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Confirmation Number: 2089378
Template: CIHR Biosketch

Dr. Jacqueline Cummine

Correspondence language: English
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Date of Birth: 6/13
Canadian Residency Status: Canadian Citizen
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CIHR IRSC
Canadian Institutes of Health Research | Instituts de recherche en santé du Canada

Canadian Common CV | commun canadien

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Dr. Jacqueline Cummine

Degrees

2006/9 - 2009/9	Doctorate, Basic Behavioural Sciences, University of Saskatchewan Degree Status: Completed
1999/9 - 2005/5	Bachelor's, Arts and Science, University of Saskatchewan Degree Status: Completed

Recognitions

2024/5 - 2024/5	Innovative Teaching Award Faculty of Rehabilitation Medicine
2020/4 - 2025/3	Canada Research Chair Tier 2: Neuroscience in Literacy Natural Sciences and Engineering Research Council of Canada (NSERC)
2018/1 - 2018/12	Rehabilitation Medicine Students Association Excellence in Teaching University of Alberta
2018/1 - 2018/12	Graduate Students' Association: Graduate Student Supervisor Award. 2018 University of Alberta
2018/1 - 2018/12	Faculty of Graduate Studies and Research Great Supervisor Award University of Alberta

Employment

2022/7	Professor Communication Sciences and Disorders, Rehabilitation Medicine, University of Alberta
2020/3	Adjunct Professor in Psychology Psychology, Biological Sciences, University of Alberta
2013/7	Associate Professor Communication Sciences and Disorders, Faculty of Rehabilitation Medicine, University of Alberta
2009/8 - 2013/6	Assistant Professor Speech Pathology and Audiology, Rehabilitation Medicine, University of Alberta

Affiliations

The primary affiliation is denoted by (*)

(*) 2009/8	Member Deputy Graduate Coordinator, Faculty of Medicine and Dentistry, Neuroscience and Mental Health Institute

Leaves of Absence and Impact on Research

2024/9 - 2025/7
Medical, University of Alberta
I was diagnosed with breast cancer in October 2024. I then underwent surgery (Jan. 2025), chemotherapy (Feb. 2025 - May 2025) and radiation (June - July 2025). The impact of these treatments on my output (i.e., delayed publications, inability to attend conferences, fewer grant applications, etc.) were notable as I navigated the complex side effects associated with each of the treatments (i.e., fatigue, nausea, etc.). The immuno-comprised nature of my health also meant that I had to work almost exclusively from home. As such, the incidental learning that happens in the day-to-day lab environment has also been stunted and slowed, which has impacted the dissemination of experiments, the generation of new ideas/experiments, and the general lab morale.

2012/9 - 2013/2
Parental, University of Alberta
I was away on Maternal Leave from Sept. 1, 2012 - Feb. 22, 2013 due to the birth of a child. As a result, I had to ramp down or pull back on research projects prior to my leave that would have required my direct and immediate attention. Upon my return, I had to ramp up these same research projects, which took time.

Research Funding History

Awarded [n=2]

2025/5 - 2030/4
Principal Investigator
Testing the efficacy of skill-based and goal-based interventions for adults with reading impairments

Funding Sources:
Social Sciences and Humanities Research Council of Canada (SSHRC)
Insight Grant
Total Funding - 211,220
Funding Competitive?: Yes

2022/1 - 2026/2
Co-applicant
Towards improved fittings, better outcomes and increased cognitive capacity with bone conduction devices

Funding Sources:
Audmet Canada Ltd
MITACS Accelerate
Total Funding - 330,000
Funding Competitive?: Yes

Completed [n=6]

2024/7 - 2025/8
Principal Investigator
Towards an understanding of the role of the brain stem in speech production: An MRI approach

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Alliance
Total Funding - 24,711
Funding Competitive?: Yes

2018/4 - 2025/3
Principal Investigator
Towards an understanding of the neural networks associated with word recognition

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - 177,362

Funding Competitive?: Yes

2020/4 - 2025/3
Principal Applicant

Neuroscience in Literacy Canada Research Chair Tier II

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Canada Research Chair Tier 2
Total Funding - 325,000
Funding Competitive?: Yes

2023/11 - 2024/10
Principal Investigator

Relating to others: Minimizing negative bias using empathy-evoking vignettes

Funding Sources:
Killam Trusts
Cornerstone Grant
Total Funding - 26,200
Funding Competitive?: Yes

2023/10 - 2024/9
Co-applicant

Investigating empathy and implicit bias in autistic and non-autistic adults.

Funding Sources:
Autism Edmonton and the Autism Research Centre
Graduate Student Grant Committee
Total Funding - 3,300
Funding Competitive?: Yes

2021/6 - 2023/8
Principal Applicant

Towards an Understanding of Best Practices in Goal Attainment Scaling Implementation and Feasibility

Funding Sources:
ARDEA Outcomes Inc
MITACS Accelerate
Total Funding - 30,000
Funding Competitive?: Yes

Under Review [n=1]

2025/11 - 2027/10
Principal Applicant

The impact of repeated trans-cranial Direct Current Stimulation (tDCS) on the auditory cortex as a treatment modality for tinnitus via functional near-infrared spectroscopy and tinnitus questionnaires: a longitudinal study

Funding Sources:
Global Partnerships for Research and Innovation
Canadian Hearing Services
Total Funding - 98,870
Funding Competitive?: Yes

Publications

Journal Articles

1. Chouinard, B., *Cheuk, M., Hodgetts, B., Cummine, J. (2026). Facing empathy: Reducing facial differences bias through a story. The Cleft Palate Craniofacial Journal. 0: 0.
Accepted
Refereed?: Yes, Open Access?: No

2. *Mitchell Holmes, Liz Dennett, *Liliane Raftus, Jacqueline Cummine. (2026). How should we talk about Dyslexia? A scoping review of identity-first vs. person-first language. Dyslexia. 0: 0.
Submitted
Refereed?: Yes, Open Access?: Yes

3. *Cassandra Cowan, Amberley V. Ostevik, *Kathleen Jones, *Thi K. T. Huynh, Alex Gascon, William Hodgetts, Jacqueline Cummine. (2026). The Longitudinal Impact of Bone Anchored Hearing Aid Adoption on Resting-State Functional Connectivity Using fNIRS: A Multiple Single-Case Experimental Approach. Journal of Otorhinolaryngology, Hearing and Balance Medicine. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

4. Sean F. Ellis, *Praveen Prem, Maik Kecinski, Kent D. Messer, Jacqueline Cummine, Kyle Nash, Debra J. Davidson, and Jayson L. Lusk. (2026). Neural Basis of Behavior Change in Choosing Stigmatized Foods. Journal of Behavioral and Experimental Economics. 0: 0.
Submitted
Refereed?: Yes, Open Access?: Yes

5. *Kathleen Jones, Amberley Ostevik, Jacqueline Cummine, Liz Dennett, William Hodgetts,. (2026). Ecological Momentary Assessment in Hearing Aid Outcomes: A Scoping Review. International Journal of Audiology. 0: 0.
Revision Requested
Refereed?: Yes, Open Access?: Yes

6. *Mitchell Holmes, Daniel Aalto, *Dev Patel, Amberley Ostevik, Caroline C. Jeffery, Jacqueline Cummine. (2026). Perturbing the pathway: The impact of lollipops and lidocaine on supramarginal gyrus activity during silent reading tasks. Brain and Language. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

7. *Raftus, Liliane; *Beaudry, Josee; *Holmes, Mitchell; Cummine, Jacqueline NSE contributions: The genesis of this work stems from our basic reading studies that show that reading performance is impacted by psychosocial factors. As such, we hypothesized that people with reading challenges would face barriers in day-to-day functioning that went beyond basic reading skills. (2026). **The Psychosocial Experience of Living with Dyslexia: A Qualitative Study**. Learning Disabilities Research & Practice. 0: 0.
Submitted
Refereed?: Yes, Open Access?: Yes

8. Jacqueline Cummine, *Dev H. Patel, *Mitchell Holmes, Amberley Ostevik, Daniel Aalto. (2026). Towards an understanding of somatosensory perturbation on covert speech production: A functional near infrared spectroscopy (fNIRS) study. Frontiers in Human Neuroscience. 0: 0.
Accepted
Refereed?: Yes, Open Access?: Yes

9. *Holmes, Mitchell; Pritchard, Lesley; Cummine, Jacqueline NSE Contributions: Our basic reading work has identified several areas of processing that are critical to successful reading (i.e., phonological awareness, morphological awareness, reading speed). We were interested to see the extent to which people with dyslexia experienced intervention that focused on these core reading skills and their perceptions of such interventions. (2026). **Lived experiences and intervention outcomes: Dyslexic adults' perspectives on meaningful support**. Annals of Dyslexia. 0: 0.
Accepted
Refereed?: Yes, Open Access?: Yes

10. *St. Jean C., Cummine J., Singh G., Hodgetts W. (2025). Exploring the influence of online price anchoring and attribute framing on the likelihood of hearing aid purchases.Audiology Research. 0(0): 0.
Published
Refereed?: Yes, Open Access?: Yes

11. Al-Zanoon, N., Cummine, J., Jeffery, C.C., Aalto, D. (2025). Compensatory behaviours of oral cancer: Stretch reflex improves simulated tongue protrusion.Computer methods in biomechanics and biomedical engineering.0: 0.
Published
Refereed?: Yes, Open Access?: No

12. *Czobor, E., Striemer, C.L., *Cheema, K., *Prem, P., Aalto, D., Cummine, J. NSE Contributions: The work outlined in this paper brings together our current understanding of how reading is represented in the cerebral cortex with what we know about how the cerebellum supports reading processes. Using functional connectivity, we advance our understanding of the strong role that the cerebellum plays in successful reading. (2025). Examining the cerebral-cerebellar connectivity during spelling tasks. The Cerebellum. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

13. *Prem, P.; *Boadu A.; *Saju, S.; Nisbet, K.; Cummine, J. (2025). Functional Brain Activation during Statistical Learning is Related to Rapid Automatized Naming of Digits and Objects (but not Letters): An fMRI Study. Scientific Studies of Reading. 0: 0.
Revision Requested
Refereed?: Yes, Open Access?: Yes

14. Wehnke, B.; Smolarek, D.; Soppa, R.; Dennett, L.; Reinecke, K.; Cummine, J.; Armijo-Olivo, S. (2025). Effects of Exercise on Neuroplasticity in Chronic Low Back Pain: A Systematic Review. The Journal of Pain. 0: 0.
Submitted
Refereed?: Yes, Open Access?: Yes

15. *Saggu, S.K., *Huynh, T., Cummine, J. NSE Contribution: This publication advances NSERC's mandate by deepening our understanding of the structural neural mechanisms underlying reading ability through quantitative analysis of cortical thickness across key brain regions, contributing to the natural sciences through cognitive neuroscience and brain morphology research. By applying rigorous structural imaging and statistical techniques, the study supports engineering and computational advancements in neuroimaging analysis pipelines. (2025). **An examination of cortical thickness relationships within the reading network of adults.**Brain Structure and Function. 230: 1-16.
Published
Refereed?: Yes, Open Access?: Yes

16. *Holmes, Mitchell; Aalto, Daniel; *Patel, Dev; Ostevik, Amberley; Jeffery, Caroline C.; Cummine, Jacqueline NSE Contribution: In this work, we replicated our behavioural work that showed peripheral perturbations impact silent reading. We also tested the neural signatures associated with perturbations to the speech mechanism during silent reading. Importantly, this work applies basic science principles to further our understanding of the print-to-speech network, both behaviourally and via brain function. (2025). **The impact of lollipops and lidocaine on supramarginal gyrus activity during silent reading tasks**. Brain and Language. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

17. *Prem, P., *Saggu, S.K., *Boadu, A., *Saju, S., Nisbet, K., Cummine, J. NSE Contribution: This paper advances the NSE mandate by using quantitative neuroimaging methods to explore how domain-general and domain-specific statistical learning mechanisms—across both visual and auditory modalities—relate to the structural properties of cortical and subcortical brain regions. By identifying neuroanatomical correlates of statistical learning, a foundational cognitive process in reading acquisition, this work informs basic models of reading and supports the development of biologically grounded theories of language and literacy. (2025). **Neuroanatomical correlates of auditory and visual statistical learning: Cortical and subcortical volume predictors**. Neuroscience. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

18. *Holmes, M., Aalto, D., Cummine, J. NSE Contribution: This work exemplifies basic science advancements as we develop ways to measure the brain-based impacts of peripheral perturbations on reading (i.e., lollipops and lidocaine) which have not been explored given the safety (i.e., choking) hazards for testing in MRI. In this work, we document the strengths and limits of functional near infrared spectroscopy (fNIRS), an optical imaging technology that measures light absorption (between pairs of transmitter and receiver optodes) at the cortical level. It has several advantages: i. fNIRS is inexpensive, thus affords the capacity to collect larger datasets, ii. fNIRS allows for a natural reading environment (i.e, sitting upright), iii. fNIRS has good temporal resolution, allowing for detailed information about brain activity over time (i.e., preparation (i.e., before production) vs. execution (i.e., during/after production) phases of reading. (2024). **Documenting challenges in fNIRS data collection with a focus on hair color, hair cleanliness, light, and motion**. PloS One. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

19. Cummine, J., *Alsaigh, D. *Hasanni, T., *Holmes, M., *Cheema, K., *Huynh, T., *Saju, S., Loucks, T., Aalto, D. (2024). **Investigating functional connectivity during overt vs. covert speech production: An fNIRS approach**. Neuropsychologia. 0: 0.
Submitted
Refereed?: Yes, Open Access?: Yes

20. *Cowan, C., *Jones, K., Ostevik, A.V., *Al Souqi, S., Hodgetts, W., Cummine, J. (2024). **A Practical Guideline to Capturing and Documenting the Real-Time Consequences of Fluctuating Hearing Loss in School-Age Children.**Journal of Otorhinolaryngology, Hearing and Balance Medicine. 5(2): 1-19.
Published
Refereed?: Yes, Open Access?: Yes

21. *Jones, K., Côté, D.W.J., Cummine, J., Hodgetts, W. (2024). **Sudden Sensorineural Hearing Loss: A Case Study and Pilot Project**. Nurse Practitioner. 0: 5.
Published
Refereed?: Yes, Open Access?: No

22. Cummine, J., Ostevik, A., *Song, Q, *Kim, Y., Hodgetts, W. (2024). **Tissue classification following bone anchored hearing implant surgery: A machine learning approach to monitoring skin response.**Otology & Neurotology. 0: 0.
Published
Refereed?: Yes, Open Access?: No

23. Jacqueline Cummine & *Angela Cullum. (2024). Literacy Research and the Role of our Senses. Open Access Government. 0: 0.
Published
Refereed?: No, Open Access?: Yes

24. *Eze, P., *Omorotionmwan, E., Cummine, J. NSE Contributions: This study advances foundational knowledge in cognitive neuroscience by empirically testing competing models of language processing through white matter tractography, providing new evidence about the functional role of the inferior fronto-occipital fasciculus (IFOF). By applying quantitative diffusion imaging methods to assess structure-function relationships, it contributes to the NSE mandate by deepening our understanding of brain structure and its role in higher-order cognitive functions such as reading and language. (2024). **Moving Towards an Understanding of the Role of the Inferior Fronto-Occipital Fasciculus in Language Processing**. NeuroSci. 5: 39-58.
Published
Refereed?: Yes, Open Access?: Yes

25. Milburn, T., Auch, L., *Henderson, A., Chan, A., & Cummine, J. (2024). **Comparison of the Efficiency and Reliability for Two Methods of Coding Language Samples: SALT Versus The ObserverXT**. International Journal of Language & Communication Disorders.0: 0.
Revision Requested
Refereed?: Yes, Open Access?: No

26. Al-Zanoon N., Cummine J., Jeffery C.C, Westover L., Aalto D. (2024). **The effect of simulated radiation induced fibrosis on tongue protrusion**. Biomechanics and Modeling in Mechanobiology. 23: 1649-1660.
Published
Refereed?: Yes, Open Access?: Yes

27. *Reed, A., *Huynh, T., Ostevik, A.V., *Cheema, K., *Sweneya, S., *Craig, J., Cummine, J. NSE Contributions: This study contributes to the Natural Sciences and Engineering Research Council (NSERC) mandate by advancing our understanding of the neurobiological mechanisms underlying reading processes through diffusion tensor imaging (DTI). Specifically, it identifies how structural properties of ventral and motor white matter pathways relate to phonological, orthographic, and morphological skills in adults with and without reading impairments, thereby informing and refining theoretical models of reading and neural connectivity. (2024). **Phonological, Orthographic and Morphological Skills are Related to Structural Properties of Ventral and Motor White Matter Pathways In Skilled and Impaired Readers**. Applied Neuropsychology: Adult. 0: 0.
Published
Refereed?: Yes, Open Access?: No

28. Cummine, J., *Ngo, T., & Nisbet, K. NSE Contribution: This publication contributes to NSERC's mandate by advancing our understanding of the neural correlates of reading by examining the relationship between cortical thickness in reading-related regions and performance on word and nonword reading tasks. The findings refine theoretical models of reading by highlighting how specific structural brain features support different components of reading, thereby strengthening basic cognitive neuroscience research in language and literacy. (2023). **Characterization of Cortical and Subcortical Structural Brain Asymmetry in Adults with and without Dyslexia**. Brain Sciences. 13: 1622.
Published
Refereed?: Yes, Open Access?: Yes

29. Nisbet, K., *Kostiw, A., *Huynh, T., *Saggu, S., *Patel, D., Cummine, J. NSE Contribution: This publication contributes to NSERC's mandate by employing advanced neuroimaging methods to investigate hemispheric asymmetries in gray matter volume associated with varying reading ability, thereby enhancing foundational knowledge in cognitive neuroscience and brain structure. The study supports natural sciences and engineering priorities by integrating image analysis techniques with neurodevelopmental research, providing critical insights into brain-behavior relationships that inform models of reading. (2023). **Differential grey matter structure of the pars orbitalis, triangularis and opercularis in individuals with dyslexia: A volumetric asymmetry study**. Journal of Neuroscience Research. 0: 0.
Published
Refereed?: Yes, Open Access?: No

30. Cummine, J., Ostevik, A., *Cheema, K., *Cullum, A. (2023). **Adult Learner Perspectives on Skill- and Life-Based Outcomes Following Literacy Remediation**. Social Sciences. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

31. *Cheema, K., *Fleming, C., *Craig, J., Hodgetts, W., & Cummine, J. NSE Contribution. This study advances foundational knowledge in cognitive science by identifying how phonological, orthographic, and morphological components contribute differentially to reading and spelling in adults with and without reading impairments. Through systematic behavioral analysis of core language processing skills, the research contributes to the NSE mandate by elucidating the cognitive mechanisms that underlie literacy development and guiding evidence-based approaches for improving language proficiency. (2022). **Reading and spelling profiles of adult poor readers: Phonological, orthographic and morphological considerations**. Dyslexia. 0: 0.
Published
Refereed?: Yes, Open Access?: No

32. *Budd, A.S., *Huynh, T., Seres, P., Beaulieu, C., Armijo-Olivo, S., & Cummine, J. (2022). **White Matter Diffusion Properties in Chronic Temporomandibular Disorders: An Exploratory Analysis**. Frontiers in Pain Research. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

33. *Cheema, K., *Sweneya, S., *Craig, J., *Huynh, T., Ostevik, A.V., *Reed, A., & Cummine, J. NSE Contributions: This publication contributes to NSERC's mandate by advancing fundamental understanding of the neural mechanisms supporting spelling through the integration of structural and functional imaging, thereby refining theoretical models of reading and written language processing. By mapping cerebral–cerebellar connectivity associated with sublexical and lexical spelling tasks, the study offers novel insights into distributed brain networks involved in literacy, strengthening basic science in cognitive neuroscience and language research. (2022). **An investigation of white matter properties as they relate to spelling behaviour in skilled and impaired readers**. Neuropsychological Rehabilitation. 0: 0.
Published
Refereed?: Yes, Open Access?: No

34. *Zabian, S., *Fleming, C., Ostevik, A., & Cummine, J. (2022). **The Crisis Study: COVID-19 & Reading Impairments - Survey Investigating Socializing**. Papers of 4th Canadian International Conference on Humanities & Social Sciences 2022 (978-1-988652-50-4). 0: 0.
Published
Refereed?: Yes, Open Access?: No

35. *Cheema, K., Hodgetts, W., & Cummine, J. NSE Contribution: This publication contributes to NSERC's mandate by examining functional connectivity within cerebral language networks during spelling tasks, advancing our understanding of the neural architecture supporting sublexical and lexical processing. By identifying distinct patterns of connectivity associated with different spelling strategies, the study refines cognitive models of reading and written language, contributing to foundational research in the natural sciences. (2021). **Is the letter 't' in the word 'gourmet'? A characterization of spelling networks between skilled and impaired readers**. NeuroSci. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

36. Hodgetts, W., *Song, Q., *Xiang, X., & Cummine, J. (2021). **On a Vector towards a Novel Hearing Aid Feature: What Can We Learn from Modern Family, Voice Classification and Deep Learning Algorithms**. Applied Sciences. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

37. Cummine, J., *Huynh, T., *Cullum, A., Ostevik, A., Hodgetts, W. NSE Contribution: The study explores the sensorimotor underpinnings of reading by examining how oral stereognosis (the ability to perceive and recognize shapes in the mouth) predicts visual word recognition. This contributes to NSERC's focus on understanding the fundamental mechanisms of cognition, perception, and motor integration, aligning with its support for research that deepens theoretical models in natural sciences. By extending the DIVA (Directions Into Velocities of Articulators) computational model—originally developed in speech motor control—into a "print-to-speech" framework, this work innovatively applies engineering principles to understand reading. This bridges computational modeling, neuroscience, and psycholinguistics. (2021). **Chew on this! Oral stereognosis predicts visual word recognition in typical adults**. Current Psychology. 0: 0.
Published
Refereed?: Yes, Open Access?: No

38. *Reed, A., Cummine, J., Bhat, N., Jhala, S., Bakhtiari, R., & Boliek, C.A. (2021). **Changes in Intermuscular Coherence as a Function of Age and Phase of Speech Production During an Overt Reading Task**. Motor control. 0: 0.
Published
Refereed?: Yes, Open Access?: No

39. *Cheema, K., Westover, L., Ostevik, A., Hodgetts, W., & Cummine, J. NSE Contributions. This study advances knowledge of intrinsic brain organization by using resting-state functional connectivity to explore both domain-specific (reading) and domain-general (e.g., default mode, salience) networks in skilled and impaired readers. By identifying differential network integration patterns and their relationships to reading behavior, the research contributes to the NSE mandate through its use of advanced neuroimaging methodologies to investigate the neural basis of cognitive variability and basic reading processes. (2021). **Resting-state networks and reading in adults with and without reading impairments.**Journal of Neurolinguistics. 0: 0.
Published
Refereed?: Yes, Open Access?: No

40. Cummine, J., *Cullum, A., Aalto, D., *Sereda, T., *Fleming, C., *Reed, A., Ostevik, A., Jeffery, C., & Hodgetts, W.E. NSE Contributions: Through a series of three experiments, this publication advances NSERC mandates through a systematic inquiry into how perturbations to the mouth (including lollipops, lidocaine and bite bars), change silent reading performance in adults. Most notably, this is the first study to use lidocaine to specifically test how sensations (and the lack of them) in the mouth can contribute to silent reading processes in a targeted way. With careful controls, via experimental paradigms and stimuli, we could disentangle how perturbations impact the subprocesses of reading (i.e., sublexical components), independent of their effect on attention. (2021). **From Lollipops to Lidocaine: Changes in Somatosensory Feedback Modifies Silent Word Recognition Performance in Adults**. Canadian Journal of Experimental Psychology. 0: 0.
Published
Refereed?: Yes, Open Access?: No

41. *St. Jean, C., Cummine, J., Singh, G., Hodgetts, W. (2020). **Be Part of the Conversation: Audiology Messaging During a Hearing Screening**. Ear and Hearing. 0: 0.
Published
Refereed?: Yes, Open Access?: No

42. *McKenzie, C., Hodgetts, W., Ostevik, A., & Cummine, J. (2020). **Listen Before You Drive: The Effect of Voice Familiarity on Listening Comprehension and Driving Performance**. International Journal of Audiology. 0: 0.
Published
Refereed?: Yes, Open Access?: No

43. Cummine, J., *Villarena, M., *Onysk, T., & Devlin, J. NSE Contribution: By manipulating cortical excitability during reading tasks, this study tests the functional roles of specific brain regions (e.g., left inferior frontal gyrus or temporo-parietal areas) in reading performance. This directly contributes to NSERC's mandate to support discovery-based research in cognitive neuroscience by moving beyond correlational findings to test mechanistic hypotheses about brain–behavior relationships in reading. The integration of tDCS with behavioral training reflects a methodological approach that aligns with NSERC's support for innovative tools and technologies in neuroscience. It demonstrates how non-invasive brain stimulation can be used to explore neural plasticity and individual variability in reading outcomes. The findings refine theoretical models of reading by distinguishing which neural systems are essential for, specific reading components. (2020). **A study of null effects for the use of transcranial direct current stimulation (tDCS) *plus* skill-based training in adults with and without reading impairment**. Neurobiology of Language. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

44. *Reed, A., Cummine, J., Bhat, N., Jhala, S., & Boliek, C.A.,. (2020). **Measuring Intermuscular Coherence of Speech Motor Control in Younger and Older Adults on an Overt Reading Task**. Motor Control. 0: 0.
Published
Refereed?: Yes, Open Access?: No

45. Westover, L., Ostevik, A.V., Aalto, D., Cummine, J., & Hodgetts, W. (2020). **Evaluation of Word Recognition and Word Recall with Bone Conduction Devices: Do Directional Microphones Free up Cognitive Resources?**. International Journal for Audiology. 0: 0.
Published
Refereed?: Yes, Open Access?: No

46. Amberley V. Ostevik Lindsey Westover, *Haley Gynane *Jordan Herst Jacqueline Cummine William E. Hodgetts. (2019). Comparison of Health Insurance Coverage for Hearing Aids and Other Services in Alberta.Healthcare Policy. 0: 0.
Published
Refereed?: Yes, Open Access?: No

47. *Angela Cullum, William Hodgetts, Trelani Chapman, Jacqueline Cummine. (2019). Cerebellar Activation During Reading Tasks: Exploring the Dichotomy between Motor vs. Language Functions in Adults of Varying Reading Proficiency. The Cerebellum. 0: 0.
Published
Refereed?: Yes, Open Access?: No

48. *Julia Craig, Amberley V. Ostevik, Lindsey Westover, Bill Hodgetts, Jacqueline Cummine. (2019). To Go or Not to Go: Exploring brain activation during response inhibition reading tasks. Spectrum. 0: 0.
Published
Refereed?: Yes, Open Access?: Yes

Conference Publications

1. D Aalto, M Fenner, M Haarstad, A. Ostevik, W. Hodgetts, J. Cummine. Speaking upside down: Manipulation of vowel formants with an inversion table.Annual Acoustical Society of America,
Conference Date: 2020/8
Abstract
Refereed?: Yes, Invited?: No

2. N. Al-Zoon, A. Cullum, J Cummine, C. Jeffery, B. Hodgetts, D. Aalto. The role of somatosensory feedback in the production of English vowels. The Annual Acoustical Society of America,
Conference Date: 2020/8
Abstract
Refereed?: Yes, Invited?: No

Presentations

1. (2024). Neuroplasticity following bone conduction amplification. Canadian Academy of Audiology, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
2. (2023). The Use of Machine Learning for Tissue Classification Following Bone Conduction Abutment Implantation. OSSEO, United States of America
   Main Audience: Researcher
   Invited?: No, Keynote?: No
3. (2023). An fNIRS investigation of neuroplasticity following bone conduction amplification: A multiple single-case experimental approach. OSSEO, United States of America
   Main Audience: Researcher
   Invited?: No, Keynote?: No
4. (2019). "From Brains to Behaviours and Lollipops to Lidocaine: A Multifaceted Approach to Studying Skilled and Impaired Reading". Banff Annual Seminars in Cognitive Science, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes
5. (2019). From theoretical pathways to functional roadways: Avenues for understanding reading ability and disability. Boystown National Research Hospital, United States of America
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: No

Knowledge and Technology Translation

2026/5 - 2026/5	Primary PI - Lead, Community Engagement Activity Description: Organized and hosted a community-facing knowledge mobilization event designed to disseminate recent dyslexia research findings in an engaging and accessible format. The event combined a brief research presentation with interactive trivia activities focused on dyslexia, literacy, and popular culture to promote public understanding of reading research. The event also provided mentorship and outreach opportunities by connecting prospective students with current trainees in Rehabilitation Medicine and Speech-Language Pathology (SLP). The initiative emphasized inclusive community engagement, accessible science communication, and public awareness of literacy-related research.
2023/1 - 2023/12	Primary Author/Investigator, Community Engagement Activity Description: Article published in Futurum (2023). How we read: the neuroscience behind literacy. A package that includes an article describing literacy, activities for teachers to use in the classroom.
2023/1 - 2023/12	Primary Author/Investigator, Community Engagement Activity Description: An article published in Open Access Government: Cullum, A.* & Cummine, J. (2023). "SENSORY ROLES IN READING SKILLS: THE PRINT-TO-SPEECH MODEL". https://doi.org/10.56367/OAG-041-11237

2011/1 - 2023/12 Member/Primary Presenter, Technology Transfer and Commercialization
Activity Description: I am a member of a neuroimaging group at the Peter S. Allen Nuclear Magnetic Resonance Imaging Centre at the University of Alberta. We hold regular fMRI Workshops on Experimentation and Data Analysis. In these workshops, I provide a step-by-step demonstration of the analysis protocols that my lab uses to analyze functional magnetic resonance imaging data for both healthy adults and clinical populations. These demonstrations are meant to assist other researchers in facilitating data analysis, translate our pilot findings and potentially establish new collaborations with individuals in the health sector.

Student/Postdoctoral Supervision

Master's Thesis [n=6]

2026/9 - 2028/8
Co-Supervisor
Labiba Raisa, University of Alberta
Thesis/Project Title: An eye-tracking study on cognitive load effects in dyslexic and typical readers.
Present Position: Student

2026/9 - 2028/8
Principal Supervisor
Linette Anyiacha, University of Alberta
Thesis/Project Title: Towards an understanding of emotional content and language status as they impact reading performance and cognitive load in multilingual individuals.
Present Position: Student

2026/9 - 2028/8
Principal Supervisor
Hannah Farbin, University of Alberta
Thesis/Project Title: The role of somatosensory information in the silent reading of children.
Present Position: Student

2025/9 - 2027/8
Co-Supervisor
Praveen Prem, University of Alberta
Thesis/Project Title: Exploring the relationship between reading and statistical learning.
Present Position: Student

2024/9 - 2026/8
Principal Supervisor
Liliane Raftus, University of Alberta
Thesis/Project Title: Executive Functioning Barriers of Adult Dyslexia: A Qualitative Descriptive Study of Daily Lived Experiences
Present Position: Student

2023/9 - 2026/4
Principal Supervisor
Dima Alsiagh, University of Alberta
Thesis/Project Title: Impact of the Comprehensive Stuttering Program on Neural Patterns in Adults who Stutter
Present Position: Student

Doctorate [n=4]

2023/9 - 2025/8
Principal Supervisor
Cassandra Cowan, University of Alberta
Thesis/Project Title: Towards an understanding of TDCS as a treatment approach for chronic tinnitus.
Present Position: Student

2022/9 - 2026/8
Principal Supervisor
Mitchell Holmes, University of Alberta
Thesis/Project Title: Exploring the impact of lidocaine on reading via fNIRS.
Present Position: Student

2021/1 - 2026/4
Principal Supervisor
Kathleen Jones, University of Alberta
Thesis/Project Title: In house Out comes for individuals with hearing impairment.
Present Position: Student

2018/1 - 2023/12	Craig St.Jean, U of Alberta
Co-Supervisor	Thesis/Project Title: Examining the role of meaning responses in health care.
	Present Position: student