrera, RM DeAsis, & **EF Bailey** (2017). Inspiratory muscle strength training for sleep related breathing disorders. [https://doi.org/10.1096/fasebj.31.1\\_supplement.848.14](https://doi.org/10.1096/fasebj.31.1_supplement.848.14)
7. KA Freeberg, TC Heinbockel, RA Jackman, LR Jankowski, RA Jackman, **EF Bailey**, M Chonchol, DR Seals (2019). Inspiratory strength training lowers resting systolic blood pressure and improves vascular endothelial function in older adults. [https://doi.org/10.1096/fasebj.2019.33.1\\_supplement.541.4](https://doi.org/10.1096/fasebj.2019.33.1_supplement.541.4)
8. KA Freeberg, TC Heinbockel, MJ Rossman, LR Jankowski, M Chonchol, **EF Bailey**, DR Seals, DH

Craighead (2021). High resistance inspiratory muscle strength training improves cerebrovascular function in midlife/older adults. <https://doi.org/10.1096/fasebj.2021.35.S1.01937>

9. KA Freeberg, TC Heinbockel, MJ Rossman, RA Jackman, NP McCarty, LR Jankowski, T Nemkov, JA Reisz, A D'Alessandro, M Chonchol, **EF Bailey**, DR Seals, DH Craighead (2022). High-Resistance Inspiratory Muscle Strength Training-Associated Increases in Exercise Tolerance in Midlife/Older Adults are Related to Circulating Acylcarnitines. <https://doi.org/10.1096/fasebj.2022.36.S1.R3869>

10. CM DeLucia, D Tavoian, EW Snell, DR DeBonis, SM Schwyhart, **EF Bailey** (2022). High intensity low volume inspiratory muscle strength training blunts the cardiovascular response to constant load testing. <https://doi.org/10.1096/fasebj.2022.36.S1.L8072>

11. D Tavoian, JL Mazzone, DH Craighead & **EF Bailey** (2022). Vascular conditioning exercise acutely enhances endothelial function in young adults. <https://htn.apprisor.org/epsAbstractHTN.cfm?id=1>

‡ Recipient of the American Physiologic Society's Neural Control and Autonomic Regulation Experimental Biology Trainee Presentation Award.

#### MEDIA

<http://www.cnn.com/2009/HEALTH/08/27/tongue.wonders/index.html?iref=newssearch>

Link to an interview conducted by the CNN Health. The interview focuses on the tongue, its structure and function, and the consequences of impairments in tongue function on health and well-being. The interview also refers to the potential for individuals with impaired limb function i.e., quadriplegia but with normal tongue function to use the tongue to operate devices such as electric wheel chairs, computers and telephones.

<http://neuroviisas.med.uni-rostock.de/connectome/bibtex.php?key=kidder:2016conferences/scholarlypresentations>

<https://www.self.com/story/deep-breathing-exercises>

#### COLLOQUIA 2015

*Guardians of the airway – why snoring is bad for your health.* University of Arizona, College of Science, Downtown Science Café Series.

*Inspiratory muscle strength training as a novel treatment for obstructive sleep apnea.* Sarver Heart Center, Board of Directors Meeting.

#### SEMINARS

2015

*Role of autonomic nervous system in development of persistent hypertension.* Neurology Journal Club. College of Medicine.

*Inspiratory muscle strength training mitigates cardiovascular dysfunction in obstructive sleep apnea.* Cardiology Grand Rounds.

#### INVITED SYMPOSIA

2015

*A novel approach to the analysis of respiratory sinus arrhythmia using breath phase information.* Neuroscience Research Australia (NeuRA), Sydney AUSTRALIA

2016

*Inspiratory muscle training mitigates cardiovascular dysfunction in obstructive sleep apnea.* The Florey Institute of Neuroscience and Mental Health, University of Melbourne, AUSTRALIA

*Respiratory strength training lowers blood pressure in adults unable to comply with continuous positive airway pressure (CPAP) therapy.* Rehabilitation Sciences Seminar Series, University of Florida, Gainesville Florida, USA

*Can bench work help us at the bedside: Arriving at useful measures of respiratory control.*  
Respiratory Sciences Seminar Series, University of Florida, Gainesville Florida, USA

2017

Chair: Featured Topic Scientific Session. American Physiological Society - Respiration Section. *Ventilatory control and function following perinatal insults.* Federation of Experimental Biology, Chicago Illinois, USA

## GRANTS AND CONTRACTS

### Ongoing Research Support

1R01AG065346-01A1

Bailey (PI)

09/30/2020-05/31/2025 NIH/NIA

Time-efficient inspiratory muscle strength training for improving blood pressure and vascular function in older adults with sleep-disordered breathing

Role: PI

### Pending

1 R44 HL152827-A1

Makansi (PI)

02/01/2021-01/31/2023 NIH/NHLBI

A tiny injectable and small wearable to treat obstructive sleep apnea via stimulation of the hypoglossal nerve

Role: Co-I

### Completed Research Support (Last 3 years)

R21009587A1

Seals (PI)

02/01/2019-01/31/2021 NIH/NIA

Inspiratory muscle strength training for lowering blood pressure in hypertensive mid-life adults. A clinical trial to assess efficacy of inspiratory muscle strength training for lowering systolic blood pressure in mid-life adults with systolic hypertension.

Role: Co-I

## LIST OF COLLABORATORS ON GRANTS AND PUBLICATIONS:

### University of Arizona:

- A. Dr Andrew Fuglevand (Physiology). Collaborator NIH/NHLBI-SBIR
- B. Dr Sairam Parthasarathy (Pulmonary and Critical Care Medicine, UA Health) Co-Investigator
- C. Dr. Joseph Alpert (Sarver Heart Center, University of Arizona) Co-Investigator

### External:

- A. Dr. Maysam Ghovanloo (Biomedical Engineering, Georgia Tech). PI NIH/NIBIB  
1RC1EB010915 Challenge Grant.
- B. Dr. Douglas Seals, Co-Mentor Trainee Research Career Development Award American Heart Association (Dr. Daniel Craighead PhD, Mentee).
- C. Dr. Peter Watson (Speech & Hearing, University of Minnesota). Collaborator NIH - NIDCD 009587-01 (RO1 award).
- D. Dr. Steven Livingstone (Department of Computer Science and Information Systems, University of Wisconsin, River Falls). Collaborator NIH-NIDCD grant proposal.
- E. Dr. Douglas Seals (Integrative Physiology, University of Colorado-Boulder) Collaborator NIH- NIA R21009587A1 and NIA AG065346-01 grants.