



# Soundings Newsletter

## Mark Muench Named AHRF Board Chair

**T**he American Hearing Research Foundation is pleased to announce that in May 2022, Mark R. Muench assumed the role of AHRF Board Chairman.

Muench's commitment to helping fund critical hearing loss and balance disorder research began in 1996 when he joined the AHRF Board. In his years as Board Vice President (2002-2022), he spearheaded a number of board initiatives, including recent efforts with governance strategy, and website and brand development.

Mark brings both business experience and acumen to the role. For over 40 years, he was involved in the business and information technology sides of delivering quality healthcare to consumers in an evolving marketplace with shifting healthcare delivery models. Muench recently retired from his role as a Vice President of Cerner Corporation, a leading U.S. supplier of healthcare information technology solutions.

He notes, "My goal is to ensure AHRF continues on its path to ease hearing health issues. Hearing loss is a significant problem worldwide, and we're determined



to reduce its impact. Through our grant funding, we're supporting groundbreaking research, and encouraging the next generation of researchers. I'm excited to push hearing research forward."

Muench succeeds his father, Richard Muench, who chaired the AHRF Board for 27 years. (See story on page 5.) In handing over the AHRF reins to Mark, Richard commented, "The mission of AHRF has given me a sense of purpose, and I hope Mark will enjoy that as well. I'm delighted to welcome him to the role of Chairman. He brings new energy and insights, and I am confident in the job he will do for AHRF."

### Renewed Purpose

With the shift in leadership, American Hearing Research Foundation Board felt it was important to take stock of where AHRF is, and where AHRF would like to be. We'd like to introduce the Foundation's updated logo (top of page) and mission statement (below); we feel it gets to the point of what we do, and formalizes our determination to improve people's hearing health – and thus their lives. We'd also like to introduce AHRF's newly established vision and values statements.



**Our Mission: Fund groundbreaking research to understand our hearing and balance functions, and educate people on how to prevent, preserve, and restore these.**

**Our Vision: A world where people thrive by preventing, identifying, and responding to hearing loss and balance disorders.**

**Our Values: Excellence – Fiscal Responsibility – Innovation – Service**

## AHRF Funds 10 Projects in 2022



In January 2022, the American Hearing Research Foundation awarded over \$315,000 in grants to these investigators.

### BIRTMAN GRANT (\$75,000)

- **Jasleen Singh, PhD, Northwestern University;** *The Influence of Patient Psychosocial Behaviors on Hearing Aid Use and Outcomes in an Over-the-Counter Delivery Model.* Aim: To understand how psychological and social factors influence OTC hearing aid outcomes and retention. (See page 3 for discussion)

### AHRF DISCOVERY GRANTS (UP TO \$50,000)

- **Ryan A. Bartholomew, MD, Massachusetts Eye and Ear Infirmary;** *Magnetic stimulation of the cochlear nerve: Foundation for a next-generation cochlear implant.* A magnetic micro-coil cochlear implant may improve hearing outcomes compared to current devices.
- **Nesrine Benkafadar, PharmD, PhD, Stanford University;** *Key triggers of hair cell regeneration.* Aim: To provide new insight into the development of novel therapies for hearing loss.
- **Ignacio Garcia Gomez, PhD, and Jaime Garcia-Añoveros, PhD, Northwestern University;** *Differential hair cell death susceptibility to age and noise.* The results could be used for the development of therapies that protect hearing.
- **Xin Luo, PhD, Arizona State University;** *Neural Health and Pitch Perception with Cochlear Implants.* The work could improve customized cochlear implant fitting.
- **Xiaodong Tan, PhD, Northwestern University;** *Ototoxic Effects of Bound and Unbound Cisplatin.* The project is critical for understanding the mechanism of honokiol before its clinical trial.



“For those who struggle with hearing loss, research can offer improvements with daily life – how we learn in the classroom, perform on the job, engage with loved ones, and even walk confidently down the street.”

- Donna Whitlon, AHRF Board Member and Research Committee Chair

### BERNARD & LOTTIE DRAZIN MEMORIAL GRANTS FOR OTOLARYNGOLOGY RESIDENTS (\$1,000)

- **David Lee, MD, Washington University in St. Louis;** *Optical Coherence Tomography of Inner Ear Structures: Using Novel Imaging Technology to Investigate Meniere’s Disease and Sudden Sensorineural Hearing Loss.* Aim: To develop a light-based endoscopic imaging system to characterize diseases of the inner ear in situ.
- **Emma E. Martin, MD, University of Illinois at Chicago;** *Contributions of vocal tract length to cochlear implant users’ perception of vocal pitch.* Aim: To investigate factors contributing to cochlear implant users’ vocal pitch perception.
- **Christine Mei, MD, University of Miami;** *Hearing Preservation Effects of Therapeutic Hypothermia in a ‘Double-Insult’ Model of Cochlear Implantation in Noise-Exposed Cochleae.* Aim: To optimize cochlear implantation treatment for noise-induced hearing loss patients.
- **Amit Walia, MD, Washington University in St. Louis;** *Using electrocochleography to build a prediction model for speech-perception performance in noise after cochlear implantation.* Aim: To help predict postoperative CI performance in noise when CI candidates are first evaluated.

# Understanding Barriers to Hearing Aid Use



SPOTLIGHT ON

**Jasleen Singh, PhD**  
Postdoctoral Fellow  
Northwestern University

“Among adults aged 70 and older with hearing loss who could benefit from hearing aids, fewer than one in three (30 percent) has ever used them.”

- National Institute on Deafness and other Communication Disorders



“[With OTC hearing aids], we don’t want people to have a bad experience with what could be the right solution .”

**B**ecause of recent legislation, two major barriers to hearing aids – accessibility and affordability – soon will be less challenging. Jasleen Singh, PhD, Northwestern University postdoctoral fellow, believes it’s also critical to understand the psychological and social barriers to hearing aid use. She is using AHRF’s prestigious Birtman Grant to explore these less-visible barriers.

Singh notes over the counter (OTC) devices “don’t necessarily address whether people are willing to accept the change in lifestyle with hearing aids. Are people capable of manipulating their device in a way that is beneficial, and correct?” Her AHRF-funded study will compare attitudes and experiences of two groups, with one getting self-fitting (OTC) devices and the other receiving provider-fit devices. She is targeting a diverse population to “reflect the population that is more likely to use these devices, or who these devices are intended for.”

Singh acknowledges the general public believes “OTC hearing aids are much like ‘readers’ you get at the drug store. You pick up a device and put it on. And that’s not the case.” With her training in audiology, she sees the value of counseling one gets from a clinician. “They give you strategies to be successful with your device.”

The Birtman Grant enabled Singh “to add another layer to the conversation,” testing whether post-purchase video support has an impact on hearing aid users’ behavior. Video instruction “could address some of the most common issues we expect with a self-fitting hearing aid.”

She feels it’s essential to conduct this research on the front end of OTC device availability. If someone who already is hesitant “tries an OTC hearing aid and has a terrible experience” it could color their whole view of hearing aids. “We don’t want people to have a bad experience with what could be the right solution.”

### **What drew you to audiology?**

Singh completed her AuD at Syracuse University. She likes the big-picture view offered by research, and is intrigued by the blending of health psychology with science that audiology requires. She also is intrigued by how artificial intelligence and technology can be integrated into hearing health care.

# Using Engineering to Tackle Inner Ear Problems

## SPOTLIGHT ON

Suhrud Rajguru, PhD  
Assistant Professor  
University of Miami

*“Cooling has been used for traumatic brain injuries, spinal cord injuries, cardiac surgery. What if we could locally cool [just] the cochlea?”*

Suhrud Rajguru's faculty appointment at the University of Miami is split between biomedical engineering and otolaryngology. “It's not just on paper,” he explains. “I spend 50% of my time in each area.” This enables him to take engineering resources to surgeons, audiologists, physicians, and patients.

### Exploring hot and cold

In his lab at the University of Miami, some projects grew from Rajguru's time at Northwestern University, where, “in Claus Richter's lab, we explored optical-electrical implants that work with electrical or infrared stimulation.” Rajguru and his team are building on that work with the vestibular system.

“We were looking at how temperature affects the activity of neurons in the inner ear. I realized cooling has been used for decades for neural protection strategies.”

Studies done in the 1980s involved *systemically* cooling animals to address noise trauma. Rajguru wondered, “Can we *locally* cool [just] the cochlea?” One of his team's first applications of hypothermia was during cochlear implant surgery; it helped to preserve more of the patients' residual hearing. “Next year we're starting clinical trials to bring that [cooling] product to the market.”

Rajguru's team then turned to noise-induced hearing loss. PhD student Samantha Rincon “explored how we could noninvasively cool the inner ear in a rodent model after noise trauma. Not only did the hypothermia prevent permanent threshold shift from the noise trauma. It also prevented synaptic connection harm as described by Kujawa, Lieberman and others.”



“I started to think about how we could increase the efficacy of hypothermia in other situations to prevent noise trauma. That was the basis for our proposal for the AHRF grant.”

### “In biology it's not linear”

Rajguru explains that with noise trauma, “the damage doesn't just occur at the moment of injury. You go into a loud environment, you come home, and several hours later you might start to get a bit of silencing or ringing that can last up to 24-48 hours. There are complementary, secondary and tertiary pathways continuously getting activated.”

The team found that hypothermia delivered after the noise trauma could protect for days and weeks. But it also reduced some of the protective mechanisms that cells have. “We began to look for combination therapies” – hypothermia combined with a drug that could have a protective benefit in the ear. Many of the drugs in development must be in one's system at the time of trauma. “That's where hypothermia could help – it could be applied after noise trauma and delay a lot of the cell death pathways. Hypothermia could make those drugs more effective.”

### What's next

“AHRF funding allowed us to do those pilot experiments. Now we want to test hypothermia dosing strategies, and different timing for combining hypothermia with pharmaceutical agents. Eventually we can think about how to move this to patients.”

## Richard Muench Honored for Service to Hearing Research

In June, the American Hearing Research Foundation recognized outgoing Chairman of the Board Richard G. Muench for 38 years of service dedicated to advancing discoveries in hearing research. Gathering at Chicago's Il Porcellino Restaurant, colleagues and family looked on as Muench was presented with an award for visionary leadership.

Going forward, AHRF will offer the Richard G. Muench Chairman's Grant to honor Muench's commitment to improve hearing health.

### Promoting Research for 38 Years

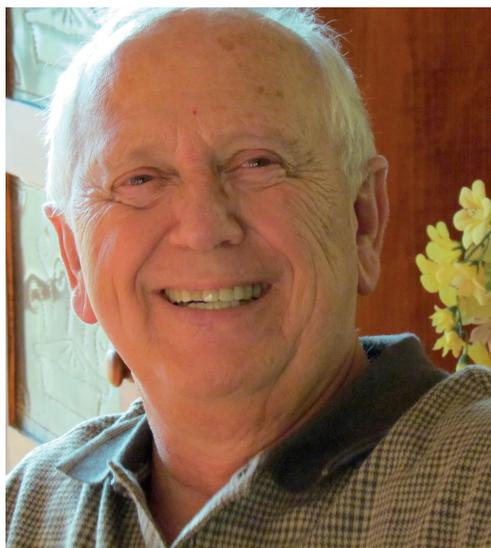
Since joining the board in 1984, Muench has served in several capacities. He was board treasurer for 20 years, vice president for seven years, and chairman for 27 years – sometimes overlapping these responsibilities.

During his tenure as chair, Muench was instrumental in increasing the organization's annual grant funding from \$75,000 in 1984 to its current \$350,000 in 2023. AHRF grants have helped launch careers for new investigators, and helped seasoned researchers tackle new areas of study. Over the years, Muench has seen hearing research delve into new technologies such as cochlear implants, and expand into areas of genetics and molecular biology.

Congratulatory notes were received from leaders in the field of hearing research, including Johns Hopkins' John Carey, MD, and USC's John Oghalai, MD. Oghalai noted, "Because of [Muench's] leadership, [AHRF] has stimulated the development of a large cohort of auditory researchers." Muench will continue to serve as a Director on the Board, to share his in-depth research funding experience with AHRF.



*Richard Muench (right) receives a congratulatory fist bump from Marvin Keeling*



## Larry Hable - Lifelong Supporter of Hearing Health



Lawrence "Larry" Hable, a Director of the American Hearing Research Foundation Board for 33 years and Board Secretary for 28 years, passed away on March 8, 2022, at age 84. His wife Marilyn and two daughters, Michelle Whalen and Lisa Urzen, remember Larry as the foundation of their family. AHRF remembers Larry as an enthusiastic lifelong proponent of hearing research. He brought a valued perspective and empathy to his work on the Board.

In addition to his lengthy commitment to the American Hearing Research Foundation, Larry spent over 60 years as a Certified Hearing Aid Dispenser, working for and often managing the location at 8 South Michigan Avenue in downtown Chicago. The companies' fortunes rose and fell, but Larry remained a fixture, helping people from all walks of life with their hearing.

Larry mentored individuals in his role as Co-Supervisor for graduate students in Audiology at Northwestern University, and served as an adjunct instructor in the Marketing Department at Triton College in River Grove and Evanston, Illinois. We remember Larry most for his positive attitude – "Attitude is Altitude" was one of his favorite sayings.

# YOU CAN HELP

## A Future with Better Solutions Joan Wincentsen, AHRF Executive Director

“My father operated heavy equipment in the Navy, and then was a machinist in a factory. His hearing aids were mangled, cursed, lost... you name it. I have hope for our hearing future when I read about the work AHRF funds.”



## Partner with Us!



(Above, Jake Maag)  
Photo credit goes to Darrell Magg.

## Jake Maag: Research Supporter

One morning last December, AHRF Executive Director Joan Wincentsen found a PayPal contribution notification from “Jake’s Helping Hand.” This led to a GoFundMe page and eventually to a conversation with the organizer, Jake Maag.

Speaking with Jake and his father, Joan learned Jake is a high school sophomore in California. Jake aims “to spread awareness as there are many common misjudgments about hearing impairments.” He was born with significant hearing loss, “but luckily my parents identified it early on.”

Through hearing aids, he has been able to do well academically.

### How Jake’s Helping Hand got started

“I offered my services to surrounding neighbors in my community to take out and return their trash, recycling, and gardening cans each week. In place of paying me, I created a GoFundMe account, informed them about AHRF research and made it optional for them to donate. All of them donated generously which will hopefully help your organization.”

All told, Jake raised over \$1,800 for this project that was “very close to heart.” His biggest challenge? Avoiding one client’s dog... Although he and his father continue to debate the dog’s size.

Thanks for your inspiring work, Jake!

## You Can Fuel Hope!

Your donation to the American Hearing Research Foundation will help us:

- Gain greater knowledge and find long-term solutions and treatments for people affected by hearing and balance disorders.
- Encourage the next generation of researchers.

And when you designate your contribution in honor or memory of someone, they become part of the effort to ease hearing and balance problems.



DONATE ONLINE AT  
[www.American-Hearing.org](http://www.American-Hearing.org)



OR SEND YOUR CHECK TO:  
American Hearing  
Research Foundation  
275 N. York Street, Suite 201  
Elmhurst, IL 60126

## Giving to the General Fund

General Funds sustain the core programs central to the Foundation’s mission.

- Chairman’s Circle \$5,000 and above
- Research Champion \$1,000 to \$4,999
- Research Supporter \$100 to \$999
- Friends of the Foundation \$99 or under

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*This list reflects donations received from August 1, 2021 to August 12, 2022.*

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**More than  
1 billion**

young people (12 - 35 years)  
are at risk for hearing loss  
due to recreational  
exposure to loud sound

according to the  
World Health Organization

