ABOUT THE PRESENTERS & MODERATOR

Marsha R. Mailick, PhD, is the director of the Waisman Center and holds the Vaughan Bascom and Elizabeth M. Boggs Professorships. She received her PhD in social policy from Brandeis University. Mailick joined the UW-Madison faculty in 1988 and has been director of the Waisman Center since 2002. An expert on the impact of developmental disabilities on families over the life course, her research focuses on how lifelong caregiving affects the well-being of parents and siblings of individuals with disabilities including Down syndrome, autism, and fragile X syndrome.

Jan Edwards, PhD, is a Waisman Center investigator and professor in the Department of Communication Sciences and Disorders at UW-Madison. She directs the *Learning to Talk Lab* at the Waisman Center. Her research focuses on how children learn the sound system of their language (phonology) and how this affects their vocabulary with the goal of helping children who may be at risk for smaller-sized vocabularies develop the skills needed to acquire a large number of words quickly and efficiently. Her research is supported through grants from the National Institute of Deafness and Other Communicative Disorders (NIH-NIDCD) and from the National Science Foundation.

Samuel Gubbels, MD, FACS, is a Waisman Center investigator and assistant professor in the Department of Surgery, Division of Otolaryngology-Head and Neck Surgery at UW-Madison. His clinical practice is devoted to the treatment of adults and children with hearing loss and ear disease, with particular focus on cochlear implantation. His research interests are in the development of novel methods to study and treat hearing loss using different types of stem cells to generate the hair cells of the inner ear.

Christi Hess, PhD, CCC-SLP, received her BS in communication sciences and disorders and MS in speech-language pathology from James Madison University. From 2007-2009, she worked in New York City as a speech-language pathologist for NYEE's Cochlear Implant Center and Strivright/The Auditory Oral School of New York providing auditory rehabilitation as well as speech/language therapy to children ages 0-5 with hearing impairment. In 2010 she came to UW-Madison to complete her PhD in the Binaural Hearing and Speech Laboratory with Ruth Litovsky, PhD. Hess received her PhD in December 2013 after completing her dissertation focused on toddlers with cochlear implants.

Ruth Litovsky, PhD, is a Waisman Center investigator and professor in the Department of Communication Sciences and Disorders with a joint appointment in the Department of Surgery, Division of Otolaryngology at UW-Madison. She directs the *Binaural Hearing and Speech Lab* at the Waisman Center. Her research questions focus on how people are able to hear in noisy environments and how to improve processing of cochlear implants so that children and adults who are deaf and rely on cochlear implants can maximize their success at communication. Her research program is funded by the NIH-NIDCD.

Lina Reiss, PhD, received her undergraduate degree in mechanical engineering from Princeton University and her PhD in biomedical engineering from the Johns Hopkins University, where she studied sound localization circuitry in the auditory brainstem. In 2005, she became involved with the hybrid cochlear implant clinical trials as a postdoctoral fellow at the University of Iowa. In 2010, she was appointed as an assistant professor in the Oregon Hearing Research Center at Oregon Health and Science University. Her current research focuses on how hearing loss and cochlear implants affect binaural integration, optimizing speech perception with electro-acoustic stimulation, and improving residual hearing preservation after cochlear implantation. Reiss has had severe-profound hearing loss since early childhood.



Saturday, May 31, 2014
9:00 a.m. - 1:00 p.m.
John D. Wiley Conference Center
Waisman Center, University of Wisconsin-Madison

Participants will learn about the latest advances in research and hear from a panel of experts including individuals with cochlear implants and family members.

Sponsored by the Friends of the Waisman Center and the Department of Surgery, Division of Otolaryngology.

Hosted in partnership with the Department of Communication Sciences and Disorders.





SCHEDULE

9:00 - 9:30 a.m.

Welcome and Introduction to the Waisman Center Marsha R. Mailick, PhD, Director, Waisman Center Vaughan Bascom and Elizabeth M. Boggs Professor

9:30 - 10:00 a.m.

Hybrid Cochlear Implants: Benefits of Hearing Preservation, Lessons About Brain Plasticity, and Future Directions

Lina Reiss, PhD, Assistant Professor of Otolaryngology, Oregon Health and Science University

A recent significant advance in cochlear implants is the Hybrid or Electro-Acoustic Stimulation (EAS) cochlear implant, which was developed as an alternative to treat individuals with high-frequency hearing loss but good low-frequency hearing. This presentation will discuss what has been learned from the Hybrid clinical trials over the past 10 years, including the benefits of acoustic hearing preservation for improved speech perception in noise, voice recognition, and music perception along with recent findings of brain plasticity with Hybrid cochlear implants and future directions for improving hearing preservation cochlear implants.

10:00 - 10:30 a.m.

Speech Discrimination and Spatial Hearing in Toddlers with Bilateral Cochlear Implants

Christi Hess, PhD, CCC-SLP, Binaural Hearing and Speech Lab, Waisman Center Bilateral cochlear implants (BiCIs) have been shown to promote the development of spatial hearing skills in children and adults, but little is known about the role of bilateral stimulation in enhancing language and speech reception in infants and toddlers. Because BiCIs are provided to a growing number of infants and toddlers with little understanding about performance, the goal of this project is to better understand speech discrimination abilities and speech in noise thresholds in two-to three-year-old toddlers with bilateral cochlear implants.

10:45 - 11:15 a.m.

Update on the Development of Novel, Regenerative Therapies for Hearing Loss *Samuel Gubbels, MD, FACS, Assistant Professor, Division of Otolaryngology-Head and Neck Surgery, Section of Otology and Neurotology and Waisman Center Investigator*

There are a number of approaches being actively pursued in effort to develop novel treatments for hearing loss. While it remains unclear as to when new, regenerative therapies might be available for the treatment of human hearing loss, research in this area has produced a number of important findings over the last few years. This presentation will discuss the approaches being pursued to regenerate inner ear hair cells and review relevant scientific reports from this area of research.

11:15 a.m. - 12:15 p.m. LUNCH Optional panel discussion with clinicians and Language Environment Analysis (LENA) presentation

Jan Edwards, PhD, Professor, Communication Sciences and Disorders and Waisman Center Investigator

12:15 - 1:00 p.m. Panel Discussion

Moderated by Ruth Litovsky, PhD, Professor, Communication Sciences and Disorders, Department of Surgery, and Waisman Center Investigator

ABOUT THE PANELISTS

- Spencer Andring is six years old and was born with bilateral sensoroineural hearing loss caused by a Connexin gene mutation. He was 17 days old when his parents met with the audiologist for the first time and learned that he could not hear. After a few tests were performed to determine if Spencer was a candidate for cochlear implants, his parents were introduced to the staff at the American Family Children's Hospital. Spencer received bilateral cochlear implants 16 days before his first birthday. Today, thanks to cochlear implants and the help of speech/language development professionals, Spencer is a very social kindergartner who can out-gab his classmates!
- Abraham Luedtke is 14 years old, the oldest of five, and the only family member with a hearing impairment. Abe was born deaf in his right ear only. As he approached his second birthday it was apparent that his speech was not expanding. At that time, tests proved that he also had developed profound hearing loss in his left ear. Abe's parents decided that becoming a cochlear implant recipient seemed like the right choice for him. When he was four years old, he received a cochlear implant on his right side and quickly followed up with intense speech therapy. By age six, he was speaking at a level which most people could understand clearly. Abe plays the piano and is a percussionist for his school's marching band. He also plays for the Beaver Dam Middle School football team with a special order helmet that allows him to wear his processor and fully take part in the huddle.
- Ann Fincutter is a wife and mother of three children. She developed mild sensorineural hearing loss at the age of eight, which slowly progressed over years. Ann received an implant on the left side in August of 2013 and has had positive success since day one of her activation. Ann is a self-employed cosmetologist and enjoys spending time with her husband and children, camping, gardening, and traveling. With her new implant, Ann again enjoys socializing, listening to the birds in her yard, and has plans of learning a second language.
- Agnes O'Neill is a veteran teacher who was hearing impaired during most of her career as a middle and high school teacher, the last 18 years working with special needs students. She has been retired for 18 years. Agnes has been hearing impaired since age 25 when it was initially noted that she should use hearing aids. After hearing aids and unsuccessful surgery, Agnes lost all functional hearing in the right ear. A hearing aid for the left ear was advised and she was able to do rather well until the strongest hearing aids were no longer helpful. In 2008, she received a cochlear implant, which opened up the world of sound again. Agnes has been married to her husband Bob for 44 years and in retirement they enjoy travel and socializing with friends.

If you have questions for the panel, please write them on the enclosed insert.

At 10:30 a.m., Waisman Center staff will collect these forms. This will make it possible for the panelists to select initial questions to answer and have time to prepare responses.