

ARO 2022 MidWinter Meeting

Award Center

Congratulations to our DON HENDERSON TRAVEL AWARDEES

DON HENDERSON TRAVEL AWARDEES RECIPIENTS



Kelsey Anbuhl, Ph.D.

Kelsey Anbuhl is a postdoctoral fellow at New York University's Center for Neural Science in Dan Sanes' laboratory. Previously, she completed her PhD with Dr. Dan Tollin at the University of Colorado School of Medicine. Her graduate and postdoctoral work have focused on addressing fundamental issues with sensory processing, particularly in the context of developmental hearing loss. Her current work examines how hearing loss during adolescence

impacts long-term auditory processing and perceptual skills. As a transition to an independent research program, she has begun exploring the role of adolescent hearing loss on auditory cognition: Individuals with hearing loss exert additional mental effort to understand speech (i.e., more listening effort), and the resulting cognitive fatigue can have long-term negative consequences for quality of life. The neural mechanisms underlying listening effort—and how hearing loss alters this mechanism—are uncertain. Using an animal model, Dr. Anbuhl is working towards identifying a cortical network that supports effortful listening of an auditory task, and how adolescent hearing loss disrupts this mechanism. Her long-term goal is to gain a mechanistic understanding of listening effort that may facilitate more effective strategies for intervention and remediation of hearing-loss-induced cognitive deficits.



J. Riley DeBacker, Au.D., Ph.D.

Riley DeBacker, Au.D., Ph.D. is a Research Audiologist and Postdoctoral Fellow at the VA RR&D National Center for Rehabilitative Auditory Research working in the lab of Dr. Dawn Konrad-Martin. He graduated from the Ohio State University in 2021, where his dissertation focused on a translational model of the auditory effects of antiretroviral exposure during pregnancy and breastfeeding. His current work with Dr. Konrad-Martin uses statistical modeling to predict ototoxic hearing loss based on

individual patient characteristics, including genetics and baseline hearing. Riley is a pastpresident of the national Student Academy of Audiology, where he advocated for reform to AuD curricula and the externship process. He has been an invited speaker for the annual ACAE Clinical Education Forum and participated in the CAPCSD AuD Externship Working Group. Currently, he serves as the lead of the Risk Modeling Core for the International Ototoxicity Management Guidelines working group and a member of the American Academy of Audiology Guidelines and Strategic Documents Committee.





Derek Liu, B.S.

Derek Liu is currently a fourth-year medical student at Keck School of Medicine of USC. Initially, he studied Bioengineering at the University of California, Berkeley, in the hopes of contributing to medicine through research and innovation. Along the way, he discovered his passion for patient care, and thus decided to pursue a career in academic medicine. At USC, Derek became passionate about Otolaryngology for the field's diversity of pathologies, mix of

medicine and surgery, and fascinating anatomy. After spending the previous year studying cochlear mechanics using optical coherence tomography under the mentorship of Dr. John Oghalai, Derek is excited to pursue a similar career as an independently funded clinician-scientist. With this goal in mind, Derek is looking forward to the opportunity to connect with the community he hopes to join as a future leader. Outside of his academic pursuits, Derek is passionate about cooking new recipes, exploring Los Angeles' diverse food options, and discovering new music.



Sonia Weimann, B.S.

Sonia Weimann is a PhD candidate working with R. Michael Burger in the department of Biological Sciences at Lehigh University. After graduating with honors with a BS in Biology, she entered Lehigh University as a Dean's Fellow. Her current research focuses on the developmental effects of cholinergic signaling on neurons in the superior olivary complex in the mammalian brainstem. To advance her thesis work she has employed a variety of techniques including

patch clamp electrophysiology and immunohistochemistry. Along her career path, Sonia has actively trained many undergraduate researchers as well as teaching courses. She has multiple publications that can be found in journals such as the Journal of Neurophysiology, Bioacoustics, the Journal of Marine Biology and Ecology and the journal of Ethology. Her interest in auditory neuroscience has been augmented by her personal experiences with her daughter who is a bilateral cochlear implant recipient.



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Carlos Aguilar, Ph.D. Student

Born in Mexico City. B.Sc. from UNAM. M.Phil from Manchester University. Currently finishing a Ph.D at the Open University.



Julian Angermeier, M.Sc.

Julian Angermeier is a 3rd year PhD Student at the University of Applied Sciences Offenburg in cooperation with the Technical University of Munich under the supervision of Prof. Werner Hemmert and Prof. Stefan Zirn. His current research focuses on interaural stimulation timing in bimodal treatment of hearing loss via hearing aids and cochlear implants, especially its influences on

binaural mechanisms such as sound localization and binaural unmasking of speech.





Isabel Aristizabal, B.S.

I am a second-year Ph.D. student in the Department of Physiology at the University of Kentucky. I have a bachelor's degree in biomedical engineering from Universidad EIA in Colombia. During my undergrad education, I have got an internship in Dr. Frolenkov's lab at the University of Kentucky. The lab studies the cellular and molecular mechanisms of mechano-electrical transduction in mammalian hair cells. As an intern, I learned how to perform

patch-clamp recordings of transduction currents and started to design and build my own probes to deflect stereocilia. That allowed me to participate in projects studying the changes in the properties of the mechanotransduction channels in mice with deafness-related mutations. After receiving my bachelor's degree, I've got accepted into the Ph.D. program in the Department of Physiology, University of Kentucky, and moved to the United States. Currently, I continue to work on the same projects that I've started during my internship. However, I am now particularly interested in improving the current technology and building very high-speed actuators that would allow us to resolve the dynamics of transduction channel activation on a microsecond time scale. As I move forward in my career, I would like to keep integrating the background I have in electronics, mechanics, and physiology for the understanding of complex biological systems, like the mechanotransduction complex in mammalian hair cells.



Niyazi Arslan, M.Sc.

Niyazi is a second-year Ph.D. student in the Speech and Hearing Science program at Arizona State University. He is conducting research in the Auditory Implant Laboratory directed by Dr. Xin Luo. He grew up in Istanbul, Turkey where he obtained Master of Science (M.Sc.) degree in Audiology from Marmara University and worked as an audiologist in cochlear implant services. His research interests include cochlear implants and auditory psychophysics. Niyazi's current research focuses on neural

health estimates and pitch perception in human cochlear implant users.





Selina Baeza-Loya, B.A.

Selina is a PhD Candidate in the Neurobiology graduate program. She completed her BA in Cognitive Science at Rice University. She is currently investigating the role of diverse voltage gated sodium currents in the formation of different firing patterns and variable spike timing regularity in mouse vestibular ganglion neurons. Using isolated neurons, she has showed that sodium currents come resurgent and persistent forms in addition to the traditional transient one. We

hypothesize that these currents increase firing and spike timing regularity, and likely have strong implication for sensory encoding in the vestibular inner ear.



Angela Ballesteros, Ph.D.

Dr. Angela Ballesteros is a first-generation college student that moved to the United States after obtaining her Ph.D. from the Autonomous University of Madrid in Spain, her home country. She joined the NIDCD as a Robert Whenthold Postdoctoral Fellow to study the molecular biology of stereocilia proteins under the comentorship of Dr. Andrew Griffith and Dr. Bechara Kachar. She later moved to the NINDS and focused on the characterization of the TMC proteins as the hair cells' mechanoelectrical transduction

channel. Dr. Ballesteros is currently finishing her postdoc with Dr. Kenton Swartz at NINDS and looking for an independent investigator position to continue her work on the mechanoelectrical transduction complex and its role in sensory hair cell physiology.



Isle Bastille, B.A.

Isle is a sixth-year graduate student in the Program in Neuroscience at Harvard Medical School. She is studying how spiral ganglion neurons develop and maintain specialized properties to relay auditory information from the environment to the brain. Her other hobbies include latin dance, science communication, photography and consuming all forms of art and music.





Navid Bavi, Ph.D.

I am a mechanobiologist who works at the interface of bioengineering, biophysics and structural biology. My interest in mechanobiology came from my background in mechanical engineering which was mainly focused on the mechanics of composite materials. Given most biological materials such as tissues, cells, proteins and lipid membranes often behave as composite material— of course with much higher complexity, I found the mechanics of biomaterials extremely intriguing. As a

result, I switched fields for my Ph.D. I chose to study the different families of mechanicallygated (MG) ion channels in bacteria and mammals (Martinac Lab, VCCRI). Specifically, in my PhD project, I sought to characterize how MG channels respond to the forces they encounter from their surrounding lipid bilayer, in addition to their modulation by amphipathic drugs. Subsequently, in my first post-doctoral project, I aimed to elucidate how MG channels, Piezo-1 and TREK-1, respond to mechanical changes at the cell-matrix interface, which is a process highly relevant to the human discernment of rough versus smooth surfaces (Poole Lab, UNSW). I am currently a Chicago Fellow at Institute for Biophysical Dynamics, University of Chicago. I am in the pursuit of characterizing novel genes that potentially regulate mechanosensitivity in various tissues. I use techniques such as single particle cryo-electron microscopy, patch clamp electrophysiology and molecular modelling to address different aims of my research. In the future, I aspire my past-experiences to investigate the fundamental mechano-physiological phenomena occurring in our bodies from the single molecular level to in vivo scale with translational applications.



Joseph Bellairs, M.D.

Joseph Bellairs, MD is a fifth-year resident at the University of Washington. He studied biochemistry and mathematics at Colby College. Afterwards, he joined Dr. Loren Walenksy's laboratory at the Dana-Farber Cancer Institute where he applied chemical biology techniques to develop novel pediatric cancer treatments. He then pursued his medical education at the University of Chicago, Pritzker





Nir Ben-Shlomo, M.D.

Dr. Ben-Shlomo grew up in California the son of two Israeli parents. He completed his undergraduate studies at the University of California, Berkeley where he received his Bachelor of Arts in Peace and Conflict Studies. Afterwards he underwent training at the Medical School for International Health at the Ben Gurion University of the Negev, Israel. Before his final year of medical school, he spent a year at the Brigham and Women's Hospital as a

research fellow investigating the potential for utilizing augmented reality for intraoperative guidance. Currently he is a PGY-2 resident at the University of Iowa in the NIH-sponsored T-32 research track. His research currently focuses on improving hearing outcomes in cochlear implant patients. His present focus explores strategies to minimize the intracochlear inflammatory response that develops after cochlear implantation.



Agudemu Borjigin, M.S.

I obtained my Bachelor's and Master's degrees in Electrical Engineering. I am now a Ph.D. candidate in Biomedical Engineering at Purdue University, studying human auditory neuroscience, advised by Dr. Hari Bharadwaj. My research investigates the role of temporal fine structure (TFS) in everyday hearing, through a variety of human neuroscience methods, including psychoacoustics, electrophysiology (EEG), digital signal processing, and machine learning (such as

statistical models and deep learning). The motivation of my thesis topic comes from the indirect indication of the importance of TFS by the difficulties experienced in noise by listeners with cochlear implants (CI), which do not encode TFS precisely, as well as the limitations of the vocoding approach to studying the TFS and lack of other established measures of TFS sensitivity in both research and clinic. My research so far from a large cohort of normal-hearing listeners (n = 353) shows that TFS sensitivity is not critical for masking release per se. But good TFS processing fidelity makes a listener more resilient to corruptions in reverberant environments. Furthermore, individuals with good TFS processing tend to have significantly reduced reaction time, which is an indication of reduced cognitive load. These findings have important implications for the role of TFS cues in CIs for better/easier hearing in noisy reverberant settings. For the final stage of my thesis, I have been implementing deep neural network (DNN) models for speech enhancement/separation, including a basic template recurrent neural network (RNN) and the current state-of-the-art SepFormer model. Both of them have achieved impressive speech enhancement performance. I have tested those models as front-end noisereduction algorithms in CI audio processors and the results so far look promising. For more information, please stop by my poster titled: "Deep Neural Network Algorithms for Noise Reduction in Cochlear Implants".





Vikrant Borse, Ph.D.

Past 10 years, my research has been focused on understanding the inner ear biology and inner ear dysfunction. In my doctoral degree, I studied the mechanism of cisplatin-induced ototoxicity and developed possible treatment option against cisplatinmediated hearing loss. Currently, I am working as a Postdoctoral Research Associate, at Washington University in Saint Louis. In my earlier research project in Dr. Mark Warchol lab at Washington University, I studied Hippo-Yap1 signaling pathway

in inner ear development, damage, and regeneration. This study showed that differences in injury-evoked translocation of YAP1 in mouse vs chick utricle accounts for their differing regenerative abilities after damage. In another research project, I investigated the role of macrophages in the cochlea development and hearing. This study demonstrated that thyroid hormone (T3) is involved in programmed cell death mediated recruitment of macrophages in the GER region for phagocytic clearance of dead cells in the developing cochlea. However, macrophages are not essential for GER regression in the developing cochlea. My current research in postdoc is mainly focused on the role of Pou4f3 in the vestibular hair cells development. My current finding suggest that Pou4f3 is required for type I hair cell development but not for type II hair cell in the mouse utricle. In addition, it indicates that Pou4f3 is involved in the maturation of type II hair cells. Also, Pou4f3 is not essential for hair. cell regeneration in the adult mouse utricle. During this time, I am also serving as a reviewer for scientific research journals such as Frontiers in Cellular Neuroscience, Scientific Reports, Medicinal Research Reviews, International Journal of Pediatric Otorhinolaryngology, BioMed Research International, Cancers, Anti-Cancer Drugs and so on. I am also serving as Associate Editor for Frontiers in Neuroscience and Case Reports in Otolaryngology.



Daniel Bronson, Ph.D.

I am a postdoctoral research fellow in the Department of Otolaryngology at the University of Southern California Keck School of Medicine. My research focuses on the signaling pathways that shape how the vestibular system encodes sensory information. I apply in vitro electrophysiology and immunochemistry to probe how these pathways affect the neurons that integrate sensory information. My postdoctoral

adviser is Dr. Radha Kalluri and my current project focuses on how vestibular efferents shape afferent firing patterns and accordingly the type of information they encode. I hope to continue to characterize the modulatory inputs that control sensory integration in inner ear neurons and build my own lab at an R-1 university.





Jane Brown, B.A.

Jane Brown is a third year PhD student in Communication Sciences and Disorders at the University of Memphis. Originally from Baltimore, Maryland, Jane earned her BA in Biopsychology, Cognition, and Neuroscience from the University of Michigan in 2017. Before coming to Memphis, she spent two years in the Avian Behavioral Neuroscience Lab at the University of Maryland, where she studied auditory perception in songbirds. Her research

interests include psychoacoustics and music-based neuroplasticity, and her current work is investigating the effects of familiarity in background music on speech listening.



Chiara Casolani, M.S.

Chiara Casolani is passionate about helping people to live their best life regardless of hearing ability or other impediments. Driven by a deep interest in medicine and the human body, and a fascination for technical subjects and understanding how things work, she obtained a bachelor's and master's degree in biomedical engineering in Torino. She then moved to Denmark to start her PhD in hearing science and tinnitus. Jumping into this completely new subject has been a very exciting adventure that taught her a

lot. She also joined the industry world for a short period to explore the aspects of device development and corporate culture. Throughout her path she always took time to volunteer and be part of social and environmental projects. When she is not busy with work you can find her playing chess or doing outdoor activities.





Luis Cassinotti, Ph.D.

I obtained a PhD in cardiovascular physiology and pathophysiology field in April 2018. I then decided to learn about other research areas and I joined the laboratory of Dr. Gabriel Corfas at the Kresge Hearing Research Institute (University of Michigan Medical School) as a postdoctoral fellow. My current research focuses on the molecular and cellular mechanisms of age-related hearing loss. Since starting my postdoc in July 2018 I am preparing myself for a career as an inner ear neuroscientist.

This is my fourth participation in the Annual MidWinter Meeting of the Association for Research in Otolaryngology in which I am going to present my fifth poster. In this occasion, I will talk about how increasing cochlear Ntf3 expression at mid-life slows the rate of age-related ABR peak 1 amplitude decrease and reduces age-related cochlear synaptopathy.



Sima Chokr, M.S.

I am a Ph. D. candidate in the laboratory of Dr. Karina S. Cramer at the University of California, Irvine. I received my B. S. in Molecular Cell Biology and Physiology at California State University, Long Beach. During my undergraduate research, I studied an estrogen-dependent behavioral circuit. I then became interested in how circuits develop, and specifically how central sensory systems form. The development of the auditory system uniquely interested me due to its peerless

accuracy and rapid signaling processes. I currently study the role of microglia in auditory brainstem development. Microglia are the brain's primary immune cells and have been shown to regulate synapse sculpting and plasticity during development. Our lab recently showed that microglia are required for synaptic refinement of the calyx of Held, just after hearing onset. Further, we found that microglial depletion early in postnatal development reduced astrocyte maturation. Remarkably, microglial repopulation largely rectifies these deficits by seven weeks of age. Thus, I am now interested in identifying whether impairments from the loss of microglia can recover if microglia are permanently depleted. To test this, I developed a two-drug approach to eliminate microglia from postnatal day 2 until the day of testing. My preliminary work has found that long-term microglial ablation results in abnormal auditory brainstem function and diminished synaptic protein marker levels. Our findings highlight the peerless role of microglia in the context of auditory brainstem development. My dissertation work aims to further characterize microglial profiles during circuit formation and maturation and identify potential signaling mechanisms that microglia use as they refine auditory circuits.





Brett Colbert, B.S.

Brett Colbert is a current second year graduate student in the Medical Scientist Training Program (MSTP; MD/PhD program) at the University of Miami. He began his academic career as a seminarian studying religion, philosophy, and the Classics in preparation for the Catholic priesthood. After being diagnosed and treated for Lyme disease, his interest was piqued in medicine. Brett continued his studies at Florida International University receiving a Bachelor's of Science in Biology with Honors for his

research in Pseudomonas aeruginosa microbiology and genetics with Kalai Mathee, PhD. He was awarded several honors for his undergraduate research, including best Honors thesis, the Robert J. Smiddy Excellence in Research award, best oral presentation at several conferences, and an oral presentation at the annual American Society of Microbiology Microbe meeting. Brett joined the University of Miami MSTP in 2018. His graduate research interests led from microbial to human genetics. Combined with a clinical interest in surgery and otolaryngology, he is studying genetic hearing loss with Dr. Xue Zhong Liu, M.D./Ph.D. Brett's research seeks to understand the molecular genetics of common GJB2 hearing loss variants using patient-derived, induced pluripotent stem cells (iPSCs). He plans to pursue a career as a physician-scientist otologist. Brett is a Miami native; in his free time, he enjoys sailing, free diving, and astrophotography.



Sarah Colby, Ph.D.

I am currently a postdoctoral scholar in Psychological & Brain Sciences at the University of Iowa, working with the Cochlear Implant Research Center to investigate lexical processing in cochlear implant users. I received my PhD in 2018 from the School of Communication Sciences & Disorders at McGill University, studying age-related changes to speech perception. I'm interested in how the sensory and cognitive changes that accompany aging

impact speech and language processing.





Christopher Conroy, B.A.

Christopher Conroy is a doctoral student at Boston University where he is working on a number of projects related to human auditory perception. While varied, one theme that unites these projects is an attempt to better understand the role of nonsensory factors, and, in particular, listener uncertainty and expectation, in the processing and perception of both basic auditory cues and complex sound mixtures. In addition to his empirical work, Mr. Conroy maintains an active interest in the

history of psychoacoustics and psychophysical research methods and has pursued research projects in both areas.



Julia Curarola, M.S.

Julia Cucarola is a medical student at the University of Mississippi Medical Center. She earned a bachelor's degree in Biomedical Science from Colorado State University and a master's degree in Medical Science from Mississippi College. She is completing a year of dedicated research in the lab of Dr. Hong Zhu with the Department of Otolaryngology and Communicative Sciences. Her current work with rodent models focuses on understanding the morphologic implications of concussion-

induced vestibular deficits in the central nervous system and vestibular end organs.



Sandra de Haan, MSc.

Sandra de Haan is a PhD student in a collaborative PhD program between the Karolinska Institute in Sweden and the National Institute of Deafness and Other Communication Disorders (NIDCD/NIH) in the United States. Her PhD project is focussed on understanding how Notch signalling mediates patterning of the Organ of Corti, which she aims to unravel by various approaches, including in vivo gene manipulation, in silico modelling of Notch

signalling as well as by studying a Notch defective mouse model. She is currently based in Sweden but is born and raised in the Netherlands where she previously completed a bachelor's and master's degree in Biomedical Sciences at Leiden University. Sandra is dedicated in continuing developing expertise in inner ear development and wishes to pursue a career in inner ear biology.



Francois Deloche, Ph.D.



François Deloche is a postdoctoral fellow in the Auditory Neurophysiology & Modeling Lab (Michael G. Heinz) at SLHS, Purdue University. His postdoctoral fellowship has been funded by a 2-year grant from the Fondation pour l'Audition. He received his engineering degree and MSc in Applied Mathematics (machine learning & signal processing) from the Ecole polytechnique. In 2019, he completed his PhD in computational neuroscience under

the supervision of Jean-Pierre Nadal at the EHESS, Paris, on the efficient coding of speech, investigating possible relationships between speech statistics and properties of cochlear signal processing, especially frequency selectivity. During the ARO meeting, he will present his current, research work focusing on the use of electrocochleography (compound action potentials) in a forward masking setting to estimate the frequency selectivity of the cochlea.



Fotios Drakopoulos, M.S.

I am currently a PhD student in my final year, as part of the Hearing Technology Lab of Ghent University (Belgium) and under the supervision of Prof. Dr. Sarah Verhulst. My research focuses on diverse auditoryrelated topics, including audio signal processing, computational modelling and machine-learning. I am working on the design of biophysically-inspired as well as machine-learning based signalprocessing algorithms, designed to compensate for various combinations of hearing deficits, including outer hair cell loss and

cochlear synaptopathy. I completed my BSc and MSc studies in the Audio and Acoustic Technology Group of the University of Patras (Greece), under the supervision of Prof. John Mourjopoulos. My master thesis focused on the Time-Frequency Analysis and Processing of Audio Signals for Audible Distortion Suppression. After my studies I did an internship at Phonak, Sonova AG (Switzerland), where I worked on Real-time Systems for Auditory Scene Analysis under the supervision of Dr. Eleftheria Georganti.





Audrey Drotos, M.S.

Audrey Drotos received her undergraduate degrees in Neuroscience and Music from Michigan State University where her research focused on how musical training affects hearing loss. Currently, she is a graduate student at the University of Michigan where she studies how complex sounds are encoded in the inferior colliculus in the lab of Dr. Michael Roberts.



Jerry Duran, B.S.

Jerry Duran is a predoctoral research associate at the University of Utah's School of Medicine. His non-traditional path to hearing science is motivated by a personal connection to the Deaf and hard of hearing community. He received his bachelor's of science in Cellular and Molecular Biochemistry from the University of Texas at El Paso. As an undergraduate, Jerry investigated the glycoprotein pathology of Chagas

disease. His training under Dr. Igor Almeida allowed him to develop his aptitude for computational and physical protein biochemistry analysis techniques. Currently, Jerry is pursuing his Ph.D. in Human Genetics under the guidance of Dr. Lynn Jorde. His research focuses on family studies of non-pathogenic phenotypic variability driven by genomic variation. His current analyses focuses on deciphering the impact of genomic variation on hearing acuity variability. Jerry has leveraged the inherent utility of three-generational pedigrees to provide accurate estimates of hearing acuity heritability driven by phenotype data. In addition, he has utilized genomic resources associated with the familial hearing acuity data to identify quantitative trait loci for hearing acuity. His future endeavors include the implementation a polygenic scoring system to predict hearing acuity variability.



Kelsey Dutta, M.S.

Kelsey's research focuses on questions related to auditory streaming and perceptual binding. She uses electrophysiology and computational modelling to investigate neural mechanisms of auditory scene understanding.





noise exposure.

Jessica Feller, M.S.

Jessica is a PhD candidate in the Neuroscience Graduate Program at Vanderbilt University. Her research is focused on understanding how perception and physiological mechanisms are changed following noise-induced hearing loss. She is particularly interested in how hearing loss affects the perception of natural sounds, such as speech, in noisy environments and how temporal processing changes after.



Brian Frost, M.S.

Brian Frost is a PhD candidate at Columbia University, studying electrical engineering. His research focuses on the application of optical coherence tomography to the measurement of vibrations in the cochlea. He hopes to further the study of cochlear mechanics through the development of methods by which all three dimensions of motion within the Organ of Corti can be measured. He has also

done work in finite element modeling - specifically, in modeling the electrical properties of the cochlea to study the currents that give rise to the cochlear microphonic.



Angela Fung, B.Sc.

Angela is a graduate student researcher in Archie's Cochlear Implant Lab at The Hospital for Sick Children, under supervision of Dr. Karen Gordon. Her current project explores programming strategies to help kids achieve binaural hearing using bilateral cochlear implants. Angela graduated from the University of Alberta with a Bachelor of Science.

(Hons) in Physiology in 2020, during which she completed her honors thesis under the supervision of Dr. Jesse Jackson. She is currently working towards a Master's in Medical Science with specialization in Neuroscience at the University of Toronto.





neuronal death.

Benjamin Gansemer, Ph.D.

Ben is a recent PhD graduate from the University of Iowa. He did his PhD training in the lab of Dr. Steven Green, where he investigated the role of neuroimmune interactions and neuroinflammation in spiral ganglion neuron death after aminoglycoside-induced hair cell loss. Ben's long-term research goals are to understand the mechanisms and processes underlying neurodegeneration and neuronal trauma. Specifically, he is interested in exploring the contributions of neuroinflammation and synaptic trauma/dysfunction to



Alejandro Garcia, M.D.

Alejandro Garcia is a research fellow in Otolaryngology at Massachusetts Eye and Ear (MEE). He graduated as a M.D from University of Los Andes in Colombia. His main research interests are auditory prosthesis, gene therapy and central auditory processing. He has been working with auditory brainstem implants (ABIs) by improving the performance of the device using clinical and imaging data. He is also interested in using different types of adenoviruses associated vectors (AAVs) carrying opsins to stimulate with light the cochlear nucleus.



Madan Ghimire, Ph.D. Student

I am a highly motivated, well trained PhD student in my final year, working in Dr. Don Caspary's Lab in SIU Medicine. The core focus of my research is to understand the tinnitus-related pathology of pyramidal neurons in primary auditory cortex. We employ in-vivo extracellular recordings and in-vitro whole cell recordings to identify sub-cellular mechanisms involved in tinnitus pathology, with pharmacological approaches to

ameliorate tinnitus related pathology. I have prior master's degree in pharmacology from Jamia Hamdard, New Delhi and am a licensed pharmacist of Nepal.





Sumana Ghosh, Ph.D.

Sumana Ghosh is a postdoctoral fellow at the University of Mississippi Medical Center. She is fascinated to learn how hearing (Cochlea) and balance organs (vestibular epithelia) are formed during the development in mammals. She is in awe with the intricate architecture and fine tuning of these organs which also serve as fantastic model system to understand the development of sensory organs and establishment of neuronal connections in

general. To this end, she received a Fellowship award from the American Otological Society to study how sensory cells (hair cells) of the balance organ are organized in polarized fashion during development, which is critical for transducing sensory information. She will continue to investigate the development of the sensory hair cells and the neurons of the hearing and balance organ which will lead us closer to regenerating these cells and restore the functions of these organs in the patients with hearing loss and balance disorders.



Aravind Chenrayan Govindaraju, M.S.

Aravind is a graduate student in the Applied Physics Program at Rice University and affiliated with the Bioengineering department. His research at the Raphael Lab focuses on the study of the sensory epithelia of the vestibular inner ear, particularly the vestibular hair cell-calyx synapse found in semicircular canal cristae and the maculae of the otolith organs. Aravind uses COMSOL to develop a computational model of signal transmission at the vestibular type I synapse to understand it's role in encoding head motion.



Mukund Madhay Goyal, B.S., M.S.



Mukund is a PhD Candidate in Dept. of Chemical & Biomolecular Eng. & Dept. of Otolaryngology – Head, Neck & Surgery. Trained as a Chemical Eng. with applications in Nanotechnology, he is actively working on "Developing a model for transport of Magnetic Nanoparticles across inner ear tissues". This model will be useful for rational design of MNPs (including their surface coatings, drug conjugation, gene

transfer) for application in inner ear for treatment of sensorineural hearing loss. His project has also won Discovery Award 2020, for innovative multidisciplinary collaboration with 3 labs at JHU to advance the start of art in treatment of hearing loss. He has previously worked on Biosensors, developing new technologies for detection of bacteria and viruses using different Nanomaterials. He also serves as Director of Pro Bono Consulting at Johns Hopkins Graduate Consulting Club (JHGCC) advising clients in pharmaceutical sector and strategizing plans for their short term & long-term growth. He has also mentored 7 undergraduate students helping them excel academically overcoming their academic and social challenges during his time at Johns Hopkins.



Kathleen Gwilliam, B.S.

Kathleen Gwilliam is a sixth year Ph.D. candidate in the Human Genetics and Genomics program at the University of Maryland School of Medicine and a member of Dr. Ronna Hertzano's laboratory in the Department of Otorhinolaryngology Head and Neck Surgery. Her research in the Hertzano laboratory focuses on the transcriptional machinery, particularly the Regulatory Factor X (RFX) transcription factors, necessary for hair cell development

and maintenance in the auditory and vestibular systems. Her dissertation work titled "A Triple Line of Defense: The Role of the Group 1 RFX Transcription Factors in the Inner Ear", explores the role of RFX1, RFX2, and RFX3, together, in both cochlear and vestibular hair cells. Kathleen is a previous trainee of the Center for Comparative and Evolutionary Biology of Hearing (C-CEBH) T32 Training grant and is a current awardee of a F31: Ruth L. Kirschstein National Research Service Award. She received her B.S. in Biology, with a concentration in Biotechnology and Molecular Biology, and minor in dance at George Mason University.







Yasmeen Hamza, M.D., Ph.D., is a Postdoctoral Scholar at the Hearing and Speech Lab with Professor Fan-Gang Zeng. Yasmeen obtained her Ph.D. at KU Leuven, Belgium, as part of a Marie Curie Fellowship. She has also worked briefly for Cochlear BENELUX during her Ph.D. and completed a postdoc at the University of Rochester before joining Professor Zeng's lab. Yasmeen is particularly interested in integrating her clinical experience with research. Her research interests span

auditory processing, speech perception, cochlear implants, tinnitus, aging, and cognition.



Elli Hartig, B.S., B.A.

Elli Hartig is a 3rd year PhD candidate in Mammalian Genetics at The Jackson Laboratory via Tufts University Medical Center. She is performing her thesis research in Dr. Basile Tarchini's lab, studying the development & lifelong maintenance of inner ear sensory cells' unique architecture. Beyond research, she is passionate about teaching, community outreach and scientific communication.



Katelin Hawbaker, B.A.

Katelin Hawbaker is a M.S. thesis student at IUPUI studying hair cells and stereocilia.





myosin's role in deafness.

James Heidings, M.S.

James Heidings is a graduate research assistant in the Biomedical Sciences, Pharmacology and Therapeutics department at the University of Florida. As a member of the Jonathan Bird lab, James works on the molecular mechanisms behind stereocilia development and maintenance related to genetic hearing loss. James studies how myosin motors are regulated by binding partners and ionic conditions with the goal to better understand



Mitchell Heuermann, M.D.

Mitchell Heuermann is a fourth-year otolaryngology resident at Southern Illinois University School of Medicine, where he also completed medical school. He currently also works in Dr. Brandon Cox's lab, which is affiliated with the School of Medicine and which investigates spontaneous cochlear hair cell regeneration. After graduation from residency, he hopes to pursue a neurotology fellowship.



Adam Hockley, Ph.D.

My career in auditory neuroscience began as a PhD student, supervised by Mark Wallace at the Institute of Hearing Research in Nottingham UK. There I learnt about auditory brainstem physiology while studying the role of nitric oxide in the cochlear nucleus in tinnitus. From there, I moved to the Shore Lab at the University of Michigan and began to focus on intensity coding within the small cell cap of the cochlear nucleus. I have found important intensity-

coding abilities in this area and hope to study these more in the future, assessing how brainstem circuits are altered by auditory pathologies.





Lorraine Horwitz, B.S.

6th year Ph.D. candidate in neuroscience at the University of Michigan. I am interested in multi-sensory integration between the auditory and somatosensory systems.



Mingyue Hu, M.Sc., Ph.D.

I am the PhD student of auditory cognitive neuroscience in University College London. My research interest is focusing on investigating the underlying mechanism of how human detect patterns in rapidly unfolding sound sequences with aid of approaches such as psychophysics, EEG and MEG.



physiology.

Chengjie Huang, Ph.D.

I am currently a postdoc working at the UCL Ear Institute in the lab of Dr. Nicholas Lesica. My work comprises of understanding the neural mechanisms underlying poor speech perception in noisy backgrounds at high sound intensities in hearing-impaired individuals. This question is explored by primarily performing largescale electrophysiology recordings in the brain of the Mongolian gerbil as an animal model. My research interests include neural coding, sensory perception, psycholinguistics, and evolutionary





cytoskeleton architecture.

Amandine Jarysta, Ph.D.

Amandine Jarysta is a post-doctoral associate at The Jackson Laboratory. After a PhD investigating the role of the protein FancG on the development of primordial germ cells in Paris, France, she joined the laboratory of Dr. Basile Tarchini. Her work focuses on investigating the molecular mechanisms involved in the development of hair cells in the inner ear, notably on dissecting the G-protein signalling pathway and its role in cell polarity and



Gerilyn Jones, Au.D.

Gerilyn Jones is a Postdoc at the University of Michigan Kresge Hearing Research Institute. She graduated from Wayne State University with a doctorate in clinical Audiology in 2019. Research interests include somatic tinnitus, auditory spatial awareness, and electrophysiology.



Shubham Kale, B.Tech.

I joined the Molecular Biology Ph.D. program at the University of Utah after completing my Bachelor's in India and a research internship at Harvard Medical School. My research is focused on the mechanisms that guide the Type II Spiral Ganglion Neurons (SGNs) innervation in the organ of Corti. When not in the lab, I enjoy ice-skating, night skiing, reading DC comics graphic novels, downhill mountain biking, and playing badminton.



Seeon Kim, Ph.D.



My name is Seeon Kim, and I am a third-year Ph.D. student in Speech and Hearing Science at Arizona State University. I have done undergraduate studies of Electrical Engineering and Master of Audiology in South Korea. Over the past 2 years, I worked as a research assistant in the Auditory Implant Laboratory. My research focuses on enhancing speech recognition of cochlear implant users with novel auditory training paradigms. I did a research project on Mandarin tone

recognition training with CI simulation by enhancing amplitude envelope. The study found that Mandarin tone recognition with CI simulation can be improved by using enhanced-amplitudeenvelope stimuli for training and the cue weighting of amplitude envelope was correlated with the tone recognition scores. My current research is another training study that focuses on adding sound exposure in an irrelevant task to improve the efficacy of Mandarin tone recognition training with CI simulation. Our pilot data are promising and the project will have clinical implications for the aural rehabilitation of CI users who speak tonal language such as Mandarin Chinese.



Grace Kim, M.D.

Grace S. Kim is a 5th year Otolaryngology resident at Stanford who completed a T32 postdoctoral research fellowship in Dr. Alan Cheng's lab. Her research looks at the recovery of hair cells after damage in mammalian utricles that may in conjunction with regeneration contribute to functional recovery. After completing residency, she plans to pursue a fellowship in pediatric otolaryngology.



Jamiela Kokash, B.S.

Jamiela is a 6th year PhD Candidate in UC Riverside's Neuroscience Graduate Program working in Dr. Khaleel A. Razak's lab. She graduated with a B.S. in Biology from UC Irvine in 2014. Her dissertation project focuses on the effects of noise-induced hearing loss (NIHL) in the central auditory system. Her research aims to identify the molecular pathways that lead to altered sound processing following hearing loss to target therapeutic approaches

to prevent the changes in the brain that may have additional consequences to hearing loss, such as speech recognition impairment and tinnitus.





Maria Lachgar-Ruiz, M.S.

I am a final year PhD student at the Wolfson Centre for Age-Related Diseases (King's College London) and the Genetics Department of Ramón y Cajal Hospital (Madrid, Spain), under the supervision of Prof. Karen Steel, Dr. Miguel Ángel Moreno Pelayo and Dr. Matías Morín. My research is focused on studying the genetic causes of deafness in a cohort of families with non-syndromic sensorineural hearing loss and identifying new genes associated with hearing

impairment using different genomic approaches. Furthermore, I am currently using mouse mutants for understanding the pathophysiological mechanisms underlying a specific type of hearing loss caused by mutations in miR-96. My aim is to provide candidate pathways that can be targeted by drugs to prevent or delay hearing loss. For this purpose, I am combining different bioinformatic approaches to analyse RNA-seq data with the study of structural alterations in the inner ear of these mutants. My experience in the field is reflected in the publication of two peer-reviewed articles and having others in the publication process. Besides science, I am passionate about playing the piano and reading books. I also love keeping active by practising judo and dancing salsa.



Jake Langlie, B.S.

Jake Langlie is a second-year medical student at the University of Miami Miller School of Medicine. He graduated Summa Cum-Laude in 2018 from the University of Miami PRISM Honors Program with a B.S. in Biology. As the son of a parent who battled metastatic sinus and lung cancer, the disease fueled his initial passion to pursue otolaryngology and help others affected by diseases of the head and neck. As he further pursued the field of otolaryngology, he has developed a passion for research in otology and neurotology under the mentorship of Dr. Adrien

Eshraghi at the University of Miami Miller School of Medicine. In the past, he has been fortunate to engage in research at some of the nation's top institutions including the Mayo Clinic, the University of Miami, and Children's National Hospital. Currently, he investigates the effects of electrode induced trauma during cochlear implantation, attempting to elucidate novel mediators in the apoptotic and inflammatory pathways in an effort to discover novel targets for drug discovery. He also has an interest in understanding the pathogenesis and progression of genetic diseases and their interplay with sensorineural hearing loss. He is interested in pursuing a career as a physician-scientist in the field of otolaryngology.





Stephen Leong, B.A.

Stephen Leong is a fourth-year medical student at Columbia University Vagelos College of Physicians & Surgeons. He will be applying into otolaryngology with the goal of pursuing a career as a clinician-scientist. His research interests include inner ear drug delivery via microneedle technology, personalized diagnostic techniques for vestibular schwannoma, and standardization of the preoperative sinus CT scan review process. He graduated from Columbia University with a Bachelor of Arts in Neuroscience.



Xiaojun Li, Ph.D.

I am working with HCMV infection on neural development disorders in my PhD in Chinese Academy of Sciences, which is the top institute in China for research. During my PhD I found that there is a big scientific question to address: the hearing loss induced by congenital HCMV infection. For this reason, I joined the laboratory of Dr. Angelika Doetzlhofer as a postdoctoral fellow three years ago. My specific interests are in supporting cell

reprogramming and hair cell regeneration. Based on my rich experience with primary cell culture, I constructed the organoid culture model at the beginning of my postdoctoral research. By using this model I have lots of novel discoveries, the most important finding is the function of RNA binding protein Lin28b in supporting cell reprogramming and hair cell regeneration. My long-term research plan with my current position at Johns Hopkins University is to look for progenitor-specific genes that can enhance the regenerative capacity of mature cochlear supporting cells in mice. I hope my work will find new therapeutic targets for hair cell loss in clinical research.





Christine Junhui Liu, B.A., B.M.

Christine Junhui Liu is a PhD candidate in the Graduate Program for Speech and Hearing Bioscience Technology at Harvard University. She currently works in Dr. Anne Takesian's laboratory at Massachusetts Eye and Ear investigating the neural mechanisms of auditory plasticity. She received her Bachelor of Arts in neuroscience and Bachelor of Music in music theory from Northwestern University. In her undergraduate studies working under Dr.

Nina Kraus, Christine examined the effects of music training on auditory processing in preschool children, and the speech-in-noise variability in listeners with normal audiograms. Since joining Dr. Takesian Lab in 2019, Christine has worked on identifying the inputs and outputs of inhibitory neurons in the auditory cortex and their functions in developmental and adult auditory plasticity using the mouse model.



Nocholas Lozeir, Ph.D.

I graduated with a B.S. in Biological Sciences from Ohio University in 2013. As an undergraduate I assisted in multiple projects in the lab of Dr. John Kopchick who uses several genetically manipulated mouse models of growth hormone disorders to research the role of growth hormone in obesity, diabetes, and aging. Following graduation, I continued working at Ohio University for an additional two years as a research assistant in the Department of Biomedical Sciences working in the lab of Dr. Sonsoles de Lacalle. My primary aim in the de Lacalle lab was

determining the utility for pharmacological inhibition of myostatin (a muscle growth inhibitor) for treating muscle wasting diseases using a myostatin knockout mouse model. I joined the lab of Dr. Joseph Sisneros at the University of Washington in September 2015 where I used the plainfin midshipman fish as a model for studying sex differences in auditory end organs in the context of courtship communication. I graduated with a Ph.D. in Psychology (Animal Behavior) in Summer 2020. Currently I am a postdoc in the lab Dr. Maria Rubio at the University of Pittsburgh in the Department of Neurobiology researching molecular mechanisms related to sex differences in auditory processing in the cochlea.





Elias Lunsford, B.S.

Elias Lunsford is a PhD Candidate at the Whitney Laboratory for Marine Biosciences, UF in Dr. James C. Liao's lab. Elias' research is motivated by questions that seek conditions that challenge the fidelity of mechanoreceptor sensory inputs. For example, how do hair cells disentangle self-generated stimuli consequence of body movement and in what context can self-generated stimuli inform behavioral outputs? Currently, his research focuses on a novel mechanotransduction pathway in hair cells that are exposed to

environments of varying ionic strength. He plans to defend his doctoral work in Spring 2022 and is looking to join a lab studying the neural circuits of sensory systems and behavior as a postdoc.



Richard Lutze, B.S.

I graduated from the University of Illinois at Springfield in 2020 with a bachelor's degree in biology, magna cum laude. I was a 4-year member of the baseball team at UIS in the role of a pitcher, and was a peer tutor for science classes and summer baseball camps. After graduation, I joined the PhD program in the department of Pharmacology and Neuroscience at Creighton University. I decided to join Dr. Tal Teitz's laboratory in January of 2021. Since then, my

research has been focused on repurposing drugs to prevent noise and cisplatin-induced hearing loss. Specifically, I am studying the efficacy of the ERK ½ inhibitor AZD-0364 to protect from noise-induced hearing loss in mice and the potential to test this drug in clinical trials. I presented my studies thus far at the 2021 Bellucci Symposium on Hearing Research and at the 2021 Creighton Neuroscience Symposium.





Matheus Macedo-Lima, Ph.D.

Matheus (Matt) Macedo-Lima received a B.S. in Biology from the Universidade Federal de Sergipe, Brazil. Before graduating, he completed a 1-year study-abroad program at the University of Washington Bothell. During this time, Matt worked with Dr. Rachel Cohen in the lab of Dr. Eliot Brenowitz at the University of Washington Seattle, studying breeding status-dependent plasticity in the vocal production circuit of white-crowned sparrows. He returned to Brazil and defended his senior thesis on the

distribution of nitric oxide-producing neurons in the lizard hippocampus, working with Dr. Murilo Marchioro. After graduating, Matt returned to the USA, to earn his PhD at the University of Massachusetts Amherst, working with Dr. Luke Remage-Healey on the neuroendocrine control of auditory learning and plasticity in adult zebra finches. Now a postdoc working with Dr. Melissa Caras, Matt studies the top-down control of auditory perceptual learning in Mongolian gerbils. Specifically, Matt examines the orbitofrontal cortex and its projections to the auditory cortex and their role in how animals become better at detecting low saliency sounds. Throughout his career, Matt has been very active in science outreach as a contributor in the pop science blog Saense (for the Portuguese-speaking community), and as a communicator in the Skype a Scientist initiative. Matt is passionate about studying animal brains from a comparative perspective and the diversity of mechanisms that regulate sensory learning and plasticity across vertebrates.



Vijayprakash Manickam, Ph.D.

I am Vijayprakash N. Manickam, I am currently pursing postdoctoral studies at the Department of Biomedical science, Creighton University, Omaha, US. My research project focuses on determining the roles of macrophages and fractalkine signaling (components of the innateimmune system) in repair of damaged ribbon synapses and survival of

spiral ganglion neurons (SGNs) following noise trauma. I graduated from Bharathiar University, Coimbatore, India. My thesis work was focused to understand the underlying mechanism of memory loss and locomotor impairment due to repeated exposure to iron oxide nanoparticles. So far, I have published seven research articles and one review article. My long team goal is to develop therapeutics for neurodegenerative diseases.





Yusra Mansour, D.O., Ph.D. Candidate,

Dr. Mansour is a PGY-1 resident in Otolaryngology-Head and Neck Surgery at the Henry Ford Macomb residency program in Michigan. She is additionally a Ph.D. candidate in the Doctoral Program in Anatomy Education at the Lake Erie College of Osteopathic Medicine which is her medical school alma mater. Her dissertation focuses on comparison of in-person and virtual anatomy education and the comparison of traditional resources to novel resources she created such as interactive

drawing templates and 3-Dimensional models. She has also worked in the Auditory Research Center with Dr. Randy Kulesza since 2018 where she investigates changes in the auditory and vestibular pathways in humans and an animal model of Autism Spectrum Disorder.



Philine Marchetta, M.Sc.

Philine Marchetta studied biology at the University of Tübingen and earned her Bachelor's degree in 2016 in the department of Animal Physiology. She went to Marburg to study Molecular and Cellular Neuroscience for her master's and earned her degree in 2018. Since January 2019 she is a PhD student in the laboratory of Prof. Marlies Knipper and Prof. Lukas Rüttiger in the department of Molecular Physiology of Hearing in Tübingen, being a member of the graduate school "GRK2381 cGMP: From bedside to bench". Philine is interested in the interaction between the auditory periphery and

central auditory processing, cognition and behavior. She works on the development of the auditory system, its and consequences of developmental failure (as e.g., in autism) on the one hand and on the adaptation of the auditory system in response to challenging situations such as chronic stress on the other hand. For her studies she uses electrophysiological, molecular biological and behavioral methods.





Irnia Marcovich, Ph.D.

Irina Marcovich got her doctorate degree in Biology from the Universidad de Buenos Aires working on the Laboratory of Physiology and Genetics of Hearing, led by Dr. Belen Elgoyhen (INGEBI-CONICET). Her project aim was to study the evolutionary history of nicotinic cholinergic receptor subunits, particularly of the α 9 and α 10 nicotinic subunits which are expressed in the hair cells of the vertebrate inner ears. Irina is currently a postdoc in Dr.

Jeffrey Holt's lab (Boston Children's Hospital – Harvard Medical School) where she works on several projects involving auditory physiology, gene therapy strategies for treating hearing-related disorders, and evolution of mechanotransduction in the inner ear.



William Marshall, B.S.

William Marshall is a fourth year medical student at University of Illinois College of Medicine. He plans to pursue a career in Otolaryngology after graduation. He is currently working in Dr. Keiko Hirose's lab at Washington University School of Medicine in St. Louis focusing on the role of interferon gamma in the immune response to congenital CMV infection.



Heidi Martini-Stocia, M.D., Ph.D.

Heidi Martini-Stoica is currently a second year resident in the Department of Otolaryngology/Head and Neck Surgery at the University of North Carolina at Chapel Hill. She is originally from College Station, Texas and completed a Bachelor of Science in Biochemistry and Cell Biology at Rice University in Houston, Texas. She went on to complete an MD and PhD as part of the Medical Scientist

Training Program at Baylor College of Medicine. Her PhD dissertation examined lysosomal clearance pathways in pre-clinical models of Alzheimer's disease with conceptual validation in human samples. With her experience in Alzheimer's disease, Heidi's research interests include understanding the impact of aging on the auditory system. She is currently working in the lab of Dr. John Grose studying psychophysical and electrophysiological measures of frequency modulation acuity as a function of aging.





Stephanie Mauriac, Ph.D.

I earned my Ph.D. degree in Neuroscience at the University of Bordeaux (France) in 2019 under the supervision of Dr. Mireille Montcouquiol. My Ph.D. work was focused on the understanding of the molecular basis of a rare disease, the Chudley McCullough syndrome, affecting both the inner ear and the brain. I am currently completing the second year of a postdoctoral research fellowship in hearing field under the guidance of

Dr. Gwenaelle Geleoc and Dr. Jeffrey Holt at the Boston children's Hospital / Harvard Medical School (Boston, USA). My research interests is to discover and develop approaches to restore auditory function by gene therapy in models of human deafness.



Didhiti Mukherjee, Ph.D.

I am a postdoctoral fellow in Prof. Patrick Kanold's laboratory at Johns Hopkins University. An overarching theme of my research is to identify how early sensory experience shapes the development of sensory areas in the mammalian brain. Using a combination of in vivo and in vitro techniques in the Kanold lab, I am investigating how spontaneous and sensory-driven activity modulates the development of the auditory cortex in newborn mice.



Ava Niazi, B. S.

Ava Niazi is a graduate student at the University of Utah, where she is pursuing her Ph.D. in neuroscience with an emphasis on inner ear development. Her research focuses on the morphogenesis of the tectorial membrane (TM), an extracellular matrix (ECM) structure, in the inner ear, which she will use to gain further insight into extracellular-assembly processes. She is particularly interested in understanding how a specific shape of the matrix is printed outside of the cell. Her work has recently

focused on unraveling the role of releasing enzymes on the domain-specific organization of the tectorial membrane.





David Odenheimer, B.S.

David Odenheimer is a PhD candidate in the MD/PhD program at Louisiana State University Health Sciences Center New Orleans. He has completed 2 years of medical school and 3 years of graduate school, and will complete the dual program in 2025. His current research focuses on the central auditory system of a mouse model of human Usher syndrome. His long-term goals as a clinician scientist are to practice neurology and to investigate CNS molecular mechanisms and circuitry underlying clinically relevant

sensory perception abnormalities.



Olubusola Olukoya, B.S.

Busola is a fourth year Nigerian PhD candidate in the program in Neuroscience at Harvard. Her work is focused on understanding the role of neuron-glia interaction in cochlea wiring in the Goodrich lab. Outside the lab, she is an advocate for diversity in STEM, serves as a mentor and coach for aspiring young scientists particularly those from underrepresented backgrounds - and loves learning. You can follow her on Twitter @mo_foluwa.



Richard T. Osgood, Ph.D.

Dr. Richard Osgood is a postdoctoral fellow in the laboratory of Dr. Artur Indzhykulian, in the Eaton-Peabody Laboratories at Massachusetts Eye and Ear/ Harvard Medical School. He is a fellow of the Royal Microscopical Society (FRMS), and received his Ph.D. in Neuroscience from the University of Sussex (United Kingdom) in 2020, following his master's degree (MBio) in Biological Sciences

from the University of Warwick (United Kingdom), which he received with 1st class honors in 2015. As a member of the Sussex Neuroscience Ph.D. programme, Richard worked in the laboratory of Prof. Guy Richardson FRS. Here, with Guy, Dr. Richard Goodyear, and Prof. Corne Kros, he developed his passion for hearing research and began to specialize in microscopy of the inner ear. At Sussex, Richard's research concerned aminoglycoside ototoxicity, and his main focuses were the cellular mechanisms of sensory hair cell damage and repair, utilizing a number of modalities of light and electron microscopy. Richard joined the Indzhykulian laboratory in 2021. Specializing in electron microscopy, his research continues to focus on the hair cells of the inner ear, contributing to the continued work on Usher syndrome in Indzhykulian lab, working with the Otopathology laboratory at Mass. Eye and Ear; and employing high-resolution microscopy to elucidate, currently, unresolved aspects of sensory hair-cell physiology.





Maryanna Owoc, B.S.

Maryanna is currently a MD/PhD student in the University of Pittsburgh-Carnegie Mellon Medical Scientist Training Program. She completed her BS at Worcester State University, majoring in communication sciences and disorders and minoring in physics, psychology, and chemistry. Maryanna's decision to pursue both a MD and a PhD was motivated by her research experiences at the Massachusetts Eye and Ear Infirmary, where she saw first-hand the

devastating effect that auditory disorders can have on patients' lives and the importance of basic science discoveries in informing clinical care. Maryanna's graduate research at Pitt reflects her desire to use basic science to understand clinical problems. Mentored by Karl Kandler and Srivatsun Sadagopan, her graduate research seeks to understand the role of inhibition in the development and persistence of auditory pathologies, such as tinnitus, hyperacusis, and deficits in temporal processing, following acoustic overexposure. Additionally, Maryanna has an interest in using statistical modeling and machine learning to characterize and classify neural populations based on their electrophysiological response properties. Maryanna hopes to use these skills in her future practice as a surgeon scientist to better understand clinical problems and develop novel treatment strategies.



Zoe Owrutsky, B.S.

Zoe Owrutsky is a fifth-year PhD student in the Neuroscience Graduate Program at the University of Colorado Anschutz Medical Campus. She completed her Bachelor's in neuroscience at the University of Pittsburgh before accepting a post-baccalaureate Intramural Research Training Award from the NIH in 2015. She is currently completing her thesis work in the lab of Dr. Dan Tollin at

the University of Colorado, where she is investigating the neural origin of the binaural interaction component of the auditory brainstem response.





Caroline Pass, B.S.

Caroline Pass is a second-year Biomedical Sciences Masters student at Creighton University, working under the direction of Dr. Jian Zuo. She received her Bachelor of Science from Creighton University in Exercise Science; her undergraduate research focused on understanding the impact of Doxorubicin therapy on induced cardiac muscle loss. Caroline's graduate work focuses on performing in-depth bioinformatic analysis on single-cell RNA-sequencing data to understand the

transcriptomic profiles of inner ear cell populations in adult mice. After completing her Master's, Caroline plans to pursue a Ph.D., where she hopes to continue to bridge the gap between biologists and bioinformaticians by incorporating a multi-omics approach to understanding variations in human health and disease as well as develop precision and personalized treatments for metabolic disorders.



Michelle Pei, B.S.

Michelle Pei is a fourth-year medical student at the Keck School of Medicine of the University of Southern California. During medical school, Michelle was awarded with the Dean's Research Scholarship and spent a dedicated year studying top-down modulation of cochlear amplification under the guidance of Dr. John Oghalai. Michelle graduated from the University of California, Berkeley in 2016 with a B.S. in Nutritional Sciences,

Physiology and Metabolism. She is currently applying for residency in otolaryngology - head and neck surgery and hopes to pursue a career as a surgeon-scientist. In her free time, Michelle enjoys cooking, golfing, traveling, and is a registered yoga teacher.



Joseph Pinkl, Au.D., Ph.D.

Joey is a post-doctoral researcher at Gateway Biotechnology Inc. He has a background in clinical audiology, earning a clinical doctorate degree in 2016 before earning a Ph.D. in auditory sciences in 2021. He has experience in clinical research, developing new diagnostic and treatment applications for hearing disorders in both children and adults. His research training also involved translational research investigating biotechnological applications of oncolytic virotherapy as a

repurposed treatment for cholesteatoma. At Gateway Biotechnology, Joey leads a number of projects focusing on chemogenetic gene therapy for the purpose of tinnitus research and treatment design.



Maggie Postolache, M.A.

Maggie Postolache is a PhD candidate at the University at Buffalo in the laboratory of Dr. Matthew Xu-Friedman. She received her B.A. in Biology from UC Santa Barbara and her M.A. in Psychology from the University at Buffalo. She is currently studying the effects of aging on neurons in the auditory brainstem using a combination of electrophysiological and immunohistochemical techniques.



Xufeng Qiu, Ph.D.

Dr. Xufeng Qiu obtained his Ph.D. degree in Neuroscience from University of Chinese Academy of Sciences, where he investigated molecular mechanism of synaptic transmission and kinetics of synaptic vesicle recycling at Calyx of Held synapses. After that, he joined Dr. Uli Mueller lab as a postdoctoral fellow at Johns Hopkins University. His research has been focused on the Mechano-Electrical Transduction (MET) channel at hair cells. With Molecular/ cellular strategy and physiological patch-clamping

recording, Dr. Qiu systematically study the detailed function of proteins that involved in hair cell MET machinery and aim to explore the molecular and structural mechanisms of mechanotransduction and its gating mechanism. His research interests also include neural circuits of auditory system, especially the mystery of neural connection between hair cells and neurons, and how mechanotransduction regulate neural circuits during development.





Vinay Raghavan, M.S.

Vinay Raghavan is a PhD Candidate in electrical engineering at Columbia University studying the influence of attention on the neural encoding of speech and how to leverage this understanding to improve models of auditory attention decoding. He previously earned his BS in electrical engineering from Rice University and has interned at CTRL-Labs/Facebook. In the future, he hopes to use his experience to develop assistive brain-computer interfaces that

compensate for language and communication deficits.



Briana Rodriguez, B.S.

Briana Rodriguez is a third year AuD-PhD student at the University of South Florida (USF). She earned both a Bachelor's in Aging Sciences (Gerontology) and a Bachelor's in Communication Sciences and Disorders from USF. For the past four years, Briana has worked as a research assistant with the Auditory Behavioral Research Lab under the supervision of Dr. Robert Lutfi and Dr. Jungmee Lee. She has been involved in projects that focus on applying concepts of psychoacoustics, modeling, speech perception, and physiological measures to

better understand how human's listen in background noise. Briana hopes to improve evidencebased practice in routine clinical care while contributing to increased diversity, collaboration, and education in the field of hearing healthcare.



Marianny Pernia Rosales, Ph.D.

I am Marianny Pernia and I have a PhD in neuroscience. Currently, I'm a postdoctoral researcher in the Neurobiology department of the University of Pittsburgh (Sadagopan lab, auditory neuroscience group). My project tries to explain the underlying mechanisms in the auditory cortex for call-in-noise categorization in a Guinea pig model of hearing loss. I received my master degree and PhD in neuroscience in the University of

Salamanca (Spain). In my PhD project I described the anatomical and molecular changes in the auditory and visual cortices in a rat model of long-term deafness. This project is in two publications in the Journal of comparative neurology and in Brain structure and function. I also have a Bachelor of science degree in biology from the Central University of Venezuela, where I started to be aware of my interest and curiosity for neuroscience.





methods.

Jeffrey Rumschlag, Ph.D.

Jeffrey Rumschlag is currently working with Dr. Kelly Harris and Dr. Hainan Lang as a postdoctoral fellow in the Hearing Research Group at the Medical University of South Carolina. He holds a Ph.D. in neuroscience from the University of California, Riverside. His work focuses specifically on understanding the contributions of various age-related functional and structural changes to hearing deficits, using translational auditory neuroscience



Mark Saddler, B.S.

PhD candidate in MIT's Laboratory for Computational Audition developing machine learning models of human hearing. I am interested in how our ears and environment shape auditory perception and my research focuses on pitch perception, hearing loss, and audio enhancement via deep learning.





Ben Seicol, M.Sc.

Ben Seicol is currently a neuroscience doctoral candidate at The Ohio State University studying auditory neuroscience in the lab of Dr. Ruili Xie. His primary research interest is to explore interactions between the immune and nervous systems to better understand how neuronal activity modulates immune responses and how immune signals affect the formation and function of neural circuits. Under the mentorship of Dr. Xie, Ben's dissertation research is focused on the role of inflammation in the cochlea and the cochlear nucleus during both noise-induced and age-related hearing loss. Ben's first manuscript (in

preparation) details the expansion and activation of resident macrophages in the cochlea and microglia in the cochlear nucleus during aging in mice. Using immunohistochemistry, confocal microscopy and quantitative image processing, Ben characterized the progression of cochlear inflammation during normal aging in CBA/CaJ mice, especially low-grade inflammation that appears in middle age before the onset of overt tissue damage (e.g., hair cell loss) associated with sensorineural hearing loss. Ben found that the expansion of macrophages in the osseous spiral lamina, which is an area that houses bundles of auditory nerve fibers, correlates with the severity of hearing loss in these mice. Ben also identified activation of microglia and increases in complement deposition in the cochlear nucleus across the lifespan. Ben's ongoing research seeks to elucidate the mechanisms underlying the activation of both cochlear macrophages and microglia in the auditory brainstem during noise-induced and age-related hearing loss, especially during middle age. The goal of these projects is to identify new targets for therapeutics to prevent the progression or restore lost function for patients with noise-induced and age-related hearing loss.



Nick Schubert, M.D.

Nick Schubert is an MD/PhD student in the dr. Sonja Pyott's lab at the University Medical Center Groningen in the Netherlands. His PhD project focusses on hearing loss, tinnitus and vestibular dysfunction. Nick recently utilised the Dutch population-based cohort study Lifelines to study tinnitus in the general population. These first studies focused on the prevalence, co-morbidities and self-reported health of participants with tinnitus in the general

population. More recently, our lab focusses on the heritability of tinnitus and we thrive to identify genetic risk loci for tinnitus in this general population cohort.





Ivy Schweinzger, Ph.D.

Ivy is originally from Memphis, TN and is a graduate of the University of Cincinnati where she received her PhD in Audiology. Ivy's research ahs primarily focused on noise-induced hearing loss. Ivy recently completed a postdoctoral fellowship at Purdue University and she is currently completing her fourth year externship toward a clinical doctorate (AuD) through the University of Cincinnati so that she can apply what she has

learned through research to patients' lived experiences. Ivy currently resides in Lafayette, IN where she works at the Lafayette Hearing Center.



Ilkem Sevgili, B.Sc., M.Sc.

Ilkem is a PhD student in Clinical Neurosciences at the University of Cambridge. She is currently working on the cochlear spiral ganglion-on-a-chip model. Using this model, her ultimate goal is to discover therapeutics to prevent or treat hearing loss and optimize cochlear implant stimulation parameters for a better patient experience. Before starting her PhD, Ilkem completed BSc (Honours) in Molecular Biology and Genetics at Gebze Technical

University, and MRes (Master of Research) in Bioengineering at Imperial College London (Distinction). During her several internships, she gained laboratory experience in a diverse range of laboratories including Stem Cell Biology, Molecular Neurobiology, Biological Clocks, Plant Biotechnology and Medical Genetics Laboratories.



Leo Shen, M.Sc.

Leo Shen is a second-year medical student attending Johns Hopkins University School of Medicine. Having studied biochemistry in college and during his Master's at McGill University, Leo loves finding the intersection between molecular mechanisms and human diseases. He has a strong interest in otolaryngology and hopes to contribute to the field as he develops as both a scholar and physician.





Leanne Sijgers, M.Sc.

Leanne Sijgers is a PhD candidate at the Otolaryngology department of the University Hospital Zurich, supervised by Prof. Dr. Alexander Huber, PD Dr. Flurin Pfiffner and Prof. Dr. Norbert Dillier. Her research focuses on objective measures during and after cochlear implantation. She aims to develop and investigate methods for assessing residual hearing, predicting electrode array placement, and probing the electrode-neuron interface. She holds a BSc. in Technical Medicine and an MSc. in Biomedical

Engineering from the University of Twente in the Netherlands. During her Master's she performed an internship at Sonova in Stäfa, Switzerland, where she worked on signal processing artifacts during digital-to-analog conversion in hearing devices. She graduated within the research group Biomedical Signals and Systems in 2018, where she performed research on neural dynamics and excitability changes following extracellular electric stimulation.



Gabriel Sobczak, B.S.

Gabe Sobczak is currently a 4th year medical student at the University of Wisconsin-Madison, applying for otolaryngology residency. He is a member of the Binaural Hearing and Speech Lab, directed by Dr. Ruth Litovsky. His research primarily encompasses cochlear implants, an interest that first began while learning about neural prostheses as part of his undergraduate biomedical engineering training. His current work focuses on understanding how cochlear implants affect cortical-level integration of binaural stimuli, using functional near-infrared spectroscopy (fNIRS). He is

also involved with a research project in the Department of Surgery, Division of Otolaryngology at UW-Madison, studying outcomes of cochlear implantation in patients with neurofibromatosis type II.





Thomas Stoll, M.S.

Thomas Stoll is a PhD student in the Biomedical Engineering Department at the University of Rochester. Under the guidance of Dr. Ross Maddox, he is interested in developing faster and more accurate methods to assess hearing function. Using a combination of computational models and recordings from human subjects, he is examining the place specificity of responses to the lab's recently developed parallel auditory brainstem response paradigm. He is also

interested in how selective attention is utilized in the auditory system and is using naturalistic, continuous speech stimuli to search for attentional effects throughout the auditory pathway.



Kirupa Suthakar, Ph.D.

Kirupa received her Bachelor of Science in Psychology from Macquarie University, Sydney in 2007, and then took a few years off study to do a working holiday in London, UK. Upon returning to Sydney, Australia in 2009 she completed Bachelor of Medical Science at the University of Technology Sydney, graduating with First Class Honors. She completed her PhD through the University of New South

Wales/Garvan Institute of Medical Research under the guidance of Professor David Ryugo, investigating changes to the medial olivocochlear efferent system in mice with progressive hearing loss and congenitally deaf. Kirupa undertook her first postdoc in Professor Charlie Liberman's laboratory at Harvard Medical School/Massachusetts Eye and Ear investigating physiological changes to auditory nerve fibers in mice with cochlear synaptopathy. Kirupa is now undertaking a second postdoc in Dr Catherine Weisz's lab at the Section on Neuronal Circuitry at NIH/NIDCD where she is investigating the effects of serotonin on medial olivocochlear efferent neurons using in vitro whole cell patch clamping techniques. In the next few years, Kirupa hopes to establish her own laboratory and independent research program investigating context dependent modulation of the descending auditory system.



Maryse Thomas, Ph.D.

Maryse Thomas is a Postdoctoral Research Fellow in the lab of Anne Takesian at the Mass Eye and Ear and Harvard Medical School. Her work focuses on the role of superficial cortical interneurons in shaping frequency tuning and plasticity in the auditory cortex. Dr. Thomas is supported by fellowships from the Fonds de Recherche du Québec

Nature et Technologies and the Natural Sciences and Engineering Research Council of Canada. She completed her PhD in Neuroscience at McGill University in 2019.





Camila Villasante, B.A.

I am an MD-PhD student in the Weill Cornell/Rockefeller/Sloan Kettering Tri-Institutional MD-PhD Program in New York City. I am doing my PhD work in the lab of A. J. Hudspeth at Rockefeller University, where I study the role of protocadherin 15 in both physiological and pathological hearing using optical tweezers. I am interested in becoming an otolaryngologist and studying the causes - and potential cures - of human deafness.



Monique Weaver, B.S.

Monique Weaver is a Ph.D. student in the Genetics graduate program under the mentorship of Dr. Richard Smith at the University if Iowa. She received her Bachelor of Science in Biology from the University of Wyoming where she conducted research as part of the McNair Scholars program. Monique has been interested in genetics since she was fourteen and she now gets to pursue that

passion in her thesis work where she investigates genetic modifiers of DFNA8/12 hearing loss. As part of the Molecular Otolaryngology and Renal Research Laboratory (MORL), Monique is part of a multidisciplinary team that works together to provide expertise in the field of hearing loss through both clinical work and research. Her long term research goal is to provide novel insight into the genetic basis of hearing loss, and develop treatments to preserve or restore hearing.



Maria Fernanda Yepes, M.D., Ph.D. Student

Maria Yepes received her MD degree from Universidad del Norte in Barranquilla, Colombia. She is currently a first year Ph.D. student in Neuroscience, working in Dr. Suhrud Rajguru's neurosensory laboratory at University of Miami Miller School of Medicine. She is passionate about research in otology, specifically combination therapeutics for hearing loss. She is currently focusing on investigating the efficacy of non-invasive local cooling to the ear in addition to anti-apoptotic drugs after

acoustic overexposure in rodent models. She is also conducting translational experiments in human cadaver models. Maria hopes to pursue an Otolaryngology residency upon graduation.



Yi Yuan, Ph.D.



I am a postdoctoral scholar in Dr. Shuman He's Auditory Electrophysiology Laboratory at The Ohio State University's Department of Otolaryngology-Head and Neck Surgery. I obtained my doctoral degree in Communication Sciences and Disorders at the University of Florida in April 2021. I am interested in the multisensory integration of speech perception with normal-hearing and hearing-impaired listeners. My current research project focuses

on temporal processing in multisensory speech perception in CI users. Specifically, the study evaluates the connections among the temporal response properties of the auditory nerve, the cortical encoding of temporal gaps, and the perceptual sensitivity to temporal gap cues in postlingually deafened adult CI users. Translational research is my passion, and my long-term goal is to determine mechanisms underlying the substantial variability in clinical outcomes among patients with hearing aids and/or cochlear implants (CIs).



Mary Caroline Yuk, B.S.

Mary Caroline Yuk graduated from the University of Alabama this past May with a Bachelor of Science in Neuroscience. She isc urrently a neuroscience graduate student at University of Oxford.





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