NATIONAL CENTRE FOR AUDIOLOGY

2019-2024

ABOUT OUR CENTRE

The NCA's primary objective is to provide an enhanced collaborative, interdisciplinary research environment for scholars in the area of hearing, particularly those who are interested in hearing disorders, hearing health care procedures and services, and integrated knowledge translation methodologies.

We enhance this research community by gathering as an interdisciplinary consortium that builds connections among those who are here at Western, connects us to external collaborators in academia, clinical practice, government, and industry, and provides access to world-class facilities for hearing research. We support our students in this environment through mentorship, facility access, and community, thereby strengthening graduate programs such as Health and Rehabilitation Science, Audiology, Engineering, Social Sciences, and Neuroscience.

We are grateful for past and current support from the Canada Foundation for Innovation, NSERC, CIHR, SSHRC, the Ontario Research Fund, the Ontario Centre for Innovation, the Hearing Foundation of Canada, the Canadian Hearing Services Global Partnerships, many professional organizations and our global industry partners.

THE NCA & WESTERN AT 150

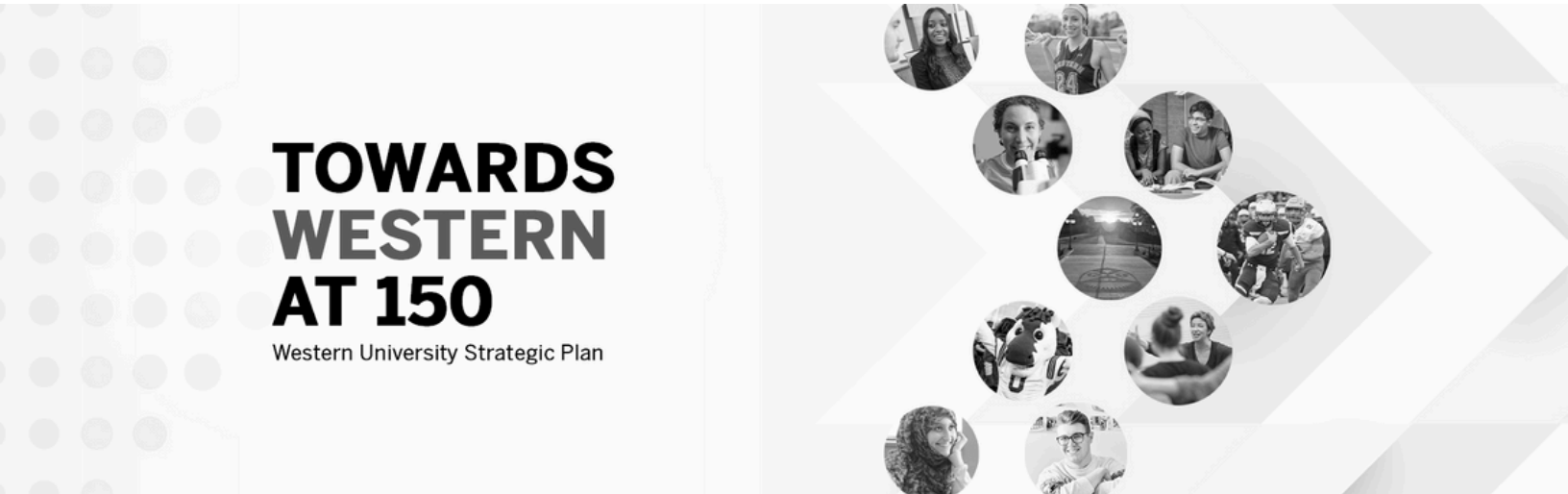
Western's mission: "The University of Western Ontario is dedicated to the advancement of learning through teaching and research and to the discovery and application of knowledge. The University seeks to provide an environment of free and creative inquiry within which critical thinking, humane values, and practical skills are cultivated and sustained. By pursuing these objectives, the University endeavours to serve the interests of society."

At the NCA, we create, disseminate and apply knowledge that benefits society through better understanding of hearing disorders and their diagnosis, better methods for hearing rehabilitation including improved assistive technology, and we actively disseminate our knowledge through multiple channels including traditional peer-reviewed journals and non-traditional methods such as clinical publications, integrated knowledge translation, and industry and clinical partnerships. We open our facility to graduate students from many different faculties who wish to study hearing by sharing lab and meeting facilities, by collaborating with other research centres, and by enhancing the scope of interdisciplinary hearing research at Western. We aim to improve hearing healthcare through advancement of knowledge that serves the needs of society.

THE NCA & WESTERN AT 150

04

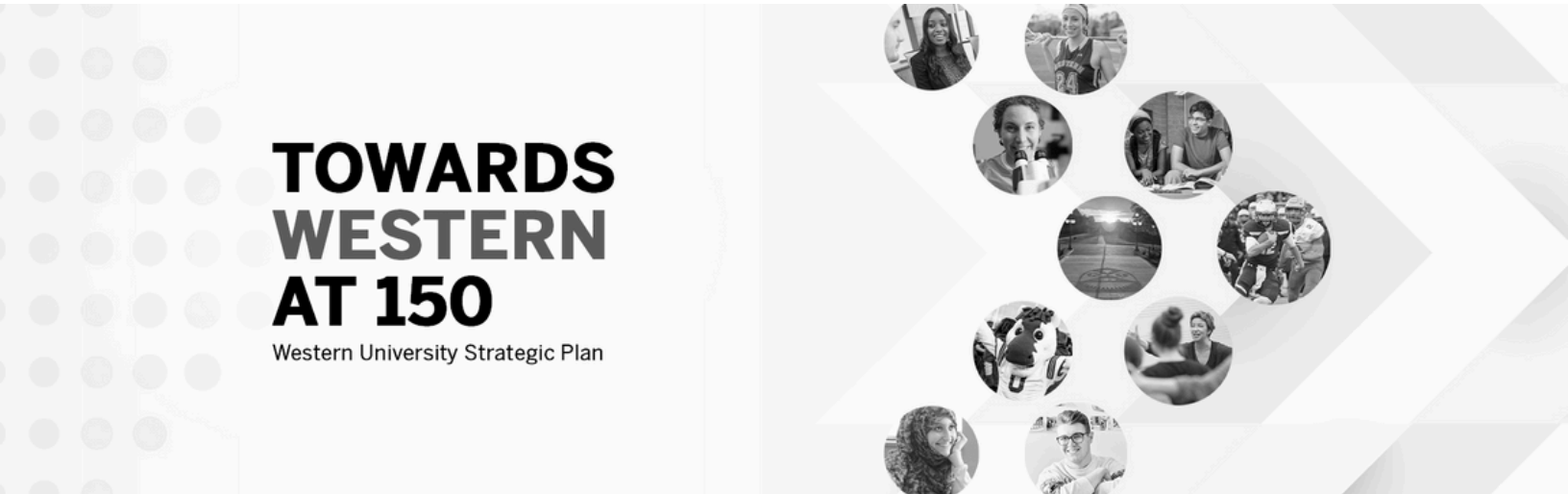
Theme 1 - Greater Impact: We have pursued more partnerships in three key ways during this past cycle: (1) we have continued and expanded our partners in industry and nationally through new research collaborations and by nurturing our portal model for serving the needs of external partners; (2) we have implemented strategic growth in our membership, nearly doubling our previous numbers and moving into new sectors; and (3) we have developed new interdisciplinary collaborations across campus, nationally, and internationally through new research directions. We are tackling one of the grand challenges of our time: hearing loss has been identified by the World Health Organization as a global health priority. Their goal is to ensure that "no individual experiences hearing loss due to preventable causes, and those with hearing loss can achieve their full potential through rehabilitation, education, and empowerment." Our innovations provide solutions to hearing assessment, rehabilitation, technologies, and the policies for programs of care that support real hearing healthcare. We are embedded in a culture of continuous innovation that contributes to our home Faculty's strategic goals of Extending our Reach through formation of Dynamic Partnerships that impact hearing health and well-being across the lifespan.



THE NCA & WESTERN AT 150

Theme 2 – People, Community, and Culture: The NCA is built around a community of interdisciplinary collaboration. We engage with students, investigators, programs, and external partners across disciplines to enrich our programs of research through synergy. Partnership and communication are critical components of our culture. Transferable skills in research and development include the ability to not only innovate, but rather to innovate in context: working in teams is an essential skill and our trainees will be mentored in hands-on opportunities in an interdisciplinary context, embracing the subtheme of Learning by Doing.

Theme 3 – Western's Place in the World: We have ongoing, research-linked, and growing connections to clinical programs that care for Londoners through services provided at the H.A. Leeper Speech and Hearing Clinic at Western. We translate our research and clinical expertise for broader impact through participation in professional training programs (Audiology, Speech-Language Pathology, and Engineering), and through programs of care for Infant Hearing in Ontario, Alberta, Saskatchewan, and New Brunswick. We participate in national and international collaborations that form policy and recommendations for practice for team-based primary care in infant hearing. We seek to have maximum impact at home, to work internationally, and to improve the lives of people who seek hearing assessment, hearing rehabilitation, and hearing assistive technologies.



RESEARCH CLUSTERS

Hearing Science and Assessment

Researchers in our Hearing Science and Assessment Cluster seek to understand the basic functions of the ear and the hearing and balance systems, including how aging, developmental damage, injury, illness, cognitive or genetic factors can affect hearing and balance functions, and to develop advanced methods for valid assessment in clinical application.

Hearing (re)Habilitation

Researchers in our Hearing (re)Habilitation Cluster seek to find new ways to improve interventions for people with hearing and balance disorders. Our work includes technological interventions, novel technologies and programs of care.

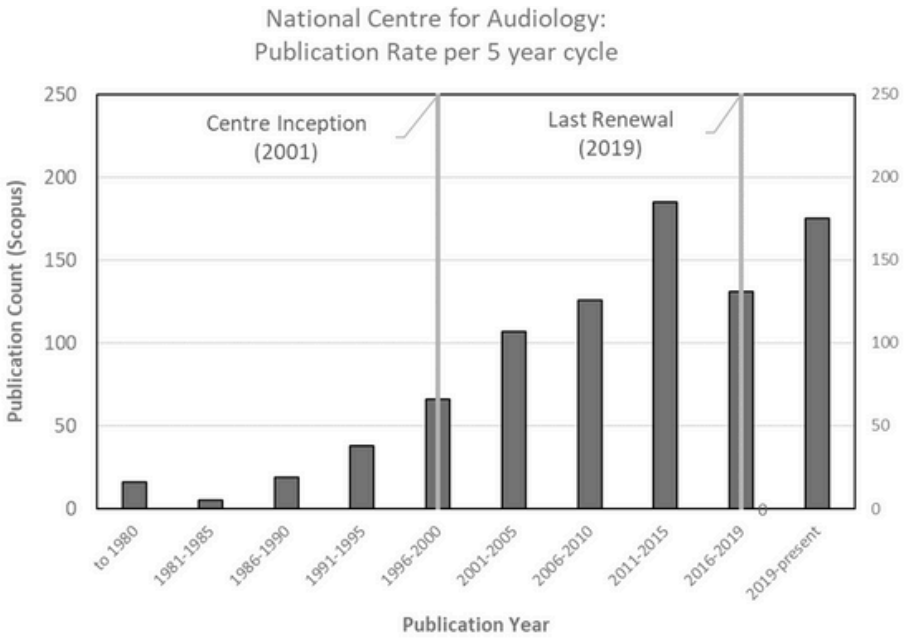
Implementation

The implementation of novel tests, devices, procedures, training simulations, and interventions requires integration into programs of care, into professional training, and into protocols for service delivery. Our Implementation Cluster develops and iterates evidence-based protocols through evidence review, protocol development and validation, and collaborative knowledge translation from the NCA into clinical practice and/or training environments.

RESEARCH PRODUCTIVITY, PARTNERSHIP, AND GLOBAL IMPACT

The researchers at the National Centre for Audiology are world-recognized for their productivity and high-quality contributions to their respective fields. Since our last renewal, we have added 175 papers that are devoted to hearing, hearing impairment, ear disorders, structure/function/ imaging/surgery of the ear, training simulations for use in audiology or otology, hearing aids, aural rehabilitation, speech recognition, noise, hearing loss prevention, and clinical procedures or methods related to audiology and otology. The vast majority of our papers are co-authored, typically across multiple NCA members, which speaks to the highly collaborative nature of our Centre. Student first-authorship is actively promoted as we mentor our trainees and foster their future careers.

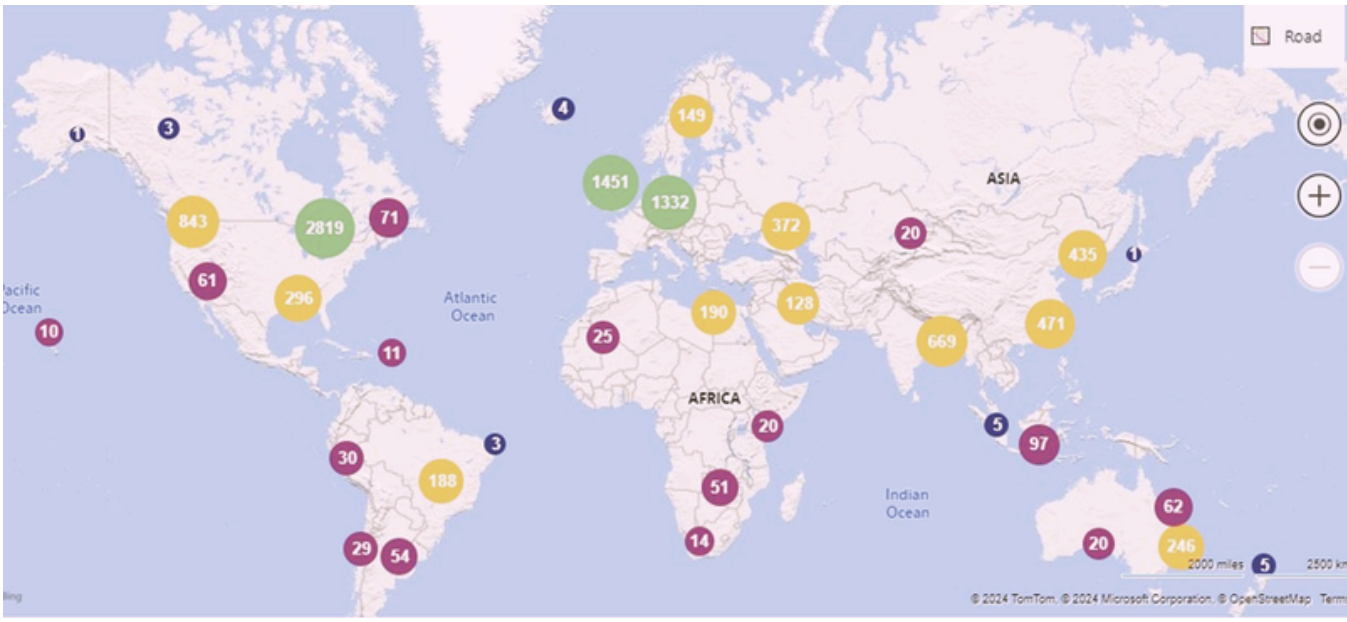
The publication and citation rates in our Centre have increased significantly since the inception of the NCA (see graph below). Our doors opened following our first CFI Award in 2001, and we received senate approval for our Centre in 2004. The rate of papers in five-year periods show a steady increase following centre inception. In the present five-year cycle, we have maintained our peak rate of productivity despite the loss (e.g., retirement) of three principal investigators. The papers we have published since last renewal have been cited 1752 times, representing accrual of citations of about 13 citations per paper within five years of publication



RESEARCH PRODUCTIVITY, PARTNERSHIP, AND GLOBAL IMPACT (CONTINUED)

In 2021, we developed our NCA Channel within Scholarship at Western in order to promote dissemination through open science initiatives. To date, we have more than 13k downloads of our papers through this channel alone, as shown on the map below. This is supported by the development of the NCA's LinkedIn group, which began in 2020 and has more than 700 followers. We communicate our research outputs through this channel, which provides notification to our professional community of our work.

Our global industry partners represent hearing device manufacturers from Switzerland, Denmark, the United States, and Canada. Their implementation of our research within hearing products has a fully global reach and immediate impact. Our Translational Research Unit provides a dedicated pipeline for contract research, including bench evaluations and clinical trials.



HONOURS & AWARDS

2023 Leonard Cornelisse was honoured with the William Cole Industry Award. The award is given in recognition of outstanding achievement or contribution within the hearing healthcare industry.

2023

Sumit Agrawal and Hanif Ladak received a significant donation to fund two research chairs and to advance their program of research in cochlear implantation and hearing restoration. Donated by Med-El corporation, this investment recognizes the innovations the two have already developed and the positive impact expected for global users of cochlear implants.

2023 Sheila Moodie was honoured with the Antonia Brancia Maxon Award for Early Hearing Detection and Intervention (EHDI) excellence. This award honors the life and work of Dr. Antonia Brancia Maxon to promote effective Early Hearing Detection and Intervention (EHDI) programs for all newborns, infants, and young children.

2023

Marlene Bagatto was honoured with the Marion Downs Pediatric Audiology Award. This award is named in honour of Marion Downs, who is widely recognized as North America's developer of Pediatric Audiology.

2022 The team who developed Version 5 of the Desired Sensation Level (DSL) hearing aid prescription software was honoured with the Governor-General's Innovation Award. The award recognizes Canadian innovations that have had global impact. DSL is the world's first and leading pediatric hearing aid prescription, and is transferred to the global hearing industry via WORLDiscoveries.

2022 BJ Cunningham, Olivia Daub, and Janis Oram received the 2022 Editor's Award from Canadian Journal of Speech-Language Pathology and Audiology for their paper on best-practices for monitoring spoken language outcomes in children with permanent hearing loss.

2020 Michael Vekasi was recipient of the Queen Elizabeth II Platinum Jubilee medal in 2022 and awarded the 2020 Professional Leadership Award from A.T. Still University.

IMPACT THROUGH LOCAL, CANADIAN, & GLOBAL REPORTS

2023 A clinical practice guideline for virtual hearing aid care was developed, implemented in Western's H.A. Leeper Speech and Hearing Clinic, and was made publicly available in the NCA's Scholarship at Western Channel. Additionally, the development and evaluation of this guideline was published across two supporting peer-reviewed articles (PI: Danielle Glista).

2023 Ontario's Infant Hearing Program protocol for Hearing Aid Fitting in Infants and Young Children was updated and made publicly available in the NCA's Scholarship at Western Channel.
(Editors: Marlene Bagatto and Susan Scollie)

2022 Clinical consensus document for fitting non-surgical transcutaneous bone conduction hearing devices to children (NCA representative: Marlene Bagatto).

2022 Suitable Electrode Choice for Robotic-Assisted Cochlear Implant Surgery: A Systematic Literature Review of Manual Electrode Insertion Adverse Events.
(NCA co-author: Sumit Agrawal).

2021 Minimal outcome measurements in pediatric cochlear implant users: A consensus paper (NCA co-author: Sumit Agrawal).

2020 Ontario's Infant Hearing Program protocol for using the Auditory Brainstem Response for Audiological Assessment of Infants was updated and made publicly available in the NCA's Scholarship at Western Channel. (Editor: Marlene Bagatto)

2020 A new procedure for monitoring spoken language outcomes in children with permanent hearing loss was launched for use by over 400 speech-language pathologists in the Ontario Preschool Speech and Language Program (PIs: Olivia Daub, Janis Oram, BJ Cunningham)

2019 HearON Videos to support parents of children who are D/deaf or hard of hearing were developed with the support of an Ontario Ministry of Research and Innovation Early Researcher Award (ER16-12- 144) to Dr. Sheila Moodie (NCA co-authors Moodie & D. Sindrey).

2019 Consensus practice parameter: Audiological assessment and management of unilateral hearing loss in children (NCA co-author: Marlene Bagatto).

2019 Ontario's Infant Hearing Program protocol for Audiometric Assessment for Children aged 6 to 60 months was developed and made publicly available in the NCA's Scholarship at Western Channel.
(Editor: Susan Scollie)

2019 The Protocol for Universal Newborn Hearing Screening in Ontario was developed and made publicly available in the NCA's Scholarship at Western Channel. (Editor: Marlene Bagatto)

OUR STAFF

Lucy Kieffer, BA
Administrative Assistant
LinkedIn

- Finances, human resources liaison, and administration of the Centre
- Research granting, administration, and accounting
- Support for strategic and outreach initiatives

Steve Beaulac, BSc, BESc
Senior Systems Engineer
Google Scholar LinkedIn

- Developer of the DSL® v5 dynamically linked library
- Network support and research software development
- Input on systems design for software and hardware

Paula Folkeard, AuD
Research Manager & Audiologist
Google Scholar LinkedIn X

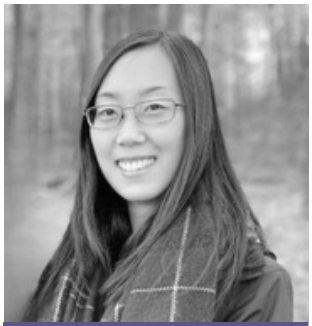
- Adult amplification and outcome measurement
- Product and procedure validation
- Industry-sponsored research
- Social media management

Matt Holden, BESc
Programmer Analyst
LinkedIn

- Developer of the AudioCARL user interface and key algorithms
- UI and embedded software architecture and development
- Hardware and software support

Robin O'Hagan, BA, CDA
Lab Coordinator, Research Assistant
Google Scholar LinkedIn

- Project coordination
- Research dissemination support
- Technical support and data collection



Krystal Beh, MSc, MCISc
Research Associate & Audiologist
Google Scholar LinkedIn

- Pediatric hearing aid fitting and verification
- Auditory electrophysiology
- Project management
- Continuing education
- Evidence-based protocol development

Christine Brown, MCISc
Research Associate & Audiologist
Google Scholar

- Pediatric hearing assessment and outcome monitoring
- Bone anchored hearing aid fitting
- Evidence-based protocol development

Ben Chanda, BSc
Research Assistant

- Project coordination
- Research dissemination support
- Technical support and data collection

AUDITORY BIOPHYSICS LAB

Hanif Ladak, PhD, FCAE
Lab Director, Professor
Select Publications LinkedIn

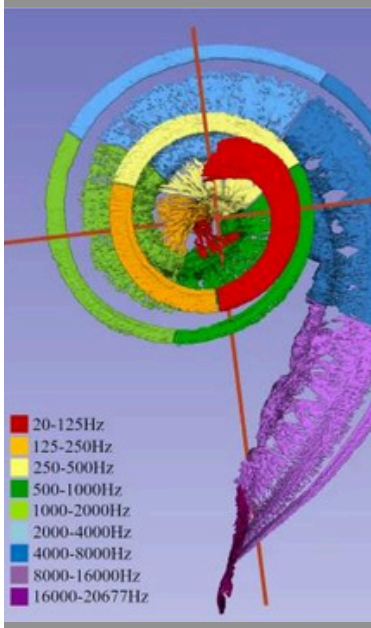
Sumit Agrawal, MD, FRCS(C)
Interim Director, ENT-HNS, LHSC
Google Scholar LinkedIn

About the Lab

Investigators in the Auditory Biophysics Laboratory work in close collaboration with ear surgeons and biomedical companies to develop hearing assistive devices, eardrum grafts, new diagnostic techniques (including imaging approaches and analysis software) and surgical training simulators with a focus on translation from the laboratory to clinical mapping and surgical practice. Using imaging data gathered with a tool they pioneered last year, they have developed an innovative and personalized approach. They are currently running a randomized controlled trial to test their customized mapping tool for cochlear implants and its direct patient benefits. The researchers hope to greatly improve the sound quality and listening experience by tuning the implant to fit each person's unique anatomy. In addition to this, they will optimize the physical design of the implant's electrodes to best use their discoveries about cochlear micro-anatomy. Integration of research with clinical care occurs in the London Health Sciences Cochlear Implant program. Home to Dr. Agrawal's program of surgery, this growing program of care sees pediatric and adult patients and provides a deep connection between basic science, translational research, and implementation.

Key papers

Micuda A, Li H, Rask-Andersen H, Ladak HM, Agrawal SK. Morphologic analysis of the scala tympani using synchrotron: Implications for cochlear implantation. The Larnygoscope, 2024.
Dillon M, Helpard L, Brown K, Selleck A, Richter M, Anderson Rooth M, Thompson N, Dedmon MM, Ladak HM, Agrawal S. Influence of the frequency-to-place function on performance with place-based cochlear implant maps. The Laryngoscope, 2023.
Helpard L, Li H, Rohani SA, Zhu N, Rask-Andersen H, Agrawal S, Ladak HM. A novel approach for individualized cochlear frequency mapping determined from 3D synchrotron radiation phase-contrast imaging, IEEE Transactions on Biomedical Engineering, 2021.



AUDITORY WELLNESS RESEARCH LAB (AWRL)

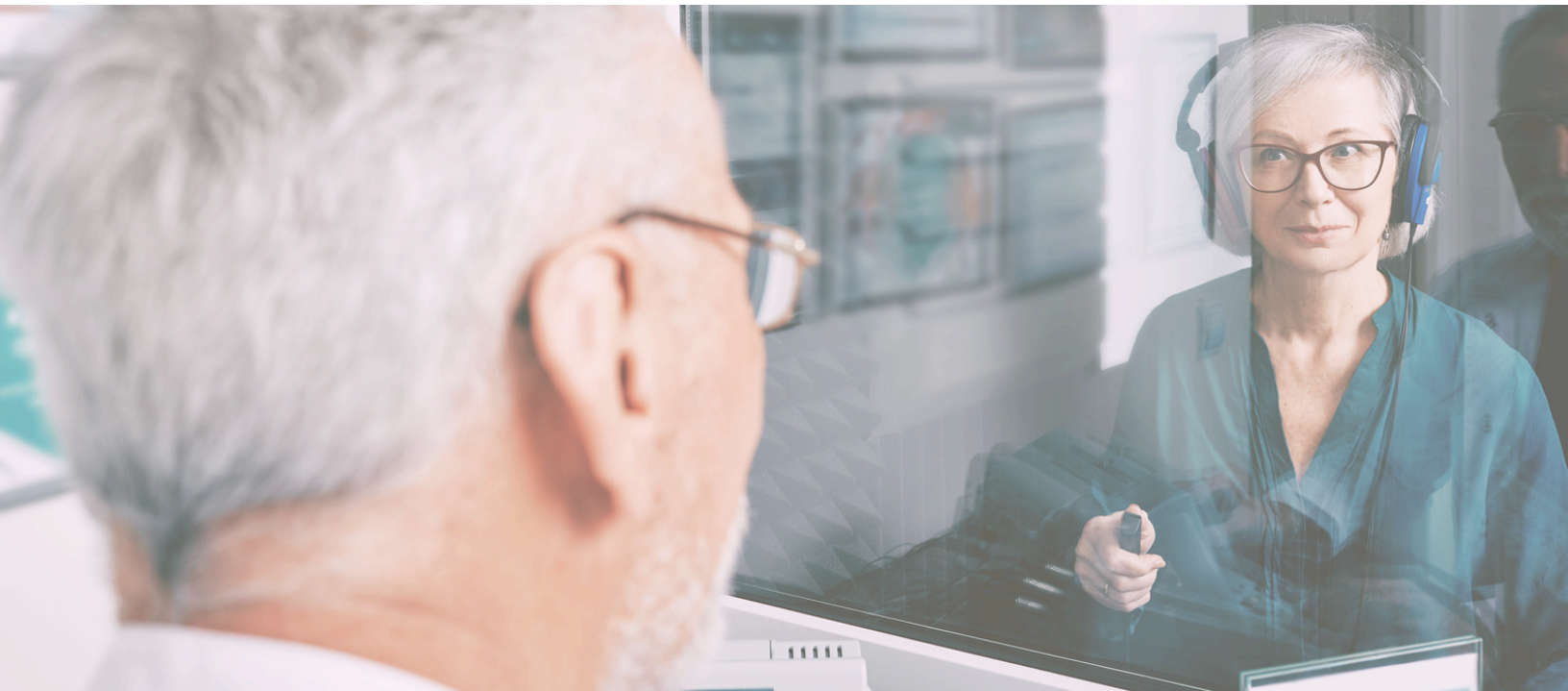
Jack Scott, PhD
Assistant Professor,
Lab Director
LinkedIn

About the Lab

Our research in auditory wellness is guided by a commitment to innovative solutions, inclusivity, and improved hearing healthcare practices, spanning from hearing to tinnitus remediation. We explore the intersection of education, outreach, and research, thereby creating a holistic impact on academic training and education, broader community spheres, and the advancement of research-based best practices and recommended guidelines in clinical care.

Through a concentrated and coordinated initiative, with the support of community partners 'on the ground' and researchers within the National Centre for Audiology and the Faculty of Health Sciences, our research expands community hearing services, addresses support needs, and identifies the facilitators and barriers of implementation and uptake of hearing remediation and tinnitus treatment.

Previous outreach work by the Principal Investigator (PI) in remote First Nation communities received the Western University Humanitarian Award, along with recognition and funding from the Hear The World Foundation and the Coalition of Global Hearing Health.



AUTISM SPECTRUM & LANGUAGE DISORDERS LAB

Janis Oram, PhD
Lab Director, Professor, & Associate Dean (Research)
Google Scholar LinkedIn

About the Lab

The Autism Spectrum and Language Disorders Lab directed by Dr. Janis Oram, a professor and speech-language pathologist. The lab includes graduate students from the MSc/PhD programs in Health and Rehabilitation Science (Speech & Language Science) and Neuroscience, and the MCISc program in Speech-Language Pathology, as well as undergraduate students in psychology, health sciences, and medical sciences. Specialized facilities allow multichannel brain mapping, for the study of sound and language processing. We investigate neural, perceptual, and cognitive contributions to language abilities in children, and conduct practice-based research to improve outcomes for young children with speech, language, and hearing disorders.

Highlights

Dr. Oram has continued to identify brain markers of spoken language development in children using electroencephalography. With Drs. Elaine Kwok, Prudy Allen, and Brian Allman, she discovered that children with weaker language skills show differences in the patterns of their brain's background activity. Work with Alyssa Janes and Dr. Marlene Bagatto is examining the role of brain responses to simple sounds in early language acquisition (ORF and NSERC funding). Her work with Olivia Daub and BJ Cunningham on best practices for monitoring spoken language outcomes for children with permanent hearing loss won an Editor's Award (CJASLPA) in 2022.

CHILD HEARING RESEARCH LAB

Prudence Allen, PhD
Associate Professor
Google Scholar

Chris Allan, PhD
Assistant Professor &
Clinical Education Coordinator
Google Scholar

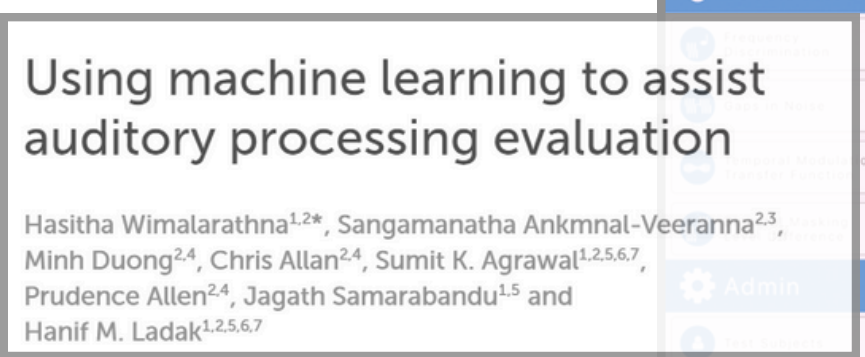
Hasitha Wimalarathna, PhD
Postdoctoral Fellow
Google Scholar LinkedIn

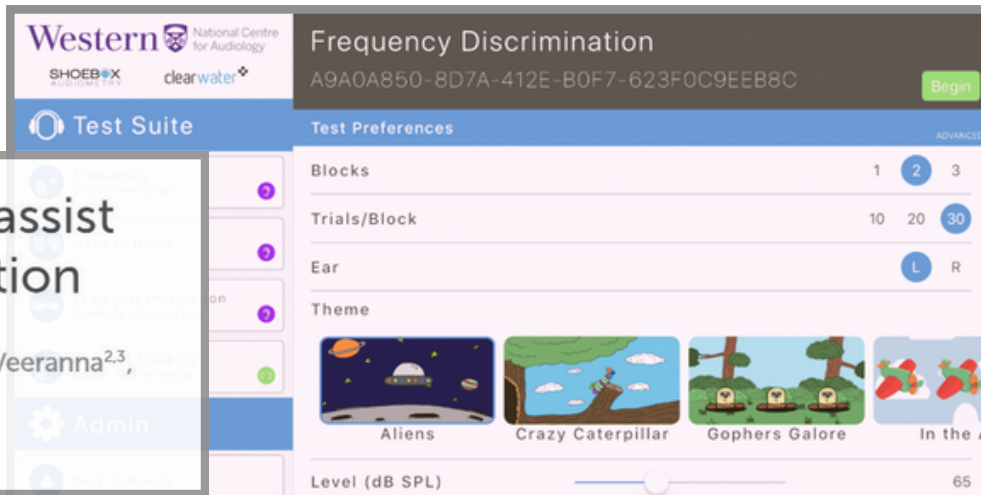
About the Lab

The Child Hearing Research Laboratory studies children's ability to hear and distinguish sounds in both quiet and noisy listening conditions, how normally developing children process auditory information and how those abilities change with maturation, and how processing may be disrupted in children with language and/or learning disorders. Work has included collaboration on the development, validation and verification of a portable device for psychoacoustic evaluation that can be used in a clinical setting, and the utility of electrophysiological measurement in assessing the integrity of the auditory nervous system. Current projects are developing innovative machine-learning algorithms for use in auditory electrophysiology.

Key funding, collaborators, and publications

- Mitacs support in collaboration with Dr. Soodeh Nikan, Faculty of Engineering and Vivosonic
- ORF funding and collaboration with the H.A. Leeper Speech and Hearing Clinic
- Soares, J., Veeranna, S., Parsa, V., Allan, C., Ly, W., Duong, M., Folkeard, P., Moodie, S., Allen, P. (2021). Verification of a mobile psychoacoustic test system. Audiol Res. doi.org/10.3390/audiolres11040061





COGNITIVE NEUROSCIENCE OF COMMUNICATION AND HEARING (CONCH) LAB

Ingrid Johnsrude, PhD
Lab Director, Professor, and Western Research Chair
Google Scholar LinkedIn

About the Lab

Members of the Cognitive Neuroscience of Communication and Hearing Lab use psychophysical and neuroimaging methods such as fMRI and EEG to study the neural basis of hearing; particularly how the brains of listeners transform the noisy and variable sounds of everyday conversations into meaningful language.

The group is also exploring how the brain develops expectations about what it will hear, and how these expectations influence perception.

Another line of research is exploring the potential of novel functional-imaging based methods for evaluation of subtle brain abnormalities in epilepsy, concussion and other brain disorders.

CONNECTED HEARING HEALTHCARE LAB

Danielle Glista, PhD
Lab Director, Assistant Professor
Google Scholar LinkedIn

Robin O'Hagan, BA, CDA
Lab Coordinator, Research Assistant
Google Scholar LinkedIn

About the Lab

The Connected Hearing Healthcare Lab specializes in leveraging technology to enhance hearing healthcare in collaborative care models. Our goal is to optimize daily listening and performance with hearing devices, integrating audiological services seamlessly into people's everyday lives. Our current research is dedicated to evaluating key clinical implementation factors related to remote and virtual audiological services. Additionally, the Connected Lab focuses on the development and assessment of real-world mobile health (mHealth) tools designed to support improved hearing outcomes, across all ages

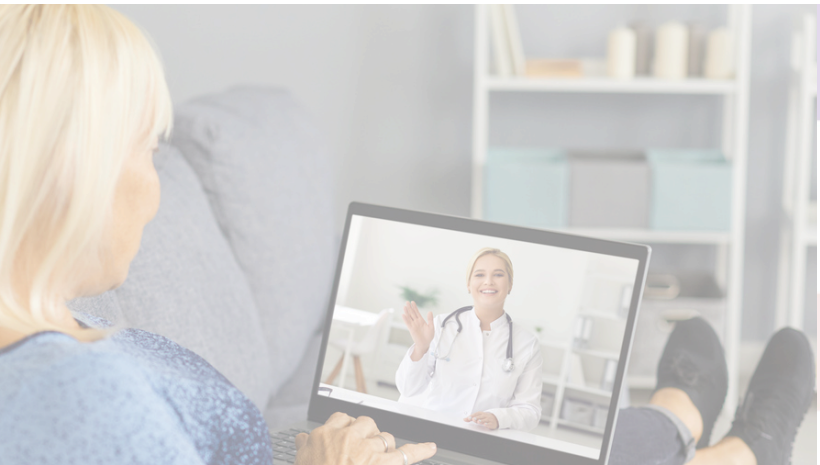
Key publications

Glista, D., O'Hagan, R., DiFabio, D., Moodie, S.T.F., Munoz, K., Curca, I.A., Meston, C., Richert, F., Pfingstgraef, D., Nageswaran, L., Brown, C., Joseph, K., Bagatto, M. (2023) Phase 1 of a Collaborative action around the implementation of virtual hearing aid care: Development of a clinical practice guideline. Journal of Evaluation in Clinical Practice. https://doi.org/10.1111/jep.13846

Glista, D., O'Hagan, R., DiFabio, D., Moodie, S.T.F., Munoz, K., Pfingstgraef, D., Curca, I.A., Meston, C., Richert, F., Nageswaran, L., Brown, C., Joseph, K., Bagatto, M. (2023) Phase 2 of Collaborative Action Around the Implementation of Virtual Hearing Aid Care: Evaluation of a Clinical Practice Guideline. Journal of Evaluation in Clinical Practice. https://doi.org/10.1111/jep.13847

Glista, D., Ferguson, M., Munoz, K., Davies-Venn E. (2021). Connected hearing healthcare: Shifting from theory to practice. International Journal of Audiology, 60(S1), https://doi.org/10.1080/14992027.2021.1896794

Glista, D., O'Hagan, R., Van Eeckhoutte, M., Lai, Y., & Scollie, S. (2021). The use of ecological momentary assessment to evaluate real-world aided outcomes with children. International Journal of Audiology, 60(S1), https://doi.org/10.1080/14992027.2021.1881629.



DIGITAL SIGNAL PROCESSING AND ELECTROACOUSTICS LAB (DEAL)

Vijay Parsa, PhD
Lab Director, Associate Professor
Google Scholar LinkedIn

"In my experience, the NCA's ORF success allowed significant collaboration among the Centre members. Without the cross-disciplinary collaboration that the NCA affords, I would not be able to move forward in my research agenda!"

Current Collaborative Projects

- Objective and subjective benchmarking of hearing aid signal processing algorithms (with Dr. Scollie)
- Psychoacoustic measurements and enhancement of psychoacoustic cues (with Dr. Allen)
- Subjective evaluation of cochlear implant and bone conduction implant devices (with Drs. Scollie, Macpherson, Agrawal, & Ladak)
- Objective and subjective evaluation of disordered voice quality (with Drs. Doyle and Adams).

Key Papers

- Van der Woerd et al. (2020) – Demonstrating that reliable acoustic measures of disordered voice quality can be obtained using Smartphones, even in non-optimal environments.
- Soares et al. (2021) – Initial verification of a home grown, flexible, and portable psychoacoustic test system. Not a unique invention, but it has several endearing features!
- Farahani et al. (2023) and Farahani et al. (2020) – Applying pupillometry for assessing the listening effort associated with disordered speech perception.

FAMILY-CENTERED EARLY INTERVENTION LAB

Sheila Moodie, PhD
Lab Director, Associate Professor
Google Scholar LinkedIn

Highlights

The Journal of Deaf Studies and Deaf Education; Volume 29, Issue SI, February 2024 Special Issue: Family-Centered Early Intervention Deaf/Hard of Hearing (FCEI-DHH).

Together with Speech-Language & Audiology Canada, Kathy Pichora-Fuller, Danielle Glista, J.B. Orange, students (Jana Bataineh, Kate Pfingstgraef, Grecia Alaniz), and colleagues (Miranda Cooper & Anne Carey) we have been working on a project to develop curricula to educate audiologists, speech-language pathologists (SLPs), and other interprofessional providers, including family physicians, on the roles of audiologists & SLPs in team-based primary care.

With this large group of international colleagues, we have developed and published through a special issue in the Journal of Deaf Studies and Deaf Education (JDSDE), an updated international consensus statement on family-centered early intervention for families with children who are deaf or hard of hearing. One of the impactful aims of this work is to provide evidence-informed guidance for early hearing detection and intervention (EHDI) programs (developed or developing), service providers, and families with young children who are DHH so that the best available supports can be accessed at the earliest possible time close to home.

5 Year Plan

To continue to strengthen established interprofessional and interdisciplinary partnerships at the NCA, Western University, and beyond,

To enhance support systems for families raising children who are deaf or hard of hearing (FCEI-DHH). My goal is to optimize outcomes for the child, family, and community. This research initiative aims to shift service delivery models from a problem-focused to a present-focused approach in supporting DHH families.

HEARING AID TECHNOLOGIES AND OUTCOMES FOR ADULTS LAB (HATO-A)

Susan Scollie, PhD
Lab Co-Director,
Professor
Google Scholar LinkedIn

Vijay Parsa, PhD
Lab Co-Director,
Associate Professor
Google Scholar LinkedIn

Ewan Macpherson, PhD
Lab Co-Director,
Associate Professor
Google Scholar LinkedIn X

Paula Folkeard, AuD
Research Manager,
Audiologist
Google Scholar LinkedIn X

About the Lab

The Hearing Aid Technologies and Outcomes for Adults (HATO-A) lab examines how hearing aid technologies are related to outcomes for adults who use hearing aids, including preference, speech understanding, loudness, sound quality, and spatial hearing. The HATO-A group of investigators is a dynamic, interdisciplinary collaboration that includes audiologists, hearing scientists, and engineers. Our recent and current trainees have completed clinical field trials of new hearing technologies and signal processors (Hasan Saleh), developed new collaborations on activity in older adults (Mohamed Rahme), and are studying new tests and interventions for better hearing healthcare (Yan Jiang, Andreea Hajas).

Key Papers

- Saleh, H., Folkeard, P., Van Eeckhoutte, M., Scollie, S. (2021). Premium versus entry-level hearing aids: using group concept mapping to investigate the drivers of preference. Internat J Audiol,
- Rahme, M., Folkeard, P., Belfry, S., Orange, J.B., Scollie, S. (2022). The relationship between self-reported hearing measures and group exercise participant. Health & Fitness Journal of Canada, 15(3): 3-22.
- Folkeard, P., Van Eeckhoutte, M., Levy, S., Dundas, D., Abbasalipour, P., Glista, D., Agrawal, S., Scollie, S. (2021). Detection, speech recognition, loudness, and preference outcomes with a direct drive hearing aid: effects of bandwidth. Trends in Hearing. 25.
- Saleh, H., Folkeard, P., Macpherson, E., Scollie, S. (2020). Adaptation of the Connected Speech Test: Re-recording and passage equivalency, Am J Audiol, 29(2): 259-264.
- Folkeard, P., Hawkins, M., Scollie, S., Sheikh, B., Parsa, V. (2019). An evaluation of the Sennheiser HDA 280-CL circumaural headphone for use in audiometric testing. Internat J Audiol, 58(7): 427-433.

Industry Partners (with ORF, OCI, NSERC and contracts)

- Audioscan, Sonova, WSAudiology, Earlens, Shoebox, Sennheiser, and AHead Simulations

HUMAN AUDITORY PHENOTYPING AND GENETICS LAB

Susan Stanton, PhD
Lab Director, Associate Professor
Google Scholar LinkedIn

Terry-Lynn Young, PhD
Professor (Memorial Unniversity)
Google Scholar LinkedIn

About the Lab

In humans, almost 100 genes and thousands of variants are known to influence hearing and cause disorders that disrupt auditory system structure and function. Studies in the Human Auditory Phenotyping & Genetics Laboratory have focused on defining human auditory phenotypes, and through multidisciplinary collaborations have examined how an individual's hearing ability and auditory system function are influenced by their underlying molecular genotype. The lab uses behavioural and physiological measures to create a detailed auditory profile, or phenotype, in individuals with and without hearing impairment, and in individuals and families from Newfoundland and Ontario who experience problems hearing. Ongoing research studies have contributed to the discovery of new genes, and to the characterization of auditory manifestations of causative gene mutations that cause otosclerosis and nonsyndromic sensorineural hearing loss. Results of this research provide insight into the molecular foundations of inherited hearing ability, and will contribute to the development of new interventions for disorders that affect the auditory system.

Key Paper

- Abdelfatah, N., ..., Stanton, S.G. & Young, T. (2022) A pathogenic deletion in Forkhead Box L1 (FOXL1) identifies the first otosclerosis (OTSC) gene. Hum Genet 141, 965–979.

INNOVATIONS IN HEARING TECHNOLOGIES LAB

Susan Scollie, PhD
Lab Director, Professor
Google Scholar LinkedIn

Steve Beaulac, BSc, BESc
Senior Systems Engineer
Google Scholar LinkedIn X

Krystal Beh, MCISc
Research Associate & Audiologist
Google Scholar LinkedIn

Matt Holden, BESc
Programmer Analyst
LinkedIn

Paula Folkeard, AuD
Research Manager, Audiologist
Google Scholar

About the Lab

The Innovations in Hearing Technologies Laboratory (formerly Child Amplification Laboratory) develops and evaluates innovative technologies for hearing aid prescription, verification, and for simulation in teaching.

Innovations with impact have included the award-winning and globally distributed DSLv5 hearing aid prescriptive software, fitting methods and signals for use with frequency lowering hearing aids, outcome measures for testing speech recognition, prescriptive software for bone-conduction hearing aids (in collaboration with Bill Hodgetts and colleagues), clinical equipment for aided evoked potentials using running speech (in collaboration with SAFER lab), and the CARL manikin for simulation in teaching (in collaboration with AHead Simulations and DEAL lab). Our research is used in clinical protocols for Early Hearing Detection and Intervention programs (in collaboration with the PASS lab) and in clinical trials (in collaboration with HATO-A).

Key Papers

- Folkeard, P., Alam, M., Koch, R., Abbasalipour, P., Scollie, S. (2022). An evaluation of the CARL manikin for use in “patient-free” real ear measurement: consistency and comparison to normative data. Internat Audiol.
- Scollie, S., Folkeard, P., Pumford, J., Abbasalipour, P., Pietrobon, J. (2022). Venting corrections improve the accuracy of coupler-based simulated real-ear verification for use with adult hearing aid fittings. J Am Acad Audiol.
- Dao, A., Folkeard, P., Baker, S., Pumford, J., Scollie, S. (2021). Fit to targets and aided Speech Intelligibility Index values for hearing aids fitted to the DSLv5-Adult Prescription. J Am Acad Audiol. 30:02

NEUROPLASTICITY IN SENSORY SYSTEMS LAB

About the Lab

Our research focuses on the role of experience and plasticity in the development of sensory systems, with a focus on hearing loss and restoration. This program combines behavioural, neuroimaging, and anatomical approaches across models. Key NCA collaborations include Drs. Brian Allman and Danielle Glista.

Blake Butler, PhD
Lab Director, Assistant Professor
Google Scholar LinkedIn X

Recent contributions include a book chapter and a related review paper in Brain Structure and Function that look at hyperexcitability of the auditory cortex following hearing loss, and the role that it is likely to play in functional changes, including tinnitus and crossmodal plasticity. This pair of publications provides a new framework under which novel research hypotheses are already being developed.

Key Papers

- Hearing loss and brain plasticity: The hyperactivity phenomenon (2021)
- What and how the deaf brain sees (2019)
- Crossmodal neuroplasticity in deafness: Evidence from animal models and clinical populations (2020)

5 Year Plan

New initiatives include projects that seek to find neural correlates of the experience of misophonia, that examine how children engage with long-form narrative stimuli; and understand how individuals with hearing loss/cochlear implants use visual cues to support auditory perception.

PEDIATRIC AUDIOLOGY STRATEGIES & SYSTEMS LAB (PASS)

Marlene Bagatto, AuD, PhD
Lab Director, Assistant Professor
Google Scholar LinkedIn

Krystal Beh, MCISc
Research Associate & Audiologist
Google Scholar LinkedIn

Christine Brown, MCISc
Research Associate & Audiologist
Google Scholar

Ben Chanda, BSc
Research Assistant

About the Lab

The guiding question of the PASS Lab research program is: What are high quality pediatric hearing health care services and how can they be implemented effectively and offered equitably? The PASS Lab uses a combination of approaches to tackle research questions, such as laboratory and community-based research, consultation with novice and experienced clinicians to understand their knowledge needs, and development of standard practice protocols and education to support knowledge mobilization.

Highlights

1. Collaboration between the Ontario Infant Hearing Program (IHP) and Newborn Screening Ontario to develop and implement hearing loss risk factor screening in combination with electrophysiological screening.
2. Collaboration between the Canadian Infant Hearing Task Force, Speech Language Pathology and Audiology Canada, and the Canadian Academy of Audiology to launch a report card on the status of infant hearing health systems.
3. Canadian Hearing Services Global Partnerships in Research Grant to study the social determinants of infant hearing healthcare in some Canadian provinces.
4. Ongoing support for the Ontario IHP, including protocol development and implementation for clinical services.

Key Publications

- Status of Early Hearing Detection and Intervention Programs in Canada: Results From a Country-Wide Survey (2020)
- Fitting bone conduction hearing devices to children: audiological practices and challenges (2020)
- Cytomegalovirus-A Risk Factor for Childhood Hearing Loss: A Systematic Review (2021)
- Fitting bone conduction hearing devices to children: audiological practices and challenges (2021)
- Clinical consensus document for fitting non-surgical transcutaneous bone conduction hearing devices to children (2022)
- Protocol for the Provision of Amplification v 2023.01 (2023)

SENSORY PROCESSING AND COGNITION LAB

Brian Allman, PhD
Lab Director, Associate Professor
Google Scholar

About the Lab

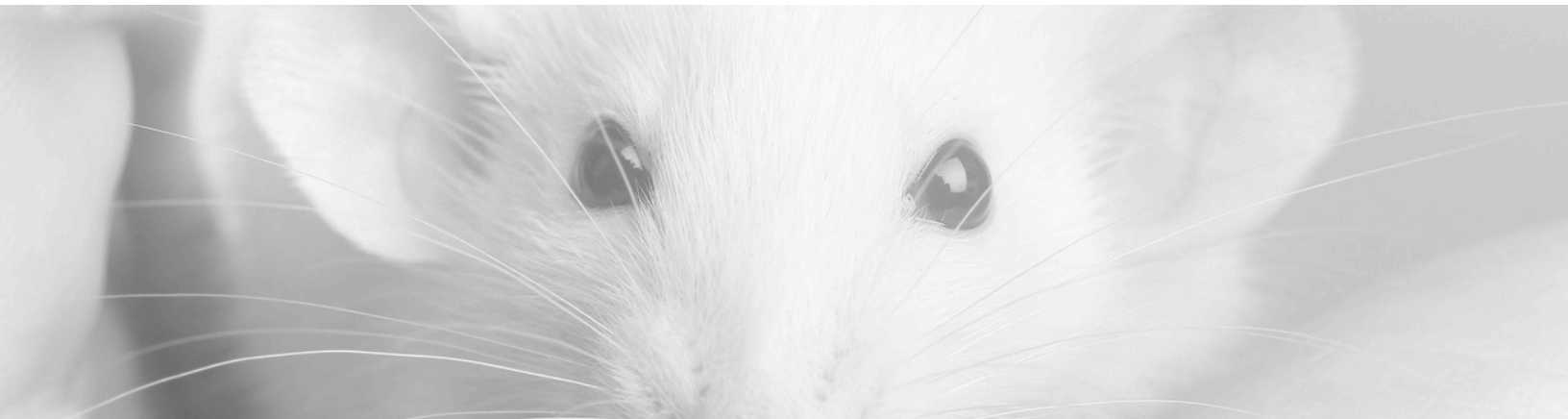
Our research focuses on basic questions investigating how the cortex integrates information from more than one sense (e.g., sight and hearing), as well as on clinically-relevant questions as to how the cortex adapts to hearing loss and its perceptual implications. The Sensory Processing and Cognition Lab investigates:

Multisensory Processing and Perception

Simply by considering our own daily experiences, we become keenly aware that the processing of information from each of our senses does not occur solely in isolation; rather, our brains naturally merge information from our different senses to provide us with a more complete sensory experience.

Brain Plasticity Following Hearing Loss

How does the brain adapt (or mal-adapt) when it is deprived one of its senses? To address this question, we have taken a multi-faceted approach that ranges from in vitro investigations of the sensory cells in the inner ear, all the way up to studying cortical processing at the level of single neurons, local cortical micro-circuits and sensory perception. It remains a long-term goal of the research program to reveal the brain circuits and cellular mechanisms that contribute to the perceptual and cognitive consequences associated with hearing loss-induced brain plasticity.



SPATIAL AND PROSTHETIC HEARING LAB (SPHEAR)

Ewan Macpherson, PhD
Lab Director,
Associate Professor
Google Scholar LinkedIn

Ioan Curca, PhD
Assistant Professor,
Clinical Supervisor
Google Scholar LinkedIn

About the Lab

Spatial hearing is an important component of auditory perception that provides awareness of the locations of sound sources situated within and outside the visual range and supports the ability to segregate and attend to one voice out of many in a crowded room. Dr. Macpherson and his students have investigated spatial hearing in listeners with normal hearing and with hearing loss and have provided expertise and methodological assistance for collaborative projects within the NCA,

Highlights

Our (2019) paper on working-memory benefits of bilateral cochlear implantation was one highlight. This was a truly collaborative team effort between NCA and LHSC faculty and staff. Our collaboration (Vaisberg, Scollie, Parsa) on music sound quality advanced knowledge of research methods in personalized amplification and sound quality.

5 Year Plan

Future research on multisensory integration in spatial hearing (sound localization and auditory spatial attention) will use innovative methods such as electrical vestibular stimulation and visual virtual reality to quantify multi-sensory weighting in listeners with normal and impaired auditory/vestibular systems and the impact of such impairment on real-world auditory abilities. This will advance NCA/Leeper clinic integration with clinical colleagues (Curca) and their patients.

SPEECH AUDITORY FEEDBACK & EVOKED RESPONSES LAB (SAFER)

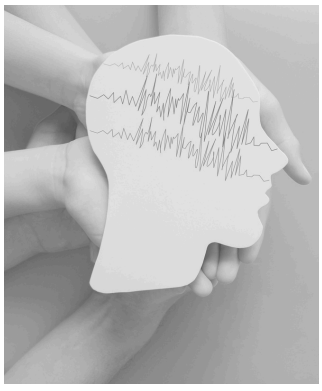
About the Lab

We are developing new ways of using the objective measurements that we have available from the electroencephalogram (EEG), and relating these to perception. For example, the brain's envelope and frequency following response (the EFR and FFR) have a practical application in validating hearing aids (NSERC CIHR; Scollie, Beh, Bagatto, Viji Easwar). Our current work is investigating how these potentials are generated (NSERC, Easwar, Steve Aiken). Collectively, these collaborations allow us to move forward on the use of speech evoked potentials for validating hearing aids. It is a complex challenge and having interdisciplinary collaborations allows our team to quickly make choices in our work that require multi-faceted expertise.

David Purcell, PhD
Lab Director, Associate Professor
Google Scholar LinkedIn

Key Publications

- Easwar V, Purcell D, Eeckhoutte MV, Aiken SJ. (2022). The Influence of Male- and Female-Spoken Vowel Acoustics on Envelope-Following Responses. Semin Hear. 43(3):223-239.
- Easwar, V., Aiken, S., Beh, K., ..., Scollie, S., and Purcell, D. (2022). Variability in the Estimated Amplitude of Vowel-Evoked Envelope Following Responses Caused by Assumed Neurophysiologic Processing Delays. JARO. 23, 759–769.
- Easwar, V., Scollie, S., Lasarev, M., Urichuk, M., Aiken, SJ., and Purcell, D.W. (2021). Characteristics of Speech-Evoked Envelope Following Responses in Infancy. Trends in Hearing. 24, 1-17.



5 Year Plan

I am planning to unravel how the envelope following response is initiated and generated, and put that knowledge towards optimizing measurement of this evoked potential in the context of a clinical measurement for validating hearing aids.

COLLABORATORS

Google Scholar
LinkedIn

BJ Cunningham, PhD

Lab Director of the Communicative Health Services and Systems Lab; Associate Professor in the School of Communication Sciences and Disorders at Western University (London)

Dr. Cunningham leads policy-related work to develop accessible and novel measurement tools to support assessment of children with various complex needs, She continues this work to better understand preschoolers with communication difficulties and who require intervention to maximize available public resources (Ontario Ministry of Children, Youth, and Social Services; CIHR).

Google Scholar
LinkedIn

Mehmet Begen, PhD

Associate Professor in Management Science at Ivey Business School at Western University (London)

Dr. Begen is an expert healthcare service and production, including scheduling and productivity analysis He is collaborating with Marlene Bagatto and others on Mapping the Social Determinants of Infant Hearing Health Care in Canada and A Cost Analysis of Infant Hearing Health Care in Canada (Canadian Hearing Services, Global Partnerships).

Google Scholar
LinkedIn

Steve Aiken, PhD

Associate Professor in School of Communication Sciences and Disorders at Dalhousie University (Halifax, Nova Scotia)

Dr. Steven Aiken's research is focused on assessing auditory function at the level of the brainstem and cortex using evoked responses, particularly in relation to complex (but functionally important) sounds such as speech and music.
He is collaborating with David Purcell, Viji Easwar, and Susan Scollie on rapid measures of speech-evoked brain activity in infants who use hearing aids (CIHR/NSERC CHRP).

LinkedIn

Andreas Seelisch, MBA, MSc

Director of Audiology at Hearing Solutions (Toronto)

Andreas is the Chief Audiologist at Hearing Solutions, an Ontario-based clinical organization with multiple locations. His long expertise in clinical Audiology supports his work in protocol development, Hearing Healthcare Leadership, Clinical Practice Management, Applied Clinical Research, Education, and Ambassadorship. He coaches clinicians to reach their potential and use evidence to ensure our organization makes the right strategic decisions.

COLLABORATORS

Google Scholar
LinkedIn

Sangam Ankmnal Veeranna, PhD, MASLP

Assistant Professor in Audiology in the School of Speech and Hearing Sciences at the University of Southern Mississippi (Hattiesburg, Mississippi)

Dr. Veeranna graduated from Mangalore University, India, in 2009 with a M.S. in Audiology and Speech-Language Pathology. He then received his Ph.D. (Hearing Science) in 2017 from the Health and Rehabilitation Sciences program at the Western University, Canada. before completing his postdoctoral training at the National Centre for Audiology. Dr.Veeranna's research interests include understanding auditory processing in individuals with and without listening difficulties (children and adults) using psychoacoustic and electrophysiological measurements. Dr. Veeranna collaborates with Drs. Allen and Allan on assessment of auditory processing using objective and subjective tests.

Google Scholar
LinkedIn

Dave Gordey, PhD

Director of Pediatric Audiology and Research at the Centre for Applied Audiology Research in Oticon (Toronto); Adjunct Professor at Salus (Elkins Park, Pennsylvania) and Western University (London)

Dr. Gordey works in research and education, with a demonstrated experience working in post secondary education, clinical practice, and the medical device industry. His focuses include clinical research, teaching, course/curriculum development, professional relations, medical devices, pediatric audiology, program development and implementation, knowledge translation, sales and marketing, and change management. Dr. Gordey collaborates with Dr. Sheila Moodie, and both are founding members of the Knowledge and Implementation in Pediatric Audiology group (KIPA), a global consortium of audiologists interested in closing the gap between research and clinical care.

Google Scholar

Sarah Hayes, AuD, PhD

Assistant Professor in the Department of Otolaryngology at the University of Rochester (Rochester, New York); Adjunct Research Professor in the School of Communication Sciences and Disorders at Western University (London)

Dr. Hayes is a clinician-scientist who completed Doctorate in Audiology and her PhD in Neuroscience in the Center for Hearing and Deafness at the University at Buffalo. She then completed a postdoctoral fellowship in the Department of Anatomy and Cell Biology at Western University, where she also held an appointment as Adjunct Research Professor in the Department of Communication Sciences and Disorders. Her research aims to understand how brain plasticity caused by hearing loss leads to auditory pathologies such as tinnitus and hyperacusis, and how hearing loss increases the risk for cognitive impairment. Dr. Hayes collaborates with Drs. Brian Allman, Susan Scollie, and Jack Scott on basic and translational research in tinnitus. Dr. Hayes's Profile

COLLABORATORS

Google Scholar

Ian Bruce, PhD

Professor in the Department of Electrical & Computer Engineering at McMaster University (Hamilton)

The main interests of the Auditory Engineering Lab are in the areas of biomedical engineering and signal processing applied to the auditory system. The primary application is to use engineering methods to study and model the physiological mechanisms that contribute to hearing loss and tinnitus and to improve assistive devices for the hearing impaired such as hearing aids and cochlear implants, and to treat tinnitus. Dr. Bruce's Profile

Google Scholar
LinkedIn

Steven Lomber, PhD

Canadian Research Chair in Brain Plasticity and Development; Professor in the Department of Physiology at McGill University (Montréal)

The central objective of Dr. Lomber's research program is to understand how the brain responds to changes in sensory input. The goal of our research program is to advance our understanding of how the auditory cortex responds to hearing loss and to the initiation of hearing with cochlear prosthetics. We use a synergistic combination of functional magnetic resonance imaging (fMRI), psychophysical techniques, electrophysiological recording, and connectional anatomy. We examine auditory, visual, and tactile function in the auditory and visual cortex. Dr. Lomber's Lab Site

LinkedIn

Marshall Chasin, AuD, MSc

Director of Audiology and Research at the Musicians' Clinics of Canada (Hamilton); Adjunct Professor in the Linguistics Department at the University of Toronto (Toronto); Adjunct Professor in the School of Communication Sciences and Disorders at Western University (London)

Dr. Marshall Chasin is an audiologist and the Director of Auditory Research at the Musicians' Clinics of Canada, Adjunct Professor at the University of Toronto (in Linguistics), Adjunct Professor in the School of Communication Disorders and Sciences at the Western University. He is the author of over 200 articles and 8 books including Musicians and the Prevention of Hearing Loss, and just recently, Music and Hearing Aids. Dr. Chasin has been the recipient of many awards over the years including the 2012 Queen Elizabeth II Silver Jubilee Award for service to Canada. Dr. Marshall Chasin received the Canada 150 Medal in 2017.He has developed a new TTS app called Temporary Hearing Loss Test app. Dr. Chasin's Profile

COLLABORATORS

LinkedIn

Michael Vekasi, AuD, R. Aud, Aud(C)

Senior Trainer for Allied Health (Alberta); Adjunct Assistant Professor, A.T. Still University (Kirksville, Missouri) ; Sessional Instructor at MacEwan University (Edmonton, Alberta)

Dr. Michael Vekasi is a Senior Trainer for Allied Health with a province-wide clinical information system implementation at Alberta Health Services. He was previously a clinical audiologist where his caseload focused on vestibular diagnostic assessments as well as a multi-disciplinary vestibular clinic. He is an Adjunct Assistant Professor with A.T. Still University, teaching vestibular assessment and management to post-professional Doctor of Audiology students, and is a sessional instructor at MacEwan University. He is an editor of the "Striking the Right Balance" column in Canadian Audiologist, an executive member of the National Vestibular Special Interest Group, a director (and president-elect) for the Canadian Academy of Audiology (CAA) and also volunteers his time with ACSLPA, SAC, the Alberta Association of Audiologists, and TAP (The Audiology Project) Canada.

Google Scholar
LinkedIn

Matt Lucas, PhD

Marketing Manager at Audioscan (Dorchester); Assistant Professor (Limited Duties) in the School of Communication Sciences and Disorders at Western University (London); Founder and Chief Audiologist of Lucas Audiology

Dr. Matt Lucas is an alumnus of Western who continues to collaborate with our researchers in his current role at Audioscan, an Ontario-based company manufacturing advanced hearing aid test equipment. Matt's expertise and interests span hearing conservation, advanced hearing assessments, and hearing aid interventions.

LinkedIn

John Pumford, AuD

Director of Audiology, Education and Clinical Research at Audioscan (Dorchester)

An alumnus of Western, Dr. Pumford has experience in clinical facilities, research institutions and the medical device industry. His background in clinical research, writing and publications, training and presentation skills, and management supports his current work in protocol and knowledge development for the fitting and verification of hearing instruments, particularly the use of probe microphone/real-ear measurements.

LinkedIn

Jonathan Pietrobon, MESc

Senior Product Developer at Audioscan (Dorchester)

An alumnus of Western, Jonathan leads the development of novel and innovative clinical tools for hearing instrument verification through mechanics, signal processing, and machine learning.

COLLABORATORS

LinkedIn

Marie Pigeon, MScA

Audiologist with the Infant Hearing Program at CHEO in Ottawa, Canada; Designated Trainer for the Infant Hearing Program; Hearing Loss Risk Factor Screening Program at Newborn Screening Ontario (Ottawa)

Marie Pigeon received her degree from McGill University School of Human Communication Disorders. She provides support in the development and implementation of program protocols, training, and continuous quality improvement for the Ontario Infant Hearing Program (IHP). Marie has been involved in the addition of the Hearing Loss Risk Factor Screening Program from conception to implementation. She currently works on the Genetics team of the Newborn Screening Ontario Hearing Loss Risk Factor Screening program, as well as running the CHEO IHP Designated Training Centre, and providing Clinical Audiology care at CHEO.

Google Scholar

Christine Meston, PhD

Assistant Professor and Clinical Supervisor in the School of Communication Sciences and Disorders at Western University (London)

Dr. Meston is a Clinical Supervisor in the H.A. Leeper Speech and Hearing Clinic at Western University. She provides clinical care through the Ontario Infant Hearing Program and has interests in pediatric audiology, aural rehabilitation, and clinical education.

LinkedIn

Rachel Dingle, PhD, MClSc

Director of Clinical Audiology at the Ear & Hearing Clinic (Kitchener)

Dr. Dingle received her PhD in Auditory Perception from Dalhousie University in 2012, where her doctoral research used psychophysical methods to explore the neural mechanics of sound localization. In 2015, Dr. Dingle received her MClSc from Western University. She has interests in pediatric audiology, aural rehabilitation, and clinical education.

LinkedIn

Theresa McVea, M.Sc.A

Audiology Lead - Horizon Health Network (New Brunswick)

In addition to her role as the audiology lead for the Horizon Health Network in New Brunswick, Theresa is collaborating with Marlene Bagatto to deliver "A Report of Infant Hearing Health Care Services in New Brunswick".

COLLABORATORS

Google Scholar

Volker Kuehnel, PhD

Senior Director/Principal Expert Hearing Performance at Sonova AG (Stäfa, Switzerland)

Dr. Kuehnel's expertise in rehabilitation with hearing aids (gain prescription, WDRC amplification, frequency lowering, signal enhancement technologies like directional processing and noise cancelling) provides invaluable support to many collaborations.

LinkedIn

Robert Koch MESc

President/Founder of AHead Simulations Inc. (Kitchener)

An alumnus of Western, Rob's innovative thesis developed a novel manikin-based training simulator called CARL that won the 2018 Governor-General's Gold Medal. In the 2019-2024 period, Mr. Koch founded and grew AHead Simulations Inc. in Kitchener, ON, and has partnered with NCA researchers on grant-supported collaborative projects through NSERC and OCI.

LinkedIn

Leonard Cornelisse, MScA

Hearing Scientist and Manager of Hearing System Engineering at Unitron Global (Kitchener)

Leonard has over 30 years of experience in the field as a clinical audiologist, a research audiologist and within industry. During his time as a research audiologist at Western University, he was a co-developer of the Desired Sensation Level (DSL) prescriptive fitting formula that is particularly popular for use in pediatric fittings. For the last sixteen years, Leonard has worked for Sonova and currently contributes to Advanced Concepts and Architecture in Product Research and Development.

LinkedIn

Rana El-Naji, MCISc

Clinical Audiologist/Clinical Supervisor at the H.A. Leeper Speech and Hearing Clinic (London)

Rana graduated from Western University with a Master of Clinical Science in Audiology in 2012. She started working as a clinical audiologist at the H.A. Leeper Speech and Hearing Clinic in 2015 and currently acts as a clinical supervisor for students in the audiology program at Western University. Rana has collaborated on a number of projects within the National Centre for Audiology. Her research interests include pediatric assessment, bone conduction hearing devices, and outcome measures.

COLLABORATORS

Google Scholar
LinkedIn
X

Jonathan Vaisberg, MCISc, PhD

Research Scientist at Sonova Innovation Centre (Mississauga)

Dr. Vaisberg studied the effects of hearing loss and hearing aid use on music perception in performing musicians during his PhD at Western University. He was the Research Lead at Bose Corporation while they developed their first hearing aid and conducted their FDA regulatory trials prior to market release. He is currently a Research Audiologist at the Sonova Innovation Centre, where he leads trials of efficacy and effectiveness for new hearing aid technologies.

Webpage

Roberto Guadagno, MCISc, AuD

Clinical Audiologist / Owner, Brampton Audiology (Brampton)

Rob has joined the NCA team as an expert clinician for clinical projects. Most recently he helped with an interdisciplinary project to develop clinical protocols for hearing and vestibular care following Covid-19 exposure.

Google Scholar
LinkedIn

Viji Easwar, PhD, Postdoctoral Fellow

Head of Pediatric Hearing Research at National Acoustic Laboratories (Sydney)

Funded by Ontario ORF/ERA, Dr. Easwar's work at Western focused on speech-evoked brain activity as an outcome measure for hearing aids in infancy. Her 2016 article won a prestigious Editor's award for best article in 2016. Dr. Easwar joined the faculty at the University of Wisconsin-Madison following postdoctoral studies. She is currently the Lead for the Pediatric Hearing Research Program at the National Acoustics Laboratories, where she directs a national program of research aimed at improving pediatric hearing healthcare in Australia. Dr. Easwar's Profile

Peter Kirchberger, MCISc, AuD

Audiologist/Owner of Kirchberger Audiology Professional Corporation (Orangeville Hearing Clinic, Alliston Audiology)

Peter has been providing audiology services in Orangeville and Alliston since 1998. He received his BSc with Honours in Biology from Bishop's University in 1990. He then completed his MSc in Physiology at Queen's University (1992) before completing his MCISc in Audiology from Western University (1995). While continuing to practice, he completed his AuD in 2008 from A.T. Still University. Peter was selected to be a representative of the Infant Hearing Program of Ontario. He has regularly been an Audiology consultant for the College of Audiologists and Speech Language Pathologists of Ontario.
Dr. Kirchberger's Profile

COLLABORATORS

Google Scholar
LinkedIn
X

Bill Hodgetts, PhD

Professor in the Faculty of Rehabilitation Medicine - Communication Sciences & Disorders at the University of Alberta (Edmonton)

Dr. Hodgetts earned a BA in Psychology and an MSc in Audiology from Western University before completing his PhD in Rehabilitation Sciences from the University of Alberta. He is currently a professor in the Department of Communication Sciences and Disorders at the U of A and holds a joint appointment at the Institute for Reconstructive Sciences in Medicine (iRSM) at the Misericordia Hospital where he is the program director for audiology and bone-conduction amplification — the largest bone-conduction amplification program in Canada and one of the largest in the world. He also leads the Bone Conduction Amplification Laboratory, located at both the U of A and iRSM.
Dr. Hodgetts' Profile

OUR ALUMNI

Google Scholar

Hasan K. Saleh, PhD (2022), Postdoctoral Associate (2023)
Supervisor: S. Scollie

Assistant Professor, School of Speech and Hearing Sciences - Southern Mississippi University (Hattiesburg, Mississippi)

Dr. Saleh's research focus is on patient-centered care. He published his thesis on User preferences for hearing aid features: Outcomes, concepts and test construction in 2022. Three papers arose from this work, one of which developed a novel patient assessment for hearing aid feature preference. Currently, Dr. Saleh is an Assistant Professor at The University of Southern Mississippi.

Google Scholar
LinkedIn
X

Olivia Daub, MClSc, PhD (2021)
Supervisor: J. Oram

Assistant Professor, School of Communication Sciences and Disorders - Western University (London)

Dr. Daub's focus is effective programs of service delivery that can provide early language development for children with speech and/or hearing disorders. Dr. Daub served as a Knowledge Translation Specialist at the Better Outcomes Registry Network (BORN), a prescribed maternal-newborn health registry. In this role she supported the use of health data to improve and facilitate maternal-newborn healthcare across Ontario. Dr. Daub joined Western as an assistant professor in 2023.

Google Scholar
LinkedIn

Maaike van Eeckhoutte, Postdoctoral Associate (2019)
Supervisors: S. Scollie & D. Purcell

Assistant Professor, Department of Health Technology - Danish Technical University and Copenhagen Hearing and Balance Centre, Rigshospitalet (Kongens Lyngby, Denmark)

With a Ph.D. from KU Leuven, Belgium, Dr. van Eeckhoutte completed a two year postdoctoral fellowship at Western. Her two papers on extended bandwidth in hearing aid fittings provided new evidence on the translation of benefit from lab studies to real-world outcomes that can be achieved in the clinic. Dr. van Eeckhoutte is currently an Assistant Professor at the Danish Technical University in the Hearing Systems Section of the Department of Health Technology. Her focus is on computational auditory modelling.

OUR ALUMNI

Google Scholar
LinkedIn

Haniyeh Salehi, PhD (2018)
Supervisor: V. Parsa
Acoustics Research Engineer, Meta Reality Labs

Dr. Salehi's research on "Learning-Based Reference-Free Speech Quality Assessment for Normal Hearing and Hearing Impaired Applications" contributed new tools to the hearing industry for testing hearing aid sound quality. Formerly a Product Development Specialist with Audioscan, Dr. Salehi is currently an Acoustics Research Engineer with Meta Reality Labs.

Google Scholar
LinkedIn

Sriram Boothalingam, PhD (2014)
Supervisors: D. Purcell & S. Scollie
Senior Lecturer/Senior Scientist, Macquarie University & National Acoustic Laboratories (Sydney, Australia)

Through Dr. Boothalingam's joint appointment with Macquarie and the National Acoustic Labs, he does collaborative research to understand the listening brain. He develops innovative diagnostic tools to assess hearing in health and disease to help clinicians treat those with hearing loss. Dr. Boothalingam graduated from Western University with a PhD in Hearing Science in August of 2014. He went on to complete a Postdoctoral fellowship at Northwestern University in 2017, investigating the Development of Novel Hearing Screening Tools based on Auditory Efferent Pathways. Dr. Boothalingam's Profile

Google Scholar
LinkedIn

Jordana Costa Soares, Postdoctoral Associate (2020)
Supervisor: P. Allen
Audiology Assistant, London Audiology Consultants (London)

Dr. Costa Soares completed a Bachelors degree in Audiology and Speech-Language Pathology (2001), a MSc (2008), and a PhD (2013) from the University of São Paulo. In 2017, she started as a postdoctoral associate at Western University where she collaborated on the development of an iPad-based tool to enhance psychoacoustic assessments. She employed integrated Knowledge Translation to assess the usability and feasibility of this new tool, developed a digital user's guide and instructional video for audiologists, and created an innovative online course on the theoretical and practical aspects of psychoacoustic tests. Currently, Dr. Costa Soares is working as an audiology assistant with London Audiology Consultants.

TRAINEES (CURRENT)

38

Adam Cotton | MSc (Hearing Science) | Supervisor: E. Macpherson | LinkedIn
Adrienne Harrison | MClSc/PhD (Audiology/Hearing Science) | Supervisor: D. Purcell | Google Scholar, LinkedIn
Alyssa Janes | MClSc/PhD (SLP/Speech and Language Sciences) | Supervisor: J. Oram | LinkedIn
Andreea Hajas | MClSc/PhD (Audiology/Hearing Science) | Supervisor: S. Scollie | LinkedIn
Arman Hassanpour | PhD (Hearing Science) | Supervisor: V. Parsa | Google Scholar, LinkedIn
Bavadharani Venkatesan | PhD (Hearing Science) | Supervisors: S. Scollie, M. Bagatto | CASLPO Initial Practice Registrant 2023 | Supervisors: M. Bagatto, P. Folkeard | LinkedIn
Danielle DiFabio | MClSc/PhD (Audiology/Hearing Science) | Supervisors: D. Glista, S. Moodie | Google Scholar, LinkedIn
Dave Sindrey | MClSc/PhD (Audiology/Hearing Science) | Supervisor: S. Moodie | LinkedIn, HearOn Videos
Eileen Webster | MClSc/PhD (Audiology/Hearing Science) | Supervisor: M. Bagatto
Eva Dubrovin | Research Assistant | Supervisor: J. Oram
Faraz Masheghati | MSc (Hearing Science) | Supervisor: S. Stanton | LinkedIn
Grace Otto | MSc (Neuroscience) | Supervisor: E. Macpherson | LinkedIn
Hasitha Wimalarathna | Postdoctoral Scholar | Supervisors: P. Allen, S. Nikkan | Google Scholar, LinkedIn
Jana Bataineh | PhD (Hearing Science) | Supervisor: D. Glista
Janani Rajendra | Work Study Student | Supervisor: D. Glista | LinkedIn
Jessica Holmes | MClSc/PhD (SLP/Speech and Language Science) | Supervisors: D. Purcell, J. Oram | LinkedIn
Junette Tinton | Undergraduate Student Research Intern | Supervisor: J. Oram
Juno Coan-Brill | MClSc/PhD (SLP/Speech and Language Science) | Supervisor: B. Cunningham | LinkedIn
Karan Chahal | NSERC Undergraduate Student Research Award | Supervisor: J. Oram | LinkedIn
Kate Pfingstgraef | Undergraduate Student Assistant | Supervisor: S. Scollie | LinkedIn
Lauren Denusik | MClSc/PhD (SLP/Speech and Language Science) | Supervisor: J. Oram | LinkedIn
Liwei Wang | PhD (Electrical and Computer Engineering) | Supervisor: V. Parsa | LinkedIn
Mackenzie Horne | Undergraduate Student Assistant | Supervisor: D. Purcell | LinkedIn
Marina Tawdrous | MClSc/PhD (Audiology/Hearing Science) | Supervisor: E. Macpherson | LinkedIn
Matthew Seto | Student Research Assistant | Supervisor: D. Purcell, J. Oram
Meghan Lewcock | PhD (Speech and Language Science) | Supervisor: BJ Cunningham | LinkedIn
Minh Wu | PhD (Hearing Science) | Supervisor: V. Parsa | LinkedIn
Mohamed Rahme | MClSc/PhD (Audiology/Hearing Science) | Supervisor: S. Scollie | Google Scholar, LinkedIn
Sally Norris | MClSc/PhD (Audiology/Hearing Science) | Supervisor: E. Macpherson | LinkedIn
Sara Tlayjeh | Graduate Student Assistant | Supervisor: D. Glista | LinkedIn
Solveig Voss | MSc (Hearing Science) | Supervisor: S. Scollie
Sungbeen Cho | PhD (Hearing Science) | Supervisor: E. Macpherson | Google Scholar, LinkedIn
Sushma Singh | PhD (Hearing Science) | Supervisor: S. Stanton
Tan Ze Wang | PhD (Neuroscience) | Supervisor: D. Purcell
Vahid Ashkanichenarlogh | PhD (Electrical & Computer Engineering) | Supervisor: V. Parsa | Google Scholar, LinkedIn
Vipula Kumar | PhD (Hearing Science) | Supervisors: J. Oram, A. Binns
Yan Jiang | PhD (Hearing Science) | Supervisor: E. Macpherson
Yu-Ying Sung | MClSc/PhD (Audiology/Hearing Science) | Supervisor: S. Scollie

TRAINEES (2019-2024)

Allyson McLean | Graduate Student Assistant 2023 | Supervisor: S. Moodie | LinkedIn
Alyssa Janes | MSc (Speech and Language Science) 2022 | Supervisor: J. Oram | LinkedIn
Amr Gaballah | PhD (Electrical and Computer Engineering) 2019 | Supervisor: V. Parsa | Google Scholar, LinkedIn
Boshra Bahrami | MSc (Speech and Language Science) 2023 | Supervisor: B. Cunningham | LinkedIn
Caitlin Coughler | MClSc/PhD (SLP/Speech and Language Science) 2021 | Supervisors: D. Purcell, J. Oram | LinkedIn
Camila Goldstein Fridman | MSc (Speech and Language Science) 2024 | Supervisors: O. Daub, J. Oram
Chenxi He | Postdoctoral Fellow 2023 | Supervisors: D. Ansari, B. Butler
Christina Boakye-Gyan | Undergraduate Student Assistant 2022 | Supervisor: D. Glista
Christina Horvath | Student Intern 2021 | Supervisor: P. Folkeard, S. Scollie, M. Bagatto | LinkedIn
Daniel Miller | Postdoctoral Fellow 2021 | Supervisor: B. Butler, A. Khan | LinkedIn
Emily Cox | Graduate Research Assistant 2021 | Supervisor: S. Moodie | LinkedIn
Emma Reily | Undergraduate Practicum Student 2021 | Supervisor: P. Folkeard | LinkedIn
Emma Valentine | Undergraduate Student Assistant 2022 | Supervisor: S. Moodie | LinkedIn
Farid Moshgelani | PhD (Electrical and Computer Engineering) | Supervisor: V. Parsa | Google Scholar, LinkedIn
Ganesh Attigodu Chandrashekara Macpherson | CASLPO Initial Practice Registrant 2022 | Supervisor: P. Folkeard
Hasan Saleh | PhD (Hearing Science) 2022 | Supervisor: S. Scollie | Google Scholar
Jacob Mutton | Co-op (Electrical and Computer Engineering) 2022 | Supervisor: S. Beaulac | LinkedIn
Jana Kubisova | Graduate Student Assistant 2020 | Supervisor: S. Scollie | LinkedIn
Jonathan Vaisberg | PhD (Hearing Sciences) 2019 | Supervisor: E. Macpherson, S. Scollie | LinkedIn
Jordana Costa Soares | Postdoctoral scholar 2020 | Supervisor: P. Allen | Google Scholar, LinkedIn
Katie Flannery | Graduate Student Assistant 2022 | Supervisor: S. Scollie | LinkedIn
Kelsey Kilpatrick | Graduate Student Assistant 2023 | Supervisor: E. Macpherson | LinkedIn
Kristina Springer | Graduate Student Assistant 2023 | Supervisor: S. Moodie | LinkedIn
Krystal Beh | Graduate Student Assistant 2020 | Supervisor: D. Purcell | Google Scholar, LinkedIn
Luxshmi Nageswaran | Undergraduate Student Assistant 2022 | Supervisor: D. Glista | LinkedIn
Matt Holden | Co-op Student 2022 | Supervisor: S. Beaulac | LinkedIn
Matt Lucas | Research Associate 2022 | Supervisor: S. Stanton | Google Scholar, LinkedIn
Matthew Urichuk | MClSc/PhD (Audiology/Hearing Science) 2022 | Supervisors: D. Purcell, S. Scollie | Google Scholar, LinkedIn
Max Tran-Luong | MSc (Hearing Science) 2021 | Supervisor: P. Allen, D. Purcell | LinkedIn
Maya Andrews | Student Assistant | Supervisors: S. Moodie, B. Cunningham | LinkedIn
Megann Dong | Graduate Student Assistant 2022 | Supervisor: S. Moodie | LinkedIn
Mehr Kothaneth | Undergraduate Student Assistant 2022 | Supervisor: S. Moodie | LinkedIn
Minh Duong | MSc (Hearing Science) 2022 | Supervisor: P. Allen | LinkedIn
Mit Patel | Undergraduate Student Assistant 2022 | Supervisor: S. Moodie | LinkedIn
Mohamed Rahme | 4th Year Independent Study Student 2019 | Supervisor: V. Parsa, P. Folkeard Google Scholar, LinkedIn
Mojgan Farahani | PhD (Hearing Science) | Supervisors: V. Parsa, P. Doyle | LinkedIn
Muneeb Alam | Graduate Student Assistant 2022 | Supervisor: S. Scollie | LinkedIn 4th Year Practicum Student 2019 | Supervisor: P. Folkeard
Negar Ahzan | MSc (Hearing Science) 2019 | Supervisor: D. Purcell | LinkedIn
Nhi Man (Vicky) Pham | Graduate Student Assistant, 2024 | Supervisor: D. Purcell | LinkedIn
Nilram Jalilian | Undergraduate Student Assistant 2021 | Supervisor: D. Glista

TRAINEES (2019-2024)

40

Olivia McKinlay | Graduate Student Assistant 2023 | Supervisor: M. Bagatto | LinkedIn
Olivia Daub | MClSc/PhD (SLP/Speech and Language Science) 2021 | Supervisors: M. Bagatto, J. Oram | Google Scholar, LinkedIn
Parsa Moeini | Undergraduate Student Student 2022 | Supervisor: S. Moodie | LinkedIn
Parvaneh Abbasalipour | PhD (Hearing Science) 2019 | Supervisor: E. Macpherson | Macpherson | CASLPO Initial Practice Registrant 2020| Supervisor: P. Folkeard Google Scholar
Rachael Smyth | MClSc/PhD (SLP/Speech and Language Science) 2021 | Supervisor: J. Oram | Google Scholar, LinkedIn
Sachin Kharbanda | MSc (Speech and Language Science) 2023 | Supervisor: B. Cunningham | LinkedIn
Sangam Ankmnal Veeranna | Postdoctoral Scholar 2021 | Supervisor: P. Allen | Google Scholar, LinkedIn
Sarah Bobbitt | MSc (Neuroscience) 2022 | Supervisor: B. Butler | Google Scholar, LinkedIn
Scott Aker | MESc (Electrical Engineering) 2019 | Supervisor: V. Parsa | LinkedIn
Selina Liao | Undergraduate Student Research Intern 2021 | Supervisors: S. Scollie, H. Saleh
Sharan Kaur | Undergraduate Research Assistant 2021 | Supervisor: P. Folkeard
Shruthi Sundararaman | Undergraduate Student Assistant 2023 | Supervisor: D. Glista | LinkedIn
Siana Lai | Graduate Research Assistant 2022 | Supervisor: D. Purcell | LinkedIn
Sijie Zhang | Post-Graduate Student Assistant 2022 | Supervisor: V. Parsa, S. Scollie
Tahereh Karami Shoar | MSc (Neuroscience) 2022 | Supervisor: J. Oram
Tony Xu | Undergraduate Student Assistant 2022 | Supervisor: S. Moodie | LinkedIn

Ready to Join Us?

Undergraduate Opportunities

Undergraduate students at Western can join our laboratories for 4th year independent studies or thesis projects from a number of programs, especially those in FHS. We welcome Undergraduate Summer Research Internship students every year. We also provide undergraduate coursework in Biomedical Engineering and Neuroscience.

Professional Programs

Apply to become a professional Audiologist or Speech-Language Pathologist who is eligible to write Canada's Clincial Entry to Practice Examination. Our application information is available online. These programs are not research degrees, but many of our faculty teach within these programs.

Graduate Research Training

Apply to train as part of the next generation of research leaders in our field. We offer graduate-level research-intensive programs in Hearing Science, Speech and Language Science, Health Professional Education, all within the Health and Rehabilitation Sciences program. Our faculty also supervise students in Engineering, Neuroscience, and other programs across campus.

Support us from the Community

Your involvement is critical to moving our research and clinical training forward. We welcome you as a research participant, as a patient at the H.A. Leeper Clinic, or as a guest lecturer to our students. Interested in supporting those with communication disorders? Our clinic has a charitable program that flows funds to those needing support in our local community.

Thanks for reading about the NCA, our research, and our people!

Elborn College, 1201 Western Rd Room 2262,
London, ON N6G 1H1

(519) 661-3901

www.uwo.ca/nca
LinkedIn X