



COMMUNICATION SCIENCES
AND DISORDERS



2016-
2020

SCHOLARSHIP IMPACT REPORT

THE STORIES OF OUR WORK
June 20, 2023

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COMMUNICATION SCIENCES AND DISORDERS

Our Team



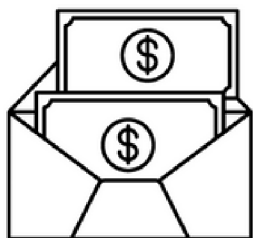
39 faculty members working mainly in speech, hearing, neuroscience, language, and throat/voice disorders. Most have professional training in SLP, Audiology, Engineering, or Neuroscience.

Our Publications



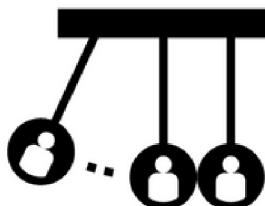
Produced 261 papers in this timeframe; cited in top 54% of papers worldwide. 18 papers in the top 10% of global citations.

Our Grants



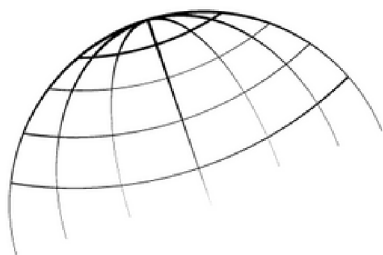
More than 3 million dollars in grant funding. Diverse granting sources including Tri-Council, Ontario-based and global industry partners, and foundations to support trainees and direct costs of research. We achieved a fivefold increase in funding between 2016 and 2020, with a 64% success rate!

Our Impact



Our policy impacts are local, enacted in the H.A. Leeper Speech and Hearing Clinic, serving clients of all ages from London and area. Our policy impacts are global in key clinical practice areas including Parkinson's disease, Dementia, Hearing Loss, and Child Language. Our work attracts interest with 700 tweets from 33 countries, featured articles in media, and increasing Altmetrics statistics.

Global & Open



We have 91 papers with co-authors from 17 countries. We are cited in 75 countries. Our papers have exceptional impact at nearly 3x the global rate. Our open access papers (40%) also have 3x the expected global rate. Almost 10% of our papers are top 10 most cited in their fields.

Our People Create our Impact

CSD's Vision

The vision of faculty and staff in the School of CSD is to be the leading Canadian university professional program in audiology and speech-language pathology, and the leading research centre for hearing, speech, and language sciences by integrating research, teaching and clinical practice.



Our Clinic

The H.A. Leeper Speech and Hearing Clinic is home to expert clinicians who provide services across the lifespan for Londoners who have needs for assessment and rehabilitation in speech, hearing, language, balance, voice, and swallowing. We are the local provider of services for Ontario's Infant Hearing and Preschool Speech-Language Programs.



Our Researchers

Faculty in CSD also supervise research trainees in Health and Rehabilitation Sciences, Neurosciences, and Engineering. Many of us are professionally trained in SLP, Audiology, or Engineering and lead translational programs of research.



Our Trainees and Alumni

Our trainees lead programs of care, manage or own their own clinics, guide our professions through our regulatory colleges and associations, lead research and development in industry, and are faculty members at CSD programs across Canada, in the U.S., and Australia. We are Canada's largest training program and are the proud home of Canada's largest and most diverse on-site, research-linked training clinic.

Language

Language research in CSD encompasses neuroscience, development, aging, rehabilitation, and knowledge mobilization.



SLPs and Educators Collaborate in the Classroom

"School-based SLPs support the academic, social, emotional, and vocational progress of children with communication disabilities. SLPs work with teachers and other educators in the classroom to enrich the language skills of all students including those with oral language challenges."

Lisa Archibald, Ph.D., PreCise member
Director of the School of CSD
Language and Working Memory Lab



Can parents lead treatment for children who are late to talk?

"Children who were late-to-talk made gains in communicative participation, expressive vocabulary, and speech during a parent-led intervention program. This study provides direction for future research to explore children's outcomes and program effectiveness in greater detail."

BJ Cunningham, Ph.D., PreCise member
Communicative Health Services and Systems Lab



What treatments work for preschoolers with autism?

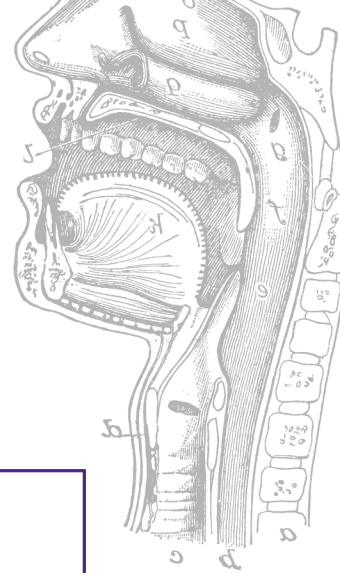
"Developmental social pragmatic interventions have positive effects on autistic preschoolers' attention, social engagement, and initiations. They can also improve parents' interaction styles."

Janis Oram Cardy, Ph.D., PreCise member
Acting Associate Vice-President (Research) At
Western University
Autism and Developmental Language Disorders Lab

Home of the H.A. Leeper
Speech & Hearing Clinic

Speech, voice, and swallowing

The motor structures of the mouth and throat are impacted by health conditions. We study these disorders, their treatment, and develop new evidence to guide practice.



Our top-cited article changed the evidence base for throat cancer treatment

"[Our multisite RCT](#) compared two treatments for HPV-related throat cancer, providing tier 1 evidence to guide patients and treatment teams worldwide. We prioritized measurement of swallowing function and quality of life to reflect the patient experience"

Julie Theurer, Ph.D, PreCise member.



Telehealth Stroke or Brain Injury Intervention

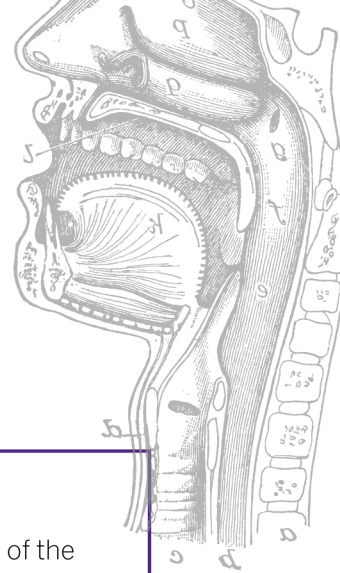
With funding from the U.S. Veterans Administration, we developed and launched a telehealth intervention for people with brain injury or stroke, and their care partners. This unique program aims to provide education and training around the symptoms of these injuries and strategies they can deploy in everyday contexts for mitigating cognitive-communication and psychosocial symptoms associated with brain injury and stroke.

Laura Murray, Ph.D., Associate Dean of Graduate and Postdoctoral Studies

Home of the H.A. Leeper
Speech & Hearing Clinic

Communication and Aging

Communication for older adults is essential, and can be affected by a number of health conditions. An evidence-based, patient-centred perspective is our approach in our research, teaching, and clinical practice.



Oromandibular dystonia

"[Our work](#) was the first to obtain a self-reported account of the lived experiences of those with a rare and under-studied neurological disorder of the lips, tongue, and/or jaw muscles, called oromandibular dystonia (OMD.) Our participants told us about their everyday facilitators and barriers to communication, and how they adapt to life with OMD. By studying patients' own perspectives, we now know that social and emotional factors matter just as much as the physical symptoms of OMD. Management of OMD must take a more holistic approach to go beyond the physical symptoms and be individually tailored to personal concerns and goals."

Allyson Page, Ph.D.



ALS-FTD and Dementia

"Our international consensus group developed diagnostic guidelines for frontotemporal cognitive changes in amyotrophic lateral sclerosis. This [widely cited publication](#) is the current world standard for diagnosis of Amyotrophic Lateral Sclerosis- Frontotemporal Spectrum Disorder. As members of the [Ontario Neurodegenerative Disease Research Initiative \(ONDRI\)](#), funded by the Ontario Brain Institute, we built the largest national longitudinal data repository of spoken language and speech data in neurodegenerative brain and cerebrovascular diseases."

Angela Roberts, Ph.D, Co-Director, Collaborative Specialization in Machine Learning in Health and Biomedical Sciences



Understanding Neurodegeneration

"Our province- and nation-wide collaborations seek to understand [neurodegeneration in aging](#) from a multisystems perspective. Understanding a person as a whole, their caregivers, and how communication disorders affected by dementia are critical to developing better programs of service delivery."

J. B. Orange, Ph.D. Professor Emeritus and Adjunct Research Professor

Home of the H.A. Leeper
Speech & Hearing Clinic

Policy and Outreach

We mobilize knowledge at home, in Canada, and around the world.



Infant Hearing fails in Canada

"Despite strong, evidence-based programs in Ontario and other large provinces, infant hearing healthcare is not equally available across our Country. [Our Report Card](#) has started the conversation."

Marlene Bagatto, Ph.D., Chair, Canadian Infant Hearing Task Force

Open-Access Protocols for Pediatric Audiology

Our service to the Ontario Ministry of Community, Children and Youth Services created significant new [protocols to guide best practices](#) for hearing assessment and hearing aid fitting in the 0 to 6 population. These open-access documents are now available worldwide through Scholarship at Western. These protocols are a joint effort between the pediatric audiology strategies and systems laboratory, the child amplification laboratory, the ministry of child community and youth services, and our many staff and students to continuously review evidence and test protocols for feasibility in our own Leeper clinic.



Measuring Language Outcomes for Children with Permanent Hearing Loss: Understanding the "How".

We developed an evidence-informed framework to guide the monitoring the spoken language outcomes of children with permanent hearing loss for the Ontario Infant Hearing Program. Then, together with end users, the framework was piloted and evaluated to ensure its effectiveness and feasibility. This work has steered future service development into new directions.

Olivia Daub Ph.D., BJ Cunningham Ph.D., Janis Oram Cardy Ph.D.



Home of the H.A. Leeper
Speech & Hearing Clinic

Practice-led and family-centred research

Our research is with and for people, where they live and work.



Parent-to-parent supports help children who are Deaf or hard of hearing

"[Our framework](#) for parent-to-parent support can help parents access knowledge to feel more empowered, positively impacting their well-being. It is also useful for early hearing detection and intervention programs and is now being discussed world-wide as a model for P2P programs."

Sheila Moodie, Ph.D.,
Family Centered Early Intervention lab



It pays to listen to clinicians!

"We collaborated with clinicians to help researchers develop and implement [evidence-based assessment protocols](#) that are clinically meaningful and easier to use."

BJ Cunningham, Ph.D. & Janis Oram Cardy, Ph.D.

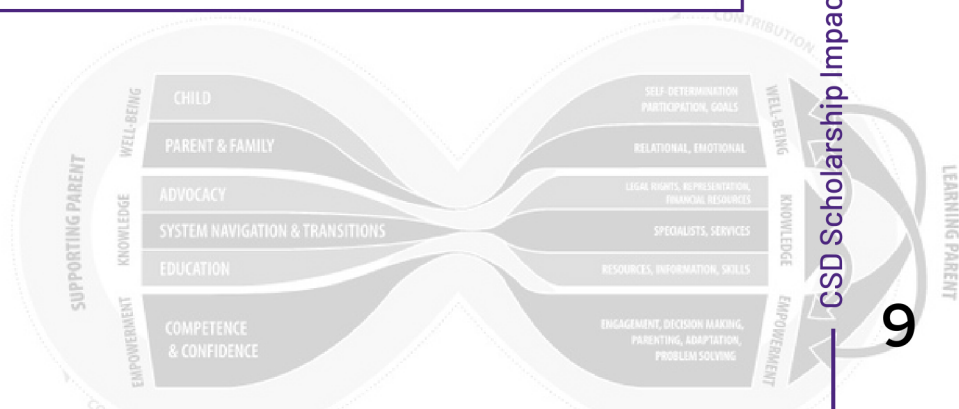


Advanced Assessments

"Our practice-linked program of research developed a clinically feasible protocol for advanced assessments of [Auditory Processing Disorder](#) using game-based tests. This Canadian first is a major step forward in language-free assessment of how children process complex sounds."

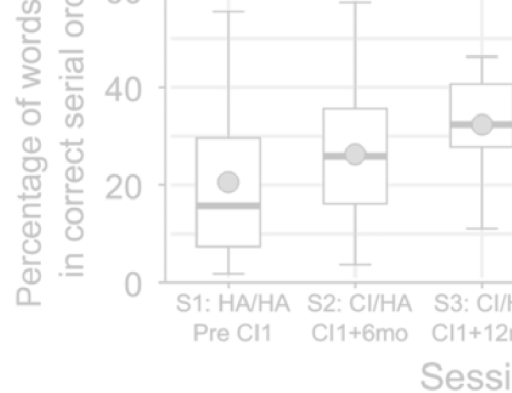
Prudence Allen, Ph.D. & Chris Allan, Ph.D.

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Hearing science

Seeking more than a basic understanding of the hearing system, we use our understanding of hearing science to unpack not just what works in hearing healthcare, but why it works.



Two ears really are better than one!

"[We collaborated](#) with London Health Sciences Centre's cochlear implant program to characterize auditory and cognitive benefits for adults who receive these devices. After a year, non-auditory working memory improved, likely because listening was easier. This suggests that cochlear implants might also help to reduce cognitive declines associated with hearing impairment in older adults." Ewan Macpherson Ph.D. & Ioan Curca MCISc, Ph.D.



DNA discoveries

"We established an [inter-university collaboration](#) to discover genes underlying hearing loss. One important discovery explains a type of rapidly progressing high frequency hearing loss that runs in families. Because this hearing loss begins after birth, it would be missed by newborn hearing screening." Susan Stanton, Ph.D.



Speech Processing

"Our team has made great strides in understanding how the [brain processes speech](#), with a goal of finding a fast way to measure this response clinically. We want to really understand the properties of this measurement so that we know what it means in individuals." David Purcell, Ph.D.



How the brain responds to voices

"We measured how the [brain responds differently to familiar and unfamiliar voices](#), and to interesting versus controlled stories. By understanding how we really hear in real-world contexts, we can better understand how people across ages uses their hearing in daily life." Ingrid Johnsrude, Ph.D., Professor and Western Research Chair

Hearing technologies

Assistive devices in hearing technology are fully digital, using adaptive signal processing based on machine learning. We evaluate hearing technologies and develop new methods for fitting, with a focus on best practices.



Individualized Fitting Practices to Advanced Hearing Aid Technologies

"Incorporating [individualized hearing aid fitting](#) techniques and real-world performance measures can lead to improved listener outcomes and person-centered care."

Danielle Glista, Ph.D.



Sound quality matters!

"Engineering measures of sound quality can be harnessed for use in better understanding of hearing assistive devices and [voice pathologies](#). Our interdisciplinary teams and students have brought engineering and CSD together to build new tools for future applications."

Vijay Parsa, Ph.D.



Tech transfer improves hearing aid fitting accuracy for children

"Our [evaluation](#) of manufacturer-based implementations of the award-winning DSL hearing aid prescription for infants and children showed significant improvement in accuracy. This change means better hearing aid fittings for babies worldwide, and is the result of sustained technology transfer work and product testing".

Susan Scollie, Ph.D.



Global and Local Leadership in Clinical Education

Our students in Audiology, Speech-Language Pathology, and Health and Rehabilitation Sciences have use experiential learning to develop cutting-edge skills across a wide range of clinical procedures.



In-house SLP training creates real-world impact

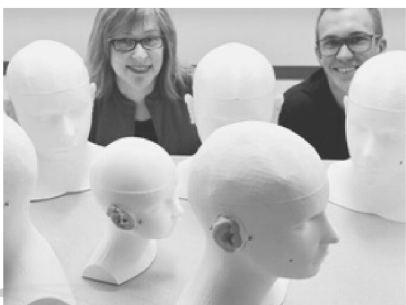
"Between 2016-20 we supervised more than 100 student clinicians and provided evidence-based [tykeTALK](#) services for over 20,000 children. Students learned to plan and deliver therapies, consult with community partners, and develop innovative solutions to real-world clinical issues." Heather Young (SLP), Katie Powell (SLP), Jen Schidowka (SLP), Melissa Alcaide (CDA), Kim Spylo (SLP, and clinic manager) .



Striking a balance with vestibular assessment

"We identified a goal to increase clinical instruction and services in [balance assessment](#). With new equipment and new courses, we have made great strides in this important area."

Ioan Curca, Ph.D.



Simulation enhances experiential learning

"Working with Western alumnus Rob Koch, we have developed an award-winning [manikin for teaching in Audiology](#). CARL helps our own students and others worldwide in experiential learning activities."

Susan Scollie, Ph.D.

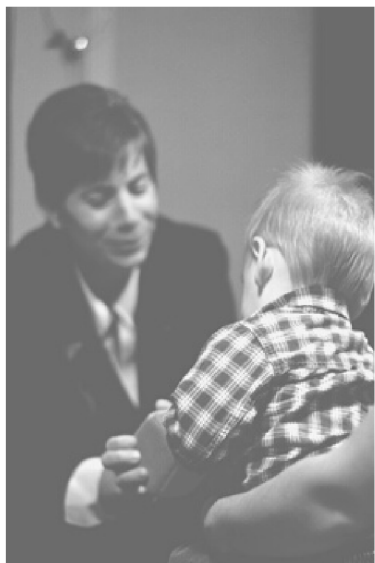
Global and Local Leadership in Clinical Education, continued



The Preceptor Education Program

"The [Preceptor Education Program](#) (PEP), 2nd ed. provides innovative clinical teaching techniques for speech-language pathology preceptors in a web-based course design that was supported by the Ministry of Training, Colleges and Universities. As of 2021 over 60, 000 preceptors and students had accessed this module. For these efforts, Professor Moosa and colleagues were awarded the 2018 Vice-Provost Award for Excellence in Online Teaching and Learning."

Taslim Moosa, MCISc, (C)SLP
Clinical Education Supervisor



Leadership in Early Intervention Services, Global Outreach, and Interdisciplinary Education

Western's [H.A. Leeper Speech and Hearing Clinic](#) is the largest diagnostic and intervention site for [Ontario Infant Hearing Program](#) services in the southwest region. Each year over 50 graduate students participate in clinical service delivery for infants through to children 6 years of age. Students learn how to complete age-appropriate hearing assessment, experience family-centred counseling, and provide interventions. Collaborations with the National Centre for Audiology harness the power of this "living lab" to identify clinical questions and support global impact through integrated knowledge translation research.

Other important outreach efforts by our clinical faculty and students include developing curriculum tools and delivering interventions to adults and children in medically underserved communities in South Africa, offering Aphasia Camps for persons living with aphasia and their families, and hosting Aphasia Knowledge Exchange Day Workshops!

Our Alumni

Speech and Language Sciences, including our combined program.



Elaine Kwok Ph.D. (2020) (Supervisor: J. Oram Cardy)

Dr. Kwok won the Governor General's Gold Medal (2020), CCHCSP Career Enhancement Program (2019-21), Trainee in ASHA Pathways Research Mentorship Program (2019-20), CIHR Doctoral Fellowship (2017-20), Ontario Graduate Scholarship (2017-2018), SAC Professional Development Scholarship (2017), SAC Isabel Richard Student Paper Award Doctoral Level (2016) and published 10 papers between 2016-2020.

Dr. Kwok completed her postdoctoral training at CanChild at McMaster University and Northwestern University (CIHR). At McMaster University, Elaine received and led a study that was funded by SSHRC Partnership Engage Grants COVID-19 Special Initiative. She is now a Health Services Researcher at the University of Pittsburgh Medical Center.



Amanda Binns Ph.D. (Supervisor: J. Oram Cardy)

Supported by Ontario Mental Health Foundation Studentship, and Autism Scholar's Doctorate Award, and an Autism Research Training Award, Dr. Binns published 6 papers in 2016-2020 and is a frequently-invited speaker.

Currently Dr. Binns is working at Holland Bloorview Kids Rehabilitation Hospital where she is focusing on two projects:

- Leading the development of MAPs, a guidance resource for SLPs and CDAs who work with Autistic clients, created in partnership with autistic people, families, and SLPs
- Creating and delivering an innovative model of Interprofessional Education for pre-licensure SLPs, OTs, and Social Workers - a Student Led Environment to support autistic clients in Northern Ontario.

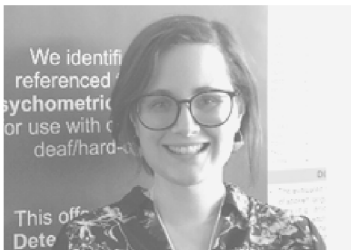
Dr. Binns and her team recently won a Minister's Award of Excellence from the Ontario Ministry of Colleges and Universities, for 'future proofing the next generation of students'.

*Home of the H.A. Leeper
Speech & Hearing Clinic*

Our Alumni, continued



Speech and Language Sciences, including our combined program.



Olivia Daub, M.Cl.Sc., Ph.D. (2021) **(Supervisor: J. Oram Cardy)**

Dr. Daub's focus is effective programs of service delivery that can provide early language development for children with speech and/or hearing disorders. With \$98,000 CAD in competitive scholarship and grant funding. She had 4 peer-reviewed publications (3 first author), 6 reports to provincial government and multiple invited and contributed conference presentations between 2016 and 2020.

Dr. Daub is currently a Knowledge Translation Specialist at the Better Outcomes Registry Network (BORN), a prescribed maternal-newborn health registry. In this role she is supporting the use of health data to improve and facilitate maternal-newborn healthcare across Ontario. Dr. Daub will be joining CSD as an assistant professor in 2023.



Theresa Pham M.Cl.Sc/Ph.D (2021) **(Supervisor: L. Archibald)**

Dr. Pham's graduate work was supported by SSHRC, CGS and OGS. Her article entitled, "Avoiding Working Memory Overload in Students with LDs", was selected as Site of the Month by Dr. Caroline Bowen., "Disruption of verbal short-term memory: Evidence for phonological and semantic levels of representation", was awarded 'Best Talk' at the PsyLinCS-UTM conference.

She is currently a Research Associate with Drs. Lisa Archibald and Janis Oram Cardy at Western University as well as a practicing speech-language pathologist.

Our Alumni, continued



Hearing Sciences and Engineering, including our Combined Program.



Maaïke van Eeckhoutte, Ph.D. (Supervisors: S. Scollie & D. Purcell)

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.



Sangamantha Ankmnal Veeranna, Ph.D. (2017) (Supervisor: P. Allan)

Dr. Veeranna is an Assistant Professor in Audiology. He graduated from Mangalore University, India, in 2009 with a M.S. in Audiology and Speech-Language Pathology. Dr. Veeranna then received his Ph.D. (Hearing Science) in 2017 from the Health and Rehabilitation Sciences program at the Western University, Canada. Dr. Veeranna completed Postdoctoral training from the National Center for Audiology at Western University, Canada. Dr. Veeranna's research interest is on understanding auditory processing in individuals with and without listening difficulties (children and adults) using psychoacoustic and electrophysiological measurements.



Jonathan Vaisberg, M.Cl.Sc, Ph.D. (2019) (Supervisors: S. Scollie & E. Macpherson)

Dr. Vaisberg studied the effects of hearing loss and hearing aid use on music perception in performing musicians. He was the recipient of an international Student Award to attend and present at the 2018 International Hearing Aid Research Conference based on his dissertation focused on self-adjusted hearing aid settings for speech versus music. Dr. Vaisberg 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 the Sonova Innovation Centre in Mississauga, ON, where he leads trials of efficacy and effectiveness of new hearing aid technologies.

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Speech & Hearing Clinic*

Our Alumni, continued

Hearing Sciences and Engineering, including our [Combined Program](#)



Viji Easwar, Ph.D. (2017) (Supervisors: D. Purcell & S. Scollie)

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 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.



Haniyeh Salehi, Ph.D. (2018) (Supervisor: V. Parsa)

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 in Dorchester, ON, Dr. Salehi is currently an Acoustics Research Engineer with Meta Reality Labs.



Robert Koch, M.Sc. (2018) (Supervisor: H. Ladak with committee members S. Moodie & S. Scollie)

Winner of the 2018 Governor General Gold Medal, Rob's innovative thesis developed a novel manikin-based [training simulator](#) called CARL that supports experiential learning in Audiology.

Mr. Koch is currently President and Founder of [AHead Simulations Inc](#) in Cambridge, ON.

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Speech & Hearing Clinic*

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 summer [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 Clinical Entry to Practice Examination. Our application information is [available online](#).

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 [Speech and Language Science](#), [Hearing Science](#), [Health Professional Education](#), all within the [Health and Rehabilitation Sciences program](#). Our faculty supervise 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.

