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Narrative Curriculum Vitae

Contributions and Impact (2016–Present)

Positioning Statement

I am a clinician-scientist and educator whose work focuses on improving the reliability and effectiveness of hearing care through the integration of engineering, clinical science, and behavioral science. My research has contributed to standardized methods for fitting bone conduction hearing devices that are now implemented in clinical software used internationally. More recently, my work has shifted toward scalable digital and behavioral approaches to hearing care delivery, including real-time communication support for older adults and patient-centered outcome measurement in clinical practice.

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1. Contributions to Research

My research program focuses on improving how hearing care is delivered in practice by developing methods and tools that are both technically rigorous and usable in real clinical environments. The central aim of this work has been to ensure that hearing technologies can be applied consistently, reliably, and in ways that support meaningful communication outcomes for patients.

A major contribution of this work has been the development and validation of fitting and verification procedures for bone conduction hearing devices. Prior to this work, clinical fitting practices varied widely, leading to inconsistent outcomes for patients. My research addressed this problem by establishing standardized prescriptive and verification methods grounded in measurable acoustic and physiological principles. These methods are now implemented in clinical software used by hearing device manufacturers and verification systems, enabling clinicians worldwide to apply consistent evidence-based fitting approaches in routine care.

Over the past decade, my research has expanded beyond technical performance to address a broader challenge: understanding why many individuals who could benefit from hearing care do not seek or maintain treatment. This shift reflects the recognition that clinical success depends not only on technical accuracy but also on patient readiness, expectations, and trust in care. My work has therefore increasingly focused on integrating behavioral and contextual factors into hearing care models.

Recent research directions include the development of digital tools for communication support and outcome measurement in everyday environments. Current projects explore the use of machine learning and signal processing to improve speech understanding during virtual healthcare encounters, with the goal of extending hearing support beyond traditional clinical settings. This work reflects a broader effort to improve access to communication support for individuals in rural and underserved communities and to adapt hearing care to modern healthcare delivery systems.

Collectively, this program of research has contributed to improved consistency in clinical practice, new frameworks for evaluating hearing outcomes, and the development of technologies that support communication in contemporary healthcare environments.

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2. Contributions to Training

Training clinicians and researchers who can translate scientific knowledge into practical care has been a central component of my academic work. I have supervised trainees across disciplines including audiology, engineering, neuroscience, and rehabilitation science, and have supported learners at undergraduate, graduate, and doctoral levels.

My mentorship approach emphasizes clinical reasoning, methodological rigor, and the application of research findings to real-world problems. Trainees are encouraged to engage directly with clinical challenges and to design studies that address meaningful questions in healthcare delivery. This approach reflects my belief that effective clinicians and researchers must be able to navigate uncertainty while maintaining a commitment to evidence-informed decision-making.

Students supervised through my program have conducted research on topics including hearing device verification, shared decision-making in hearing care, digital rehabilitation tools, and outcome measurement in clinical practice. Many trainees have pursued careers in clinical practice, academia, industry, and healthcare leadership.

In addition to formal supervision, I have contributed to curriculum development and program design within my department, including efforts to strengthen graduate training in audiology and hearing science. These activities have focused on preparing learners to adapt to evolving technologies and to deliver care that is responsive to patient needs.

Mentorship remains one of the most meaningful aspects of my work, particularly when trainees develop the confidence to apply scientific principles in complex clinical situations.

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3. Contributions to Leadership and Service

Since 2008, I have served as Program Director for Bone Conduction Amplification within the Craniofacial Care Program at the University of Alberta. In this role, I lead a multidisciplinary clinical and research program that integrates patient care, education, and innovation.

The program involves collaboration among audiologists, surgeons, engineers, and rehabilitation professionals and provides care for individuals with complex hearing needs across the lifespan. My responsibilities include establishing clinical protocols, guiding research priorities, mentoring clinicians and trainees, and introducing new technologies into clinical workflows.

Maintaining an active clinical role has been central to my leadership approach. Continued involvement in patient care allows me to identify emerging challenges and to ensure that research initiatives address clinically relevant problems. This connection between clinical practice and research has enabled rapid translation of new methods into routine care.

I have also contributed to the profession through leadership in professional organizations, conference organization, and participation in national and international collaborations focused on improving hearing care delivery and outcome measurement. These roles have included organizing scientific meetings, advising professional organizations, and supporting the development of clinical standards and best practices.

My leadership philosophy emphasizes reliability, collaboration, and implementation. Rather than focusing solely on innovation, I prioritize the development of systems and practices that can be sustained in real clinical environments.

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4. Contributions to Knowledge Mobilization and Impact

A defining feature of my work has been the translation of research findings into tools and practices that improve patient care.

One of the most significant examples of this impact is the development of a bone conduction prescription algorithm that has been implemented in clinical software and verification systems used internationally. This work enabled clinicians to apply standardized fitting procedures in routine practice and improved the consistency of hearing device delivery across clinical settings.

Beyond technical innovation, my work has focused on communicating research findings in ways that are accessible and useful to clinicians, patients, and healthcare organizations. This has included developing clinical protocols, delivering professional education, and participating in interdisciplinary collaborations aimed at improving access to hearing care.

Recent knowledge mobilization activities have included invited presentations to clinical and research audiences on topics such as:

- improving accuracy in hearing device fitting
- understanding cognitive and psychological aspects of hearing loss
- reducing variability in clinical decision-making
- designing patient-centered models of care

These activities reflect a commitment to ensuring that research produces measurable benefits for individuals, clinicians, and healthcare systems.

Most Significant Contributions

Standardizing Fitting and Verification of Bone Conduction Hearing Devices

I led the development of standardized prescriptive and verification procedures for bone conduction hearing devices that addressed variability in clinical practice and improved the reliability of device fitting. These methods established reproducible standards for determining device output and performance in individual patients and are now implemented in clinical software used internationally. This work has helped clinicians deliver more consistent and evidence-based care.

Advancing Patient-Centered Outcome Frameworks in Hearing Care

My research has contributed to a shift in hearing care toward recognizing the importance of behavioral and contextual factors in determining clinical outcomes. This work has examined how expectations, communication, and clinical interactions influence help-seeking and long-term engagement with hearing technology. It has supported the development of patient-centered models of care that better reflect the lived experience of hearing loss.

Developing Scalable Digital Approaches to Hearing Care

My recent work has focused on developing digital tools that extend hearing support beyond traditional clinical settings. This includes projects that apply signal processing and machine learning to improve speech understanding in virtual healthcare environments. These initiatives aim to improve access to communication support for individuals who may not otherwise receive timely hearing care.

Program of Research — Next 5 Years

Over the next five years, my research program will focus on improving the accessibility, reliability, and scalability of hearing care through the integration of technology, behavioral science, and clinical practice.

Three interconnected priorities will guide this work.

First, I will continue to develop and validate clinical tools that improve the precision and consistency of hearing device fitting. This work will focus on reducing variability in clinical decision-making and strengthening the evidence base for hearing care delivery.

Second, I will expand research on patient-centered outcome measurement, including the use of real-time data collection methods to better understand communication experiences in everyday life. These methods will help clinicians monitor progress, adapt interventions, and support long-term engagement with hearing care.

Third, I will develop scalable digital solutions that extend hearing support beyond the clinic. This includes the development of software-based communication tools designed to improve speech

understanding in virtual healthcare and community settings. These initiatives aim to reduce barriers to care and improve communication outcomes for aging populations and individuals in underserved regions.

The long-term goal of this work is to ensure that hearing care systems are reliable, accessible, and responsive to the needs of patients and healthcare providers.