PRESENTERS & MODERATOR

Alan Kan, PhD, is an assistant scientist in the Binaural Hearing and Speech Lab at the Waisman Center. He has a bachelor’s degree in telecommunications engineering and a PhD in engineering, both from the University of Sydney, Australia. While pursuing his PhD, he worked as a consultant for two audio technology startup companies developing algorithms for the personalization of 3D audio. In 2010, he moved to UW-Madison to apply his scientific and engineering expertise to understanding the challenges people face when listening with cochlear implants, and to the development of innovative new strategies for maximizing hearing success with cochlear implants. His research work has been supported by grants from the National Institute on Deafness and Other Communication Disorders (NIH-NIDCD) and from the Hearing Health Foundation.

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.

Sara Misurelli, PhD, currently serves as visiting assistant professor in the Department of Communication Sciences and Disorders at UW-Madison, where she earned both her BA and PhD. Misurelli has been a member of the Waisman Center’s Binaural Hearing and Speech Lab for seven years. Her research focuses on how individuals with normal hearing and with cochlear implants function in noisy environments. Most recently, she began to investigate the role of executive function in defining individual differences of performance when listening to speech in noise.

Mark Pyle, MD, is double board certified by the American Board of Otolaryngology-Head and Neck Surgery and the American Board of Neurotology. He specializes in otology, neurotology and lateral skull base surgery with specialty areas in disorders of the ear, facial nerve and balance disorders, restoration of hearing and cochlear implantation, and skull base tumor surgery. Pyle is a professor of otolaryngology and neurological surgery, the director of the Otolaryngology Residency Training Program, academic vice chair of the Division of Otolaryngology and section head of Otology and Neurotology. His research interests include new techniques in intraoperative monitoring during acoustic neuroma surgery, outcome studies in the surgical treatment of vertigo, objective measurements of middle ear function and embryologic development of the inner ear.
SCHEDULE

9:00 - 9:15 a.m.
Welcome
Ruth Litovsky, PhD, Professor, Department of Communication Sciences and Disorders, Department of Surgery and Waisman Center Investigator

9:15 - 9:45 a.m.
From Sound to “Electric Hearing” – Improving Outcomes with Cochlear Implants
Alan Kan, PhD, Assistant Scientist at the Binaural Hearing & Speech Lab
The modern cochlear implant provides hearing to the profoundly deaf by adapting technologies developed for the transmission of speech from a single speaker through a telephone line. However, the everyday world is a symphony of sounds, creating unique challenges for the encoding of distinguishable sounds into electrical stimulation. Many of the cues that help individuals with normal hearing distinguish different sounds within a noisy situation are not available with cochlear implants, even with bilateral implantation. This talk will cover how cochlear implants work and some of the latest research being conducted to improve outcomes with cochlear implants.

9:45 - 10:15 a.m.
Exploring the Relationship Between Memory, Attention and Hearing
Sara Misurelli, PhD, Visiting Assistant Professor, Department of Communication Sciences & Disorders and Research Fellow, Waisman Center Binaural Hearing & Speech Lab
We all have experienced situations where we try to hear someone speak while ignoring other noises around us. For people with hearing loss, navigating these “cocktail party” environments is an even bigger challenge. Research suggests that in these complex auditory environments, both the ability to hear (audition) and the ability to understand (cognition) play important roles. This presentation will focus on recent work that examines the relationship between auditory processing specific to cochlear implant users and cognitive abilities, such as attention and memory, in these complex listening situations.

10:30 - 11:00 a.m.
Hearing Impairment and Listening Effort: How Do We Measure It and Why Does It Matter?
Mark Pyle, MD, Professor, Division of Otolaryngology-Head and Neck Surgery, Academic Vice-Chair, Division of Otolaryngology
This presentation will focus on the cochlear implant process from a medical perspective, starting with the patient’s initial clinical evaluation with the physician. The details of testing to determine candidacy will be discussed and we will also review ancillary tests that are done prior to surgery. In addition to medical and audiologic criteria for implantation, we will also review pre-surgical imaging, including CT and MRI. The practical aspects of surgery, hospital stay and post-operative recovery will be reviewed. Finally, the presentation will include some of the recent advances and how the process has changed over the past 20 years.

11:00 - 11:30 a.m.
Question and answer session with a panel of clinicians

11:30 a.m. - 12:15 p.m.
Panel Discussion- A panel of experts including cochlear implant users and family members.
Moderated by Ruth Litovsky, PhD, Professor, Department of Communication Sciences and Disorders, Department of Surgery and Waisman Center Investigator

COMMUNITY PANELISTS

Carol LaPoint lives in Appleton and has been retired for two years from her job as a log auditor. She was born with profound hearing loss in her right ear and in 2011 suddenly lost hearing in her left ear. Carol was deaf except for some residual hearing. Due to other medical issues, she did not get her cochlear implant until October 2013. Her implant was activated the following month. The first voice Carol heard was her husband’s and she burst out laughing because his loud, booming voice at first sounded like Donald Duck! Carol and her husband have been ballroom dancers since the day they met. Carol danced during her deaf period, but nothing compares now to hearing the music and dancing to the beat. She is also an avid bird watcher and enjoys hearing the birds sing and chirp. But the sweetest sound of all is hearing her granddaughters say “I love you, Grandma!”

Bill Flood is 63 years old and lives in Fort Atkinson with his wife Sandy. He was found to have hearing loss as an infant, with genetics as the likely cause. When he was 20 years old he started wearing a hearing aid. As technology improved, Bill was able to adapt and have a successful career in marketing for more than 35 years. His word comprehension was between 60 and 70 percent with hearing aids. However, in 2014 an evaluation determined that his comprehension had dropped below 20 percent. After extensive testing, Bill was found to be an ideal candidate for bilateral cochlear implants. His second implant was completed in August 2015. After six months his comprehension had jumped to 94 percent. He found that listening to the radio and audio versions of books he had already read were very helpful to the learning process. As an accounts receivable technician, Bill uses a Captel phone attached to the cochlear mini mic to call payers about payments and invoice problems. In his free time, he and Sandy enjoy traveling, movies and live music.

CLINICIAN PANELISTS

Wendy Marchant, AuD, CCC-A, is a senior clinical audiologist at the UW Hospital and Clinics. She received her BS in communicative disorders and her master’s degree in audiology from UW-Oshkosh. She received her doctor of audiology degree from Arizona School of Health Sciences. Her interests include pediatric and adult hearing evaluations, pediatric and adult hearing aid fittings, and cochlear implants. Marchant is certified by the American Speech-Language and Hearing Association (ASHA) and is a fellow of the American Academy of Audiology (AAA).

Bryn Olson-Greb, MS, CCC-SLP, received her BA in communication sciences and disorders and MS in speech-language pathology from UW-Madison. Olson-Greb is a pediatric clinical speech pathologist in the UW Voice and Swallowing Clinics. Her clinical practice includes speech and language assessment, therapy for children with hearing loss, as well as assessment and treatment of children with voice disorders, swallowing disorders, resonance disorders and disorders of the upper airway.

If you have questions for the panel, please write them on the enclosed insert. At 10:15 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.