

# Bre-Anna K. Owusu

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## RESEARCH & TEACHING AREAS OF INTEREST

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Music Cognition | Verbal Memory | Rhythm Priming | Temporal Dynamics | Language Development

## EDUCATION & TRAINING

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- **PhD Candidate, Neuroscience** 2018 – Present  
McMaster University, Hamilton, Canada Advisor: Dr. Elisabet Service
- **Master of Science, Cognitive Neuroscience and Research Methods in Psychology** 2016 – 2017  
Swansea University, Swansea, Wales Advisors: Drs. Toby Lloyd-d Jones & Hana Burianová
- **Bachelor of Science Honours, Psychology and Exceptionality in Human Learning** 2011 – 2015  
University of Toronto, Toronto, Canada

## RESEARCH & CONFERENCE FUNDING

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- Conference Funding, Rac(e)ing Towards Inclusion in Academia and Industry *Institutional* \$3,250 2022
- International Merit Postgraduate Scholarship, Swansea University *International* \$4,000 2016 – 2017
- International Postgraduate Taught Excellence Scholarship, Swansea University *International* \$4,000 2016 – 2017

## AWARDS & HONOURS

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- J. Frank Yates Student Conference Award *International* \$1,000 2023
- Psychology, Neuroscience & Behaviour Graduate Research Day, Best Data Blitz Presentation *Institutional* \$75 2023
- Umoja Award, African Caribbean Faculty Association *Institutional* \$1,000 2022
- McMaster University Faculty of Health Sciences Plenary Graduate Student Leadership Award *Institutional* 2022
- McMaster University Faculty of Health Sciences Plenary Teaching Assistant Excellence Award *Institutional* 2021
- McMaster Student University Teaching Assistant of the Year Award\* *Institutional* 2021  
\* Ranked Top 5
- McMaster University Faculty of Health Sciences Graduate Plenary PechaKucha Competition\* *Institutional* 2021  
\*Ranked Top 3
- University of Toronto Admission Scholarship *Institutional* \$1,500 2011

## PUBLICATIONS

- **Owusu, B. K.,** & Burianová, H. (2020). Transcranial direct current stimulation improves novel word recall in healthy adults. *Journal of Neurolinguistics*, 53, 1–9.

### Chapters in Books

- **Owusu, B.,** Dhanoa, J., Hylton, A., Ing, E., Mappanasingam, A., Patel, A., Pavlakos, R., & deBie, A. (2022). Student Voices from the Classroom, Concluding reflections on cultivating an environment where learning deeply matters. In A. de Bie, S. Baptiste, C.A. Grisé (Eds.). *Where learning deeply matters: Reflections on the past, present, and future of teaching at McMaster University*.
- Mighty, J., Braithwaite, A., Deng, J., Huang, S., Leacock, B., Lopes, V., MacDonald, M., Pérez, R. N., **Owusu, B.,** & Toulouse, P. (2022). Misalignment, Negotiation, and Compromise: The Challenging Process of Pursuing Equity, Diversity, and Inclusion in Higher Education. Invited chapter in J. Christensen Hughes, J. Mighty, D. Stockley and L. Young (Eds.). *Taking Stock 2.0: Transforming Teaching and Learning in Higher Education*.

### Articles in preparation

- **Owusu, B. K.,** & Service, E. (2023). Music and dyslexia: New evidence of a detrimental rhythmic priming effect on pseudoword recognition and sentence judgement in children with and without dyslexia. *Status: being reviewed by co-authors*.
- **Owusu, B. K.,** & Service, E. (2023). How rhythmic stimulation contributes to neural entrainment and enhances verbal working memory in musicians and non-musicians. *Status: being reviewed by co-authors*.

## ACCEPTED CONFERENCE POSTERS & PRESENTATIONS *student trainees are underlined*

### Published Abstracts

- **Owusu, B.** (2021). The He(ART) of Dyslexia: How can listening to music improve verbal memory? Talk, NeuroSymposium. *McGill Journal of Medicine*, 20(1).

### Conference Presentations

- **Owusu, B.,** & Service, E. (July 2023). Priming with musical rhythm enhances verbal working memory. Talk, Canadian Society for Brain, Behaviour, and Cognitive Science, Guelph, ON.
- **Owusu, B.,** \* & Service, E. (Apr 2023). Let the Music Play: The beneficial effects of musical rhythms on verbal working memory. Talk, Psychology, Neuroscience & Behaviour Graduate Research Day, Hamilton, ON.

*\* Psychology, Neuroscience & Behaviour conference award, Best Data Blitz Presentation*

- **Owusu, B.,** Alnahhar, D., Campbell, J., & Service, E. (Apr 2023). Let the Music Play: The beneficial effects of musical rhythms on verbal working memory. Poster, Student Research Day, Hamilton, ON.
- **Owusu, B.,** & Service, E. (Nov 2022). Can rhythmic stimulation benefit verbal memory? Poster, NeuroMusic 18<sup>th</sup> Annual Conference, Hamilton, ON.

- **Owusu, B., & Service, E.** (Oct 2022). Rhythmic stimulation boosts memory for new word forms in children. Poster, Mental Lexicon, Niagara, ON.
- **Homiar, A., Owusu, B., & Service, E.** (Apr 2022). The influence of musical training on visuospatial working memory processing in musicians with dyslexia. Poster, Student Research Day, Hamilton, ON.
- **Owusu, B., & Service, E.** (Nov 2021). Can musical rhythm primes boost memory for new word forms in dyslexia? Poster, Psychonomic Society 62<sup>nd</sup> Annual Meeting, Virtual Meeting.
- **Owusu, B.** (May 2021). Music and Dyslexia: Please don't stop the music. Talk, Black Graduate Student Association, Virtual Meeting.
- **Boguslavski, L., & Owusu, B.** (Apr 2021). A plan for combining musical training and action video games as a therapeutic tool for dyslexia. Poster, Student Research Day, Virtual Meeting.
- **Owusu, B., & Service, E.** (Apr 2021). Music and Memory—Tunes for dyslexia. Talk, Student Research Day, Virtual Meeting.

## OTHER PRESENTATIONS

- **Teaching Assistant Welcome.** (Sept 2022). Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching. Panelist on *Experienced TA Panel Discussion*. Hamilton, ON.
- **GenSTEM Conference.** (Dec 2021). WISE (McMaster Women in Science and Engineering). Youth outreach workshop co-presenter. Virtual Meeting.
- **Three Minute Thesis (3MT).** (June 2021). The He(ART) of Dyslexia: How can listening to music improve verbal memory? 6<sup>th</sup> edition of NeuroSymposium. Virtual Meeting.
- **Plenary Presentation\*.** (May 2021). [The Cocktail Party Effect: Mixing rhythms for dyslexia](#). Virtual Meeting.  
\* Ranked Top 3 for best PecbaKucha Presentation
- **GRADflix Competition\*.** (March 2021). [Syncing' to the Beat of your Own Brain](#). McMaster University.  
\* Finalist

## TEACHING EXPERIENCE

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### Course Instructor

- Essential Skills in University Teaching | McMaster University | *Attendance: 40 graduates, postdocs, faculty, and staff* Sep 2023 – Dec 2023
- Millennials, Music & the Mind | McMaster University | *Attendance: 13 undergraduate students* Sep 2019 – Nov 2019

### Guest Lecturer

- Applied/Advanced Placement | *Topic: Supervisor Interviews* Oct 2020–2022
- Applied/Advanced Placement | *Topic: LinkedIn Networking* Jan 2018–2022
- Applied/Advanced Placement | *Topic: Mind Maps* Oct/Feb 2018–2022

### Chapter Presentation

- Neuroscience NEUROSCI 700 | Attendance: 20 graduate students *Topic: Language, Thought, Affect and Learning* Nov 2018

Teaching Assistant

- Independent Study LIFESCI 4A03 | *Professor: Dr. Sunita Nadella* Sep 2018 – Apr 2022
  - Research Practicum LIFESCI 3RP3 | *Professor: Dr. Sunita Nadella* Sep 2018 – Apr 2022
  - Independent Project LIFESCI 4B09 | *Professor: Dr. Sunita Nadella* Sep 2018 – Apr 2022
  - Independent Thesis LIFESCI 4C12/D15 | *Professor: Dr. Sunita Nadella* Sep 2018 – Apr 2022
  - Applied/Advanced Placement\* LIFESCI 3EP3/4EP6 | *Professor: Dr. Sunita Nadella* Sep 2018 – Apr 2022
- \* Awarded the Faculty of Health Sciences Plenary Teaching Assistant Excellence Award*  
*\* Awarded Rank of top 5 McMaster Student University Teaching Assistant of the Year Award*

**MENTORSHIP & CO-SUPERVISION**

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Graduate Mentorship

- Jonathan Lieberman, Neuroscience Sep 2021 – Apr 2022  
Health Sciences Mentorship Program (HSMP)
- Olivia Turner, Neuroscience Sep 2020 – Apr 2021  
Health Sciences Mentorship Program (HSMP)

Undergraduate Mentorship

- Renisha Rodrigues, Life Sciences Sep 2021 – Apr 2022  
Black Student Mentorship Program (BSMP)
- Hephzibah Ali, Health Sciences Sep 2020 – Apr 2021  
Black Student Mentorship Program (BSMP)

Supervised Undergraduate Thesis/Project Students

- Ava Homiar, Life Sciences | *Topic:* Temporal processing in dyslexic musicians Jan 2022 – Apr 2022
- Lior Boguslavski, Life Sciences | *Topic:* Video game music and dyslexia Jan 2021 – Apr 2021
- Conan Hu, Psychology, Neuroscience & Behaviour | *Topic:* Rhythm and amusia Sep 2019 – Dec 2019

Co-Supervised Research Assistants

- Sophia De Mesa Feb 2023 – present
- Dana Alnahhar, Jacquelyn Campbell Jan 2023 – Apr 2023
- Ava Homiar, Jacquelyn Campbell Jan 2022 – Apr 2022
- Abigail Almeida, Ava Homiar Jun 2021 – Aug 2021
- Anna Lui, Conan Hu, Daniela Andreadis, Jacquelyn Campbell, Lior Boguslavski, Louise Huang Sep 2020 – Apr 2021

## EDITORIAL ACTIVITIES

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### Editorial Board

- Member | *ARiEAL Research Magazine* May 2023 – Present

### Peer Reviewing

- 50 Years of Stories | MacPherson Institute for Leadership, Innovation and Excellence in Teaching 2021 – 2022

## SERVICE & COMMITTEE MEMBERSHIPS

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### International

- **Mentorship Committee Member** 2021 – 2023  
Society for Music, Perception and Cognition (SMPC)

### National

- **Conference Chair and Organizer** 2021 – 2022  
[Rac\(e\)ing Towards Inclusion in Academia and Industry](#)
- **Research Assistant & Webinar Moderator, EDI Task Force** 2021 – 2022  
Society for Teaching and Learning in Higher Education (STLHE)
- **Member & Reading Tutor** 2020 – 2021  
Learning Disabilities Association of Ontario (LDAO)

### Institutional

- **Vice President** 2021 – 2022  
African Caribbean Graduate Student Association (ACGSA), McMaster University
- **Adjudicator** 2018 – 2022  
Life Sciences Interdisciplinary Research Symposia, McMaster University

### Departmental

- **Scientific Advisory Committee (SAC) Working Group Member** 2021  
ARiEAL Research Centre

## WORK EXPERIENCE

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- **Student Partner** | Paul MacPherson Institute for Leadership, Innovation and Excellence in Teaching, McMaster University, Hamilton, Canada 2021 – present
- **EEG Research Assistant** | Language, Memory & Brain Lab, McMaster University, Hamilton, Canada 2021  
**Advisor:** Dr. John Connolly
- **tDCS Research Intern** | College of Human and Health Sciences, Swansea University, Swansea, Wales 2017  
**Advisor:** Dr. Hana Burianová

- **Research Assistant** | Infant and Child Studies Centre, Department of Psychology, University of Toronto, Mississauga, Canada

**Advisors:** Drs. Sandra Trehub & Laura Cirelli

2015 – 2016

- **Piano Instructor** | Primer levels to Professional

2008 – present

## PROFESSIONAL DEVELOPMENT & TRAINING

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- Teaching and Learning Scholar Certificate of Completion (100 hours) | Paul MacPherson Institute for Learning, Innovation and Excellence in Teaching 2022
- Teaching and Learning Foundations Certificate of Completion (36 hours) | Paul MacPherson Institute for Learning, Innovation and Excellence in Teaching 2022
- Instructional Skills Workshop (30 hours) | Paul MacPherson Institute for Learning, Innovation and Excellence in Teaching 2022
- TCPS 2: CORE Certificate 2021
- Certified Peer Reviewer Course | Elsevier Research Academy 2020
- R Programming Workshop 2016

## PROFESSIONAL AFFILIATIONS

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- Canadian Society for Brain, Behaviour and Cognitive Science | Psychonomic Society | Society for Music, Perception and Cognition.

## TECHNICAL EXPERTISE

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- Hardware: tDCS systems
- Software: Audacity, E-Prime, Jamovi, PsychoPy, Python (in-progress), SPSS, SuperLab,