

Speaker: Carlile, Simon

Bio: Professor Simon Carlile PhD - Executive, strategist, entrepreneur and researcher focused on translating new technologies for delivering on human needs and building innovative and sustainable solutions. Education and Research experience: Simon has a BSc (Hons) and PhD from the University of Sydney in Auditory Neuroscience, postdoctoral training at University of Oxford (UK) where he was a Junior Research Fellow of Green College and a Lecturer in Neuroscience for Pembroke College. Simon established the Auditory Neuroscience Laboratory at the University of Sydney where he is also Professor of Neuroscience in the School of Medical Sciences. Simon has published more than 120 articles in peer-reviewed international journals, edited a foundation volume on Auditory Virtual Reality and is Associate Editor for Nature's Scientific Reports. Translational Research and Corporate roles: Simon has had two spin-off companies in the audio space, one of which brought new processing algorithms for listening devices to market. As Vice President for Research at Starkey Hearing Technology, Simon developed a user centered research and technology strategy to reposition the hearing aid as a platform for health and wellness using biosensing. In 2018 Simon joined [X], The Moonshot Factory, Alphabet's R&D force and is the technical lead for a major moonshot project.

Disclosure: Carlile, Simon: Consulting/Employment, X The Moonshot Factory; Stock/Equity, Google. I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Kraus, Nina

Bio: Nina Kraus is Hugh Knowles Professor of Communication Sciences, Neurobiology, and Otolaryngology at Northwestern University. She is a scientist and amateur musician who uses hearing as a window into brain health. She began her career measuring responses from single auditory neurons and was one of the first to show that the adult nervous system has the potential for reorganization with learning. These biological insights led her to investigate sound processing in the brain in humans. Through a series of studies with thousands of participants from birth to age 90, her research has found that our lives in sound, for better (musicians, bilinguals) and for worse (concussion, hearing loss, language disorders, noise), shape how our brain makes sense of the sounds we hear. She advocates for biologically informed choices in education, health, and social policy. See www.brainvolts.northwestern.edu

Disclosure: Kraus, Nina: I have no significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Litovsky, Ruth

Bio: Ruth Litovsky, PhD, is Oros Family chair, and currently chair of the Department of Communicative Sciences and Disorders at the University of Wisconsin – Madison. She directs the Binaural Hearing and Speech Lab at the Waisman Center, has a joint appointment in the Department of Surgery / Division of Otolaryngology and is faculty member of the Neuroscience Training Program. Professor Litovsky received her BA and MA degrees from Washington University in St. Louis, PhD in 1991 from University of Massachusetts - Amherst in Developmental Psychology, in the lab of Rachel (Clifton) Keen. She then completed a postdoctoral fellowship in 1994 in Neurophysiology (auditory neuroscience) in the labs of Tom Yin and John Brugge at the University of Wisconsin – Madison. She then spent the next 7 years as a Research Associate at Boston University's Hearing Research Center working with Steve Colburn, and at the Massachusetts Eye and Ear Infirmary. In 2001 she returned to Wisconsin and has been on faculty at UW since. Her ongoing research program has been funded since 1995 by grants from NIH-NIDCD, in addition to grants from smaller foundations and collaborative projects with cochlear implant companies. She has published over 150 papers and book chapters based on her research which focuses hearing abilities covering lifespan of humans to include infants and elderly adults. Her research program is dedicated to understanding hearing restoration with cochlear implants, in particular the impact of bilateral implantation, and more recently single-sided deafness. Her lab recently received supplemental funding from NIDCD to study auditory function in conjunction with cognition and language in young adults with Down Syndrome. The lab uses a combination of approaches including psychophysics and reverse engineering to explore how binaural hearing can be restored cochlear implant users with fidelity; pupillometry and eye gaze measures to examine 'real time' processing of information and listening effort during perceptual tasks; and more recently functional neuroimaging to investigate neural signatures for bilateral benefits and cognitive load. She is the Past-President of the Association for Research in Otolaryngology (2020-2021), is the elected chair of the 2022 Auditory System Gordon Research Conference, and PI on the 2022-2024 NIH R13 grant to support the meeting. Professor Litovsky teaches courses in undergraduate and graduate programs, serves on numerous national and international grant review panels, currently is a standing member of NIH-AUD study section. She has served on numerous editorial boards, and in various positions of leadership in the research community. She is a Fellow of the Acoustical Society of America, and received a number of awards, including a Fulbright Senior Fellowship. Professor Litovsky is extremely grateful to the diverse group of students, audiologists, engineers and postdoctoral fellows whose work over the years is the cornerstone of this presentation. Most important, she is humbled and honored to be giving this year's Carhart Memorial Lecture at AAS, an organization that she honors and deeply respects.

Disclosure: Litovsky, Ruth: Research Support/Grants, NIH; Consulting/Employment, Frequency Therapeutics; Speakers' Bureau, ARO. I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers' bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Patel, Aniruddh

Bio: Aniruddh (Ani) Patel is a Professor of Psychology at Tufts University. He received his BA from the University of Virginia (1987) and his PhD (1996) from Harvard

University. He then joined The Neurosciences Institute in San Diego, CA, where he was a Senior Fellow from 2005-2012. Dr. Patel's work focuses on music cognition: the mental processes involved in making, perceiving, and responding to music. Areas of emphasis include music-language relations (the topic of his 2008 book, *Music, Language, and the Brain*, Oxford Univ. Press) rhythmic processing, and cross-species studies of music cognition. A wide variety of methods are used in this research, including brain imaging, behavioral experiments, theoretical analyses, acoustic research, and comparative studies with nonhuman animals. Dr. Patel has served as President for the Society for Music Perception and Cognition (2009-2011) and is a Fellow in the Brain, Mind, and Consciousness program in the Canadian Institute for Advanced Research (CIFAR).

Disclosure: Patel, Aniruddh: I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Reed, Nicholas S.

Bio: Nicholas Reed is an assistant professor in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health and director of the Audiology Core at the Johns Hopkins Cochlear Center for Hearing and Public Health.

Disclosure: Reed, Nicholas: Research Support/Grants, National Institute on Aging Career Development Award; Non-Financial Disclosures: Shoebox Inc and Good Machine Studio. I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers' bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Sullivan, Jessica Renee

Bio: Dr. Jessica Sullivan is an assistant professor in the Communicative Sciences and Disorders department at Hampton, University. Her areas of interest include aural (re)habilitation, specifically, the development of innovative and effective auditory training interventions. Currently, she is interesting in the relationship between working memory and speech perception in noise. She received her B.A in 1996 from Louisiana State University and Masters in Deaf Education from Lamar University in 2000. She received her PhD in Communication Sciences at the University of Texas at Dallas in 2010. Dr. Sullivan has received numerous awards, honors, and grants including a SBIR from the NIH /NIDCD.

Disclosure: Sullivan, Jessica. Research Support/Grants, SBIR 1R43DC17405-01A1; I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Swanepoel, De Wet

Bio: De Wet Swanepoel is professor in the Department of Speech-Language Pathology and Audiology, University of Pretoria and senior researcher at the Ear Science Institute Australia. Prof Swanepoel's research capitalises on the growth in information and communication technologies to explore, develop and evaluate innovative technologies and service delivery models to improve ear and hearing care. He has published more than 180 peer-reviewed articles, books and book chapters and is funded by the NIH, UK Academy of Medical Sciences, National Research Foundation, industry and has received numerous national and international awards in recognition of his work. Prof Swanepoel serves as Editor-In-Chief of the *International Journal of Audiology*, past-president of the *International Society of Audiology* and co-founder of a digital health company called the *hearX group*.

Disclosure: Swanepoel, De Wet: Research Support/Grants, UK Newton Advanced Fellowship; Consulting/Employment, hearX Group; Stock/Equity, hearX Group; I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.

Speaker: Trainor, Laurel

Bio: Laurel Trainor is a Professor of Psychology, Neuroscience and Behaviour at McMaster University, a Research Scientist at the Rotman Research Institute, a Fellow of the Royal Society of Canada, Fellow of the Canadian Institute for Advanced Research, Fellow of the Association for Psychological Science, and a Distinguished University Professor. She directs the Auditory Development Lab (<https://trainorlab.mcmaster.ca/>) and has published over 150 articles in journals including *Science* and *Nature* on the neuroscience of auditory development and the perception of music, including work on pitch, tonality, timing, rhythm, neuroplasticity, and the role of music in social interaction and developmental disorders. She co-holds a patent for the Neuro-compensator hearing aid. She is the founding and present director of the LIVELab (<http://livelab.mcmaster.ca/>), a unique research-concert hall with high acoustic control, that is equipped with multi-person motion capture and EEG for studying music performance and human interaction. Laurel also has a Bachelor of Music Performance from the University of Toronto and is currently principal flute of the Burlington Symphony.

Disclosure: Trainor, Laurel: I have no other significant financial items (such as research support/grants, consulting/employment, stock/equity, speakers bureau) or non-financial items (such as serving as an unpaid member of a board of directors of an organization) to disclose.