

Invited Speakers Information – HEARING Workshop, May 21st -24th 2023, Ascona



Sumit Agrawal, MD, FRCS(C) is the current Chair/Chief of the Department of Otolaryngology - Head & Neck Surgery at Western University and London Health Sciences Centre in London, Ontario, Canada. He completed his fellowship in Neurotology & Skull Base Surgery and his clinical interests include cochlear implantation, vestibular surgery, and lateral skull base tumours. He is co-director of the Auditory Biophysics Laboratory and his current research involves middle-ear biomechanics, surgical simulation, imaging techniques, and artificial intelligence.



Lukas Anschütz is a member of staff at the Department of ORL, Head and Neck Surgery at Inselspital, University Hospital Bern, Switzerland. He spent 2016 one year in Modena, Italy as a research fellow with Prof. Livio Presutti, where he got passionate about endoscopic ear and lateral skull base surgery. Consecutively, he introduced EES in Bern, where it is now routinely used. He organizes the Swiss Endoscopic Ear Surgery Course (SEES) and has been a faculty member in multiple temporal bone surgery courses internationally. His research interests are endoscopic middle ear anatomy, technical developments, and the refinement of under- and postgraduate teaching methodologies. He is head of the temporal bone laboratory at ARTORG Center for Biomedical Engineering at the University of Bern.



Diana Arweiler-Harbeck is a consultant at the Department of Otorhinolaryngology Head and Neck Surgery, University Hospital Essen, University of Duisburg-Essen. She is a specialist in Ear Surgery, Otology, and Neurotology. She is also the medical administrator of the Cochlear Implant Center CIC Ruhr Essen. Her research focus, among others: Use of and validation of Electrophysiologic measurements in Cochlear Implantation
Further fields: Salivary gland Surgery; Surgical treatment of sleeping disorders.



Sven Beckmann is a member of staff at the Department of ORL, Head and Neck Surgery at Inselspital, University Hospital Bern, Switzerland. After finishing medical school in 2017, he started residency training at Inselspital in 2018 and spent a year at Heidelberg University Hospital as part of his training in 2021-2022. In 2023, he started his otology training and has a special interest in further refinement of endoscopic ear surgery.



Dr. **Anne Bonnin** is currently Beamline Scientist at the TOMCAT Beamline (SLS, PSI, Switzerland). Specialized in X-ray Phase Contrast Imaging, her research interests focus on the development of new imaging methods to characterize materials and understand their behavior at different lengths and temporal scales. More particularly, she is in charge of the TOMCAT nanoscope, a full-field transmission X-ray microscope (TXM). Since 2016, she leads the Heart Imaging Project at TOMCAT, part of an international collaboration with the UPF, UCL, and UHCZ teams, aiming at better describing and understanding the cardiac remodeling processes in the heart. More recently, she got involved in several biomedical projects, such as the investigation of the mouse brain vasculature down to the micrometer resolution and the investigation of the human middle-ear bones dynamically.



Prof. Dr. med. **Marco Caversaccio** is chairman of the Department of ENT, Head and Neck Surgery at the University Hospital in Bern (Switzerland) since 2009 and Vice-Director of the ARTORG Research Center. Following his studies in human medicine at the University of Geneva he performed his fellowship at the University Hospital in Bern, Technical University in Munich as well as at the Imperial College in London. Besides his clinical activities and annual course organization of Swiss Ear Endoscopy, Dr. Caversaccio is participating in various research projects, funded by the Swiss National Science Foundation and European Research Foundation. Dr. Caversaccio is a well-known technology expert in the development and implementation of novel surgical techniques. He has conducted First in Man studies like the Robotic Cochlear implantation. He is a member of the Swiss, German, and French societies for ENT, of the American Academy of Otolaryngology-Head and Neck Surgery, and of the prestigious Collegium ORL Amicitiae Sacrum.



Dr. **Jeffrey Tao Cheng** is an Investigator at the Eaton-Peabody Laboratories (EPL) of Massachusetts Eye and Ear and an Assistant Professor in the Department of Otolaryngology-Head and Neck Surgery of Harvard Medical School. Dr. Cheng's research focuses on understanding the structure and function relationships in normal, diseased, and reconstructed middle ears. In his research, Dr. Cheng couples experimental measurements in both cadaveric human temporal bones and live animals with computational models to gain insights into the middle ear mechanics.



Hector Dejea obtained his PhD in Biomedical Engineering from ETH Zürich and Paul Scherrer Institut (Switzerland, 2021), and is currently a postdoctoral researcher at Lund University and MAX IV Laboratory (Sweden). His research focuses on the use of synchrotron techniques for diverse biomedical applications, especially for tissue characterization and time-resolved (4D) studies in the cardiovascular and musculoskeletal fields.



Anandhan Dhanasingh joined MED-EL in the year 2010 as an engineer within Research and Development (R&D) Electrodes department. Since then, he has served in different roles within R&D and currently serving as the Head of Translational Science Communication, R&D. In his current role, his responsibility concerns communicating the science behind MED-EL's products and philosophies among the peers. He holds a doctoral degree in applied biomaterials, and a master's degree in biomedical engineering, both from the Aachen University of Technology, Germany, and a bachelor's degree in mechanical engineering from the University of Madras, India. He recently completed the master's degree in business administration majoring in international business from the MCI-The

Entrepreneurial School, Innsbruck, Austria. He has authored more than 20 research articles and was the inventor or coinventor of more than 20 patents on various aspects of cochlear implants since he joined MED-EL.



Prof. Dr. med. **Alexander M. Huber** is the Professor and Chair of the Department of Otorhinolaryngology, Head and Neck Surgery at the University Hospital Zurich, Switzerland. His clinical interests are in otology and skull base surgery. After medical school and board exam, he worked in different clinical and research institutions in Switzerland (University Zurich), the USA (Stanford University Medical Centre, Massachusetts Eye and Ear Infirmary), and the UK (Guy's and St. Thomas Hospital Trust, London). He is actively practicing otology and skull base surgery and performed over 4000 surgical interventions in this field. He has published more than 150 articles in refereed journals with over 3500 citations. He holds six national and international awards and over 20 research grants. His

research interest is focused on middle ear mechanics, cochlear and middle ear implants as well as vestibular Schwannoma and paraganglioma studies.



Aleksandra Ivanovic is a Ph.D. student in the X-ray Tomography Group at Paul Scherrer Institut and the Hearing Research Lab at the Inselspital (University Hospital Bern)/ the ARTORG Center for Biomedical Engineering Research since the autumn of 2020. Before that, she received her BSc. in Biomedical Science from the University of Fribourg (Switzerland) in 2018 and her MSc. in Biomedical Engineering from the University of Basel (Switzerland). Aleksandra's research focuses on investigating the human auditory system in motion using synchrotron-based X-ray phase-contrast imaging.



Dr. **Judith Kempfle** is a clinician scientist originally from Germany who recently joined the Department of Otolaryngology at UMass Memorial Medical Center/UMass Chan Medical School as an Assistant Professor and Otologist. In addition, she holds a 50% position as a principal scientist and investigator at Mass Eye and Ear/Harvard Medical School, where she previously completed a postdoctoral fellowship on inner ear regeneration and part of her clinical training. Her research focus is centered around the regeneration of the auditory nerve, gene therapy, and neuron-glia interaction during hearing restoration in the peripheral and central auditory system



Hanif Ladak is a Professor of Biomedical Engineering and Otolaryngology – Head and Neck Surgery at Western University in London, Ontario, Canada. His research interests are in imaging and computer-based modeling to quantify auditory anatomy and biophysics with the goal of optimizing implants. Currently, his research group focuses on synchrotron-radiation phase-contrast imaging of the middle ear and cochlea. Prof. Ladak is a Fellow of the Canadian Academy of Engineering and is a member of the Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum.



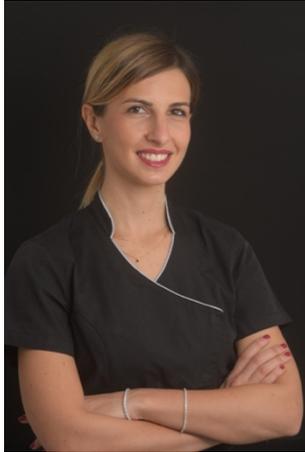
Dr. **Daniel Lee** is Associate Professor, Department of Otology and Laryngology, at Harvard Medical School. He is the Director of Pediatric Otology and Neurotology and the Harvard Neurotology Fellowship at Mass. Eye and Ear. His clinical interests include cochlear implant (CI) and auditory brainstem implant (ABI) surgery, endoscopic ear surgery, and superior canal dehiscence syndrome. Dr. Lee's laboratory seeks to answer fundamental questions about how the ABI provides hearing using animal models and to examine novel methods to correlate the position of the array with ABI outcomes in the clinic. His funded work has included basic and translational studies of the ABI as well as the development of a novel conformable surface ABI array in primate with Professor Stephanie Lacour at the Ecole Polytechnique Fédérale de Lausanne (EPFL).



Hao Li, born in 1984, started with image analysis based on histology methods year 2008 during his PhD studies regarding genodermatoses. Since 2014 he has worked in Prof. Helge Rask-Andersen's lab at Uppsala University and studied inner ear anatomy based mainly on micro-CT, 3D printing, and histology methods. In 2017 he got to work with data sets from Synchrotron phase-contrast imaging. His work mainly relies on manual segmentation techniques.



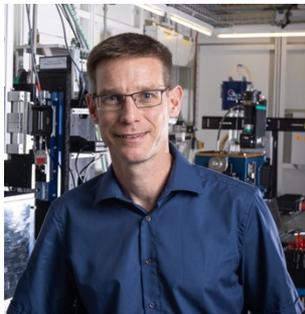
With her background in Zoology, Behavior Biology, and Bioacoustics, Dr. **Isabelle Maiditsch** completed her diploma thesis and her PhD thesis (2022) at the University of Vienna (Austria), studying acoustic communication and hearing ability in fishes. Followed by a current postdoctoral research position at the Paul Scherer Institute (Switzerland), working on the project: “Revelation of sound-induced motion patterns of fish auditory structures: a new experimental tomography-based 4D approach.”



Dr. Giulia Molinari is a medical doctor with a specialty in Otorhinolaryngology - Head and Neck surgery. She is a PhD Student in Surgical Sciences and Innovative Technologies at Alma Mater Studiorum University of Bologna (Italy). She is currently working as a Research fellow with clinical and surgical activity at IRCCS AOU Policlinico di Sant'Orsola, Department of Otorhinolaryngology and Audiology, Bologna, Italy, under the chief of Prof. Livio Presutti. Her interests are surgical training, endoscopic ear surgery, and innovative technologies for otologic surgery. She has published more than 40 studies in scientific journals and book chapters in several scientific books. Her tutoring activities involve surgical training with dissection courses and scientific writing for residents and medical students. She is a member of the Young ENT group of the Italian Society of Otorhinolaryngology-Head and Neck Surgery - GOS, the Young International Federation of ORL Societies (Yo-IFOS), the International Working Group on Endoscopic Ear Surgery (IWGEES), and Women in Surgery Italia (WIS Italia).



Aaron Remenschneider is a surgeon/scientist with a research appointment as Principal Investigator at Mass Eye and Ear and a clinical appointment at UMass Memorial Medical Center, where he serves as the Division Director of Otology and Vice Chair of the Department of Otolaryngology. Dr. Remenschneider surgically manages patients with chronic ear disease and hearing loss. His NIH-funded research has focused on the mechanics of the human middle ear and involves the study of human otopathology, the quantification of sound transfer in normal and reconstructed ears, and the development of new diagnostics and therapeutics for patients with middle ear disease.



Christian Matthias Schlepütz is a beamline scientist at the TOMCAT beamline for tomographic microscopy at the Swiss Light Source. He received his Ph.D. in experimental Physics from the University of Zürich in 2009 for his doctoral thesis on the topic of surface X-ray diffraction performed at the Materials Science Beamline of the Swiss Light Source. After a postdoctoral fellowship at the University of Michigan, Ann Arbor, he became a beamline scientist in 2011 at the Surface Scattering beamline, Sector 33, of Argonne National Laboratory's Advanced Photon Source near Chicago. In 2015, he returned to Switzerland to join the TOMCAT team and since specializes in high-speed time-resolved tomographic measurements of dynamic systems.



Margaux Schmeltz is a postdoctoral fellow in the X-ray Tomography group at PSI since November 2020. She works on the project DYNAMITE: DYNAMIC phase-contrast MICRO-tomography of the human middle Ear, whose goal is to visualize and analyze the motions of the sound-stimulated intact human middle ear using synchrotron-based X-ray phase-contrast microtomography. She is also interested in correlative multiscale imaging of vibrating fiber systems. Previously, she graduated from the French engineering school ENSTA Paris and completed a Master's in Physics, "Laser, Optics, Matter", at Paris-Saclay University in 2016. Subsequently, she carried out a Ph.D. at the Laboratory for Optics and Biosciences at Ecole Polytechnique in France on theoretical, numerical, and instrumental implementations of nonlinear optical microscopies for collagen imaging and structural characterization.



Marco Stampanoni has been Assistant Professor (2008-2013), Associate Professor (2013-2017) and since 2017 Full Professor for X-Ray Imaging at ETH Zurich, within the Department of Information Technology and Electrical Engineering at ETH Zurich. His professorship is affiliated to the Institute of Biomedical Engineering of the University and ETH Zurich, where he leads the division for X-ray Imaging and Microscopy. At the Paul Scherrer Institut, he heads the X-ray tomography group at the Swiss Light Source (SLS). Born on May 10, 1974 in Lugano (Ticino, Switzerland) Marco Stampanoni studied physics at the ETH Zurich. After receiving his diploma in 1998, he graduated at the ETH in 2002 in the area of synchrotron-based tomographic microscopy. For his PhD, he received the ETH silver medal in 2003. From 1998 to 2000 he successfully followed a post-graduate course in Medical Physics. In 2002 he started as an Instrument Scientist at the Swiss Light Source (SLS) of the Paul Scherrer Institut in Villigen, Switzerland. In 2004 he was nominated beamline scientist and responsible for the development and realization of a tomography dedicated beamline at the SLS. In 2005 he was elected Head of the "X-ray Tomography Group" of the SLS. In 2008 he was appointed Assistant Professor (Tenure Track) for X-ray Microscopy at the ETH Zurich and, in 2010, Director of the ETH-Master of Advanced Studies (MAS) in Medical Physics. In 2012 he received an ERC Grant for his project on phase contrast X-ray imaging and won the "Dalle Molle Foundation Award" for his pioneering work on X-ray phase contrast mammography. He was among the three finalists of the "European Inventor Award 2022" and the recipient of the "Giuseppe Sciaccia International Award 2022" for biomedical research. He is teaching at ETH Zurich in the field of X-ray microscopy. Since 2018 he is the President of the Research Commission of the Paul Scherrer Institut.