PRESENTERS & MODERATOR

Inyong Choi, PhD, is an assistant professor in the Department of Communication Sciences and Disorders at the University of Iowa. He studies why the same hearing intervention results very different outcomes in different patients, and how we can improve hearing-impaired listeners' speech understanding through perceptual training. He received a PhD degree in 2008 in electrical engineering at Seoul National University with a concentration in acoustics and psychoacoustics. After working for Samsung R&D Center from 2008-2011, he returned to academia and did his postdoctoral research in the field of auditory neuroscience and neuroimaging at Boston University until 2015. He started his own lab in August 2015.

Karen J. Cruickshanks, PhD, is a professor of ophthalmology and visual sciences and population health sciences at the University of Wisconsin School of Medicine and Public Health. She received her Ph.D. in epidemiology from the University of Pittsburgh Graduate School of Public Health. Her reseinyong
arch interests are focused on the epidemiology of aging. Her work is funded by the National Institute on Aging and includes two longitudinal cohort studies: the Epidemiology of Hearing Loss Study (EHLS;R37AG11099) to study hearing, olfactory, and cognitive impairments in a population-based cohort of 3,500 older residents of Beaver Dam, Wisconsin and the Beaver Dam Offspring Study (R01AG021917) which follows the adult children of the EHLS to study generational differences in the risk of age-related sensorineural disorders. She is the director of the EpiSense Audiometry Reading Center which provides support for other cohort studies of hearing, including the Hispanic Community Health Study, a multicenter study of 16,000 Latinos, and the Epidemiology of Diabetes Interventions and Complications study of hearing impairment. Major themes of her research are the links between subclinical atherosclerosis, inflammation, and metabolic dysregulation and the sensory and neurological disorders of aging. She previously served on the National Deafness and Communications Disorders Advisory Council for the National Institutes of Health.

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 - Head and Neck Surgery 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 communication success. Her research program is funded by the NIH-NIDCD.

Z. Ellen Peng, PhD, is a postdoctoral research associate in the Binaural Hearing and Speech Lab at the Waisman Center. She received both her degrees in engineering–a bachelor's degree from Drexel University in Philadelphia and a PhD from the University of Nebraska. Before coming to Madison, she completed a postdoctoral training as a Marie-Curie Fellow in Germany, where she used acoustic virtual reality to study speech perception in children and adults in noisy environments. Her current research interest is to understand spatial hearing and speech perception in difficult listening situations for adults and children with cochlear implants and those with normal hearing.

7th Annual

Waisman Center Day with the Experts: Cochlear Implants

Saturday, June 2, 2018

9:00 a.m. - 12:15 p.m.
John D. Wiley Conference Center
Waisman Center, University of Wisconsin-Madison

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

WAISMAN CENTER
UNIVERSITY OF WISCONSIN-MADISON

University of Wisconsin Department of Surgery
DIVISION OF OTOLARYNGOLOGY-HEAD & NECK SURGERY
Remarkable People. Remarkable Results.

SCHEDULE

9:00 - 9:15 a.m.
Overview and Highlights of Cochlear Implant Research at UW-Madison
Ruth Litovsky, PhD, Professor, Department of Communication Sciences and Disorders, Department of Surgery, and Waisman Center Investigator

9:15 - 9:40 a.m.
Brain Exercises After Cochlear Implantation
Inyong Choi, PhD, Assistant Professor, Department of Communication Sciences and Disorders and Department of Otolaryngology, Head and Neck Surgery, University of Iowa Hospitals and Clinics, University of Iowa
Cochlear implants (CIs) have been established as a standard treatment for profound hearing loss. However, speech-understanding in CI users varies over a wide range. Speech perception, especially when it is in a noisy background, requires high-level perceptual and cognitive processes including auditory grouping, attention, and phonemic feature extraction. These "brain" mechanisms may present targets for training; we might be able to exercise our brain to better understand speech sounds. Researchers aim to develop and validate focused training protocols that engage perceptual and cognitive targets for auditory learning in CI users. This presentation will introduce recent advances in such auditory rehabilitation paradigms.

9:40 - 10:05 a.m.
Eye Gaze Behavior as a Window into Binaural Measures in Cochlear Implant Recipients
Z. Ellen Peng, PhD, Research Assoc., Binaural Hearing & Speech Lab, Waisman Center
Bilateral cochlear implants (CIs) have become more common as a standard of care. Much research has been devoted to understanding the extent to which bilateral CI recipients can integrate information from both ears, and therefore use "binaural" hearing to localize sounds in real-world listening. This talk will describe novel approaches, such as capturing eye gaze movement with an eye-tracking camera, to study how well recipients of bilateral CIs can access binaural hearing. This approach reveals information not only about whether recipients are accurate about source direction but also the time-course the brain takes when processing such auditory cues.

BREAK

10:20 - 10:45 a.m.
Preventing Age-Related Hearing Loss and Its Impact on Cognition and Quality of Life
Karen J. Cruickshanks, PhD, Professor, Department of Population Health Sciences and Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison
Many older adults experience changes in hearing as they age which may make communicating with loved ones difficult and negatively impact quality of life. In recent years, there has been growing awareness of the barriers people face in getting help with hearing problems and concern about reports suggesting that age-related hearing loss may increase the risk of developing dementia. Research at UW-Madison conducted in partnership with the people of Beaver Dam, Wisconsin, has contributed to identifying ways to slow or prevent age-related hearing changes and to understanding the impact of hearing loss on the lives of older adults.

10:45 - 11:30 a.m.
Community Panel—A panel of cochlear implant users and family members
Moderated by Ruth Litovsky.

11:30 a.m. - 12:15 p.m.
Clinician Panel—Question and answer session with a panel of clinicians

COMMUNITY PANELISTS

Caelen Alder is nine years old and completed third grade this year at a local elementary school in Madison. Like his brother, Sorin, he was born with profound bilateral hearing loss. After wearing hearing aids for nine months, Caelan underwent bilateral cochlear implant surgery. Following several years of auditory verbal therapy and listening to his parents and caregivers constantly talk, sing, read aloud, and narrate everything they were doing, Caelan developed into the chatter box and singer that he is today. He enjoys school immensely, excelling in math and reading. He is very active outside of school too. He practices his drums regularly, plays chess and soccer, and swims year-round with a local swim club. He loves playing board games, adding songs to his music playlist, and singing out loud to anyone who will listen! At this point in life, he can't decide between being an economist, a social worker, or a soccer player when he grows up.

Sorin Alder is 11 years old and will enter the 6th grade at Hamilton Middle School in Madison next fall. Sorin's profound bilateral hearing loss was diagnosed at birth thanks to the newborn hearing screening in Los Angeles where he was born. After a one-year trial with hearing aids, he was implanted bilaterally in order to improve his sound access. After years of intensive work using an oral approach to communication supported by auditory verbal therapy, Sorin has become a successful cochlear implant user. He has been mainstreamed since kindergarten and is a strong student who gravitates toward math and social studies. Today, Sorin spends his free time playing soccer and baseball, practicing his baritone, and reading a wide variety of books. He likes to compete in chess tournaments, dance freestyle, and listen to music. His favorite song is "Whatever it Takes" by Imagine Dragons.

Jack Spear, age 69, lives in Madison, Wisconsin. He was born with severe-to-profound hearing loss as were two of his three sisters. Jack began wearing hearing aids at the age of three and received speech training for several years while concurrently mainstreamed in school. Now retired, he was a psychologist and he attended graduate school at the University of Utah and the University of Missouri-Columbia. At the age of 50 he received his first cochlear implant and then received a second implant seven years later. Jack is married, the father of two girls, and the grandfather of (so far) two grand-dogs and three grand-cats. He is doing "the retirement thing" with a particular focus on volunteer work with the HLAA-Madison Chapter (Hearing Loss Association of America) and concurrent efforts to improve mental health services to those with hearing loss and the development of a clear public identity for those classified as hard-of-hearing.

Alyssa Wciorka is in her final year of undergraduate study at UW-Madison double majoring in psychology and communication sciences and disorders. She was diagnosed with severe-to-profound hearing loss at 18 months old and received her first implant at two years old. Alyssa received her second implant at ten years old. She underwent auditory verbal therapy and was mainstreamed at a private school throughout elementary, middle, and high school. She plans to attend graduate school for audiology with the hope of becoming a pediatric audiologist. The best part about having cochlear implants for her is having a personal connection with her chosen field of study and educating others about cochlear implants.

CLINICIANS

Wendy Marchant, AuD, CCC-A, Senior Clinical Audiologist
Jennifer Ploch, MA, CCC-A, Senior Clinical Audiologist
Joseph Roche, MD, Assistant Professor, Division of Otolaryngology - Head and Neck Surgery
Kimberly Sowers, MS, CCC-A, Senior Clinical Audiologist