ARO
Association for Research in Otolaryngology

## 2025 ARO MIDWINTER MEETING

# Program Book

## ARO OFFICERS FOR 2024-2025

| | |
|---|---|
| **PRESIDENT:** | **Sunil Puria, Ph.D. (24-25)**<br>Director of OtoBiomechanics Group, Harvard Medical School |
| **PRESIDENT ELECT:** | **Ronna Hertzano, M.D., Ph.D. (24-25)**<br>Chief, Neurotology Branch, National Institutes of Health |
| **PAST PRESIDENT:** | **Yuri Agrawal, M.D. (24-25)**<br>Chair, Department of Otolaryngology – Head & Neck Surgery, University of Colorado |
| **SECRETARY/ TREASURER:** | **Anna Lysakowski, Ph.D. (23-26)**<br>Professor, Department of Anatomy and Cell Biology, University of Illinois at Chicago |
| **PROGRAM COMMITTEE CHAIR:** | **Brandon Cox, Ph.D. (24-25)**<br>Professor, Department of Pharmacology, Southern Illinois University School of Medicine |
| **NOMINATING COMMITTEE CHAIR:** | **Elizabeth Olson, Ph.D. (24-25)**<br>Professor, Otolaryngology – Head & Neck Surgery and Biomedical Engineering, Columbia University |
| **COMMUNICATIONS COMMITTEE CHAIR:** | **Michael Bowl, D.Phil. (24-27)**<br>Professor of Otogenetics, UCL Ear Institute, University College London |
| **COUNCIL MEMBERS AT LARGE:** | **Katharine Fernandez, Au.D, Ph.D. (24-27)**<br>Staff Scientist, National Institute on Deafness and Other Communication Disorders |
| | **Radha Kalluri, Ph.D. (23-26)**<br>Assistant Professor, University of Southern California |
| | **Avril Genene Holt, Ph.D. (22-26)**<br>Associate Professor, Wayne State University School of Medicine |
| **EXECUTIVE DIRECTOR:** | **Kristin Johnson**<br>Parthenon Management Group |

# Conference Program
# of the
# 48th Annual MidWinter Meeting

It is with great pleasure that I welcome you to the 2025 Association for Research in Otolaryngology (ARO) MidWinter Meeting, marking our final gathering in Orlando, Florida.

The resilience and dedication of our members have been truly inspiring, particularly as we have watched our community grow with nearly 400 new members joining us in 2024. In these challenging times, I believe our week together—sharing discoveries, exchanging ideas, and fostering meaningful connections—will provide the inspiration and renewed energy many of us seek.

In crafting this year's MidWinter Meeting, we have prioritized both scientific excellence and your experience. We are proud to provide a premier platform for sharing groundbreaking research, and we have thoughtfully restructured the daily schedule to include 2.5 hours of presentation-free time—an hour for lunch and 1.5 hours dedicated to meaningful interactions in the Poster Hall. We hope this more measured pace will enhance your ability to network, reflect, and engage more deeply with the research being presented. Your experience matters to us, and we eagerly await your feedback through the newly redesigned evaluation survey, carefully developed by our Long-Range Planning Committee.

The remarkable scientific engagement this year has brought 1,027 abstract submissions, resulting in 317 oral presentations and 799 posters. Under Dr. Brandon Cox's skilled leadership as Program Committee Chair, alongside Dr. Jeff Holt as Incoming Chair, we have developed an exceptional program. The Presidential Symposium, "Innovations, Challenges, and Personalization of Hearing Aids," promises to be particularly enlightening. Dr. Mara Mills will explore Thomas Edison's overlooked contributions to hearing aid development and the historical innovations of

the deaf and hard-of-hearing community. Dr. Brian Moore will share insights from his 25-year personal experience with hearing aids, discussing key challenges in acoustic coupling, amplification, and noise reduction. Professor Torsten Dau will examine various compensation strategies, from biological principles to machine learning approaches. After the break, Dr. Sarah Verhulst will present advances in precision diagnostics and personalized audio processing for next-generation devices. Stefan Launer will discuss the potential of deep neural networks in hearing aids, particularly for speech enhancement in challenging environments. The symposium will conclude with Dr. Nema Mesgarani's thought provoking perspective of a real-time auditory attention decoding system that demonstrates both objective and subjective improvements in speech perception. Please join us on February 22nd, 2025, from 8:00 AM - 12:00 PM in the Ocean Ballroom for these compelling presentations.

We are especially delighted to honor Dr. Paul Fuchs with the Award of Merit, our society's highest distinction. I warmly invite you to celebrate his outstanding contributions at the Award Ceremony on Monday, February 24th, from 5:00 PM - 6:30 PM in the Crystal Ballroom, followed by a reception open to all attendees.

To our Young Investigators: spARO has crafted an enriching program of mentorship and networking opportunities specifically designed for you. I encourage you to review the schedule and make the most of these valuable sessions.

You can also attend a new, exciting Short Course focused on the use of artificial intelligence for otolaryngology research, thoughtfully organized by Drs. Brandon Cox and Jeff Holt, our Program Committee Chairs. This session will be held on Tuesday, February 25th from 5:15 – 6:45 PM in Oceans Ballroom 5-8.

Several exciting satellite events will take place on Friday, February 21st. The Pharmaceutical Interventions for Hearing Loss (PIHL) Symposium runs from 1:00 PM - 5:00 PM EST, featuring leaders from industry and academia discussing the development pipeline for inner ear medicines. Distinguished speakers include Drs. Tim Bölke and Jonas Dyhrfjeld-

Johnsen from Acousia Therapeutics, Dr. Amanda Henton from Turner Scientific, Dr. Ralph Holme from RNID, Dr. Jonathon Kil from Sound Pharmaceuticals, and Dr. Gaëlle Naert from Cilcare.

The comprehensive Ménière's Disease Satellite Symposium will run from 2:00 PM - 6:00 PM EST, followed by a networking reception until 8:00 PM. The symposium is divided into two focused sections. Part 1 (2:00 PM - 4:00 PM) covers clinical topics, beginning with a patient perspective from Heather Davies, VeDA ambassador and podcast host. Distinguished speakers include Dr. Robin Bigelow discussing the disease's history, Dr. Habib Rizk on current clinical care, Dr. Jeffrey Sharon exploring the connection with migraine, and Dr. Amy Juliano presenting on imaging advances. A panel discussion on patient management follows. Part 2 (4:15 PM - 6:15 PM) focuses on laboratory science and knowledge gaps, featuring Dr. Amy Poremba on grant funding, Dr. Andreas Eckhard on molecular mechanisms, Dr. Jose Antonio Lopez-Escamez on genetics, Dr. Andrea Vambutas on immunology, and Dr. Joanna Wolfson on social and psychological factors. The session concludes with a panel discussion on research barriers, followed by a networking reception with beverages and appetizers.

For those interested in genetic research tools, two gEAR sessions will be offered in the evening from 7:00 PM - 9:00 PM EST. The Beginner Workshop introduces the platform's essential features, while the Advanced Workshop offers in-depth training on customization and data management. Both sessions are available for a nominal fee of $15 each.

Serving as ARO President this year has been one of the most rewarding experiences of my career. As we gather for this MidWinter Meeting, I hope each of you will find it equally enriching and inspiring. Thank you for your continued dedication to advancing our field.

With warm regards,
Sunil Puria, Ph.D.
ARO President 2024-2025

# ABOUT ARO

## OUR HISTORY

The association was founded in 1973. It is under the direction of the ARO Council that consists of a President, a Past President, a President-Elect, a Secretary-Treasurer, a Communications Officer, a Program Committee chair, a Nomination Committee chair, and three Council Members At-Large, all of whom are elected from and by the membership. The functions of the organization are established through bylaws carried out with the help of committees and counsel from past presidents.

## OUR MISSION STATEMENT

The mission of the Association shall be to encourage and promote basic and clinical research in the broad fields of Otolaryngology, hearing and balance science, and related areas. To achieve these objectives, and to foster collegial assembly and stimulate scientific collaboration among its members, the Association shall encourage year-round scientific engagement through meetings and other activities.

## OUR VISION

Our vision is to pioneer inventive excellence in pure and applied science by nurturing researchers to perform the most rigorous and exciting science in the study of hearing and balance and related otolaryngological fields. We seek to use our collective knowledge to make fundamental discoveries and develop ground-breaking treatments that improve quality of life.

## OUR CORE VALUES

- *Science:* We promote rigorous original (same as mission) basic science and clinical research that moves forward our understanding of hearing and balance sciences and related fields. We strive to provide a forum for dissemination and meaningful discussion of results.

- *Diversity:* We acknowledge and honor the fundamental value and dignity of all individuals. We are committed to maintaining an inclusive environment that removes barriers and respects diverse people, approaches, and ideas.
- *Integrity:* We maintain the highest ethical standards in the collection, sharing and dissemination of research and champion best practices in both basic and clinical experimentation.
- *Collaboration:* We believe in listening and evolving together by embracing the exchange of ideas through initiatives including, but not limited to, interdisciplinary research, education, mentorship, and professional networking.
- *Education:* We support and empower our community by providing multi-faceted educational and mentorship opportunities relevant to early career professionals and throughout the career-span.

## GENERAL ANNOUNCEMENTS

- **AI and Live Captioning:** ARO provides AI Captioning in all sessions occurring in a room with Audio/Visual services, as well as Live Captioning in all Symposia and Podium sessions.
- **Recording Policy:** ARO does not permit audio or photographic recording of any research data presented at the meeting.
- **Main Session Recordings:** The Symposia and Podium sessions in Ocean Ballroom are being recorded and will be made available to all attendees after the meeting.
- **Assisted Listening Devices:** ARO has Assisted Listening Devices available at the registration desk for those that require them. Please come to the registration desk and speak with an ARO Staff member (wearing green) for assistance. Each meeting room has an assigned receiver to pair your device to.

## REGISTRATION

The 2025 MidWinter Meeting Registration is located **on the main level** and will be open and staffed during the following hours in the below locations:

**Location:** Atrium A & B

| | |
|---|---|
| Friday, February 21 | 12:00 PM - 6:00PM |

**Location:** Crystal Registration Desk

| | |
|---|---|
| Saturday, February 22 | 7:00 AM - 7:00 PM |
| Sunday, February 23 | 7:00 AM - 6:00 PM |
| Monday, February 24 | 7:00 AM - 5:30 PM |
| Tuesday, February 25 | 7:00 AM - 6:00 PM |
| Wednesday, February 26 | 7:00 AM - 12:00 PM |

## SPEAKER READY ROOM

The 2025 Program Committee is committed to providing attendees with cutting edge technology and coordinated presentations at the MidWinter Meeting. To be fully prepared for your session, each presenter is requested to visit the Speaker Ready Room at least 24 hours prior to your presentation. The Speaker Ready Room is located in **Labrid A** and will be open the following days and times:

**Location:** Labrid A, Second Floor

| | |
|---|---|
| Saturday, February 22 | 7:00 AM - 5:00 PM |
| Sunday, February 23 | 7:00 AM - 6:00 PM |
| Monday, February 24 | 7:00 AM - 5:45 PM |
| Tuesday, February 25 | 7:00 AM - 6:00 PM |
| Wednesday, February 26 | 7:00 AM - 10:30 AM |

## PARENTING ROOM

Please stop by the Crystal Registration Desk for the key to the private parenting room.

**Location:** Ocean Office 1

| | |
|---|---|
| Friday, February 21 | 3:00 PM - 6:00 PM |
| Saturday, February 22 | 7:30 AM - 7:00 PM |
| Sunday, February 23 | 7:30 AM - 6:00 PM |
| Monday, February 24 | 7:30 AM - 5:00 PM |
| Tuesday, February 25 | 7:30 AM - 6:00 PM |
| Wednesday, February 26 | 7:30 AM - 12:00 PM |

## PRAYER/MEDITATION ROOM

All 2025 ARO MidWinter Meeting attendees are welcome to visit the Prayer and Meditation Room which is a quiet space reserved for reflection, prayer, and personal meditation.

**Location:** Hinalea

| | |
|---|---|
| Friday, February 21 | 3:00 PM - 6:00 PM |
| Saturday, February 22 | 7:30 AM - 7:00 PM |
| Sunday, February 23 | 7:30 AM - 6:00 PM |
| Monday, February 24 | 7:30 AM - 5:00 PM |
| Tuesday, February 25 | 7:30 AM - 6:00 PM |
| Wednesday, February 26 | 7:30 AM - 12:00 PM |

## ADMISSION

Conference name badges are required for admission to all activities related to the 48th Annual MidWinter Meeting, including the Exhibit Hall and social events.

*Smoking and photography are not permitted in the meeting rooms or poster room.*

**NAME BADGES**

- Rainbow/Ally Sticker - This sticker aims to support LGBTQIA+ inclusion and equality in the meeting place. An Ally aims to raise knowledge, create understanding, and equip people who are not part of the LGBTQIA+ community to be an ally for colleagues who identify as LGBTQIA+.
- Name Badge Ribbons - Badge ribbons are a way to recognize & identify the roles of some attendees during the conference! Add those that apply to you!

**JOB BOARD**

ARO has a job board where interested parties can post their open positions and those open to new opportunities can share their resumes. Linked below is access to this job board. You must be logged in and registered for the meeting to view the job board. There is also a physical job board in the poster room where printed materials may be posted during the meeting.

Onsite meeting attendees will be able to indicate if they have an open position or if they are interested in learning about job opportunities by wearing a cyan or yellow round sticker on their name badge.

- Cyan Dot - I am interested in learning about job opportunities!
- Yellow Dot - Ask me about job opportunities!

## ONLINE PROGRAM MATERIALS

### ONLINE SCHEDULE

View the online schedule for the most up-to-date times, room assignments, and speaker times. By expanding the speaker list you can see when each speaker is slotted to present.

You can add the sessions you don't want to miss to your personal calendar and view the 2025 MWM abstracts in the schedule too! Visit the online schedule and select 'Abstract/Session info' for any session to see all that was submitted.

## PROGRAM ORGANIZATION

Poster presenters will be available at their posters during their scheduled presentation date. Each presentation on the following pages has been formatted in the following example:

**Presentation legend:**

**WKSHP = Workshop Presentation**
**SYMP = Symposium Presentation**
**PD = Podium Presentation**
**PB = Poster Blitz Presentation**
**PS = Poster Presentation**

**POSTER PRESENTATION DETAILS**

Posters are scheduled to remain on display for a duration of 23 hours. However, your assigned time slot designates when you will be presenting your poster. Outside of the designated presentation times, you are free to return to your poster at your convenience.

The 2025 MidWinter Meeting assigned poster presentation sessions will be in the **Peninsula Ballroom** during the following times:

| | |
|---|---|
| Saturday, February 22 | 1:00 PM to 2:30 PM |
| Sunday, February 23 | 1:30 PM to 3:00 PM |
| Monday, February 24 | 1:30 PM to 3:00 PM |
| Tuesday, February 25 | 1:30 PM to 3:00 PM |

**E-POSTER DETAILS**

Attendees will be able to view e-Posters online before, during, and after the meeting.

You must be logged in and registered for the meeting to view the posters.

- All poster presenters were required to upload an e-Poster.
- Attendees may leave comments and questions on a poster at any time. Presenters can then answer these questions online and/or in-person if you visit their poster.

**About Downtown Orlando**

Located across from SeaWorld Orlando and minutes to Discovery Cove, Universal Orlando and The Walt Disney World Resort, the location provides convenient access to all that Orlando has to offer including nearby internationally recognized golf courses and world-class attractions, dining, and shopping.

Downtown Orlando, Florida, is a lively hub that offers a perfect blend of culture, entertainment, and relaxation. At its heart lies Lake Eola Park, a picturesque spot featuring a stunning fountain, swan boats, and walking paths lined with vibrant art installations. It's the ideal place to enjoy a picnic or take in the city's skyline. For dining and nightlife, the Church Street District is a must-visit, with a variety of restaurants, rooftop bars, and live music venues that cater to all tastes. Art and history enthusiasts can explore the Orange County Regional History Center, which delves into Central Florida's past, or stop by the CityArts gallery to admire local works. The Dr. Phillips Center for the Performing Arts offers world-class performances, including Broadway shows and live concerts. Sports fans can catch an Orlando Magic basketball game or a live event at the Amway Center. Whether you're seeking culture, fun, or relaxation, downtown Orlando offers a dynamic experience that captures the essence of the city.

**Hotel:**
Renaissance Orlando at SeaWorld
6677 Sea Harbor Drive
Orlando, Florida, USA, 32821
Phone: +1 407-351-5555

# 2025 PROGRAM HIGHLIGHTS

*FRIDAY, FEBRUARY 21, 2025*

- **ARO Council Meeting** *(Invitation Only)*
  8:00 AM – 1:00 PM
  Fantail

- **PIHL Satellite Symposium**
  1:00 PM – 5:00 PM
  Ocean Ballroom 1–4

- **Ménière's Disease Satellite Symposium**
  2:00 PM – 8:00 PM
  Ocean Ballroom 9–12

- **gEAR Session: Beginner Workshop - Introduction to gEAR**
  7:00 PM – 9:00 PM
  Ocean Ballroom 1–4

- **gEAR Session: Advanced Workshop**
  7:00 PM – 9:00 PM
  Ocean Ballroom 5-8

*SATURDAY, FEBRUARY 22, 2025*

- **Presidential Symposia**
  8:00 AM – 12:00 PM
  Ocean Ballroom

- **Travel Awards Luncheon** *(Invitation Only)*
  12:00 PM – 1:45 PM
  Crystal Ballroom C

- **spARO Reception**
  9:00 PM – 10:30 PM
  Merrit 1 & 2

*Due to extenuating circumstances outside of ARO's control, there may be some changes to the contents of this and other MWM documents since the time of their printing. Please utilize the MWM App or Online Schedule of Events for the most current information.*

*SUNDAY, FEBRUARY 23, 2025*

- **ARO Diversity & Minority Affairs Committee Special Session**
  **Making History: Celebrating Black Scientists in Otolaryngology**
  3:00 PM – 5:00 PM
  Ocean Ballroom 1–4

- **ARO Business Meeting**
  5:30 PM – 6:30 PM
  Ocean Ballroom 5–8

- **Inner Ear Courses**
  6:30 PM – 7:30 PM
  Ocean Ballroom 1–4

- **spARO Mentorship Meet and Greet**
  7:30 PM – 8:30 PM
  Damselfish

- **spARO LGBTQIA+ Social**
  8:30 PM – 10:30 PM
  Walu

*MONDAY, FEBRUARY 24, 2025*

- **Awards Ceremony**
  5:00 PM–6:30 PM
  Crystal Ballroom CDE

- **Awards Reception**
  6:30 PM–7:30 PM
  Crystal Ballroom AB

*TUESDAY, FEBRUARY 25, 2025*

- **Young Investigator Luncheon** *(Ticket Required)*
  12:30 PM–2:00 PM
  Crystal Ballroom CDE

- **spARO Town Hall**
  6:15 PM–7:15 PM
  Canaveral 1

- **Hair Ball**
  8:00 PM–12:00 AM
  Crystal Ballroom

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# AWARD WINNERS

**Award of Merit**

**Paul Albert Fuchs, Ph.D**

Paul Albert Fuchs, Ph.D., joined the Otolaryngology-Head and Neck Surgery department at Johns Hopkins in 1995, after a decade on the Physiology faculty at the University of Colorado School of Medicine. Originally from Fenton, Missouri, he graduated Phi Beta Kappa in Biology from Reed College, obtained his doctorate in Neurobiology at Stanford University (with Peter Getting and Don Kennedy) then did postdoctoral research there (with John Nicholls) and at Cambridge University (with Robert Fettiplace). While in Cambridge, Dr. Fuchs met his wife, Johanna Marvan. They have two sons, Toby and Sam (m. Andrea) and grandchildren, Eden and Felix.

While in Cambridge, Dr. Fuchs applied his training in synaptic electrophysiology to studies of the vertebrate inner ear that continue to this day. His research is focused on the connectivity of sensory cells and neurons that mediate hearing. This work helped to uncover the molecular mechanisms of efferent inhibition to the cochlea, and characterized the unusual afferent neurons that may mediate the sensation of painfully loud sound. His research has been funded continuously by the NIH since 1984 and has been published in over 80 peer-reviewed papers (including *Science*, *Nature* and *Proceedings of the National Academy*) and 30 review chapters. He edited two books on hearing and was a co-author of the fourth and fifth editions of the general neurobiology text, *From Neuron to Brain* (Sinauer Press). Dr. Fuchs has lectured in the USA and abroad, including a “Capital Science Evening” at the Carnegie

Institute in Washington DC and sessions on National Public Radio's "Science Fridays".

Dr. Fuchs has conducted scientific training worldwide in workshops and lecture courses in Argentina, China, France, Germany, Japan, Korea, Spain and Uruguay. In the US he taught neurobiology at NIH, Cold Spring Harbor Laboratory, Jackson Laboratory in Maine, and the Marine Biological Laboratory on Cape Cod, where he directed the NIH-funded laboratory and lecture course, *Biology of the Inner Ear* from 2013 to 2017. He has been an advisor to doctoral training programs at Stanford University, the University of Pittsburgh and the University of Colorado. He has served on advisory and grant review boards at the NIH, including as member and chair of the Board of Scientific Counselors to the National Institute for Deafness and Other Communication Disorders, and as member and chair of the AUD Study Section at the Center for Scientific Review at NIH. He was president of the International Association for Research in Otolaryngology in 2008.

## Award of Merit Past Recipients

1978 Harold Schuknecht, M.D. *
1979 Merle Lawrence, Ph.D. *
1980 Juergen Tonndorf, M.D. *
1981 Catherine Smith, Ph.D. *
1982 Hallowell Davis, M.D. *
1983 Ernest Glen Wever, Ph.D. *
1984 Teruzo Konishi, M.D. *
1985 Joseph Hawkins, Ph.D. *
1986 Raphel Lorente de No, M.D. *
1987 Jerzy E. Rose, M.D. *
1988 Jozef Zwislocki, Sc.D.*
1989 Ake Flock, Ph.D.*
1990 Robert Kimura, Ph.D.*
1991 William D. Neff, Ph.D.*
1992 Jan Wersall, Ph.D.*
1993 David Lim, M.D.*
1994 Peter Dallos, Ph.D.
1995 Kirsten Osen, M.D.
1996 Drs. Ruediger Thalmann, M.D.* & Isolde Thalmann, Ph.D.
1997 Jay Goldberg, Ph.D.*
1998 Robert Galambos, M.D., Ph.D.*
1999 Murray B. Sachs, Ph.D.*
2000 David M. Green, Ph.D.*
2001 William S. Rhode, Ph.D.
2002 A. James Hudspeth, M.D., Ph.D.
2003 David Kemp, Ph.D.
2004 Donata Oertel, Ph.D.*
2005 Edwin W Rubel, Ph.D.
2006 Robert Fettiplace, Ph.D.
2007 Eric D. Young, Ph.D.
2008 Brian C.J. Moore, Ph.D.
2009 M. Charles Liberman, Ph.D.
2010 Ian J. Russell, Ph.D.
2011 Robert V. Shannon, Ph.D.
2012 David P. Corey, Ph.D.
2013 Karen P. Steel, Ph.D.
2014 H. Steven Colburn, Ph.D.
2015 Thomas B. Friedman, Ph.D.
2016 Geoffrey A. Manley, Ph.D.
2017 Alan Palmer, Ph.D.
2018 Christine Petit, Ph.D.
2019 Peter M. Narins, Ph.D.
2020 Lynne A. Werner, Ph.D.
2021 Tom Yin, Ph.D.
2022 Christoph Schreiner, M.D., Ph.D.
2023 Doris Wu, Ph.D.
2024 Judy R. Dubno, Ph.D.

* Deceased

## 2025 Geraldine Dietz Fox Young Investigator Award

### Melissa Caras, Ph.D.

Awarded for her contributions to the understanding of mechanisms underlying auditory perception and learning.

Dr. Melissa Caras is an assistant professor in the Department of Biology at the University of Maryland, College Park. Her research program seeks to reveal the neural circuit basis for auditory perception, with a specific focus on experience-dependent plasticity. Prior to joining the University of Maryland, Dr. Caras completed postdoctoral training at New York University's Center for Neural Science, where she examined the central consequences of developmental hearing loss, and a Ph.D. at the University of Washington in Seattle, where she explored the impact of sex-steroid hormones on auditory processing in wild-caught songbirds.

## 2025 Pioneer Award in Basic Science

### Prof. Xiaoqin Wang

Awarded for his pioneering work to establish the marmoset model system to elucidate the neural and behavioral basis of hearing and vocal communication.

Xiaoqin Wang received his B.S. in Electrical Engineering from Sichuan University, China, in 1984, M.S.E. in Electrical Engineering and Computer Science from the University of Michigan in 1986, and Ph.D. in Biomedical Engineering from The Johns Hopkins University in 1991. He conducted postdoctoral research in somatosensory and auditory neuroscience at the University of California, San Francisco, from 1991 to 1995.

Dr. Wang has been a faculty member in the Departments of Biomedical Engineering and Neuroscience at The Johns Hopkins University School of Medicine since 1995, and a tenured full professor since 2005. In 1999, he was honored with the U.S. Presidential Early Career Award for Scientists and Engineers (PECASE).

Dr. Wang's research focuses on auditory neuroscience and neural engineering, with particular emphasis on understanding the structure and function of the auditory cortex and the neural basis of vocal communication. He is widely recognized for pioneering the use of the marmoset monkey as a model for behavioral and neurophysiological studies of auditory and vocal functions.

His lab has developed the awake and behaving marmoset model and integrated it with innovative computational techniques to investigate fundamental neural coding mechanisms in the auditory cortex, including temporal-to-rate transformations, pitch perception, and harmonicity representations. Using wireless neural recording methods, Dr. Wang's team has discovered vocal feedback processing mechanisms in the marmoset auditory cortex and uncovered the role of the non-human primate frontal cortex in voluntary vocal control.

In addition to his scientific contributions, Dr. Wang has trained many young scientists who are now making significant contributions in the field. He has also played a pivotal role in establishing the marmoset model as a key tool for the broader neuroscience community.

## 2025 Award in Clinical Innovation

**Yilai Shu, M.D., Ph.D.**

Awarded for his collaborative and continued commitment to research advancing the development and investigation of gene therapy treatments for hearing restoration.

Dr. Yilai Shu is a professor and physician scientist in the Department of Otolaryngology at the Eye & ENT Hospital of Fudan University in Shanghai, China.

His clinic focuses on Otology and Neurotology. His research focuses on gene therapy for deafness, unraveling the pathogenic mechanism of deafness and pioneering innovative therapeutic strategies, including gene replacement and CRISPR/Cas9 gene editing. He also actively promotes clinical translation to benefit patients. As a leading PI, he and his collaborators developed AAV-hOTOF, a gene therapy drug using dual AAV strategy designed to treat DFNB9, a form of deafness caused by mutations in the *OTOF* gene. He led the first-in-human clinical trial to investigate the safety and efficacy of gene therapy for hereditary deafness. The results demonstrated that AAV1-hOTOF could effectively restore auditory function and speech perception in patients. These findings were published in *The Lancet* and *Nature Medicine,* marking a significant milestone in the field.

## 2025 Travel Award Recipients

Victor Adenis
Aray Adylkhan
Swapna Agarwalla
Syed Ahmad
Gabriel Alberts
Shruthi Ananth
Jennifer Anyanwu
Sajana Aryal
Susan Arzac
Brianna Atto
Daniel Ballinas
Vivien Barchet
Natalia Boaretto
Amanda Bonczkowski
Elin Bonyadi
Agudemu Borjigin
Shrivaishnavi Chandrasekar
Kenechukwu Charles-Obi
Yao Chen
Vishal Choudhari
Laura Console-Meyer
Diana Correa
Pablo Cruz-Granados
Henry “Hank” De Hoyos
Andrea DeFreese
Lauren Dillard
Andy S. Ding
Hanna Dolhopiatenko
Fotios Drakopoulos
Lukas Driendl
Tuba Ege
Boaz Ehiogu
David Elisha
Iman Ezzat
Emily Fabrizio-Stover
Keelin Fallon
Afagh Farhadi
Wanying FENG
Manda Fischer
Jonathan Fleegel
Karen Galindo
Madan Ghimire
Chetan Giduturi
Megan Guidry
Satoshi Hara
Yoani Herrera
Laura Jacxsens
Conner Jansen
Sohyang Jeong
Gisselle Jimenez
Marlin Johansson
Marina Kabirova
Abby Kambhampaty
Salimata Kane
Mi-Jung Kim
Darcey A. Kirwin
Meghna Kolluri
Pavan Krishnan
Guanyu Li
Joshua Lin
Yuesheng Ma
Anes Macić
Jessica MacLean
Kristine McLellan
Deanne Nixie Miao
Kayla Minesinger
Carolyn Miranda Portillo
Sree Varshini Murali
Sherylanne Newton
Carl Nist-Lund
Gal Nitsan
Jonathan Oliveira Luiz
James O’Sullivan
Sujata Pandey
Alena Pauley
Shelby Payne
Prithwijit Roychowdhury
Carina Sabourin
Tsubasa Saeki
Mrudhula Sajeevadathan
Harriet Smith
Akane Tamura
Chisako Tanaka
Jocelyn Taylor
Akil Turner
Jiali Wang
Fang Wang
Yingxuan Wang
Ningjin Wu
Fan Wu
Jacqueline Yao
Omer Zeliger
Lingjun Zhang
Chaoqun Zhou
Meredith Ziliak

## 2025 Poster Blitz Participants

Syed Ahmad
Gabriel Alberts
Franklin Alvarez Cardinale
Vivien Barchet
Pankaj Bhatia
Emily Burg
Amanda Ciani Berlingeri
Isadora Comens
Laura Console-Meyer
Diana Correa
Andy S. Ding
Emily Fabrizio-Stover
Afagh Farhadi
Ghazaleh Ghaffari
Varun Goyal
Roni Hahn
Victoria Halim
Zohar Hovev
Estelle in ‘t Zandt
Marina Kabirova
Lakshay Khurana
Chail Koo
Joseph Luetkehans
Qingping Ma
Rohit Makol
Ayse Maraslioglu Sperber
Sabina Nowakowska
George Ordiway
Heesung Park
Carina Sabourin
Mark Saddler
Mrudhula Sajeevadathan
Lubriel Sambolin-Escobales
Paul Secchia
Sherry Shen
Fang Wang
NA Zhang
Meredith Ziliak

**2025 PRE- MIDWINTER MEETING**
**VIRTUAL SESSIONS**

These sessions will be accessible after the meeting, either as part of the session recordings or on the ARO YouTube channel.

**Funding Your Scientific Genius!**
Wednesday, January 29, 2025
12:00 PM – 1:00 PM EST

**ARO MidWinter 101 Coffee Hour: Your Ultimate Guide to Plan, Connect, and Succeed**
Thursday, January 30, 2025
12:00 PM – 1:00 PM EST

**spARO Mentoring Session: Work/Life Balance and Mentor/Mentee Communication**
Tuesday, February 4, 2025
10:30 AM – 11:30 AM EST

**spARO Mentoring Session: Navigating the Grant Landscape**
Tuesday, February 4, 2025
3:30 PM – 4:30 PM EST

**Behind the Scenes with Publication!**
Wednesday, February 5, 2025
12:00 PM – 1:00 PM EST

**spARO Mentoring Session: Careers in Academia**
Thursday, February 6, 2025
10:30 AM – 11:30 AM EST

**spARO Mentoring Session: Careers in Industry**
Thursday, February 6, 2025
3:30 PM – 4:30 PM EST

# 2024 – 2025 COMMITTEES

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Kyle Arceo
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Francisco Barros-Becker
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Matsya Thulasiram
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# JOURNAL OF THE ASSOCIATION FOR RESEARCH IN OTOLARYNGOLOGY (JARO)

## ARO PAST PRESIDENTS

1974 David Hilding, M.D.*
1975 Jack Vernon, Ph.D.*
1976 Robert Butler, Ph.D.*
1977 David Lim, M.D.*
1978 Vicente Honrubia, M.D.
1979 F. Owen Black, M.D.*
1980 F. Owen Black, M.D.*
1981 Barbara Bohne, Ph.D.*
1982 Robert Mathog, M.D.*
1983 Josef Miller, Ph.D.*
1984 Maxwell Abramson, M.D. *
1985 William Stebbins, Ph.D.*
1986 Robert Ruben, M.D.
1987 Donald Nielsen, Ph.D.
1988 George Gates, M.D.
1989 William Yost, Ph.D.
1990 Joseph Nadol, Jr., M.D.
1991 Ilsa Schwartz, Ph.D.
1992 Jeffrey Harris, M.D., Ph.D.
1993 Peter Dallos, Ph.D.
1994 Robert Dobie, M.D.*
1995 Allen Ryan, Ph.D.
1996 Bruce Gantz, M.D.
1997 Charlie Liberman, Ph.D.
1998 Leonard Rybak, M.D.
1999 Edwin W Rubel, Ph.D.
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2001 Judy R. Dubno, Ph.D.
2002 Richard T. Miyamoto, M.D.
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2014 Jay T. Rubinstein, M.D., Ph.D.
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2016 Lawrence R. Lustig, M.D.
2017 Matthew W. Kelley, Ph.D.
2018 John Carey, M.D.
2019 Karen Steel, Ph.D.
2020 Keiko Hirose, M.D.
2021 Ruth Litovsky, Ph.D.
2022 John Oghalai, M.D.
2023 Elizabeth Olson, Ph.D.
2024 Yuri Agrawal, M.D.

* Deceased

# EXHIBITS

Educational and informational exhibits will be available in the **Peninsula Ballroom Foyer** during the MidWinter Meeting. Exhibiting company representatives will be available to answer your questions about their products and services.

## EXHIBIT HOURS

Please visit the exhibits and thank the representatives for their support.

| | |
|---|---|
| Saturday, February 22 | 12:00 PM – 8:00 PM |
| Sunday, February 23 | 9:00 AM – 5:00 PM |
| Monday, February 24 | 9:00 AM – 5:00 PM |
| Tuesday, February 25 | 9:00 AM – 5:00 PM |
| Wednesday, February 26 | 9:00 AM – 12:00 PM |

# 2025 EXHIBITORS

| | Booth |
|---|---|
| cilcare MAKING HEARING A PRIORITY | #1 |
| INTELLIGENT HEARING SYSTEMS | #2 |
| RNID Supporting people who are deaf, have hearing loss or tinnitus | #3 |
| DR. RICHARD J. BELLUCCI Translational Hearing Center Creighton University | #4 |
| HYPERACUSIS RESEARCH Stop Noise-Induced Pain | #5 |
| TinnitusHub | #6 |
| Interacoustics | #7 |
| iota hearing, advanced. | #8 |
| TDT TUCKER-DAVIS TECHNOLOGIES | #9 |

# 2025 EXHIBITORS

| | Booth |
|---|---|
| 具安科技 GIANT TEK Shenzhen Giant(Ju' An)Technologies Co.,Ltd | #10 |
| SUTTER INSTRUMENT® | #11 |
| CORTECH SOLUTIONS | #12 |
| TURNER SCIENTIFIC | #13 |
| NIH National Institute on Deafness and Other Communication Disorders | #14 |
| AMERICAN TINNITUS ASSOCIATION | #15 |
| EAR | #16 |
| REGENERON SCIENCE TO MEDICINE® | #17 |
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## Acknowledgements

The ARO MidWinter Meeting is supported partially by a grant from the National Institute on Deafness and Other Communication Disorders of the National Institutes of Health.

ARO is grateful for the following sponsorship support:

Cedars Sinai

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AMERICAN HEARING RESEARCH FOUNDATION
Research. Education. Community.

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In addition, the ARO gratefully acknowledges contributions for funding of our Travel Award Recipients by:

**Don Henderson Travel Award Fund**

**NIDCD Conference Grant**

Cedars Sinai

# Cedars-Sinai Opportunity

## Regenerative Hearing Research Faculty

The Jim and Eleanor Randall Department of Surgery at Cedars-Sinai is seeking a Research Scientist faculty member to join a new center specializing in developmental and stem cell biology. The focus of the role will be regenerative hearing research.

**About Us**

Cedars-Sinai is one of the largest and fastest-growing nonprofit academic medical centers in America. Ranked #8 in NIH funding, and with 526 active clinical trials and over 2,000 research projects, discovery is a core value to our mission.

**Scan to learn more and apply today.**

# American Hearing Research Foundation
# 2026 Grant Opportunities

## The Grants

Discovery Grants

- Up to 8 awards, $50,000 each
- Grant period: Jan-Dec 2026
- Special consideration for research on Ménière's disease or causes of sudden hearing loss

Discretionary Grants

- By AHRF invitation, may be offered to select Discovery Grant applicants
- Birtman Grant - up to $75,000
- Richard G. Muench Chairman's Grant - up to $65,000

Otolaryngology Resident Grants

- Up to 5 awards, $1,000 each
- For residents at Chicago universities, Washington University of St. Louis, University of Miami, and Baylor College of Medicine

## To Apply

- Funding available for research related to hearing, or hearing and balance disorders of the inner ear
- Basic or clinical studies accepted
- Deadline: August 15, 2025
- Notification: late November 2025
- Funds dispersed: January 2026

AMERICAN HEARING RESEARCH FOUNDATION

For more information, visit www.american-hearing.org

Or contact us at info@american-hearing.org

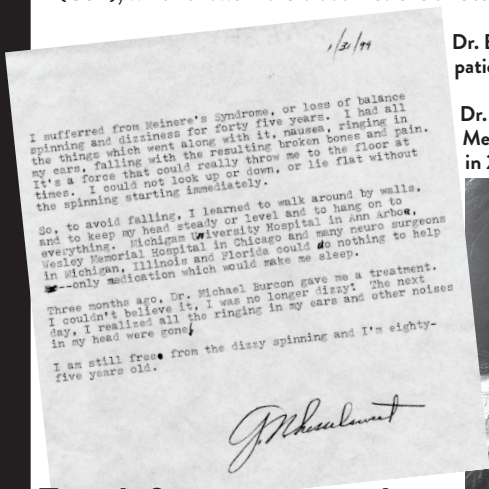
# Dr. Mike Invites You to Attend

Monday, February 24 • 8AM
Ocean Ballroom • Podium 7

## Inner Ear Fluids Imbalance in Meniere's Disease Between Blood and Cerebrospinal Fluid

My first patient had not left her home in years. She had broken both arms and legs in separate drop attacks. She was having an attack when I adjusted her. My wife Jane and I picked her up and put her on a portable adjusting table. I adjusted her and the vertigo stopped almost immediately. The next day she called to say the profound hearing loss in one ear had resolved in the night and she had normal hearing back.

A woman who had a craniectomy and atlas laminectomy for the Chiari malformation type one that caused daily migraines and weekly Meniere's attacks, got six months of relief. A month after the symptoms returned I adjusted her and she has not had an attack in seven years. I check her every six months and she is still holding her adjustment. She had several concussion/whiplash traumas that caused her cerebellar tonsillar ectopia (Chiari). I first wrote that this could be caused by whiplash in 1999. It was previously thought to always be a birth defect. By realigning the head and neck in the craniocervical junction with a specific atlas adjustment it opens the pathway in the back of the foramen magnum and cervical spine to release the excess CerebroSpinal Fluid (CSF), which allows more blood into the affected ear.



1/31/94

I sufferred from Meinere's Syndrome, or loss of balance spinning and dizziness for forty five years. I had all the things which went along with it, nausea, ringing in my ears, falling with the resulting broken bones and pain. It's a force that could really throw me to the floor at times. I could not look up or down, or lie flat without the spinning starting immediately.

So, to avoid falling, I learned to walk around by walls, and to keep my head steady or level and to hang on to everything. Michigan University Hospital in Ann Arbor, Wesley Memorial Hospital in Chicago and many neuro surgeons in Michigan, Illinois and Florida could do nothing to help --only medication which would make me sleep.

Three months ago, Dr. Michael Burcon gave me a treatment. I couldn't believe it, I was no longer dizzy! The next day, I realized all the ringing in my ears and other noises in my head were gone!

I am still free from the dizzy spinning and I'm eighty-five years old.

**Dr. Burcon's satisfied patient letter** (left)

**Dr. Burcon's 1500th Meniere's patient in 2017** (below)

## Email if you want to chat.

drburcon@yahoo.com
BurconChiropractic.com

Meniere's Disease Research Institute

具安科技
GIANT TEK

Booth #10

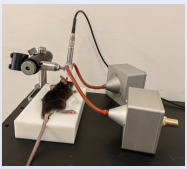
# Auditory & Vestibular Function Test

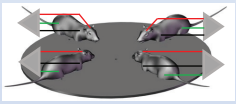
At GiantTek, we are dedicated to developing cutting-edge technologies to meet the demand from auditory & vestibular research. We provided turn-key **ABR**, **VOR** and **tinnitus testing** systems with user-friendly interface and thorough signal processing tools.

## ABR Systems

- **ABR & DPOAE (vs TDT)**
- **Soundproof Cabinet & Noise Exposure**
- **Four-ch. Open-field ABR**
- **Bone Conduction ABR**

**Features:**
- Higher Sampling Rate 384 kHz
- All Battery Powered
- Temperature-controller
- High-throughput available

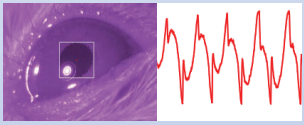




Four-ch. Open-filed ABR

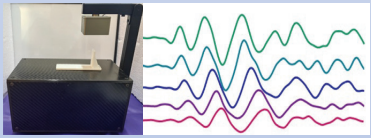
## Vestibular Systems

- **aVOR (SCC) & OVAR (Otolith)**
- **Opto-Kinetic Reflex**
- **VsEP**
- **Vestibular Behavior**



VOR

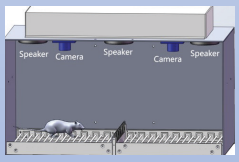
Vestibular-related Behavior



VsEP

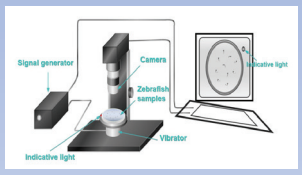
## Tinnitus Detection Systems

- **Gap detection (Acoustic Startle Response)**
- **Sound-based avoidance detection (SBAD)**

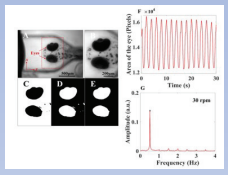




## Zebrafish & Drosophila Systems

- **Zebrafish Auditory Startle Response**
- **Drosophila Larvae Auditory Startle Response**
- **Zebrafish VOR**




Zebrafish Startle Response




Zebrafish VOR

E-mail:chenfy@gianttek.cn
Website:www.gianttek.cn

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- **Looking to work alongside distinguished scientists at the forefront of research on communication disorders?**
- **Seeking a training opportunity in a new, state-of-the-art neuroscience research center with advanced core facilities?**

Join the NIDCD, part of the National Institutes of Health (NIH). We conduct basic and clinical research in human communication, with a primary interest in hearing and balance. Come learn about the extraordinary opportunities to advance your research career at the NIH.

Visit our exhibit booth to meet our outstanding researchers and learn more about our research and training opportunities on the NIH campus, located in Bethesda, MD, just 3 miles from the nation's capital.

For more information
(after the ARO conference):

Karen Fischer
Office of the Scientific Director, NIDCD
fischerk@nidcd.nih.gov
http://www.nidcd.nih.gov/research

NIH National Institute on Deafness and Other Communication Disorders

## Notes

# Notes

| **Friday, February 21, 2025** (see full schedule beginning on page 49) | | |
|---|---|---|
| 12:00 PM - 6:00 PM | ARO Registration | Atrium A&B |
| 1:00 PM - 5:00 PM | PIHL Satellite Symposium | Ocean Ballroom 1 - 4 |
| 2:00 PM - 8:00 PM | Ménière's Disease Satellite Symposium | Ocean Ballroom 9 - 12 |
| 7:00 PM - 9:00 PM | **gEAR Session**: Beginner Workshop - Introduction to gEAR | Ocean Ballroom 1 - 4 |
| 7:00 PM - 9:00 PM | **gEAR Session:** Advanced Workshop | Ocean Ballroom 5 - 8 |
| **Saturday, February 22, 2025** (see full schedule beginning on page 53) | | |
| 7:00 AM - 5:00 PM | Speaker Ready Room | Labrid A |
| 7:00 AM - 7:00 PM | ARO Registration | Crystal Registration Desk |
| 7:30 AM - 7:00 PM | Prayer/Meditation Room | Hinalea |
| 7:30 AM - 7:00 PM | Parenting Room | Ocean Office 1 |
| 8:00 AM - 9:45 AM | **Presidential Symposium:** Innovations, Challenges, and Personalization in Hearing Aids - Part 1 | Ocean Ballroom |
| 9:45 AM - 10:00 AM | Break | Ocean Foyer |
| 10:00 AM - 12:00 PM | **Presidential Symposium:** Innovations, Challenges, and Personalization in Hearing Aids - Part 2 | Ocean Ballroom |
| 12:00 PM - 1:00 PM | Lunch On Own | |
| 12:00 PM - 1:45 PM | Travel Award Luncheon (Invitation Only) | Crystal Ballroom C |
| 12:00 PM - 8:00 PM | Exhibits Open | Peninsula Ballroom and Foyer |
| 1:00 PM - 2:30 PM | Poster Session I with Coffee | Peninsula Ballroom and Foyer |

*Due to extenuating circumstances outside of ARO's control, there may be some changes to the contents of this and other MWM documents since the time of their printing. Please utilize the MWM App or Online Schedule of Events for the most current information.*

| | | |
|---|---|---|
| 2:30 PM - 4:30 PM | **Special Session 1**: Deep Neural Networks and AI for Auditory Modeling | Ocean Ballroom 1 - 4 |
| 2:30 PM - 4:30 PM | **Podium 1**: Accessing the Inner Ear: Advances in Cochlear Drug Delivery | Ocean Ballroom 5 - 8 |
| 2:30 PM - 4:30 PM | **Podium 2**: Auditory Nerve: Mechanisms, Damage, and Protective Strategies | Ocean Ballroom 9 - 12 |
| 4:45 PM - 5:45 PM | Poster Blitz Session I | Ocean Ballroom 5 - 8 |
| 4:45 PM - 5:45 PM | Poster Blitz Session II | Ocean Ballroom 9 - 12 |
| 4:45 PM - 6:45 PM | **Memorial Symposium for Eric Young**: From the Auditory Nerve to Cochlear Nucleus to Cortex, and Back | Ocean Ballroom 1 - 4 |
| 5:30 PM - 6:30 PM | Welcome Reception | Peninsula Ballroom and Foyer |
| 9:00 PM - 10:30 PM | spARO Reception | Merrit 1 and 2 |
| **Sunday, February 23, 2025** (see full schedule beginning on page 97) | | |
| 7:00 AM - 6:00 PM | ARO Registration | Crystal Registration Desk |
| 7:00 AM - 6:00 PM | Speaker Ready Room | Labrid A |
| 7:30 AM - 6:00 PM | Parenting Room | Ocean Office 1 |
| 7:30 AM - 6:00 PM | Prayer/Meditation Room | Hinalea |
| 8:00 AM - 10:00 AM | **Symposium 1**: Inter-Areal Contributions to Auditory-Guided Behavior | Ocean Ballroom 1 - 4 |
| 8:00 AM - 10:00 AM | **Young Investigator Symposium 1**: Cochlear Health after Cochlear Implants. Biomarkers, Therapeutics, and Outcomes | Ocean Ballroom 5 - 8 |

*Due to extenuating circumstances outside of ARO's control, there may be some changes to the contents of this and other MWM documents since the time of their printing. Please utilize the MWM App or Online Schedule of Events for the most current information.*

| | | |
|---|---|---|
| 8:00 AM - 10:00 AM | **Podium 3:** Hair Cell Anatomy and Physiology: Molecular Dynamics, Structural Components, and Pathways to Protection | Ocean Ballroom 9 - 12 |
| 9:00 AM - 5:00 PM | Exhibits Open | Peninsula Ballroom and Foyer |
| 10:00 AM - 10:30 AM | Break | Ocean Foyer |
| 10:30 AM - 12:30 PM | **Symposium 2:** Vestibular Disorders: Breakthroughs in Diagnosis and Management | Ocean Ballroom 1 - 4 |
| 10:30 AM - 12:30 PM | **Podium 4**: From Hearing Loss to Functional Hearing | Ocean Ballroom 5 - 8 |
| 10:30 AM - 12:30 PM | **Podium 5**: Immunology: Function, Dysfunction,and Treatment | Ocean Ballroom 9 - 12 |
| 12:30 PM - 1:30 PM | Lunch On Own | |
| 1:30 PM - 3:00 PM | Poster Session II with Coffee | Peninsula Ballroom and Foyer |
| 3:00 PM - 5:00 PM | **Special Session 2**: Making History: Celebrating Black Scientists in Otolaryngology | Ocean Ballroom 1 - 4 |
| 3:00 PM - 5:00 PM | **Podium 6**: Decoding Speech Perception: Insights from Neural, Behavioral, and Technological Perspectives | Ocean Ballroom 5 - 8 |
| 3:00 PM - 4:00 PM | **Mini-Podium 1**: Otitis Media: Imaging, Immunity and Innovative Therapy | Ocean Ballroom 9 - 12 |
| 4:15 PM - 5:15 PM | **Mini-Podium 2**: Etiologies and Novel Treatments of Inner Ear Disorders | Ocean Ballroom 9 - 12 |
| 5:30 PM - 6:30 PM | **ARO Business Meeting** | Ocean Ballroom 5 - 8 |
| 6:30 PM - 7:30 PM | **Inner Ear Courses** | Ocean Ballroom 1 - 4 |
| 7:30 PM - 8:30 PM | spARO Mentorship Meet and Greet | Damselfish |
| 8:30 PM - 10:30 PM | spARO LGBTQIA+ Social | Walu |

*Due to extenuating circumstances outside of ARO's control, there may be some changes to the contents of this and other MWM documents since the time of their printing. Please utilize the MWM App or Online Schedule of Events for the most current information.*

| **Monday, February 24, 2025** (see full schedule beginning on page 142) | | |
|---|---|---|
| 7:00 AM - 5:30 PM | ARO Registration | Crystal Registration Desk |
| 7:00 AM - 5:45 PM | Speaker Ready Room | Labrid A |
| 7:30 AM - 5:00 PM | Parenting Room | Ocean Office 1 |
| 7:30 AM - 5:00 PM | Prayer/Meditation Room | Hinalea |
| 8:00 AM - 10:00 AM | **Symposium 3**: Inner Ear Immunity: Unraveling the Immune Dynamics in Hearing | Ocean Ballroom 1 - 4 |
| 8:00 AM - 10:00 AM | **Podium 7**: Cochlear Mechanics: Models, Experiments, and Problems | Ocean Ballroom 5 - 8 |
| 8:00 AM - 10:00 AM | **Podium 8**: Hair Cell Regeneration in Fish and Mice | Ocean Ballroom 9 - 12 |
| 9:00 AM - 5:00 PM | Exhibits Open | Peninsula Ballroom and Foyer |
| 10:00 AM - 10:30 AM | Break | Ocean Foyer |
| 10:30 AM - 12:30 PM | **Symposium 4**: Hair-Cell Evolution: Insights from New Model organisms, Comparative studies, and Molecular Analyses | Ocean Ballroom 1 - 4 |
| 10:30 AM - 12:30 PM | **Podium 9**: Auditory Cortex: Human and Animal Studies | Ocean Ballroom 5 - 8 |
| 10:30 AM - 12:30 PM | **Podium 10**: Binaural Hearing and Sound Localization | Ocean Ballroom 9 - 12 |
| 12:30 PM - 1:30 PM | Lunch On Own | |
| 1:30 PM - 3:00 PM | Poster Session III with Coffee | Peninsula Ballroom and Foyer |
| 3:00 PM - 5:00 PM | **Symposium 5**: Across Species: The Functional Role of Cochlear Synaptopathy for Speech Coding in the Brain (CoSySpeech) | Ocean Ballroom 1 - 4 |

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| | | |
|---|---|---|
| 3:00 PM - 5:00 PM | **Podium 11**: Advances in Vestibular Science and Rehabilitation: From Cellular Mechanisms to Clinical Innovations | Ocean Ballroom 5 - 8 |
| 3:00 PM - 5:00 PM | **Podium 12**: OTOF Success and GJB2 Progress | Ocean Ballroom 9 - 12 |
| 5:00 PM - 6:30 PM | ARO Awards Ceremony | Crystal Ballroom CDE |
| 6:30 PM - 7:30 PM | Awards Reception | Crystal Ballroom AB |
| 8:00 PM - 10:00 PM | Clinician Scientist Networking Event | Merritt 1 |
| **Tuesday, February 25, 2025** (see full schedule beginning on page 187) | | |
| 7:00 AM - 6:00 PM | ARO Registration | Crystal Registration Desk |
| 7:00 AM - 6:00 PM | Speaker Ready Room | Labrid A |
| 7:30 AM - 6:00 PM | Parenting Room | Ocean Office 1 |
| 7:30 AM - 6:00 PM | Prayer/Meditation Room | Hinalea |
| 8:00 AM - 10:00 AM | **Young Investigator Symposium 2**: Bridging the Senses: Lessons Learned at the Intersection of Audition and Vision | Ocean Ballroom 1 - 4 |
| 8:00 AM - 10:00 AM | **Podium 13**: Cochlear-Specific Genomics and Gene Regulation | Ocean Ballroom 5 - 8 |
| 8:00 AM - 10:00 AM | **Podium 14**: New advances in Tinnitus: Humans and Animal Models | Ocean Ballroom 9 - 12 |
| 9:00 AM - 5:00 PM | Exhibits Open | Peninsula Ballroom and Foyer |
| 10:00 AM - 10:30 AM | Break | Ocean Foyer |

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| | | |
|---|---|---|
| 10:30 AM - 12:30 PM | **Symposium 6**: Electric-Acoustic Interactions within and across Ears: Animal, human, and Computational Models from Periphery to Cortex | Ocean Ballroom 1 - 4 |
| 10:30 AM - 12:30 PM | **Podium 15**: Genetics of Hearing Loss: Determining Causation and Function | Ocean Ballroom 5 - 8 |
| 10:30 AM - 12:30 PM | **Podium 16**: Decoding the Aging Auditory System: Molecular Mechanisms, Functional Decline, and Therapeutic Prospects | Ocean Ballroom 9 - 12 |
| 12:30 PM - 1:30 PM | Lunch On Own | |
| 12:30 PM - 2:00 PM | Young Investigator Luncheon *(Ticket Required)* | Crystal Ballroom CDE |
| 1:30 PM - 3:00 PM | Poster Session IV with Coffee | Peninsula Ballroom and Foyer |
| 3:00 PM - 5:00 PM | **Special Symposium:** Young Investigators From the Cross-Disciplinary Otitis Media Mentoring Network Towards Diversity (COMMeND): Bridging Gaps in Otitis Media Research | Ocean Ballroom 1 - 4 |
| 3:00 PM - 4:00 PM | **Mini-Podium 3**: Human Inner Ear Anatomy: Techniques | Ocean Ballroom 5 - 8 |
| 3:00 PM - 4:00 PM | **Mini-Podium 4**: Auditory Cortex: From Inhibitory Networks and Signal-in-Nose Detection to Categorization and Loudness Perception | Ocean Ballroom 9 - 12 |
| 4:15 PM - 5:15 PM | **Mini-Podium 5**: Innovative Approaches to Hearing Preservation: From Gene Therapy to Light-Based Therapies | Ocean Ballroom 5 - 8 |
| 4:15 PM - 5:15 PM | **Mini-Podium 6**: Auditory Midbrain: Structure and Function | Ocean Ballroom 9 - 12 |
| 5:15 PM - 7:15 PM | Honoring the Contributions of Dr. Brenda Lonsbury-Martin to Physiological Measures of Auditory Function | Ocean Ballroom 1 - 4 |

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| | | |
|---|---|---|
| 5:15 PM - 6:45 PM | ARO Short Course | Ocean Ballroom 5 - 8 |
| 6:15 PM - 7:15 PM | spARO Town Hall | Canaveral 1 |
| 8:00 PM - 11:59 PM | Hair Ball | Crystal Ballroom |
| **Wednesday, February 26, 2025** (see full schedule beginning on page 234) | | |
| 7:00 AM - 10:30 AM | Speaker Ready Room | Labrid A |
| 7:00 AM - 12:00 PM | ARO Registration | Crystal Registration Desk |
| 7:30 AM - 12:00 PM | Parenting Room | Ocean Office 1 |
| 7:30 AM - 12:00 PM | Prayer/Meditation Room | Hinalea |
| 8:00 AM - 10:00 AM | **Podium 17**: Multisensory Interactions | Ocean Ballroom 1 - 4 |
| 8:00 AM - 10:00 AM | **Podium 18**: Emerging Gene Therapies for Hearing and Balance Disorders | Ocean Ballroom 5 - 8 |
| 8:00 AM - 10:00 AM | **Podium 19**: Psychoacoustics: From Acoustic Startle to Auditory Attention | Ocean Ballroom 9 - 12 |
| 9:00 AM - 12:00 PM | Exhibits Open | Peninsula Ballroom and Foyer |
| 10:00 AM - 10:30 AM | Break | Ocean Foyer |
| 10:30 AM - 12:30 PM | **Podium 20**: Frontiers in Auditory Prostheses | Ocean Ballroom 1 - 4 |
| 10:30 AM - 12:30 PM | **Podium 21:** Transcription, Metabolomic, and Cellular Dynamics in Inner Ear Development: Mice and Human Organoids | Ocean Ballroom 5 - 8 |
| 10:30 AM - 12:30 PM | **Podium 22:** Brainstem: Structure and Function | Ocean Ballroom 9 - 12 |

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# Notes

# Friday, February 21, 2025

**ARO Council Meeting (Invitation Only)**
8:00 AM - 1:00 PM
*Fantail*

**ARO Registration**
12:00 PM - 6:00 PM
*Atrium A&B*

**PIHL Satellite Symposium**
1:00 PM - 5:00 PM
*Ocean Ballroom 1 - 4*

Investigational medicines for hearing loss prevention and hearing restoration" symposium is organized by the Defense Health Agency (DHA) Hearing Center of Excellence (HCE) Pharmaceutical Interventions for Hearing Loss (PIHL) committee. This symposium will provide a comprehensive overview of steps within the discovery pipeline for inner ear medicines, resources available to support development of biologics and pharmaceuticals, and updates on the development of select agents. All presenters will emphasize education on best practices and information to be aware of regardless of whether your work is housed in an academic or industry setting.

- Tim Bölke, M.D. (Chief Executive and Chief Medical Officer, Managing Director, Acousia Therapeutics)
- Jonas Dyhrfjeld-Johnsen, Ph.D. (Chief Development Officer & Managing Director, Acousia Therapeutics)
- Amanda Henton, Ph.D. (Chief Scientific Officer, Turner Scientific)
- Ralph Holme, Ph.D. (Director of Research, Royal National Institute for the Deaf)
- Jonathon Kil, M.D. (Chief Executive and Chief Medical Officer, Sound Pharmaceuticals)
- Gaëlle Naert, Ph.D. (Chief Scientific and Operations Officer, Cilcare)

The Hearing Center for Excellence gratefully acknowledges symposium support from Acousia Therapeutics, the Acoustical Society of America, CBSET, Cilcare, and Turner Scientific, with additional support from Creighton University Bellucci Translational Hearing Center, the University of Texas at Dallas School of Behavioral and Brain Research, and the University of Texas at Dallas Clinical and Translational Research Center.

**Ménière's Disease Satellite Symposium**
2:00 PM - 8:00 PM
*Ocean Ballroom 9 - 12*

The Ménière's Disease Symposium is sponsored by the American Hearing Research Foundation and Hearing Health Foundation.

The symposium aims to spur collaborative thinking and projects among Ménière's disease researchers and clinicians to stimulate advances in better understanding and treating Ménière's disease, a chronic inner ear condition affecting balance and hearing. HHF and its partners are committed to supporting research to improve the quality of life for hundreds of thousands of people worldwide living with the condition.

Talks and panel discussions will be research-focused and the symposium is intended primarily for investigators and clinicians. Insights and findings arising from the symposium will be shared by HHF and its partners with the wider community as appropriate.

- 2:00 PM – 4:00 PM | Part 1: Clinical Topics
  - Patient Perspective
    - Heather Davies, VeDA (Vestibular Disorders Association) ambassador, author, podcast host
  - History of Ménière's Disease
    - Robin Bigelow, M.D., The House Institute Foundation

- Treatment: State of the Art Clinical Care; Clinical Unmet Needs
  - Habib Rizk, M.D., Medical University of South Carolina (MUSC)
- Migraine and Ménière's Disease
  - Jeffrey Sharon, M.D., University of California, San Francisco (UCSF)
- Imaging/MRI
  - Amy Juliano, M.D., Mass Eye and Ear
- Panel Discussion: Management of Ménière's/ Patient Stories
  - Habib Rizk, M.D. (MUSC), Jeffrey Sharon, M.D. (UCSF), William Slatterly (House Institute Foundation)

- 4:00 PM – 4:15 PM | Break
- 4:15 PM – 6:15 PM | Part 2: Lab Science, Knowledge Gaps
  - Grant Funding Sources
    - Amy Poremba, Ph.D., National Institute on Deafness and Other Communication Disorders (NIDCD), Along with HHF, AHRF, other foundations TBD
  - Molecular Basis
    - Andreas Eckhard, M.D., Harvard Medical School/ Mass Eye and Ear
  - Genetics
    - Jose Antonio Lopez-Escamez, M.D., Ph.D., University of Sydney, Australia
  - Immunology and Ménière's Disease
    - Andrea Vambutas, M.D., Northwell Health, Long Island, New York
  - Social and Psychological Triggers
    - Joanna Wolfson, Ph.D., NYU Langone Health
  - Panel Discussion: Barriers to Ménière's Disease Research
    - Andrea Vambutas, M.D. (Northwell Health), Andreas Eckhard, M.D. (Harvard/Mass Eye and Ear), Jose Antonio Lopez-Escamez, M.D., Ph.D. (University of Sydney)

- 6:15 PM – 8:00 PM | Networking Reception
  - Beverages and hearty appetizers

**ARO Council Dinner (Invitation Only)**
6:30 PM - 8:30 PM
*R Kitchen*

**gEAR Session: Beginner Workshop - Introduction to gEAR**
**Chair:** Joshua Orvis, Institute for Genome Sciences
7:00 PM - 9:00 PM
*Ocean Ballroom 1 - 4*

**7:00 PM - 9:00 PM WKSHP-1**
**gEAR Session: Beginner Workshop - Introduction to gEAR**
Daniel Lesperance, Institute for Genome Sciences, University of Maryland, Baltimore

**7:00 PM - 9:00 PM WKSHP-2**
**gEAR Session: Beginner Workshop - Introduction to gEAR**
Joshua Orvis, Institute for Genome Sciences

**gEAR Session: Advanced Workshop**
**Chair:** Ricky Adkins, Institute for Genome Sciences
7:00 PM - 9:00 PM
*Ocean Ballroom 5 - 8*

**7:00 PM - 9:00 PM WKSHP-3**
**gEAR Session: Advanced Workshop**
Ricky Adkins, Institute for Genome Sciences

**7:00 PM - 9:00 PM WKSHP-4**
**gEAR Session: Advanced Workshop**
Joseph Receveur, University of Maryland, Baltimore

# Saturday, February 22, 2025

**Speaker Ready Room**
7:00 AM - 5:00 PM
*Labrid A*

**ARO Registration**
7:00 AM - 7:00 PM
*Crystal Registration Desk*

**Prayer/Meditation Room**
7:30 AM - 7:00 PM
*Hinalea*

**Parenting Room**
7:30 AM - 7:00 PM
*Ocean Office 1*

**Presidential Symposium: Innovations, Challenges, and Personalization in Hearing Aids - Part 1**
**Chair:** Sunil Puria
8:00 AM - 9:45 AM
*Ocean Ballroom*

**8:15 AM - 8:45 AM SYMP-1**
**Listening through Hearing Aids with Thomas Edison**
Mara Mills

**8:45 AM - 9:15 AM SYMP-2**
**Hearing Aids: What Works Well and What Can Be Improved**
Brian Moore

**9:15 AM - 9:45 AM SYMP-3**
**Acoustic Scene-Aware and Auditory Model-Based Compensation Strategies**
Torsten Dau

**Break**
9:45 AM - 10:00 AM
*Ocean Foyer*

**Presidential Symposium: Innovations, Challenges, and Personalization in Hearing Aids - Part 2**
**Chair:** Sunil Puria
10:00 AM - 12:00 PM
*Ocean Ballroom*

**10:00 AM - 10:30 AM SYMP-4**
**Personalized Hearing Loss Compensation for the Next-Generation Hearables and Hearing Aids**
Sarah Verhulst

**10:30 AM - 11:00 AM SYMP-5**
**The Potential and Limitations of Applying Dnn Based Algorithms for Speech Enhancement in Hearing Aids**
Stefan Launer

**11:00 AM - 11:30 PM SYMP-6**
**Real-Time Brain-Controlled Hearing: Advancing Auditory Attention Decoding for Enhanced Speech Perception**
Nima Mesgarani

**Lunch On Own**
12:00 PM - 1:00 PM

**Travel Award Luncheon (Invitation Only)**
12:00 PM - 1:45 PM
*Crystal Ballroom C*

**Exhibits Open**
12:00 PM - 8:00 PM
*Peninsula Ballroom and Foyer*

**Poster Session I with Coffee**
1:00 PM - 2:30 PM
*Peninsula Ballroom*

**Auditory Cortex and Thalamus: Human Studies**

**PS-1. Investigating the Relationship Between the Ventral Attention Network, Vigilance, and Fatigue Utilizing Listening Effort, Neurophysiological, and Neurostimulation Methods: An Electroencephalogram (EEG) and Transcranial Alternating Current Stimulation (tACS) Study**

*Corrin Stines-Ringling*, Edward Golob, Alyssa Randez, Juan Fernandez, Ricardo Castañeda, Jeffrey Mock*

**PS-2. Envelope Representations Substantially Enhance the Predictive Power of Spectrotemporal Receptive Models in the Human Auditory Cortex**

*Guoyang Liao*, Dana Boebinger, Jenelle Feather, Christopher Garcia, Kirill Nourski, Matthew Howard III, Thomas Wychowski, Webster Pilcher, Sam Norman-Haignere*

**PS-3. Neural Processing the Global Properties of Natural Auditory Scenes**

*Margaret McMullin*, Nathan Higgins, Rodica Constantine, Joel Snyder*

**PS-4. The Impact of Musical Expertise on Disentangled and Contextual Neural Encoding of Music Revealed by Generative Music Models**

*Yinghao Li, Gavin Mischler*, Stephan Bickel, Ashesh Mehta, Nima Mesgarani*

**Auditory Cortex and Thalamus: Structure & Function**

**PS-5. Two Waves of Acetylcholine Encode Distinct Aspects of Sensation, Action, and Related Expectations**

*Chung-Wei Chiang*, Hemant Kumar Srivastava, Zakir Mridha, Siddhartha Joshi, Jan Willem de Gee, Marina Rodriguez Alonso, Hong Jiang, Matthew McGinley*

**PS-6. Cell-Type Specific Synaptic Zinc-Signaling in the Auditory Cortex Contributes to the Recovery of Perceptual Hearing After Noise Trauma**
*Cassandra Linnertz*, Aidan Soose, Manoj Kumar, Thanos Tzounoupoulos*

**PS-7. Convergence of Bilateral Auditory Tectothalamic Pathways**
*John Kara*, Tolulope Adeyelu, Charles Lee*

**PS-8. Interneurons Contribute to the Adaptation to Sound of Corticocollicular Neurons in the Auditory Cortex of Mice**
*Philip Bender*, Mason McCollum, Kaitlin Bainer, Charles T. Anderson*

**Brainstem: Structure & Function**

**PS-9. Characterization of Giant Cells of the Dorsal Cochlear Nucleus**
*Michael Kasten*, Reginald Edwards, Kendall Hutson, Malcolm Lutz, Paul Manis*

**PS-10. Noise-Induced Hearing Loss Alters Structure and Function of Inhibitory Cells in the Dorsal Cochlear Nucleus**
*Reginald Edwards*, Michael Kasten, Kendall Hutson, Paul Manis*

**PS-11. Pupil-Indexed Brain State Modulates Activity at Multiple Stations in the Auditory Brainstem**
*Hemant Kumar Srivastava*, Kyunghee Kim, Hong Jiang, Matthew McGinley*

**PS-12. Central Processing of Optical Hearing in the Anteroventral Cochlear Nucleus**
*Sabina Nowakowska*, Antoine Huet*

**PS-13. Impacts of Extended High-Frequency Hearing Loss on Neural Encoding and Perception of Speech**
*Sajana Aryal, Fan-Yin Cheng, Spencer Smith**

**PS-14. Calcium-Dependent Conductances Shape Firing in Octopus Cells of the Posterior Ventral Cochlear Nucleus: Implications for Temporal Coding**
*Shobhana Sivaramakrishnan*, Aaron Hardman, Nace Golding*

**PS-15. Distribution Patterns and Role of BK-Type Calcium-Activated Potassium Channels in the Octopus Cell Area of the Posteroventral Cochlear Nucleus**
*Aaron Hardman*, Shobhana Sivaramakrishnan, Nace Golding*

**PS-16. Investigation of Synaptic Excitation and Inhibition Underpinning Mechanisms Involved in Processing Sound Sequences With Behaviorally Relevant Short Intervals in IC Neurons**
*Chun-Jen Hsiao*, Ashonti Wright, Bradley Winters, Yong Lu, Alexander Galazyuk*

**PS-17. Calcium Channel Expression and Localization in the Inferior Colliculus: Unraveling the Interplay Between Pharmacological Blockade and Noise-Induced Hearing Loss**
*Selin Yalcinoglu*, Rod Braun, Avril Genene Holt*

**PS-18. Inferior Colliculus Responses to Synthetic and Instrumental Timbre**
*Johanna Fritzinger*, Laurel H. Carney*

**Primary Auditory Cortex**

**PS-19. Cortical Layer-Specific Differences in Auditory Responses between Young and Old Mice**
*Anjum Hussain, Katrina Deane*, Khaleel Razak*

**PS-20. Layer 6 is a Hub for Cholinergic Modulation in the Mouse Primary Auditory Cortex**
*Lucas Vattino*, Kameron Clayton, Troy Hackett, Anne Takesian, Daniel Polley*

**PS-21. Increases in Attentional Intensity Shift Auditory Cortical Responses Towards Object-Oriented Coding**
*Kunpeng Yu*, Hemant Kumar Srivastava, Justin Fine, Ben Hayden, Kit Jaspe, Nikolas A. Scarcelli, Hong Jiang, Matthew J. McGinley*

**PS-22. An Auditory Cortex Network Represents Both Vocal Categories and Family Dialects**
*Estelle in 't Zandt*, Dan Sanes*

**Hair Cells: Anatomy & Physiology**

**PS-23. Nuclear Translocation Coinciding With the Onset of Hearing in Rat and Mouse Inner Haircells**
*Radha Kalluri*, Karla Sintigo, Nathaniel Nowak, Megana Iyer*

**PS-24. Latency Differences Between Lateral Line and Inner-Ear Evoked Startle Responses in Larval Zebrafish**
*Alyssa Xu*, Andrea Mirow, Diego Carias, Stacey Beganny, Josef Trapani*

**PS-25. Designing a Fluid-Jet Suitable for both Fast and Prolonged Deflections of Stereocilia in Mammalian Auditory Hair Cells**
*Daniel Acevedo*, Abigail Dragich, Gregory Frolenkov*

**PS-26. Lipid Composition of Outer Hair Cells**
*Kiera Stankewich*, Jun-Ping Bai, Michael Stankewich, Joseph Santos-Sacchi, Dhasakumar Navaratnam*

**PS-27. Effects Tubulin Depolymerization on OHC and Deiter Cell Membrane Tension Measured by Flipper-TR**
*Crystal Gettman*, Krish Agrawal, Jun-Ping Bai, Jie Yang, Joseph Santos-Sacchi, Dhasakumar Navaratnam*

**PS-28. Quantified Measures of Outer Hair Cell Structure from Fib_sem**
*Miya Imeda, Junping Bai, Song Peng, Shan Sue, Joseph Santos-Sacchi, Dhasakumar Navaratnam**

**PS-29. Alternate Structures of Prestin, the Motor Responsible for the Electromotility of Outer Hair Cells**
*Richard Mariadasse*, Carmen Butan, Qiang Song, Jun-Ping Bai, Joseph Santos-Sacchi, Dhasakumar Navaratnam*

**PS-30. Regulation of Myosin-Dependent Stereocilia Trafficking by Centrin-2**
*James Heidings, Zane Moreland, Elli Hartig, John Garcia, Basile Tarchini, Jonathan Bird*, James Heidings*

**PS-31. G-A Interacting Protein, C-Terminus 3 (GIPC3) Regulates Intracellular Vesicle Transport in Mammalian Auditory Hair Cells**
*Abigail Dragich*, Savita Sharma, Shadan Hadi, Craig Vander Kooi, Gregory Frolenkov*

**PS-32. The Role of Membrane Cholesterol in Cochlear Hair Cell Mechano-Electrical Transduction**
*Shefin George*, Thomas Effertz, Anthony Ricci*

**PS-33. Macro-Patch Voltage Clamp Evaluation of Sub-Membranous Chloride Levels at the Outer Hair Cell Lateral Membrane**
*Joseph Santos-Sacchi*, Winston Tan, Dhasakumar Navaratnam*

**PS-34. The Role of Alternative Splicing on the Otoferlin C-Terminal Transmembrane Domain in Auditory Hair Cell Synaptic Transmission**
*Yohan Bouleau, Steven Condamine, Hung Thai-Van, Didier Dulon**

**PS-35. A Mitochondrially Associated Myosin Motor is Necessary for Hearing**
*Ghazaleh Behnammanesh*, Abigail Dragich, Gregory Frolenkov, Jonathan Bird*

**PS-36. High-Resolution Flat-Panel Ct Analysis of Intrascalar Cochlear Implant Electrode Position**
*Ana Marija Sola*, Nicole Jiam, Melanie Gilbert, Luke Helpard, Charles Limb*

**PS-37. Voltage-Driven Bundle Movements in Mammalian Cochlear Hair Cells Support Common Underlying Mechanisms Across Species and End Organs**
*Jamis McGrath*, Anthony Ricci*

**PS-38. The Calcium and Integrin-Binding Protein 2 (CIB2) Provides Fast Kinetics to the Met Complex through Localization of BAIAP2L2 to Stereocilia Tips**
*Isabel Aristizabal*, Arnaud Giese, Abigail Dragich, K. Sofia Zuluaga-Osorio, Shadan Hadi, Saima Riazuddin, Ana I. Lopez-Porras, A. Catalina Velez-Ortega, Zubair Ahmed, Gregory Frolenkov*

**Inner Ear: Anatomy & Physiology**

**PS-39. Comparative Analysis of Temporal Bone Anatomy and Whole-Mount Dissection in the Inner Ear in Mice Vs. Common Marmosets**
*Hidekane Yoshimura*, Shu Yokota, Yutaka Takumi*

**PS-40. A Novel Clearing and Analysis Pipeline for Quantitative Cellular Analysis within the Cochlea**
*Trinh Nguyen*, Kevin Yu, Dwight Bergles*

**PS-41. Localization of Perineuronal Nets in the Contralesional Cochlea Following Unilateral Cochlear Ablation**
*Walter Moore*, Lauren Kate Storm, Douglas Vetter, Kathleen Yee*

**PS-42. Developmental Expression of Membrane Bound and Secreted Corticotropin Releasing Factor Receptors in the Cochlea**
*Sarah Hayek*, Douglas Vetter, Kathleen Yee*

**PS-43. Novel Deep Learning-Based Tools for Inner Ear Research**
*Abhijeeth Erra, Cayla Miller, Kenta Ninomiya, Jeffrey Chen, Elena Chrysostomou, Lauren Sullivan, Yuzuru Ninoyu, Yasmin Kassim, Shannon Barrett, Federico Ceriani, Rick Friedman, Walter Marcotti, Artur Indzhykulian, Cody Carroll, Alexey Terskikh, Uri Manor**

**Inner Ear: Cochlear Mechanics**

**PS-44. Passive Mechanics in the Human Cochlea Appears to be Sharply Tuned**
*Aleksandrs Zosuls*, Paul Secchia, Anbuselvan Dharmarajan, Sunil Puria, Hideko Heidi Nakajima*

**PS-45. Salicylate-Induced Changes in Low-Frequency Organ of Corti Vibrations**
*Sebastiaan Meenderink*, Wei Dong*

**PS-46. Organ of Corti Responses to Tones With Low Side-Suppression, and in the Post Mortem Condition**
*Clark "Elliott" Strimbu*, Elizabeth Olson*

**PS-47. Complex Difference Analysis Provides Insight into Internal Organ of Corti Motion**
*Lauren Chiriboga*, C.Elliott Strimbu, Elizabeth S. Olson*

**PS-48. The Wonder of Evolution: Optimization of Bone Layer Thickness between Turns to Minimize Cochlear Volume**
*Shota Toyoda, Akari Ide, Yasushi Horii**

**PS-49. Optical Coherence Tomography Vibrometry in Low Signal-to-Noise Ratio Regime**
*Anes Macić*, Jong-Hoon Nam*

**Gene Therapy**

**PS-50. Application of a Novel Capsid Engineered Vector to Rescue Hearing Loss in TMPRSS3 Mutant Mice**
*Jennifer Marx, Axel Rossi, Serena Sutter, Athanasia Warnecke, Axel Schambach, Hinrich Staecker*, Hildegard Buening*

**PS-51. Tailoring AAV Vectors for Gene Therapy of Inner Ear Disorders by Directed Evolution**
*Josephine Macdonald, Jennifer Marx, Peixin Huang, Nico Jaeschke, Lisa Prager, Sabrina Just, PHilipp John-Neek, Lutz Wielmann, Christoph Arnoldner, Anselm Joseph Gadenstaetter, Matthias Gerlitz, Erdem Yildiz, Athanasia Warnecke, Odett Kaiser, Axel Schambach, Hildegard Buening, Hinrich Staecker**

**PS-52. Optimizing Antisense Oligonucleotide Chemistry for the Treatment of Hearing Loss and Imbalance in Usher Syndrome**
*Jennifer Lentz*, Reed Smith, Jessica Landry, Bhagwat Alapure*

**PS-53. Template-Independent Genome Editing for Restoring Inherited Deafness Caused by Frameshift Mutations**
*Shiwei Qiu, Lian Liu, Bin Xiang, Wei Xiong**



**Development: Cellular/Systems**

**PS-54. Hair Cell Patterning During Zebrafish Utricular Development**
*Selina Baeza-Loya*, David Raible*

**PS-55. Epigenetic Modulation of Cochlear Organoids: Investigating the Role of CHD4 in Sensorineural Hearing Impairment Associated with Sifrim-Hitz-Weiss Syndrome**
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**Other**

**PS-186. An Open-Science Cross-Species Data Resource for Standardized Hearing Assessments**
*Michael Heinz*, Ananth Grama, Samantha Hauser, Andrew Sivaprakasam, Hari Bharadwaj, Odile Clavier*

**PS-187. Biocompatible 3D Printing Platform with Integrated Miniaturized Optical Systems for Otolaryngology Applications**
*Joaquin Cury*, Xiaodong Tan, Claus-Peter Richter*

**Special Session 1: Deep Neural Networks and AI for Auditory Modeling**
**Chair:** Malcolm Slaney
**Co-chair:** Sarah Verhulst
**Co-chair:** Josh McDermott
2:30 PM - 4:30 PM
*Ocean Ballroom 1 - 4*

Sat

Poster 1

**2:45 PM - 3:00 PM SYMP-7**
**Developing Personalized Hearing Models in Jax to Train Novel Machine Learning Strategies for Cochlear Implant Stimulation and Hearing Aid Processing**
*Maryam Hosseini*, Jason Mikiel-Hunter, Nima Salimi, Alan Kan, Jorg Buchholz, Rob Schonberger, Honglin Yu, Tim Brochier, Zachary Smith, Simon Carlile, Dick Lyon*

**3:00 PM - 3:15 PM SYMP-8**
**A Neural Network Approximation of Cochlear Filtering and Hair-Cell Transduction for Outer and Inner Hair Cell Hearing Impairments**
*Anil Nagathil*, Ian Bruce*

**3:15 PM - 3:30 PM SYMP-9**
**Deep Neural Networks and AI for Auditory Modeling**
*Josh McDermott**

**3:30 PM - 3:45 PM SYMP-10**
**Deep-Learning Based Hearing-Loss Compensation Using an Auditory-Nerve Model**
*Peter Leer, Lars Bramsløw**

**3:45 PM - 4:00 PM SYMP-11**
**Hearing Aid Speech Intelligibility Enhancement Using Speech Foundation Models**
*Jonathan Barker**

**Podium 1: Accessing the Inner Ear: Advances in Cochlear Drug Delivery**
**Moderators:** Thore Schade-Mann & Athanasia Warnecke
2:30 PM - 4:30 PM
*Ocean Ballroom 5 - 8*



**2:30 PM - 2:45 PM PD-1**
**Perilymph and Tissue Distribution of the Novel Drug AC102 After Intratympanic Drug Delivery in a Large Animal Model**
*Anselm Gadenstaetter*, Michael Nieratschker, Matthias Gerlitz, Erdem Yildiz, Till Buschhorn, Caroline Sesztak, Reimar Schlingensiepen, Clemens Honeder, Christoph Arnoldner*

**2:45 PM - 3:00 PM PD-2**
**Porcine Ex-Vivo Chamber for Quantitative Assessment of Drug Permeability Through the Round and Oval Window Membranes**
*Farimah Moazzam*, Adele Moatti, Samuel Holdsclaw, Alon Greenbaum*

**3:00 PM - 3:15 PM PD-3**
**Outer Hair Cells Stir Cochlear Fluids**
*Choongheon Lee*, Mohammad Shokrian, Kenneth Henry, Laurel Carney, Joseph Holt, Jong-Hoon Nam*

**3:15 PM - 3:30 PM PD-4**

**Chemosensory Ciliated Cells of the Round Window Niche: Dual Functions in Sensation and Drug Transport to the Inner Ear**

*Adele Moatti*, Shannon Connard, Anna Vavakou, Ross Lampe, Mani Rai, Farimah Moazzam, Jorge Piedrahita, Lauren Schanbel, Doug Fitzpatrick, Kendall Hutson, Carlton Zdanski, Frances Ligler, Marcel Van Der Heijden, Kenneth Adler, Alon Greenbaum*

**3:30 PM - 3:45 PM PD-5**

**Contrast Enhancement of Cochlea After Direct Microneedle Intracochlear Injection of Gadodiamide Through the Round Window Membrane With Minimal Dosage**

*Chaoqun Zhou*, Sharon Feng, Stephen Leong, Eugénie Breil, François Voruz, Chris Valentini, Daniella Hammer, Aykut Aksit, Elizabeth S. Olson, Jia Guo, Jeffrey Kysar, Anil Lalwani*

**3:45 PM - 4:00 PM PD-6**

**New Insights into Drug Distribution in the Cochlea: Translational Studies to Understand and Enhance the Cochlear Response to Implantation**

*Nathan Creber*, Hayden Eastwood, Justin Tan, Kate Brody, Dong Zhang, Stephen O'Leary*

**4:00 PM - 4:15 PM PD-7**

**Delivery of CRISPR/Cas9 Using Mesenchymal Stem Cell Derived Extracellular Vesicles**

*Xiaoshu Pan, Peixin Huang, Athanasia Warnecke, Mei He, Hinrich Staecker**

**4:15 PM - 4:30 PM PD-8**

**Development of Optogenetic Microneedle for Minimally Invasive Neuro-Stimulation of Inner Ear**

*Subin Kim*, So-Young Chang, Keum Jin Yang, Seong su Won, Jiae Jeon, Jae Yun Jung, Dong-Kee Kim, Min Young Lee*

**Podium 2: Auditory Nerve: Mechanisms, Damage, and Protective Strategies**
**Moderators:** Cathy Sung & Mark Rutherford
2:30 PM - 4:30 PM
*Ocean Ballroom 9 - 12*



**2:30 PM - 2:45 PM PD-9**
**Estrogen-Related Receptor Gamma (Esrrg) is Required for Auditory Innervation and is Essential for Hearing**
*Shri Vidhya Seshadri, Neil J. Ingham, Rhianna R. Mackenzie, Anwen Bullen, Darya Alcock, Katie E. Smith, Adam J. Carlton, Stuart L. Johnson, Walter Marcotti, Karen P. Steel, Lisa S. Nolan**

**2:45 PM - 3:00 PM PD-10**
**ATP-Gated P2x7 Receptor Predominantly Expresses in the Type II Auditory Nerves and is Required for the Auditory Efferent System Function and Noise Protection**
*Chun Liang*, Tian-Ying Zhai, Li-Man Liu, Jin Chen, Ning Yu, Hong-Bo Zhao*

**3:00 PM - 3:15 PM PD-11**
**Background Noise Impairs Precise Timing of Consonant Cues by Single Auditory Nerve Fibers**
*Amarins Heeringa*, Christine Koeppl*

**3:15 PM - 3:30 PM PD-12**
**Effects of Cochlear Synaptopathy on Single-Unit Auditory-Nerve Responses in the Budgerigar**
*Leslie Gonzales*, Margaret R. Youngman, Kenneth S. Henry*

**3:30 PM - 3:45 PM PD-13**
**Evaluation of Auditory Evoked Potential Biomarkers of Cochlear Synaptopathy in Listeners with Self-Reported Hearing Difficulties**
*Attila Fráter*, Iris Arweiler, Matthias Inghels, Frederic Acke, Ingeborg Dhooge, Sarah Verhulst*

**3:45 PM - 4:00 PM PD-14**
**Live Imaging of Macrophage Response to Excitotoxic Injury in Zebrafish Lateral Line**
*Prithwijit Roychowdhury*, Mark Warchol, Lavinia Sheets*

**4:00 PM - 4:15 PM PD-15**
**Translational and Multidisciplinary Investigation of Age-Related Myelin Degeneration in the Auditory Nerve**
*Kelly Harris*, Hainan Lang*

**4:15 PM - 4:30 PM PD-16**
**TRC051384 Prevents Noise Induced Hearing Loss through Activation of the Heat Shock Response in Spiral Ganglion Neurons**
*Jintao Yu*, Miguel A Ramirez, Seby Edassery, Maxwell Shramuk, Mary Ann Cheatham, Leah J Welty, Jeffrey N Savas*

**Poster Blitz Session I**
4:45 PM - 5:45 PM
*Ocean Ballroom 5 - 8*

**4:45 PM - 4:48 PM PB-1**
**Cochlear Amplification Modulates Synaptic Transmission at the Endbulb of Held Synapse in the Cochlear Nucleus**
*Fang Wang*, Yige Li, Geng-Lin Li*

**4:48 PM - 4:51 PM PB-2**

**Computational Loudness Model of an Electrically Stimulated Cochlea**

*Franklin Alvarez Cardinale*, Waldo Nogueira*

**4:51 PM - 4:54 PM PB-3**

**Functional Characterization of Non-Calyceal Inputs in the Medial Nucleus of the Trapezoid Body**

*Laura Console-Meyer*, Florian Jenzen, Nikolaos Kladisios, Felix Felmy*

**4:54 PM - 4:57 PM PB-4**

**3D Reconstruction of the Inner Ear Membranous Labyrinth Using 7 Tesla Magnetic Resonance Imaging and Advanced Post-Processing Techniques**

*Syed Ahmad*, Joon Soo Kim, Diane Jung, Zahra Sayyid, Adrian Paez, John P. Carey, Jun Hua, Bryan K. Ward*

**4:57 PM - 5:00 PM PB-5**

**Healthy Aging Increases the Neural Reliance on Higher-Level Processing in Competing Speech Comprehension**

*Vivien Barchet*, Andrea Bruera, Jasmin Wend, Johanna Rimmele, Jonas Obleser, Gesa Hartwigsen*

**5:00 PM - 5:03 PM PB-6**

**Cochlear Anatomy Impacts Neural Health and Current Spread at the Electrode-Nerve Interface in Children with Bilateral Cochlear Implants**

*Carina Sabourin*, Stephen Lomber, Jaina Negandhi, Sharon Cushing, Blake Papsin, Karen Gordon*

**5:03 PM - 5:06 PM PB-7**
**Sex Differences in the Auditory Processing of Musical Sounds as Revealed With the Frequency Following Response**
*Joseph Luetkehans*, Trent Nicol, Jennifer Krizman, Nina Kraus*



**5:06 PM - 5:09 PM PB-8**
**Two-Dimensional Organ of Corti Motion in the Mouse Apex**
*Gabriel Alberts*, Wiam Lahlou, Sunil Puria*

**5:09 PM - 5:12 PM PB-9**
**Small Arms Fire-Like Noise Induced Hearing Loss (NIHL) May Possess Distinct Diagnostic Profile From Previously Studied Models of NIHL**
*Meredith Ziliak*, Jax Marrone, Andres Navarro, Sahil Desai, Emily Bell, Audrey Harrison, Edward Bartlett*

**5:12 PM - 5:15 PM PB-11**
**Transcriptomic and Epigenomic Characterization of Adult Mouse Vestibular Hair Cells**
*Amanda Ciani Berlingeri*, Mi Zhou, Sarath Vijayakumar, Neil Segil, Litao Tao, Jennifer Stone*

**5:15 PM - 5:18 PM PB-12**
**Circadian Modulation of NLRP3 Inflammasome Activation in Macrophages Exacerbates Noise-Induced Hearing Loss: Insights from Single-Cell RNA Sequencing**
*Qingping Ma*, Qixuan Wang, Zhiwu Huang*

**5:18 PM - 5:21 PM PB-13**
**Pathology of Fresh Human Cochleae Imaged With OCT and Validated With Histological Assessment**
*Paul Secchia*, Ephraim Oyetunji, Aleksandrs Zosuls, Anbuselvan Dharmarajan, Jennifer T. O'Malley, MengYu Zhu, Andreas Eckhard, Hideko Heidi Nakajima*

**5:21 PM - 5:24 PM PB-14**

**Surgical Planning for Implantable Middle Ear Microphone in Sheep Using Temporal Bone Micro-CT**

*Isadora Comens*, Chaoqun Zhou, Emma F. Wawrzynek, John Zhang, D. Bradley Welling, Jeffrey Lang, Hideko Heidi Nakajima, Elizabeth Olson*

**5:24 PM - 5:27 PM PB-15**

**Paralemmin-3 – an Essential Constituent of the Submembrane Cytoskeleton of Auditory Hair Cells**

*Victoria Halim*, Iman Bahader, Christina Ullrich, Makoto Kuwabara, Dennis Derstroff, Kathrin Kusch, Nicola Strenzke, Carolin Wichmann, Dominik Oliver, Christian Vogl, Manfred Kilimann*

**5:27 PM - 5:30 PM PB-16**

**Does Stereocilia Separation-To-Height Ratio Accurately Define the Geometric Gain?**

*Varun Goyal*, Karl Grosh*

**5:30 PM - 5:33 PM PB-17**

**Therapeutic Potential of ssAAV vs. scAAV in Inner Ear Gene Therapy**

*Roni Hahn*, Shahar Taiber, Eyal Marton, Olga Shubina-Oleinik, Gwenaëlle S.G. Géléoc, Jeffrey R. Holt, Karen B. Avraham*

**5:33 PM - 5:36 PM PB-18**

**An Auditory Cortex Network Represents Both Vocal Categories and Family Dialects**

*Estelle in 't Zandt*, Dan Sanes*

**5:36 PM - 5:39 PM PB-19**

**Optical Imaging of Auditory Cortex Responses in the Awake Common Marmoset (Callithrix Jacchus) With Unilateral Cochlear Implants**

*Sherry Shen*, Yang Zhang, Xiaoqin Wang*

**5:39 PM - 5:41 PM PB-20**
**AI-Driven Automatic Speech Perception Scoring**
*Rohit Makol*, Maya Hatley, Megan Eitel, Mahan Azadpour, Mario A. Svirsky, Ariel Edward Hight*

**5:41 PM - 5:44 PM PB-21**
**Central Processing of Optical Hearing in the Anteroventral Cochlear Nucleus**
*Sabina Nowakowska*, Antoine Huet*

**Poster Blitz Session II**
4:45 PM - 5:45 PM
*Ocean Ballroom 9 - 12*

**4:45 PM - 4:48 PM PB-22**
**Cochlear Nitrative Stress and Associated Signaling in Noise-Induced Hearing Loss**
*Pankaj Bhatia*, Nicole Doyon-Reale, Paul Stemmer, Samson Jamesdaniel*

**4:48 PM - 4:51 PM PB-23**
**Modeling Normal and Impaired Hearing With Deep Neural Networks Optimized for Ecological Tasks**
*Mark Saddler*, Torsten Dau, Josh McDermott*

**4:51 PM - 4:54 PM PB-24**
**Accuracy and Efficiency of a Swept Modulation Depth Stimulus for Cross-Species Neurometric Physiological Analyses**
*Afagh Farhadi*, Hari Bharadwaj, Michael Heinz*

**4:54 PM - 4:57 PM PB-25**
**Technical Details on Single-Molecule Microscopy of MYO7A Trafficking in Live Hair Cell Stereocilia**
*Mrudhula Sajeevadathan*, Harshad Vishwasrao, Inna Belyantseva, Yasuko Ishibashi, Samuel Adadey, Narinobu Harada, Hari Shroff, Thomas Friedman, Takushi Miyoshi*

**4:57 PM - 5:00 PM PB-26**

**Hyperosmotic Sisomicin Infusion: A Mouse Model for Hearing Loss**

*Ayse Marasliogl u Sperber*, Fabian Blanc, Stefan Heller, Nesrine Benkafadar*

**5:00 PM - 5:03 PM PB-27**

**Neural Synchrony is a Sensitive Measure of Early Age-Related Auditory Deficits in Mice**

*Emily Fabrizio-Stover*, Shelby Payne, Jiaying Wu, Kelly Harris, Hainan Lang*

**5:03 PM - 5:06 PM PB-28**

**Refining Convolutional Neural Networks for Temporal Bone Imaging Segmentation Using 3-Dimensional Distance Maps**

*Andy S. Ding*, Manish Sahu, Mathias Unberath, Russell H. Taylor, Francis X. Creighton*

**5:06 PM - 5:09 PM PB-29**

**Evoked Calcium Signals in Intact Vestibular Epithelium and Their Relationship to Electrical Changes in Hair Cells and Afferent Neurons**

*Marina Kabirova*, Christopher Luong, Olivia Lutz, Ruth Anne Eatock*

**5:09 PM - 5:12 PM PB-30**

**Android-Based Mobile Application to Estimate the User's Audiometric Hearing Thresholds and Auditory Temporal Resolution**

*Ghazaleh Ghaffari*, Fredrik Öhberg, Mimmi Wernerd, Per Hallberg, Amin Saremi*

**5:12 PM - 5:15 PM PB-31**

**Relationship Between Natural Head Orientation and Unaided and Aided Spatial Hearing Outcomes**

*Heesung Park*, Nathan Higgins, Erol Ozmeral*

**5:15 PM - 5:18 PM PB-32**
**Osteoprotegerin Deficiency in the Human Otic Capsule as a Potential Driver of Otosclerosis**
*Zohar Hovev*, Sebastian Zwicky, Jennifer O'Malley, MengYu Zhu, Andreas Eckhard*



**5:18 PM - 5:21 PM PB-33**
**Characterization of a Progressive Early Onset Hearing Loss in SIRT3 Knock-Out Mice**
*Chail Koo*, Devin Thomas, Robert Fuentes, Claus-Peter Richter, Xiaodong Tan*

**5:21 PM - 5:24 PM PB-34**
**In-Silico Framework for Benchmarking Optogenetic Hearing Restoration**
*Lakshay Khurana*, Petr Nejedly, Daniel J. Jagger, Lukasz Jablonski, Tobias Moser*

**5:24 PM - 5:27 PM PB-35**
**Genetic Landscape of Hearing Loss in Argentina: Comprehensive Molecular Studies and Preclinical Research Using the Zebrafish Model**
*Paula Ines Buonfiglio*, Carlos David Bruque, Mariela Pace, Lucia Salatino, Vanesa Lotersztein, Sebastián Menazzi, Paola Plazas, Ana Elgoyhen, Viviana Dalamón*

**5:27 PM - 5:30 PM PB-36**
**Loss of tmc1/2 Function Induces Expansion of tmc1/2b+ Cells in the Zebrafish Inner Ear**
*NA Zhang*, Yan Gao, Peng Sun, Anna Shipman, Teresa Nicolson*

**5:30 PM - 5:33 PM PB-37**
**Parvalbumin and Somatostatin in the Songbird Auditory Cortex Suggest Conserved Mechanisms for Inhibition**
*George Ordiway*, Sarah Woolley*

**5:33 PM - 5:36 PM PB-38**
**Unraveling the Role of Mitochondrial Protein ACO2 in Hearing Loss**
*Lubriel Sambolin-Escobales*, Oraya Zinder, Laura Reinholdt, Basile Tarchini*

**5:36 PM - 5:39 PM PB-39**
**Quantifying Binaural Speech Fusion Using a Dichotic Formant, Vowel Identification Task in Children and Adults with Cochlear Implants**
*Emily Burg*, Caroline Paroby, Matthew Fitzgerald, Duane Watson, Rene Gifford*

**5:39 PM - 5:42 PM PB-40**
**A First Look at Human Inner Ear Pathology in POU4F3 Variants: Findings From Three Human Temporal Bone Donors**
*Diana Correa*, Jennifer T O'Malley*, Christopher Giardina, Alison Brown, Sami Amr, Alicia Quesnel*

**Memorial Symposium for Eric Young: From the Auditory Nerve to Cochlear Nucleus to Cortex, and Back**
**Chair:** Lina Reiss
**Co-chair:** George Spirou
**Co-chair:** Tilak Ratnanather
4:45 PM - 6:45 PM
*Ocean Ballroom 1 - 4*

**4:50 PM - 5:05 PM SYMP-12**
**Eric Young at Johns Hopkins**
*Paul Fuchs**

**5:05 PM - 5:20 PM SYMP-13**
**Eric Young's Contributions to Quantifying and Modeling Neural Representations of Sound**
*Laurel H. Carney**

**5:20 PM - 5:35 PM SYMP-14**
**Auditory Nerve Encoding With Acoustic Trauma**
*Ian Bruce*, Michael Heinz*

**5:35 PM - 5:50 PM SYMP-15**
**Dorsal Cochlear Nucleus: Functional Anatomy and Circuitry for Auditory Processing**
*Israel Nelken*, George Spirou*

**5:50 PM - 6:05 PM SYMP-16**
**Beyond the STRF: Random Spectrum Stimuli (RSS) Models**
*Lina Reiss*, Sharba Bandyopadhyay*

**6:05 PM - 6:20 PM SYMP-17**
**Multimodal Processing in the (Dorsal) Cochlear Nucleus**
*Patrick Kanold**

**6:20 PM - 6:35 PM SYMP-18**
**Eric Young's Impact Internationally and Within the ARO**
*Alan Palmer**

**Welcome Reception**
5:30 PM - 6:30 PM
*Peninsula Ballroom and Foyer*

**Presidential Reception (Invitation Only)**
8:00 PM - 10:00 PM

**spARO Reception**
9:00 PM - 10:30 PM
*Merrit 1 and 2*

## Sunday, February 23, 2025

**ARO Registration**
7:00 AM - 6:00 PM
*Crystal Registration Desk*

**Speaker Ready Room**
7:00 AM - 6:00 PM
*Labrid A*

**Parenting Room**
7:30 AM - 6:00 PM
*Ocean Office 1*

**Prayer/Meditation Room**
7:30 AM - 6:00 PM
*Hinalea*



**Symposium 1: Inter-Areal Contributions to Auditory-Guided Behavior**
**Chair:** Ross Williamson
**Co-chair:** Justin Yao
8:00 AM - 10:00 AM
*Ocean Ballroom 1 - 4*

**8:00 AM - 8:30 AM SYMP-19**
**Interactions Between the Ascending and Descending Flow of Information in the Auditory System**
*Andrew King**

**8:30 AM - 8:45 AM SYMP-20**
**Diverse Cortical Layer 1 Circuits for Context-Dependent Auditory Perception**
*Anne Takesian*, Lucas Vattino, Carolyn Sweeney, Maryse Thomas, Cathryn MacGregor*

**8:45 AM - 9:00 AM SYMP-21**
**Deep-Layer Projection Neurons Develop Representations of Perceptual Categories and Behavioral Choice**
*Nathan A. Schneider, Michael Malina, Ross Williamson**

**9:00 AM - 9:15 AM SYMP-22**
**Projection-Specific Cortical Processing of Vocalizations Driving Mouse Maternal Behavior**
*Amy LeMessurier*, Ayat A. Agha, Gurket Kaur, Janaye Stephens, Robert C. Froemke*



**9:15 AM - 9:30 AM SYMP-23**
**Orbitofrontal Cortex Modulates Auditory Cortical Sensitivity and Sound Perception**
*Matheus Macedo-Lima, Lashaka S. Hamlette, Melissa Caras**

**9:30 AM - 9:45 AM SYMP-24**
**The Asynchronous Maturation of the Left and Right Auditory Cortex Could Underpin Specialized Sound Processing Development**
*Demetrious Neophytou, Ashlan Reid, Cody Pham, Hysell Oviedo**

**9:45 AM - 10:00 AM SYMP-25**
**Contribution of Top-Down and Bottom-Up Processing in Auditory Decision-Making**
*Corey Roach, Lalitta Suriya-Arunroj, Sophia Fu, Joshua Gold, Yale Cohen**

**Young Investigator Symposium 1: Cochlear Health after Cochlear Implants. Biomarkers, Therapeutics, and Outcomes**
**Chair:** Seba Ausili
8:00 AM - 10:00 AM
*Ocean Ballroom 5 - 8*

**8:05 AM - 8:20 AM SYMP-26**
**Drug-Eluting Cochlear Implants**
*Stephen O'Leary*, Tayla Razmovski, Kate Brody, Ellie Cho*

**8:20 AM - 8:35 AM SYMP-27**
**A Glimpse Into the Implanted Ear: Modeling and Modulating Electrode-Tissue Interface**
*Federico Di Lella*, Sebastián Ausili*

**8:35 AM - 8:50 AM SYMP-28**
**Therapeutic Hypothermia for Inner Ear Functional Preservation: Translational Journey From Preclinical Research to Clinical Applications**
*Maria Fernanda Yepes Restrepo*, Rachele Sangaletti, Curtis King, Kaelan Grooves, Suhrud Rajguru*

**8:50 AM - 9:05 AM SYMP-29**
**Using the Panoramic Ecap Method to Characterize Current Spread and Neural Responsiveness in Cochlear Implant Users**
*Charlotte Garcia*, Robert Carlyon*

**9:05 AM - 9:20 AM SYMP-30**
**Contributions of Auditory Nerve Density and Synchrony to Speech Encoding in Aging Cochlear Implant Listeners**
*Ignacio Calderón, Andy Beynon, John Van Opstal, Emmanuel A., M. Mylanus, Marc Van Wanrooij, Kara Schvartz**

**9:20 AM - 9:35 AM SYMP-31**
**Measures for CI Outcomes Prediction: Deep Learning With Temporal Bone Histology, Advances in Electrophysiology, and Quantification of the Electrode-Neural Interface**
*Christopher Giardina*, Julie Arenberg, Alicia Quesnel*

**Podium 3: Hair Cell Anatomy and Physiology: Molecular Dynamics, Structural Components, and Pathways to Protection**
**Moderators:** Leslie Gonzales & Sonja Pyott
8:00 AM - 10:00 AM
*Ocean Ballroom 9 - 12*

**8:00 AM - 8:15 AM PD-17**
**Sensory Transduction Plays an Essential Role in the Maturation of Inner Hair Cells, Afferent Ribbon Synapses and Auditory Nerve Fibers**
*Thibault Peineau*, John Lee, Brikha Shrestha, Wu Zhou, Hong Zhu, Jeffrey Holt, Gwenaelle Geleoc*



**8:15 AM - 8:30 AM PD-18**
**Analyses of MYO7A-Driven Active Cargo Transport in Stereocilia Using Single-Molecule Microscopy in Live Hair Cells**
*Takushi Miyoshi*, Mrudhula Sajeevadathan, Harshad Vishwasrao, Inna Belyantseva, Yasuko Ishibashi, Samuel Adadey, Narinobu Harada, Hari Shroff, Thomas Friedman*

**8:30 AM - 8:45 AM PD-19**
**The Auditory Hair Cell Mechanotransduction Complex Regulates Stereocilia Membrane Mechanics**
*Shefin George*, Anthony Ricci*

**8:45 AM - 9:00 AM PD-20**
**Identification of a Novel Principal Component of Outer Hair Cell Stereocilia – Tectorial Membrane Connectors**
*Dennis Derstroff, Antonia Lohnes, Vijay Vijay Renigunta, Boris A. Stuck, Nicola Strenzke, Dominik Oliver, Katrin Reimann**

**9:00 AM - 9:15 AM PD-21**
**Effects of the Abolition of Salt Bridges on Prestin Voltage-Sensor Charge Movements**
*Jie Yang*, Chenou Zhang, Jun-Ping Bai, Richard Mariadasse, Joseph Santos-Sacchi, Oliver Beckstein, Dhasakumar Navaratnam*

**9:15 AM - 9:30 AM PD-22**
**Lipid Flippase ATP8B1 in the Function and Degeneration of Sensory Hair Cells**
*Henry De Hoyos*, Jun-Sub Im, Betsy Szeto, Emma Kim, Nikhil Amin, Jung-Bum Shin*

**9:30 AM - 9:45 AM PD-23**
**The Mechanotransduction Complex of Inner Hair Cells is the Primary Target of Noise-Induced Hearing Loss**
*Samuel Webb*, Stuart Johnson*

**9:45 AM - 10:00 AM PD-24**
**Characterization of the Lipid Scramblase Activity of TMC1 and TMC2: New Perspectives on Mechanotransduction and Disease Mechanisms**
*Yein Christina Park*, Hubert Lee, Jayashree Balaraman, Angela Ballesteros*

**Exhibits Open**
9:00 AM - 5:00 PM
*Peninsula Ballroom and Foyer*

**Break**
10:00 AM - 10:30 AM
*Ocean Foyer*

**Symposium 2: Vestibular Disorders: Breakthroughs in Diagnosis and Management**
**Chair:** John Lee
10:30 AM - 12:30 PM
*Ocean Ballroom 1 - 4*

**10:30 AM - 11:00 AM SYMP-32**
**Quantifying Clinical Measures of Vestibular Function and Perception in Children with Vestibular Loss**
*Kristen Janky*, Andrew Wagner, Jessie Patterson, Choudhry Bisma*

**11:00 AM - 11:15 AM SYMP-33**
**Assessment of Vestibular Perception in Persistent Postural Perceptual Dizziness**
*Megan Kobel*, Andrew Wagner, Dan Merfeld*

**11:15 AM - 11:45 AM SYMP-34**
**Central Vestibular Processing After Peripheral Lesions: Implications for Diagnosis**
*Amsal Madhani, Richard Lewis, Faisal Karmali**

**11:45 AM - 12:00 PM SYMP-35**
**Novel Kinematic Analyses for Detection of Intravenous Aminoglycoside-Induced Vestibular Loss**
*Angela Garinis*, Timothy Hullar, Laurie King, Robert Peterka, Daniel Putterman, Jay Vachhani, Ma Vida Echaluse*

**12:00 PM - 12:15 PM SYMP-36**
**Implementation of an Automated Triage System in Epic for Patients With Dizziness Using Machine Learning**
*Devin McCaslin**

**12:15 PM - 12:30 PM SYMP-37**
**Are we underestimating Fall Risk in Balance Disordered Patients?**
*Christopher Zalewski*, Talah Wafa, Carmen Brewer*

**Podium 4: From Hearing Loss to Functional Hearing**
**Moderators:** Samira Anderson & Gal Nitsan
10:30 AM - 12:30 PM
*Ocean Ballroom 5 - 8*

**10:30 AM - 10:45 AM PD-25**

**Peripheral and Central Auditory Effects From Continuous Aircraft Carrier Noise Exposure at Moderate Sound Levels**

*Fernando Aguilera de Alba*, Isabella Huddleston, Elizabeth Jensen, Michael Heinz*

**10:45 AM - 11:00 AM PD-26**

**Prophylactic Nimodipine for Hearing Preservation in Vestibular Schwannoma: A Retrospective Cohort Study**

*Clifford He*, Douglas Bennion, Abhishek Bhatt, Michael Brandel, Joshua Lee, Marc Schwartz, Rick Friedman*

**11:00 AM - 11:15 AM PD-27**

**Assessing the Cognitive Decline Post Hearing Loss**

*Sriram Hemachandran*, Jesus Maldonado, Anthony Ricci*

**11:15 AM - 11:30 AM PD-28**

**Impact of Hearing Loss and Cochlear Implantation on Attentional Selection in Older Adults**

*Alex Tu*, Gennadiy Gurariy, Shannon Walsh, Kristin Kozlowski, Samiah Ziadeh, Sarah Mleziva, Adam Greenberg, Michael Harris*

**11:30 AM - 11:45 AM PD-29**

**The Effects of Noise-Induced Hearing Loss on Auditory Decision-Making**

*Madeline Berns*, Genesis Nunez, Xingeng Zhang, Anindita Chavan, Klavdia Zemlianova, Marissa Calvano, Todd Mowery, Justin Yao*

**11:45 AM - 12:00 PM PD-30**

**Using Large-Scale Brain Recordings and Deep Learning to Engineer Optimal Hearing Aids**

*Fotios Drakopoulos*, Lloyd Pellatt, Yiqing Xia, Shievanie Sabesan, Andreas Fragner, Nicholas Lesica*

**12:00 PM - 12:15 PM PD-31**
**Neurotransmitter Concentration Levels in the Auditory Cortex Correlate with Subjective Hearing Impairment in Age-Related Hearing Loss**
*Stephanie Rosemann*, Christiane M. Thiel*

**12:15 PM - 12:30 PM PD-32**
**Behavioral and Neurophysiological Signatures of Functional Hearing Difficulties in Blast Exposed Veterans**
*Jonathan Venezia**



**Podium 5: Immunology: Function, Dysfunction, and Treatment**
**Moderators:** Hainan Lang & Gisselle Jimenez
10:30 AM - 12:30 PM
*Ocean Ballroom 9 - 12*

**10:30 AM - 10:45 AM PD-33**
**Bulk RNA and ScRNA-Seq Analyses Identify Macrophages as Major Effectors of Fibrosis After Cochlear Implantation in Rat**
*Frederic Venail*, Mélissa Urbain, Jholy de la Cruz Talaverano, Jerome Bourien, Adrien Caplot, Farida Djouad, Jean Luc Puel*

**10:45 AM - 11:00 AM PD-34**
**Complement Component C3 Accumulates in the Cochlea of CBA/CaJ Mice With Noise-Induced Hearing Loss**
*Zixu Guo*, Benjamin Seicol, Katy Garrity, Mina Shenouda, Shengyin Lin, Ruili Xie*

**11:00 AM - 11:15 AM PD-35**
**Dectin-1 Dysregulation: A Potential Contributor to Age-Related Demyelination in the Auditory Nerve**
*Shelby Payne*, Jamie L Barth, Hainan Lang*

**11:15 AM - 11:30 AM PD-36**

**Endothelial Cells and Iba1-Positive Cells Under the Organ of Corti Constitute the Immunological Unit for Cochlear Hair Cells**

*Yushi Hayashi**

**11:30 AM - 11:45 AM PD-37**

**Role of Immune Cell Trafficking via Cochlear Blood Vessels and the Newly Discovered Cochlear Lymphatics in the Foreign Body Response Following Cochlear Implantation**

*Muhammad Rahman*, Md Ibrahim Razu, Shakila Mahmuda Fatima, Md Fahad Hossain, Md Shuaib Akhter, Bryce Hunger, Alexander Claussen, Young-Kwon Hong, Marlan Hansen*

**11:45 AM - 12:00 PM PD-38**

**Radiation Alters Secretion of Proinflammatory Cytokines From Primary Vestibular Schwannoma Cells**

*Mikhail Marasigan*, Olena Bracho, Bryan Sousa, Michael Ivan, Fred Telischi, Cristina Fernandez-Valle, Christine Dinh*

**12:00 PM - 12:15 PM PD-39**

**Spatial Organization of Cochlear Lymphatic Vessels in Murine Model**

*Md Ibrahim Razu*, Muhammad Rahman, Shakila Mahmuda Fatima, Md Fahad Hossain, Md Shuaib Akhter, Bryce Hunger, Young-Kwon Hong, Alexander Claussen, Marlan Hansen*

**12:15 PM - 12:30 PM PD-40**

**The Time Course of Monocytes Infiltration after Acoustic Overstimulation**

*Seong Hoon Bae*, Seung Ho Shin, HaengRan Park, Sung Huhn Kim, Jinsei Jung*

**Lunch On Own**
12:30 PM - 1:30 PM

**Poster Session II with Coffee**
1:30 PM - 3:00 PM
*Peninsula Ballroom*

**Auditory Nerve**

**PS-188. Quantifying Cross-Hearing in Mice following Induction of Unilateral Deafness via Ossiculectomy**
*Jesus Maldonado*, Anthony Ricci, Yuxuan Xu*

**PS-189. Auditory Nerve Response Synchrony of Mutant Mice and Diagnosis of Hearing Loss Pathology**
*Neil Ingham*, Clarisse Panganiban, Carolyn McClaskey, Kelly Harris, Karen P. Steel*

**PS-190. Myelin Ultrastructure in Mice With Targeted Deletion of Esrrg in the Inner Ear**
*Rhianna R. Mackenzie*, Anwen Bullen, Lisa S. Nolan*

**PS-191. Ouabain Ototoxicity as a Model for Auditory Neuropathy in Guinea Pigs**
*Diane Prieskorn, Lisa Beyer, Rami Skaliter, Dana Hayoun Neeman, Ofer Wiser, Olga Mizrahi, Jennifer Bahr-Davidson, Teresa Jones, Yehoash Raphael**

**PS-192. Peripheral Auditory Impacts of Alzheimer's Disease in Cochlear-Implanted Transgenic Mice**
*Logan Flom*, Samia Sultana Lira, Brian Mostaert, Ibrahim Razu, Shakila Fatima, Muhammed Rahman, Rachel Scheperle, Marlan Hansen*

**PS-193. Middle Latency Responses Assist Hearing Threshold Detection Using Parallel Abr Stimuli**
*Isabel Herb*, Ross Maddox, Melissa Polonenko*

**PS-194. Validating a Novel Online Tool for Non-Stationary Fluctuation Analysis of AMPA Receptor Properties**
*Mona Jawad*, Mark Rutherford, Juan Goutman, James Huettner, Walen Gribaudo*

**PS-195. Unraveling the Role of Mitochondrial Protein ACO2 in Hearing Loss**
*Lubriel Sambolin-Escobales*, Oraya Zinder, Laura Reinholdt, Basile Tarchini*

**PS-196. Evidence for the Auditory Nerve Generating Envelope Following Responses When Measured From Eardrum Electrodes**
*Skyler Jennings*, Jessica Chen, Nathan Johansen, Shawn Goodman*

**Brainstem: Structure & Function**

**PS-197. Cell Type-Specific Assessment of Synaptic Drive Onto Principal Neurons of the Mouse Lateral Superior Olive**
*Hariprakash Haragopal*, Mara Voytek, Roshen Eapen, Bradley Winters*

**PS-198. Dopamine Receptor Expression in the Mouse Mntb**
*Sonia Weimann*, Meara Plesh-Gill, R. Michael Burger*

**PS-199. Optimizing Frequency-Specific Auditory Brainstem Responses to Continuous Speech Using Different Chirp-Phase Profiles**
*Melissa Polonenko*, Samantha Krocak*

**PS-200. L-Stellate Cells are Differentially Activated by the Auditory Nerve and T-Stellate Cells Within the Ventral Cochlear Nucleus**
*Tenzin Ngodup*, Laurence O. Trussell*

**Midbrain: Structure & Function**

**PS-201. Age-Related Ultrastructural Changes in the Dorsal Cortex of the Inferior Colliculus in Fischer Brown Norway Rats**

*Jeffrey Mellott*, Dakota Smallridge, Kylee Tenney, Gillian Barach, Gurveer Singh, Erin Beskitt, Justine Busby, Syllissa Duncan, Alexa Wawrzyniak, Brenda Vega, Nick Tokar, Andrew Ohl, Jesse Young*

**PS-202. Ultrastructural Evidence for Excitatory and Inhibitory Cholinergic Synapses in the Inferior Colliculus**

*William A. Noftz, Jeffrey G. Mellott, Brett Schofield**

**PS-203. Cortical Contribution to Task-Relevant Activity in the Inferior Colliculus**

*Clara Martinez-Voigt*, Pierre Apostolides*

**PS-204. Simultaneous Encoding of Features of Frequency-Modulated Sweeps in Individual Inferior Colliculus Neurons**

*Sarah Wajdi*, Audrey Drotos, Michael Malina, Ross Williamson, Michael Roberts*

**Auditory Cortex and Thalamus: Human Studies**

**PS-205. Exploring Analytical Procedures and Short Channels in Auditory Fnirs Brain Imaging**

*Yann Lemaire*, Jérémie Ginzburg, Olivier Deguine, Pascal Barone, Anne Caclin*

**PS-206. Auditory Object Formation Across Acoustic and Electric Hearing in Cochlear Implants With Electroacoustic Stimulation**

*Nour Alsabbagh, Phillip Gander, Joel Berger, Bob McMurray, Inyong Choi, Timothy Griffiths**

**PS-207. Transformation of Object Representation Along the Cortical Auditory Pathways**
*Kirill Nourski*, Mitchell Steinschneider, Ariane Rhone, Matthew Howard*

**PS-208. Disrupting Perceptual Anchoring to Pure-Tone Sequences in Human Listeners**
*Kurt Shulver*, David McAlpine, Heivet Hernandez-Perez*

**PS-209. Towards a Generalized Deep Neural Network Model of Human Eeg Responses to Sounds**
*Thomas Stoll*, Joseph Casale, Ross Maddox*

**PS-210. Sensory Inhibition in Central Auditory Processing Disorder**
*Megan Guidry*, Julia Campbell, Lauren Aronowitz, Phoebe Fertig*

**PS-211. Perceptual Categorization of and Adaptation to Human Voice and Musical instruments: A Passive-Listening Study**
*Zi Gao*, Andrew J. Oxenham*

**Auditory Cortex and Thalamus: Structure & Function**

**PS-212. Parvalbumin and Somatostatin in the Songbird Auditory Cortex Suggest Conserved Mechanisms for Inhibition**
*George Ordiway*, Sarah Woolley*

**Inner Ear: Anatomy & Physiology**

**PS-213. Spatial Analysis of Inner Ear Pathology in Mice With Audiovestibular Dysfunction Induced by Lassa Virus Infection**
*Tomoko Makishima*, Marina Saito, Takeshi Saito, Kirsten Littlefield, Junki Maruyama, Slobodan Paessler*

**PS-214. The TECTB-C225Y Mutation Causing Autosomal Dominant Deafness in a Nicaraguan Family Enhances Sensitivity to Noise-Induced Hearing Loss in Ageing Mice**

*Evan Hale*, Barbara Vona, Richard J. Goodyear, Richard T. Osgood, Sami Amr, Karen Mojica, Ricardo Vera-Monroy, Katherine Callahan, Kerry Gudlewski, Rolen Quadros, Cynthia C. Morton, Channabasavaiah Gurumurthy, James Saunders, Guy Richardson, Artur A. Indzhykulian*

**PS-215. Comparing and Optimizing Clearing Protocols for Fluorescence Microscopy of the Intact Mouse Cochlea**

*Franziska Becker, Martina Giampetraglia, Gina Dunkel, Bettina Weigelin, Ellen Reisinger**

**PS-216. Dynamic Optical Coherence Tomography as a Tool to Identify Cellular Structures and Assess Changes in the Mouse Organ of Corti**

*Antonio Franco*, Michael Serafino, Clayton B. Walker, Patricia Quiñones, Alberto Recio, Brian Applegate, John Oghalai*

**PS-217. Chd7 and Sox2 Regulate Mammalian Vestibular Sensory Epithelium Development and Tonotopic Organization of the Cochlea**

*Jingxia Gao*, Derek Bukowski, Lisa Beyer, Yehoash Raphael, Donna Martin*

**PS-218. Differential Effects of Tmie Deletion on Canal and Otolith Function in Mice**

*Zelma Guisela Iriarte, Raven Riley, Caroline Sit, David Huang, Jake Harthcock, Bryan Rivers, Raymond Huang, Youguo Xu, Ian Mcneill, Christopher Spankovich, Jeffrey Holt, Gwenaelle Geleoc, Hong Zhu, Wu Zhou**

**PS-219. Can You Hear Without FIRE: The Impact of Microglia Loss on Cochlear Function**
*Patrick Atkinson*, Aude Chiot, Gisselle Jimenez, Audrey Ching, Dillon Brownell, Max Felgner, Peter Wieghofer, Alan Cheng, Bahareh Ajami*

**PS-220. Cochlear Expression of Orexin Signaling Molecules and Their Role in Hearing**
*Alka Ghadiyaram*, Douglas Vetter, Kathleen Yee*

**PS-221. Molecular Targeting of Alzheimer's Disease-Associated Proteins in the Spiral Ganglion and Cochlear Neural Components by Dysferlin Protein-Protein Interactions**
*Dennis Drescher*, Marian Drescher*

**PS-222. 3D Characterization of Arteries in the Sheep Cochlea Using Contrast-Enhanced Micro-Computerized Tomography**
*Haruna Suzuki-Kerr*, Suha Lee, Louisa Xie, Dane Gerneke, Mark Oliver, Joanne Davidson, Peter Thorne*

**PS-223. Micro-Ct and Histological Analysis of Sheep Cochlea and Tympanic Membrane**
*Po-Yi Lue*, Mark Oliver, Michel Neeff, Dane Gerneke, Peter Thorne, Haruna Suzuki-Kerr*

**PS-224. Molecular Profiles Defining Adult Cochlear and Vestibular Hair Cells**
*David He*, Zhenhang Xu, Amirrasoul Tavakoli Targhi, Samadhi Kulasooriya, Huizhan Liu, Yi Li, Celia Bloom, Jian Zuo, Litao Tao, Bechara Kachar*

**PS-225. Hair Cell Proteins in Stereocilia Embedded in the Tectorial Membrane: Dysferlin, Annexin A2, FKBP8, Bcl2, and RyR3, Forming a Molecular Pathway to Regulate Ca2+**
*Marian Drescher*, Dennis Drescher*

**Inner Ear: Cochlear Mechanics**

**PS-226. Non-Invasive Imaging of the Inner Ear in Animal Models**

*Parveen Bazard*, Mikalai Budzevich, Akil Turner, Xiaoxia Zhu, Bo Ding, Robert Frisina*

**PS-227. Electrical and Mechanical Basis for Prestin's Role in Mammalian Hearing Adaptation to Loud Sound**

*Henrik Sahlin Pettersen, Anders Fridberger, Pierre Hakizimana**

**PS-228. Two-Dimensional Organ of Corti Motion in the Mouse Apex**

*Gabriel Alberts*, Wiam Lahlou, Sunil Puria*

**PS-229. Sex Differences in TRPA1-Mediated Changes to the Operating Point of the Organ of Corti After Noise Exposure**

*Samantha A. Radomski, D. Susana Llanes-Coronel, A. Catalina Velez-Ortega, Samantha Radomski**

**PS-230. Analysis of Phase and Displacement Consistency in Optical Coherence Tomography Vibrometry Measurements From the Guinea Pig Cochlear Apex and a Piezo Driven Model**

*George Burwood*, Tianying Ren, Edward Porsov, Alfred Nuttall, Anders Fridberger*

**PS-231. Vibration Patterns of Outer Hair Cell-Deiters' Cell Complex**

*Wei-Ching Lin, Anes Macić, Jong-Hoon Nam**

**PS-232. Meniere's Disease: The Mechanism of Low-Frequency Hearing Loss Due to Bony Labyrinth Cracks**

*Yasushi Horii*, Karin Ono, Shota Toyoda, Akari Ide*

**PS-233. Outer Hair Cells Suppress and Boost the Organ of Corti Vibrations**
*Mohammad Shokrian*, Wei-Ching Lin, Anes Macić, Jong-Hoon Nam*

**PS-234. Measurements in Vivo Show That Active Outer-Hair-Cell Motion Exceeds and Can Drive Basilar-Membrane Motion up to Frequencies of 40 Khz**
*Sunil Puria*, Nam Hyun Cho, John Guinan*

**PS-235. Harmonic Distortion Products Within the Cochlear Partition in the Basal Turn of Sensitive Gerbil Cochleae**
*Wenxuan He, Tianying Ren**

**PS-236. Translating a Computational Model of the Human Auditory Periphery to Gerbil and Mouse for Comparative Auditory Research**
*Morgan Thienpont*, Francois Deloche, Sarineh Keshishzadeh, Daniil Kiselev, Jerome Bourien, Jean Luc Puel, Brad Buran, Naomi Bramhall, Sarah Verhulst*

**PS-237. Effect of Subclinical Cochlear Damage on Brainstem Encoding of Amplitude Envelope**
*Anu Sreenivasan Nair*, Pedro Andres Alba Diaz, Srikanta Mishra*

**Inner Ear: Membranes & Fluids**

**PS-238. Optical Coherence Tomography Imaging of the Posterior and Lateral Semicircular Canal in Mice**
*Dorothy W. Pan*, Wihan Kim, Kevin Biju, Brian E. Applegate, John S. Oghalai*

**Inner Ear: Damage and Protection of Hair Cells**

**PS-239. KCNQ2/3 Potassium Channel Activator Mitigates Noise-Trauma-Induced Hypersensitivity to Sounds in Mice**

*Jesse Weisbord, Laura Marinos*, Christopher Cunningham, Thanos Tzounopoulos, Manoj Kumar*

**PS-240. Susceptibility to Noise Trauma in Deaf Otof Knockout Mice**

*Franke Justin, Stalmann Ursula, Nicola Strenzke**

**PS-241. Repurposing Pravastatin and Metformin for the Treatment and Prevention of Noise-Induced Hidden Hearing Loss in a Mouse Model**

*Reza Amanipour*, Benjamin Shuster, Beatrice Milon, Ronna Hertzano*

**PS-242. Not Fishy at All: Hair Cell Damage and Protection in the Zebrafish Model System**

*Allison Coffin*, Khia Min Sabrina Koh, Mariana Lopes Soares Llamas, Isabella Moreno Stedman, Noel Smith, Bella Williams*

**PS-243. Prevention of Acute Mouse Model of Aminoglycoside-Induced Outer Hair Cell Loss by Targeting Calcium/Calmodulin Kinases**

*Fan Wu, Shan Xu, Shenyu Zou, Hongguo Su, Khujista Haque, Su-Hua Sha**

**PS-244. Treatment With FK506 Attenuates Noise-Induced Hearing Loss via Mediation of Endoplasmic Reticulum Stress**

*Hongguo Su, Khujista Haque, Su-Hua Sha**

**PS-245. Sex-Dependent Galectin-3 Response to Noise-Induced Cochlear Stress in Mice**

*Mengxiao Ye, Guangdi Chen, Bohua Hu**

**PS-246. Cisplatin Induced Hearing Loss through Multi-Cycle Single Low Dose Intravenous Injection**
*Xiaodong Tan*, Robert Fuentes, Chail Koo, Devin Thomas, Claus-Peter Richter*

**PS-247. Foxo3 Mechanisms In Noise Induced Hearing Loss**
*Patricia White*, Daxiang Na, Holly Beaulac, Dorota Piekna-Przybylska*

**PS-248. Lysosomal Roles in Delayed Hair Cell Death After Aminoglycoside Uptake**
*Francisco Barros-Becker*, Patricia Wu, Tor Linbo, Ananya Cholkar, David Raible*

**PS-249. Characterization of Auditory Function and Histological Changes in a Novel Blast-Tube Model**
*Megan Barber*, Yuan Gao, Federica M. Raciti, Kayla Minesinger, Curtis King, Nadine Kerr, Suhrud Rajguru*

**PS-250. Therapeutic Potential of Dexamethasone Palmitate Lipid Nanoparticles in Protecting against Aminoglycoside Ototoxicity**
*Hyun Su Lee*, Yeji Ahn, Young Joon Seo*

**PS-251. A Multicenter Investigation of Risk Factors Associated with Aminoglycoside-Induced Hearing Loss in Patients With Cystic Fibrosis**
*Angela Garinis*, Ronald Rubenstein, Andrea Kelly, Peter Camacho, Lisa Hunter, Peter Steyger, Ashley Deschamp, Alessandra Chesi, Jay Vachhani*

**PS-252. The Role of XIRP2 in Stereocilia F-Actin Repair**
*Alyssa Luz-Ricca*, Elizabeth Wagner, Stefano Sala, Patrick Oakes, Jung-Bum Shin*

**PS-253. Detecting and Disambiguating "Hidden" Cochlear Pathologies: Inner Hair Cell Injury and Cochlear Synaptopathy**
*Samantha Hauser*, Andrew Sivaprakasam, Hari Bharadwaj, Michael Heinz*

**PS-254. Discrepancies in Serum Composition via Different Blood Collection Routes**
*Robert Fuentes*, Eshita Kashaboina, Esha Kashaboina, Xiaodong Tan, Jing Zheng*

**PS-255. Investigating the Role of the Lipid Scramblase XKR8 in Inner Ear Function**
*Shaikh Emdadur Rahman*, Runjia Cui, Katya Krasnopolsky, Talah Wafa, Cheng-Chao Lin, Jaspal Khillan, Sergio M. Pontejo, Tracy Fitzgerald, Angela Ballesteros*

**PS-256. Exploring Synergistic Effects of Dexamethasone With Alpha Lipoic Acid and Diltiazem in Noise-Induced Hearing Loss Models**
*Kyusun Park*, Ye Lin Kim, Min-Chae Jeon, Chan Mi Lee, Shi Nae Park, Jae Sang Han*

**PS-257. The Therapeutic Potential of Natural Compounds Against Noise-Induced Hearing Loss**
*Dinesh Gawande, Fabiola Alanoca Rugel, Vijayprakash Namakkal Manickam, Marisa Zallocchi, Katyarina Brunette**

**PS-258. Lack of Integrin Alpha-8 Function Increases Hair Cell Sensitivity to Ototoxic Damage**
*Marisa Zallocchi**

**PS-259. The Role of Nptn in Stereocilia of Cochlear Hair Cells**
*Ji ahn Lee*, Hyehyun Min, Jinwoong Bok, Chul Hoon Kim*

**PS-260. Lipidomics identifies Beta-Oxidation as a Key Process in Noise-Induced Hearing Loss**
*Gunseli Wallace*, Lingchao Ji, Maureen Kachman, Costas Lyssiotis, Charles Burant, Gabriel Corfas*

**PS-261. Protective Effect of an FDA- Approved Drug via Middle Ear Delivery Against Noise Exposure in Swine Model**
*Wei Wei*, Yizhou Quan, Ying Wang, Yanling Wei, Tesfaye Teshome, Irene Gist, Joseph Long, Zheng-Yi Chen*

**PS-262. An Antioxidative Treatment to Prevent Further Noise-Induced Hearing Loss in Hearing Impaired Mongolian Gerbils**
*Damian Gulbin-Murphy*, Shrivaishnavi Chandrasekar, Sean Hong, Eran Peci, Aaron Tucker, Matthew Kiel, P. Ashley Wackym, Todd Mowery*

**PS-263. Mitigation of Cochlear Damage With Liraglutide Treatment in Chinchillas Exposed to Repeated Blasts**
*Qunfeng Cai, Shangyuan Jiang, Yijie Jiang*, Rong Gan*

**PS-264. Donut Mitochondria: A 'Hot and Ready' Mitochondrial Repair/Defense Mechanism?**
*Elayna Malak*, Josef Trapani, Lavinia Sheets*

**PS-265. Otoprotective Effect of Mntbap in Cisplatin-Induced Hearing Loss**
*Shomaila Mehmood, Pankaj Bhatia, Nicole Doyon-Reale, Samson Jamesdaniel**

**PS-266. Characterization of a Progressive Early Onset Hearing Loss in SIRT3 Knock-Out Mice**
*Chail Koo*, Devin Thomas, Robert Fuentes, Claus-Peter Richter, Xiaodong Tan*

**Inner Ear: Damage and Protection of Neurons & Synapses**

**PS-267. Effects of BDNF-TrkB Activation on Blast-Induced Hearing Loss in a Mouse Model**

*Sung Kyun Kim*, Han-Gyu Bae, Jiwon Park, Se Yeon Jeong, Jun Hee Kim*

**PS-268. Human Umbilical Cord Perivascular Cells Reverse Noise-Induced Damage in the Brain and Cochlea in a Rat Model of Noise-Induced Hearing Loss**

*Ali Mirzaesmaeili*, Ayesha Noman, Kajal atel, Lianet Lopez, Andree Gauthier-Fisher, Subhendu Mukherjee, Clifford Librach*

**PS-269. Characterization of Spiral Ganglion Glial Cells Following Selective Ablation of Spiral Ganglion Neurons in Neonatal Mice**

*Nhi Nguyen*, Joshua Lin, Sahiti Vemula, Seiji B. Shibata*

**PS-270. Restoration of Cochlear Synapses from Noise-Induce Synaptopathy by Introcochlear Infusion of TrkC Agonist Antibody in Mice.**

*Ning Hu*, Ronald M. Lindsay, Peter S. DiStefano, Steven H. Green*

**PS-271. Translatability of the Larval Zebrafish Lateral Line Neuromast Model as a High-Throughput Screening (HTS) Method for Noise-Induced Hearing Loss Drug Discovery**

*Dong Xu, Jiemin Yuan, Jiemin Yuan**

**PS-272. Chronic Trk Receptor Inhibition Increases Noise-Induced Cochlear Synaptopathy in Adult Mice**

*Luis Cassinotti*, Naomi Richelew, M. Charles Liberman, Gabriel Corfas*

**PS-273. Roles of D-Serine in Kainate-, and Noise-Induced Cochlear Synaptopathy and Repair**
*Joseph Vecchi*, Anissa Rym Saidia, Florence François, Ichiro Furuta, Paul Gratias, Tong Yang, Jérôme Ruel, Jing Wang*

**PS-274. Intracochlear Insertion Force and Hydrostatic Pressure Measurements During Cochlear Implantation and Coiling in 3D Printed Artificial Cochlea and Mastoid Models**
*Sita Clark*, Iwan Roberts, Thomas Hudson, Chloe Swords, Bridget Ryan, Filip Hrncirik, Manohar Bance*

**PS-275. TRPA1 Deficiency Leads to Reduced Volume of Outer Hair Cell Ribbon Synapses After Noise Exposure**
*Ava Kruse*, Doris Susana Llanes-Coronel, A. Catalina Velez-Ortega*

**PS-276. Identification of Biomarkers Associated With Cochlear Synaptic Loss**
*Andie Zang-Felix*, Joseph Pinkl, Elinor Sevy, Jianxin Bao*

**Gene Therapy**

**PS-277. Gene Regulatory Elements Enable Cell-Specific Delivery of GJB2 to Treat a Mouse Model of DFNB1 Deafness**
*Kevin T. Booth*, Maryna V. Ivanchenko*, K. Domenica Karavitaki, Larisa M. Antonellis, Sinisa Hrvatin, M. Aurel Nagy, Olga Shubina-Oleinik, Andrew Ward, Yaqiao Li, Cole W. Peters, Eric C. Griffith, David Corey**

**PS-278. Restoration of Hearing in a Novel Gjb2^M34T Mouse Model with Gene Addition Therapy**
*Larisa Antonellis*, Kevin T. A. Booth*, Maryna V. Ivanchenko, Yaqiao Li, Olga Shubina-Oleinik, Elijah H. Hochstein, David P. Corey*

**PS-279. GJB2 Gene Therapy-Response of Two Pre-Clinical Mouse Models of the Most Frequent Form of Human deafness, DFNB1**
*Anne-Valérie Héritier, Andrea Lelli, Amrit Singh-Estivalet, Solène Roux, Nawel Mekdad, Muriel Sudres, Nicolas Michalski, Rafik Boudra, Arnaud Giese, Laurent Désiré, Christine Petit**

**PS-280. CRISPR/Cas9-Mediated Exon Skipping to Restore Premature Translation Termination in a DFNB4 Mouse Model**
*Yi-Hsiu Tsai*, Chun-Ying Huang, Yi-Fen Cheng, Peng-Yu Wu, Yu-Chi Chuang, Po-Yuan Huang, Jai-Shin Liu, Chen-Chi Wu, Yen-Fu Cheng*

**PS-281. Hearing Evaluation of Exon-Deleted Mouse Models of Ush2a to Determine Dispensable Exons for Exon Skipping Therapeutic Approaches**
*Yehree Kim*, Yue Dai, Qin Liu, Zheng-Yi Chen*

**PS-282. Therapeutic Potential of ssAAV vs. scAAV in Inner Ear Gene Therapy**
*Roni Hahn*, Shahar Taiber, Eyal Marton, Olga Shubina-Oleinik, Gwenaëlle S.G. Géléoc, Jeffrey R. Holt, Karen B. Avraham*

**PS-283. Rational Design of a Lfng-Enhancer AAV Construct Drives Specific and Efficient Gene Expression in Inner Ear Supporting Cells**
*Richard Seist*, Juwan Copeland, Hongyuan Zhang, Litao Tao, Andrew K. Groves*

**PS-284. GJB2-GT, a Novel Adeno Associated Vector-Based Gene Therapy as a Treatment for the Autosomal Recessive Non-Syndromic Deafness 1A (DFNB1A)**

*Guillaume Olivier, Christophe Tran Van Ba, Sandra Pierredon, Anne-Valérie Heritier, Charlène Vaux, Amrit Singh-Estivalet, Charlène Josephine, Andrea Lelli, Lise Barrot, Pierre Rambaud, Anais Pages, Laurène Heriaud, Pauline Liaudet, Muriel Sudres, Nicolas Michalski, Rafik Boudra, Arnaud Giese, Christine Petit, Laurent Desire**

**PS-285. Gene Replacement Therapy Rescues Hearing in a Mouse Model With an Mpzl2 Variant**

*Hyeong Gi Song, Seung Hyun Jang, Sun Young Joo, Heon Yung Gee, Jae Won Roh**

**Inner Ear: Drug Delivery**

**PS-286. Dexamethasone Nanocrystals-Embedded Hydroxypropyl Methylcellulose Hydrogel Increases Cochlear Delivery and Attenuates Hearing Loss Following Intratympanic Injection**

*Subin Kim*, Min Young Jeong, Hye Rim Kim, Jiae Jeon, Seong su Won, Keum-Jin Yang, Myung Joo Kang, Dong-Kee Kim*

**PS-287. Platelet-rich Plasma as Neuroprotective Therapy Approach for the Inner Ear: In Vitro Study with Isolated Extracellular Vesicles**

*Jennifer Harre*, Odett Kaiser, Anas Arab Oghli, Susanne Sasse, Hinrich Staecker, Athanasia Warnecke*

**PS-288. From Bench to Bedside: Vesicle-Enriched Secretome Fraction as Inner Ear Therapeutic during Cochlear Implantation**

*Odett Kaiser*, Susanne Sasse, Jennifer Harre, Mario Gimona, Eva Rohde, Hinrich Staecker, Nils Kristian Prenzler, Athanasia Warnecke*

**PS-289. Perilymph Duration of a Long Acting Dexamethasone Formulation After Precise Microendoscopic Placement at the Round Window Membrane: A Fluidsim Model Based on Human Serum, Animal Serum, and Animal Perilymph Drug Concentrations**

*Benson Jung*, Jafri Kuthubutheen, Jeffrey Sharon, Alan Foster, Kathleen Cogan Farinas, Hugo Peris, Eugene De Juan, Charles Limb, Jeremy Turner, Amanda Henton, Alec Salt*

**PS-290. In Vivo Determination of Gentamicin in Murine Inner Ear Perilymph after Local or Systemic Delivery**

*Shreshtha Dash, D. David Smith, Bibiana Araujo, Laura Ben Olivio, Regina Gendzelevski Kelmann, Rene Vielman Quevedo, Peter S. Steyger, Regina Kelmann**

**PS-291. Regeneration of Cochlear Synapses Following Intracochlear Delivery of Neurotrophin 3**

*Renata Knoll*, Sina Schwinn, Andrea Zhang, Andrew Jung, Brooke Wang, Judith Kempfle, David Jung*

**PS-292. Biodegradable Inner Ear Implants for Controlled Release of Glucocorticoids in Combination With Cochlear Implants**

*Eric Lehner*, Arne Liebau, Jonas Scheffler, Karsten Mäder, Stefan Plontke*

**Development: Cellular/Systems**

**PS-293. The Nfi Family of Transcription Factors Instruct Radial Patterning and Cell Type Composition in the Developing Mouse Cochlea**

*Charles Morgan*, Angelika Doetzlhofer*

**PS-294. PROX1 Controls Cellular Patterning and Maturation in the Lateral Compartment of the Mouse Organ of Corti**

*Shubham Kale*, Dimitri Trankner, Michael Deans*

**PS-295. The Insm1 Knockout Mouse as a Model for Identifying Morphogen Signaling Pathways Driving Inner Hair Cell Differentiation**
*Jemma L. Webber*, Yingjie Zhou, Jaime Garcia-Anoveros*

**PS-296. Cross-Sectional Evaluation of Auditory and Vestibular Function in a Mouse Model of Down Syndrome**
*Regina Gendzelevski Kelmann*, Cong Tian, Gabrielle R. Merchant, Sarath Vijayakumar, Kristen L. Janky, Kelly D. Sullivan, Joaquin Espinosa, Peter Steyger*

**PS-297. Towards an Artificial Niche for Stem Cells: Investigating the Effects of the Microenvironment on Differentiation of Inner Ear Organoids from Mouse Embryonic Stems**
*Simona Zingaro, Katie E. Smith, Tessa Sanders, Daniel Jagger, Matthew Kelley, Jonathan Gale**

**PS-298. Identification of Regulators That Control the Tonotopic Specialization of the Mammalian Auditory Sensory Epithelium**
*River Huang*, Angelika Doetzlhofer*

**PS-299. Pre- And Post-Hearing Development of Glutamatergic Neurotransmission in the Dorsal Cochlear Nucleus of Mice**
*Natalia Boaretto*, Ricardo Leao*

**PS-300. Characterization of Supporting Cell Diversity in the Mammalian Utricle**
*Robin Ruth Kee*, Beatrice Mao, Tessa Sanders, Matthew Kelley*

**PS-301. Loss of tmc1/2 Function Induces Expansion of tmc1/2b+ Cells in the Zebrafish Inner Ear**
*NA Zhang*, Yan Gao, Peng Sun, Anna Shipman, Teresa Nicolson*

**PS-302. EMX2 Generates the Line of Polarity Reversal by Blocking STK32A-Dependent Regulation of GPR156 during Mouse Utricle Development**
*Michael Deans*, Ellison Goodrich, Basile Tarchini, Shihai Jia*

**PS-303. Ctcf-Mediated Chromatin Remodeling in Cochlear Development: Implications for Sensory Epithelium Patterning and Hair Cell Maintenance**
*Jeong-Oh Shin*, Jinwoong Bok*

**PS-304. FOXJ1 Plays a Critical Role in Vestibular Hair Bundle Formation**
*Lesly Umanzor*, Kathleen Gwilliam, Han Dewan, Beatrice Milon, Ronna Hertzano*

**PS-305. Characterization of Let-7 as a Regulator of Supporting Cell Plasticity in the Murine Utricle**
*Elannah Venhaus*, Angelika Doetzlhofer*

**PS-306. Conditional Knockout of mGluR5 in Glutamatergic Pathways Disrupts the Development of Synaptic Excitatory Transmission Onto Mouse MNTB Neurons**
*Huimei Wang*, Yong Lu*

**PS-307. The Role of Strial Macrophages in the Development and Maintenance of the Blood-Labyrinth Barrier**
*Xin Zhang, Yongfang Sha, Xu Liu, Weiwei He, Alisa Hetrick, Mengzhao Xun, Jialin Pang, Jianping Liu, Hongzhe Li**

**PS-308. Ptk7 is Required for Hair Cell Planar Polarity in the Utricle**
*Kira Boyce*, Yuqiong Zheng, Xiaowei Lu*

**PS-309. Phospholipid Flippase ATP8A2 Localization is Impacted by Hair Cell Mechanotransduction and May be Necessary for Synapse Maintenance**
*Katherine Nimchuk*, David Lee, Jung-Bum Shin*

**PS-310. Developmental Transformation of the Cochlear Sensory Epithelium Through Local ERK Signaling**
*Kevin Yu*, Trinh Nguyen, Travis Babola, Patrick Parker, Sergi Regot, Jonathan Gale, Dwight Bergles*

**PS-311. The Role of CWC27 in Cochlear Development**
*Norio Yamamoto*, Machi Nonomura, Hiroe Ohnishi, Tatsuya Katsuno, Koji Nishimura, Yosuke Tona, Mami Matsunaga, Takayuki Nakagawa, Koichi Omori*

**PS-312. SHANK2 Shapes Hair Bundle Architecture Essential for High-Frequency Hearing and Long-Term Maintenance**
*Han Seul Choi*, Hyeyoung Park, Hyehyun Min, Kwan Soo Kim, Soo Min Kim, Jinan Li, Chang Liu, Min Goo Lee, Lei Song, Bo Zhao, Jinwoong Bok*

**PS-313. A New Genetic Model to Mark Pure Neonatal Cochlear Outer Hair Cells for Single-Cell Transcriptomic Analysis**
*Zhenglin Jiang*, Minghui Ren, Zhiyong Liu, Hao Wu*

**PS-314. Absence of Sall1 Delays the Differentiation of Cochlear Outer Hair Cell**
*Yunpeng Gu*, Zhiyong Liu*

**PS-315. Hair Cells Do Not Require Core PCP Proteins or GPR156 Signaling to Correct Their Orientation in Time**
*Amandine Jarysta*, Cesare Orlandi, Michael Deans, Basile Tarchini*

**PS-316. Prox1 Regulates Development of the Lateral Compartment of the Organ of Corti**
*Braulio Peguero*, Mhamed Grati, Wade Chien, Matthew Kelley*

**Regeneration**

**PS-317. Injury-Induced Remodeling of the Actin Cytoskeleton in the Vestibular Maculae of Mice**
*Mark Warchol**

**PS-318. Understanding the Spatial Transcriptome of the Regenerating Zebrafish Inner Ear**
*Clarke Bagsby*, Erin Jimenez*

**PS-319. The Notch Ligand Jagged1 Plays a Dual Role in Cochlear Hair Cell Regeneration**
*Angelika Doetzlhofer*, Xiao-Jun Li, Charles Morgan, Lin Li, Elena Chrysostomou*

**PS-320. Organoids to 'Cure' Deafness? A Scoping Review on the Ethics of Using Organoid Technology to Treat Deafness**
*Esther Fousert*, Heiko Locher, Martine de Vries, Nienke de Graeff*

**PS-321. Hair Cell-Like Cells Generated in Mature Cochleae by Adenovirus-Mediated Expression of Gfi1, Atoh1, Pou4f3 With or Without Six1**
*Matthew Averyt, Lin Yang, Valeria Mas, Sunita Singh, Lisa Beyer, Diane Prieskorn, Andrew Groves, Yehoash Raphael**

**PS-322. Histone Deacetylase Inhibitor-Induced Phenotypic Transition of Schwann Cells Into Repair Types: Implications on Repair and Myelination During Nerve Damage**
*Ji Eun Choi, John Patrick Cuenca*, So-Young Chang, Nathaniel Carpena, Haetnim Lim, Min Young Lee, Jae Yun Jung*

**PS-323. Multi-Omics Analysis for Elucidating the Mechanism of Supporting Cell Reprogramming During Chick Cochlear Hair Cell Regeneration**
*Mami Matsunaga*, Marie Takeuchi, Koichi Omori, Takayuki Nakagawa*

**PS-324. Lentiviral Transduction of the Avian Inner Ear**
*Austin Huang*, Maggie Matern, Nesrine Benkafadar, Stefan Heller*

**PS-325. Organoid-Derived Otic Neuronal Progenitor Cells for Restoration of the Denervated Cochlea**
*Merete Hartmann*, Angeliki Koufali, Maria-Patapia Zafeiriou, Christian Wrobel*

**PS-326. Sox 10 Haploinsufficiency Increases Hair Cell Reprogramming in Mature Non-Sensory Cells**
*Alissa Buck*, Melissa McGovern*

**Genetics A: Genomics and Gene Regulation**

**PS-327. Isoform Diversity in the Mouse Cochlea and Utricle**
*Sarath Vijayakumar*, Mi Zhou, Guanfang Xie, Venkatlaxmi Chettiar, Khushboo Patel, David He, Litao Tao*

**PS-328. A Novel Chd7+/CreERT2 Mouse Model to Study Contributions of CHD7 to Inner Ear Development and Function**
*Jennifer Skidmore*, Donna Martin*

**PS-329. Evaluating Pendrin Correctors in a Mouse Model of Pendred Syndrome and DFNB4**
*Sieun Yu*, Minjin Kang, Mi-Hwa Shin, Seunghyeon Jang, Yeji Song*

**PS-330. CHD7 Enriched Silencers Promote Neuronal Differentiation**
*Jingyun Qiu*, Azadeh Jadali, Julie Ni, Edward Martinez, Zhichao Song, Kelvin Y. Kwan*

**Genetics B: General**

**PS-331. TNFRSF25: From Genetic Analysis of DNA Methylation in Human to a Mouse Model With Hearing Loss**
*Marie Valerie Roche, Denise Yan, Juan I. Young, Feng Gong, Katherina Walz, Xue Liu**

**PS-332. Association of Glial Cells in Hearing Loss in the Zebrafish Spen Mutant**
*Yan Gao*, Anna Shipman, Eliot Smith, Peng Sun, Itallia Pacentine, Timothy Erickson, Alex Nechiporuk, NA Zhang, Teresa Nicolson*

**PS-333. Candidate Therapeutic Approaches Identified from Transcriptomic Analyses of Mice Carrying Human MIR96 Mutations**
*Morag Lewis*, Maria Lachgar-Ruiz, Francesca di Domenico, Graham Duddy, Jing Chen, Sergio Fernandez, Matias Morin, Gareth Williams, Miguel Ángel Moreno Pelayo, Karen Steel*

**PS-334. Oligogenic Approaches to Whole Exome Sequence Analysis of a Large, Well-Phenotyped Cohort of Older Adults**
*Morag Lewis*, Jennifer Schulte, Bradley Schulte, Judy Dubno, Karen Steel*

**PS-335. Gender Differences in Gene Profiling in the Sexually Immature Murine Cochlea**
*Rania Sharaf, Henry J. Adler, Mengxiao Ye, Eduardo Cortes Gomez, Jianmin Wang, Bohua Hu**

**PS-336. Diverse Genetic Profiles in Hearing Loss Patients With Enlarged Vestibular Aqueduct: A Small Cohort Study Using a Targeted Exon Sequencing Panel**
*Gabrielle Merchant*, Wesley Tom, Jessie Patterson, Kristen Janky, Elizabeth Kelly, M. Rohan Fernando*

**PS-337. Investigating the Potential to Reverse Hearing Loss Caused by Myo7a Mutations**
*Daniel R. Pentland*, Lauren Witting, Karen P. Steel*

**PS-338. Can Hearing Loss in Pex3 Mutants with Synaptic Defects Be Reversed?**
*Rechal Kumar*, Elisa Martelletti, Karen P. Steel*

**PS-339. Rare Missense Variants in Constrained Regions in the Otog Gene Support a Founder Effect in Southern European Population in Familial Meniere Disease**
*Jose Lopez-Escamez*, Alberto M. Parra-Pérez, Alvaro Gallego-Martinez*

**PS-340. Characterization of Kdm6a Conditional Knockout Mice as a Preclinical Model for Kabuki Syndrome Type 2**
*Yuichi Shimizu*, Mason Palaga, Loryn Smith, Shriya Jhaveri, Amir Etemadi, Kalley Waldrop, Kevin Wu, Yohei Honkura, Jun Suzuki, Yukio Katori, Shinichi Someya*

**Aging**

**PS-341. Assessing Auditory Brainstem Response Changes Due to Aging in Macaque Monkeys**
*Aneesh Batchu*, Amy Stahl, Swarat Kulkarni, Oscar Rausis, Troy Hackett, Ramnarayan Ramachandran*

**PS-342. No Evidence for Cochlear Dysfunction in Ageing Barn Owls**
*Christine Koeppl**

**PS-343. L-Ergothioneine Shows Sex-Specific Benefits in Reducing Age-Related Hearing Loss: Improved Signal-in-Noise Detection in Male Mice**
*Collin Park*, Olivia Stanley, Parveen Bazard, Robert D. Frisina, Joseph P. Walton*

**PS-344. Abnormal Histopathological Features in the Aging Vestibular System of an Alzheimer's Mouse Model**
*Deborah Hamilton*, Brandon C. Cox, Bradley J. Walters*

**PS-345. Identification of Functional Biomarkers Associated with Age-Related Cochlear Synaptopathy**
*Joseph Pinkl*, John Hawks, Trung Vu, Jianxin Bao*

**PS-346. Increased Listening Effort and Decreased Speech Discrimination at High Presentation Sound Levels in Older Individuals With Hearing Loss**
*Chengjie Huang*, Natalie Field, Samira Anderson, Matthew J. Goupell*

**PS-347. Envelope Following Responses Constrained to the Auditory Midbrain Exhibit Evidence of Envelope Hyperresponsivity in Older Adults**
*Carolyn McClaskey*, James Dias, Kelly Harris*

**PS-348. Age-Related Ultrastructural Changes in the Inferior Colliculus of an Alzheimer's Disease Model**
*Jeffrey Mellott*, Lena Dellaria, Madeline Guy, Miljan Terzic, Jesse Young, Christine Dengler-Crish*

**PS-349. Investigating the Impact of Neural Encoding and Cognition on Time-Compressed Speech Perception**
*Ebtesam Sajjadi*, Kendell Adson, Matthew J. Goupell, Sandra Gordon-Salant, Samira Anderson,*

**PS-350. Physiological Functional Connectivity Changes During Difficult Listening in Older and Younger Adults**

*Vrishab Commuri*, I.M Dushyanthi Karunathilake, Stefanie Kuchinsky, Behtash Babadi, Jonathan Z. Simon*

**PS-351. Ergothioneine Consumption Shows Improvements in Hearing in Older Adults: An Analysis of Nhanes Data**

*Parveen Bazard, Timothy J Fawcett, Anders Vargas, Collin Park, Mark A. Bauer, Robert Frisina*, Joseph P. Walton*

**PS-352. Hearing Acuity and Musicianship Differentially Affect Mismatch Negativity and Memory Precision**

*Ricky Chow*, Jennifer Bugos, Shimin Mo, Claude Alain, R. Shayna Rosenbaum*

**PS-353. Influence of Single-Nucleotide Polymorphisms of the NF-E2-Related Factor 2 Gene on Age-Related Hearing Loss in the General Japanese Population from the Iwaki Health Promotion Project**

*Akira Sasaki*, Takashi Kasai, Shuya Kasai, Shiori Miura, Shinichi Goto, Ryoko Yotsuyanagi, Tatsuya Mikami, Yoshinori Tamada, Ken Itoh, Atsushi Matsubara*

**PS-354. Exploring the Correlation Between Blast-Induced Hearing Loss and the Progression of Alzheimer's Disease**

*Rachele Sangaletti*, Winston M. Walters, Shinelle Williams, Suhrud Rajguru, Nadine Kerr*

**PS-355. Memory-Guided Attention in Hearing Loss and Aging**
*Dominica Pec, Negar Salehi, Claude Alain, Brandon Paul**

**PS-356. The Detection of Biomarkers for the Development of Age-Related Hearing Loss Using Metabolomics in the Japanese General Population**
*Ryoko Yotsuyanagi*, Daichi Kokubu, Akira Sasaki, Shinichi Goto, Hiroyuki Yamamoto, Kozue Terai, Ken Itoh, Atsushi Matsubara*



**PS-357. Language Learning and Musical Activities in Older Adults With Hearing Loss: Cumulative Effects on Cognitive Function and Psychosocial Wellbeing**
*Eleanor Harding*, Deniz Baskent, Merel Keijzer*



**Tinnitus**

**PS-358. Therapeutic Advancement of NHPN-1010 for Addressing Chronic Noise-Induced Tinnitus in Rats**
*Xiaoping Du*, Jianzhong Lu, Zach Yokell, Qunfeng Cai, Weihua Cheng, Don Nakmali, Wei Li, Richard Kopke, Matthew B. West*

**PS-359. Objective Functional Biomarkers to Find Druggable Targets for Tinnitus and Hyperacusis**
*Lukas Rüttiger*, Elinor Riegger, Stephan Wolpert, Jakob Wertz, Uwe Klose, Matthias M. Munk, Ernst Dalhoff, Marlies Knipper*

**PS-360. Comparative Study of Tinnitus Suppression Effect of Cochlear Implant and Bone Conduction Implant in the Patients with Asymmetric Hearing Loss and Single-Sided Deafness**
*Chan Mi Lee*, Jae Sang Han, Min-Chae Jeon, Minyu Ko, So Young Park, Shi Nae Park*

**Otoacoustic Emissions**

**PS-361. Intermodulation Distortions in a Mouse Cochlea**

*Cooper Swan, Sheiva Hodjati, Bernard Slater, Karolina Charaziak**

**PS-362. Effects of Contralateral Square-Wave Stimulation on Distortion Product Otoacoustic Emissions**

*Takuji Koike**, *Yuta Hara, Sinyoung Lee*

**Development: Human Subjects**

**PS-363. Characterization of SSBP1-Mutation-Associated-Hearing Loss in Patient-Derived Otic Organoids**

*Nathaniel Carpena**, *So-Young Chang, Ji-Eun Choi, Jae Yun Jung, Sang-Yeon Lee, Min Young Lee*

**PS-364. Hearing at Home: The Auditory Environment of Young Children With Hearing Loss**

*Annerenée Meijer**, *Michel Benard, Aart Woonink, Deniz Baskent, Evelien Dirks*

**Psychoacoustics**

**PS-365. Does Selective Attention to a Target Speaker Reveal a Cortico-Cochlear Loop?**

*Sarah Haysley**, *Skyler Jennings, Ehud Ahissar, James Lacker, Oded Ghitza*

**PS-366. Probing for Diplacusis in Individuals with Endolymphatic Hydrops**

*Samantha Stiepan**, *Christopher Shera, Carolina Abdala*

**PS-367. Memory Errors Reveal Cross-Cultural Variation in Representations of Environmental Sounds**

*Bryan Medina**, *Yue Chen Li, Ricardo Godoy, Josh McDermott*

**PS-368. Optimization Under Ecological Realism Reproduces Signatures of Human Speech Recognition**
*Annika Magaro*, Erica Shook, Alex Kell, Mark Saddler, Josh McDermott*

**PS-369. Cross-Cultural Influences of Beating on Music Perception**
*Josh McDermott*, Bryan Medina, Preston Hess, Malinda McPherson, Eduardo Undurraga, Ricardo Godoy*

**PS-370. Perceptual Anchoring to Auditory Textures in Neurotypical and Neurodivergent Listeners**
*Heivet Hernandez Perez*, Divya Mehta, Kurt Shulver, Rebecca Poulsen, David McAlpine*

**PS-371. Texture Streaming in Auditory Scenes**
*Jarrod Hicks*, Josh McDermott*

**PS-372. Cross-Culturally Shared Sensitivity to Harmonic Structure Underlies Aspects of Pitch Discrimination**
*Aidan Seidle*, Malinda McPherson, Eduardo Undurraga, Josh McDermott*

**PS-373. Measuring the Performance of Hearing Aid Fitting Algorithms on Hearing in Noise**
*Ahsan Cheema*, Sunil Puria*

**PS-374. Predicting Speech Perception Through Information Processing Rate in a Mild Traumatic Brain Injury Population**
*Conner Corbett*, Karen Garcia, Lauren Charney, Tess Koerner, Frederick Gallun*

**Binaural Hearing & Sound Localization**

**PS-375. Enhancing Auditory Localization and Speech-In-Noise Comprehension Through Augmented-Reality Auditory Training**

*Pooseung Koh*, Sungyoung Kim, Hyo-Jeong Lee, Inyong Choi, Sungmin Jo*

**PS-376. The Effect of Chirp vs Click Stimuli on the ABR Binaural Interaction Component and Behavioral Sensitivity to Interaural Time Difference in Humans**

*Kerry Walker*, Carol Sammeth, Matthew Mavandi, Nathaniel Greene, Daniel Tollin*

**PS-377. Emergence of Interaural Time Difference Tuning in a Neural Network Trained for Sound Classification**

*Takuya Koumura*, Hiroki Terashima, Shigeto Furukawa*

**PS-378. Deep Neural Network Models of Human Sound Localization Indicate Which Aspects of Localization Are Mediated by Explicit Binaural Processing**

*Mathias Dietz*, Mohammad Dehghani-Habibabadi, Mark Saddler, Josh McDermott*

**PS-379. To Glimpse or Not to Glimpse: Behavioral and Neuroimaging Evidence for Binaural Glimpsing**

*Jörg Encke*, Hamish Innes-Brown, Heivet Hernandez-Perez, David McAlpine*

**PS-380. Evaluating the Effectiveness of Short Interpulse Interval (SIPI) Stimulation in Multichannel Cochlear Implants**

*Yibo Fan*, Demi Wu, Rene Gifford*

**PS-381. A Transient Memory Lapse in Humans Less Than One Hour After Training on a Sound-Localization Task**
*Allison A. May, Hannah R. Rostollan, Beverly A. Wright**

**Multisensory Processing/Interactions**
**PS-382. Direct Connectivity Between the Inferior Colliculus and the Lateral Vestibular Nucleus in the Integration of Auditory and Vestibular Systems**
*Sunghee Kang*, Youngrae Ji, Gunsoo Kim*

**Other**
**PS-383. Pcp Auto Count: An Imagej Plug-In Developed Using Ai (Actual Intelligence) for Automated Cell Counting and Measurement of Planar Cell Polarity**
*Kendra Stansak, Luke Baum, Sumana Ghosh, Punam Thapa, Brad Walters**

**PS-384. Computer Vision Based Audiogram Symbol Detection**
*Ruoyu Yang*, Dana Mae Salvador, Carl Ehrett, Peter Dixon*

**Mini-Podium 1: Otitis Media: Imaging, Immunity and Innovative Therapy**
**Moderators:** Arwa Kurabi & Peter Santa Maria
3:00 PM - 4:00 PM
*Ocean Ballroom 9 - 12*

**3:00 PM - 3:15 PM PD-41**
**A 3D and Explainable Artificial Intelligence Model for Evaluation of Chronic Otitis Media Based on Temporal Bone Computed Tomography: Model Development, Validation, and Clinical Application**
*Binjun Chen*, Fanglu Chi, Yike Li, Dongdong Ren*

**3:15 PM - 3:30 PM PD-42**
**A Multispectral Approach to Reducing Recurrence in Cholesteatoma Surgery: A Pilot Feasibility Study**
*Roy Park*, Mark Nyaeme, Daniel Penaranda, Iram Ahmad, Tulio Valdez*

**3:30 PM - 3:45 PM PD-43**
**Innate Immune Gene Expression and Regulation by Epithelial Cell Types during Otitis Media**
*Allen F. Ryan*, Arwa Kurabi, Nathan Zemkle*

**3:45 PM - 4:00 PM PD-44**
**Exploiting Bacterial Nutritional Dependence: A Novel Therapy to Prevent Middle Ear Infections**
*Brianna Atto*, Caitlyn Granland, Jack Pepper, Stephen Tristram, Robyn Marsh, Ruth Thornton, Lea-Ann Kirkham*



**Special Session 2: Making History: Celebrating Black Scientists in Otolaryngology**
**Chair:** Jeffrey Cheng
**Co-chair:** Melissa McGovern
**Co-chair:** Michele Insanally
**Co-chair:** Ilkem Sevgili
**Moderator:** Juwan Copeland
3:00 PM - 5:00 PM
*Ocean Ballroom 1 - 4*

**3:05 PM - 3:20 PM SYMP-38**
**Visuo-Vestibular Interactions During Gaze Control in Mice: Implications for Successful Navigation**
*Brandie Verdone**

**3:20 PM - 3:35 PM SYMP-39**
**Investigating the Neurophysiology of Listening**
*Nikolas Francis**

**3:35 PM - 3:50 PM SYMP-40**
**The Spaghetti and Bean Journey: How I Began Studying Mitochondria in Zebrafish Mechanosensory Hair Cells**
*Andrea McQuate**

**3:50 PM - 4:05 PM SYMP-41**
**Africa is the next Frontier for Hearing Loss Novel Genes Discovery**
*Ambroise Wonkam**

**Podium 6: Decoding Speech Perception: Insights from Neural, Behavioral, and Technological Perspectives**
**Moderator:** Joseph Luetkehans & Rose Rizzi
3:00 PM - 5:00 PM
*Ocean Ballroom 5 - 8*

**3:00 PM - 3:15 PM PD-45**
**Leveraging AI to Improve Speech Perception With Hearing Devices: Multiple Microphones and Speaker Selection Enhance Performance in Realistic Noisy Situations**
*Tobias Goehring*, Iordanis Thoidis, Clement Gaultier*

**3:15 PM - 3:30 PM PD-46**
**Cochlear Implant Users Improve Speech-on-Speech Perception With Piano Training**
*Eleanor Harding*, Etienne Gaudrain, Robert Harris, Barbara Tillmann, Bert Maat, Steven de Rooij, Rolien Free, Deniz Baskent*

**3:30 PM - 3:45 PM PD-47**
**Auditory-Motor Entrainment and Listening Experience Shape the Perceptual Learning of Concurrent Speech**
*Jessica MacLean*, Jack Stirn, Gavin Bidelman*

**3:45 PM - 4:00 PM PD-48**
**Age-Related Dual-Task Cost of Speech Perception in Quiet and Noise While Walking**
*Yossi Bugannim*, Alon Kalron, Liat Kishon-Rabin*

**4:00 PM - 4:15 PM PD-49**
**Attentional Dynamics Drive Narrative Lingering Under Effortful Listening Conditions**
*Ryan Panela*, Björn Herrmann, Alexander Barnett*

**4:15 PM - 4:30 p.m PD-50**
**Human-Like Feature Attention Emerges in Task-Optimized Models of the Cocktail Party Problem**
*Ian Griffith*, Preston Hess, Josh McDermott*

**4:30 PM - 4:45 PM PD-51**
**The Influence of Semantic Context on the Intelligibility Benefit From Speech Glimpses in Younger and Older Adults**
*Priya Pandey*, Björn Herrmann*

**4:45 PM - 5:00 p.m PD-52**
**Uncovering Genetic Comorbidities Related to Speech in Noise Deficits Using Polygenic Risk Score From Two Independent Cohorts**
*Srividya Grama Bhagavan*, Valerie Ingalls, Ishan Bhatt*

**Mini-Podium 2: Etiologies and Novel Treatments of Inner Ear Disorders**
**Moderators:** Jose Antonio Lopez-Escamez & Jarnail Singh
4:15 PM - 5:15 PM
*Ocean Ballroom 9 - 12*

**4:15 PM - 4:30 PM PD-53**

**Vanadium, Uranium, and Silver Metal Levels Are Associated with Poorer Auditory Test Performance Among Children in a Nicaraguan Mining Community.**

*Marissa Kachadoorian*, Torri Lee, Jessica Fitzgerald, Michaela Geffert, Adrian Fuente, Catherine Rieke, Anastasiya Kobrina, Odile Clavier, Jiang Gui, Jie Zhou, Siting Li, Margaret Karagas, Brian Jackson, Karen Mojica, Christopher Niemczak, Jay Buckey, James Saunders*



**4:30 PM - 4:45 PM PD-54**

**Machine Learning Model for Predicting Acute Hearing Loss Episodes in Patients with SLC26A4 Variants**

*Pei-Hsuan Lin*, Yu-Jen Wu, Ta-Wei Yang, Yu-Ting Chiang, Yu-Xhin Lu, Tien-Chen Liu, Chuan-Jen Hsu, Cheng-Fu Chou, Chen-Chi Wu*

**4:45 PM - 5:00 PM PD-55**

**SPI-1005 Improves Auditory and Vestibular Deficits in Meniere's Disease in a Multi-Center Phase 3 Randomized Placebo-Controlled Trial (STOPMD-3)**

*E Emily Harruff, Jacqueline Nguyen, G Michael Wall, Shaun Nguyen, Paul Lambert, Jonathan Kil**

**5:00 PM - 5:15 PM PD-56**

**Phex Gene Dosage Effect as a Likely Trigger for Meniere Disease in Patients with X-Linked Hypophosphatemia**

*Paula Robles-Bolivar*, Divya Chari, David Bächinger, Arpan Bose, Kimberly Ramirez, Eva Liu, Steven Rauch, Andreas Eckhard*

**ARO Business Meeting**

5:30 PM - 6:30 PM

*Ocean Ballroom 5 - 8*

**Inner Ear Courses**
6:30 PM - 7:30 PM
*Ocean Ballroom 1 - 4*

- **Biology of the Inner Ear**
  **Chair:** Katie Kindt
  **Presenters:** Katie Kindt, Alain Dabdoub, Daniel Tollin

- **JAX Course**
  **Chair:** Matthew Kelley

- **NIDCD EARssentials Course**
  **Chair:** Elyssa Monzack
  **Presenters:** Elyssa Monzack & Melanie Barzik

**spARO Mentorship Meet and Greet**
7:30 PM - 8:30 PM
*Damselfish*

**spARO LGBTQIA+ Social**
8:30 PM - 10:30 PM
*Walu*

# Monday, February 24, 2025

**ARO Registration**
7:00 AM - 5:30 PM
*Crystal Registration Desk*

**Speaker Ready Room**
7:00 AM - 5:45 PM
*Labrid A*

**Parenting Room**
7:30 AM - 5:00 PM

**Prayer/Meditation Room**
7:30 AM - 5:00 PM
*Hinalea*

**Symposium 3: Inner Ear Immunity: Unraveling the Immune Dynamics in Hearing**
**Chair:** Cathy Yea Won Sung
8:00 AM - 10:00 AM
*Ocean Ballroom 1 - 4*

**8:00 AM - 8:30 AM SYMP-42**
**Immune Mediated Sensory Hearing Loss in Chronic Suppurative Otitis Media**
*Peter Santa Maria*, Vincent Yuan, Anping Xia, Viktoria Schiel, Ritwija Bhattacharya*

**8:30 AM - 8:45 AM SYMP-43**
**Harnessing Macrophages for the Treatment of Noise-Induced Hidden Hearing Loss**
*Tejbeer Kaur**

**8:45 AM - 9:00 AM SYMP-44**

**Single-Cell, Spatial, and Fate-Mapping Analyses Uncover Niche Dependent Diversity of Cochlear Myeloid Cells**

*Aude Chiot, Max Felgner, Dillon Brownell, Katherine H. Rott, Alina Bogachuk, Dennis-Dominik Rosmus, Patrick J. Atkinson, Alan G. Cheng, Peter Wieghofer, Bahareh Ajami**

**9:00 AM - 9:15 AM SYMP-45**

**Single-Nucleus RNA Sequencing Reveals Transcriptional Markers of Congenital CMV Infection in the Mouse Cochlea**

*Daniel Romano*, Song-Zhe Li, Michael Hoa, Sidharth Puram, William Britt, Keiko Hirose*

**9:15 AM - 9:30 AM SYMP-46**

**Role of the Immune System in the Development of Endolymphatic Hydrops and Hearing Instability in Humans**

*Samuel Adadey*, Rafal Olszewski, Shoujun Gu, Dillon Strepay, Julia Telischi, Alison Benner, Jennifer Chisholm, John Butman, Michael Hoa*

**9:30 AM - 9:45 AM SYMP-47**

**Organ of Corti Macrophages: A Distinct Group of Cochlear Macrophages With Potential Roles in Cochlear Development and Supporting Cell Degeneration**

*Mengxiao Ye*, Dalian Ding, Celia Zhang, Guangdi Chen, Henry J. Adler, Rania Sharaf, Bohua Hu*

**9:45 AM - 10:00 AM SYMP-48**

**Assessment of AAV-Mediated Innate and Adaptive Immunity in the Mammalian Inner Ear**

*Yasuko Ishibashi*, Jianliang Zhu, Gwladys Gernoux, Yunkai Yu, Michelle J. Suh, Kevin Isgrig, Mhamed Grati, Rafal Olszewski, Michael Hoa, Liang Cao, Thomas B. Friedman, Oumeya Adjali, Wade Chien*

**Podium 7: Cochlear Mechanics: Models, Experiments, and Problems**
**Moderators:** Wei Dong & Paul Secchia
8:00 AM - 10:00 AM
*Ocean Ballroom 5 - 8*

**8:00 AM - 8:15 AM PD-57**
**3D Finite Element Modeling of Human Cochlear Responses to Air and Bone Conductions for Blast Overpressure and Acoustic Wave Transmission**
*John Bradshaw, Marcus Brown, Alexander Bien, Mirembe Mulimba, Yijie Jiang*, Rong Gan*

**8:15 AM - 8:30 AM PD-58**
**Broadband Nonlinearity in Vibrations of the Mouse Cochlear Apex**
*James Dewey**

**8:30 AM - 8:45 AM PD-59**
**Determining Parameters for an Active Radial-Slice Model Using Lumped Element Modeling and Simulation-Based Inference**
*Julius Kraut*, Daniel Cardosi, Sunil Puria*

**8:45 AM - 9:00 AM PD-60**
**Inner Ear Fluids Imbalance in Meniere's Disease Between Blood and Cerebrospinal Fluid**
*Michael Burcon**

**9:00 AM - 9:15 AM PD-61**
**Internal Motion of the Organ of Corti in the Absence of Traveling Waves**
*Francesco Gianoli*, Rodrigo Alonso, Brian Fabella, A. Jim Hudspeth*

**9:15 AM - 9:30 AM PD-62**
**On the Growth of the Wave Vector of the Cochlear Traveling Waves, and its Dependence on the Relative Phase of Reticular Lamina and Basilar Membrane**
*Renata Sisto*, Arturo Moleti*

**9:30 AM - 9:45 AM PD-63**
**Low Frequency Tuning in the Apical Turn of the Cochlea in Aged Mice**
*Takeru Ota*, Kazuya Ono, Hiroki Takeda, Hiroshi Hibino*

**9:45 AM - 10:00 AM PD-64**
**Revisiting Key Hypotheses in Cochlear Micromechanics regarding Traveling Wave Amplification and Longitudinal Vibrations**
*George Samaras, Julien Meaud**

**Podium 8: Hair Cell Regeneration in Fish and Mice**
**Moderators:** Brandon Cox & Charles Morgan
8:00 AM - 10:00 AM
*Ocean Ballroom 9 - 12*

**8:00 AM - 8:15 AM PD-65**
**Cross-Species Meta-Analysis Identifies Shared and Unique Gene Expression Differentiating Hair Cells From Supporting Cells**
*Lisa Goodrich*, Mahashweta Basu, Nesrine Benkafadar, Amanda Ciani Berlingeri, Ivan Cruz, Emilia Luca, Jeremy Sandler, Seth Ament, John Brigande, Alain Dabdoub, Albert Edge, Ksenia Gnedeva, Andrew Groves, Stefan Heller, Ronna Hertzano, Tatjana Piotrowski, David Raible, Yehoash Raphael, Jennifer Stone, Litao Tao, Mark Warchol*

**8:15 AM - 8:30 AM PD-66**
**Multimodal Analysis of Gene Regulatory Networks Driving Zebrafish Inner Ear Regeneration**
*Erin Jimenez**

**8:30 AM - 8:45 AM PD-67**
**Accessibility of Developmental Enhancers Maintains Competency for Hair Cell Regeneration**
*Tuo Shi, Xizi Wang, Yeeun Kim, Juan Llamas, Gage Crump, Ksenia Gnedeva**

**8:45 AM - 9:00 AM PD-68**
**Exploring Ger-Derived Organoids as a Model for Cochlear Regeneration: Insights From a Single-Cell Rna Sequencing Study**
*Marie Kubota*, Julia M. Abitbol, Paul K. Lee, Sonia Bustos Barocio, Taha A. Jan, Alan G. Cheng, Stefan Heller*

**9:00 AM - 9:15 AM PD-69**
**Spatial and Transcriptomic Determinants of Regenerated Hair Cell and Supporting Cell Fates**
*Sara Billings*, Lingjun Zhang, Roshni Parulekar-Martins, Andrew Groves, Alan G. Cheng*

**9:30 AM - 9:45 AM PD-70**
**Reprogramming Supporting Cells With Small Molecules for Cochlear and Vestibular Hair Cell Regeneration**
*Hanae Lahlou*, Hong Zhu, Wu Zhou, Albert S. B. Edge*

**9:45 AM - 10:00 AM PD-71**
**Treatment of Vestibular Dysfunction Through Hair Cell Regeneration by Dual Aav-Mediated Crispr Activation**
*Chenxi Jin*, Zhengyi Chen, Yong Tao, Hao Wu*

**Exhibits Open**
9:00 AM - 5:00 PM
*Peninsula Ballroom and Foyer*

**Break**
10:00 AM - 10:30 AM
*Ocean Foyer*

**Symposium 4: Hair-Cell Evolution: Insights from New Model organisms, Comparative studies, and Molecular Analyses**
**Chair:** Marcos Sotomayor
**Co-chair:** Eduardo Perozo
10:30 AM - 12:30 PM
*Ocean Ballroom 1 - 4*

**10:30 AM - 10:45 AM SYMP-49**
**Molecular Evolution of Tip-Link Proteins**
*Marcos Sotomayor, Collin Nisler, Emily Scheib, Yoshie Narui, Deepanshu Choudhary, Jacob Bowman, Qurat Ashraff, Harsha Mandyam Bharathi, Vincent Lynch, Emily Scheib**

**10:45 AM - 11:00 AM SYMP-50**
**Structural Insights Into the Evolution of Mammalian Prestin From Anion Transporter to Area Motor**
*Nicolas Fuentes-Ugarte, Tiaren Ruiz-Rojas, Victor Castro-Fernandez, Raul Araya-Secchi**

**11:00 AM - 11:30 AM SYMP-51**
**The Nompc Gating Spring**
*Martin Göpfert, Philip Helhlert, Thomas Effertz, Ruo-Xu Gu, Björn Nadrowski, Bart R. H. Geurten, Dirk Beutner, Bert L. de Groot, Thomas Effertz**

**11:30 AM - 12:00 PM SYMP-52**
**Molecular Characterization of Tunicate Coronal Organ Mechanosensory Cells**
*Gwynna Fuller*, Bita Jadali, Eduardo D. Gigante, Ye-Jin Park, Yanyan Qi, Christopher J. Johnson, Haley Gidden, Hongjie Li, Alberto Stolfi, Andrew K. Groves*

**12:00 PM - 12:30 PM SYMP-53**
**Evolutionary Approaches to Cellular and Molecular Mechanotransduction**
*Eduardo Perozo*, Zeeshan Banday, Zhen Tong, Emily Watto, Naileth Gonzalez, Zachary Fournier, Jocelyn Malamy*

**Podium 9: Auditory Cortex: Human and Animal Studies**

**Moderators:** George Ordiway & Steven Eliades

10:30 AM - 12:30 PM

*Ocean Ballroom 5 - 8*

**10:30 AM - 10:45 AM PD-72**

**Large-Scale Recordings of Human Single Neuron Activity During Auditory Working Memory**

*Joel Berger*, Alexander Billig, Phillip Gander, Sukhbinder Kumar, Christopher Kovach, Ariane Rhone, Christopher Garcia, Hiroto Kawasaki, Matthew Howard, Timothy Griffiths*

**10:45 AM - 11:00 AM PD-73**

**An Eligibility Trace for Synaptic Plasticity in the Auditory Cortex**

*Brendan Williams*, Tanya Danaphongse, Seth Hays, Crystal T. Engineer*

**11:00 AM - 11:15 AM PD-74**

**Human Auditory Cortex Integrates Information in Speech and Music Using Similar Timescales**

*Zehua Kcriss Li*, Thomas Wychowski, Webster H. Pilcher, Samuel Norman-Haignere*

**11:15 AM - 11:30 AM PD-75**

**Dynamic Role of Perineuronal Nets in Modulating Auditory Neural Plasticity During Perceptual Learning**

*Jessica Winne*, Rebecca Schrader, Melissa Caras*

**11:30 AM - 11:45 AM PD-76**

**Listening to the Room: Disrupting Activity of Dorsolateral Prefrontal Cortex Impairs Learning of Room Acoustics**

*Heivet Hernandez Perez*, Jessica Monaghan, Jason Mikiel-Hunter, James Traer, Paul Sowman, David McAlpine*

**11:45 AM - 12:00 PM PD-77**

**Instinct Versus Insight: Neural Competition Between Prefrontal and Auditory Cortex Constrains Sound Strategy Learning**

*Kai Lu*, Kelvin Wong, Chengcheng Yang, Lin Zhou, Yike Shi, Maya Costello, Robert Liu*

**12:00 PM - 12:15 PM PD-78**

**Neural Decoding of Continuous Speech for Different Acoustic Features: Effects of Intelligibility and Spectral Degradation**

*Alexis D. MacIntyre, Robert P. Carlyon, Matthew H. Davis, Tobias Goehring**

**12:15 PM - 12:30 PM PD-79**

**The Impact of Musical Expertise on Disentangled and Contextual Neural Encoding of Music Revealed by Generative Music Models**

*Yinghao Li, Gavin Mischler*, Stephan Bickel, Ashesh D. Mehta, Nima Mesgarani*

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**Podium 10: Binaural Hearing and Sound Localization**

**Moderators:** Chris Stecker & Josh McDermott

10:30 AM - 12:30 PM

*Ocean Ballroom 9 - 12*

**10:30 AM - 10:45 AM PD-80**

**Age-Related Myelin Deficits in the Auditory Brainstem Contribute to Central Hearing Loss in Gerbils**

*Ben-Zheng Li*, Shani Poleg, Matthew Ridenour, Daniel Tollin, Tim Lei, Achim Klug*

**10:45 AM - 11:00 AM PD-81**

**Auditory Brainstem Responses in Nine Wild Rodent Species with Different Social Behavior Organizations**

*Luberson Joseph*, Elizabeth McCullagh*

**11:00 AM - 11:15 AM PD-82**
**Auditory Competition or Binaural Decorrelation? A Comparison Between Midbrain Space Maps in the Barn Owl**
*Roland Ferger*, Andrea Bae, Jose Luis Pena*

**11:15 AM - 11:30 AM PD-83**
**Myelination Changes during Development Underlying Auditory Dysfunction in the Auditory Brainstem in Fragile X Syndrome.**
*Amita Chawla**

**11:30 AM - 11:45 AM PD-84**
**Sound Localization Accuracy During the First Years of Life in Children Born With Unilateral Sensorineural Hearing Loss**
*Marlin Johansson*, Erik Berninger, Filip Asp*

**11:45 AM - 12:00 PM PD-85**
**Characterizing Spatial Hearing in Unilateral Hearing Loss: Effects on Spatial Cues and Adaptation**
*Sara Momtaz Bokharaei*, Ryan McCreery, Elizabeth Heinrichs-Graham, Dawna Lewis, G. Christopher Stecker*

**12:00 PM - 12:15 PM PD-86**
**Spatial Hearing With Active Hearables: Evaluation of the Transparency Hearing Mode**
*Seba Ausili*, Nathan Erthal, Christopher Bennett, Hillary Snapp*

**12:15 PM - 12:30 PM PD-87**
**The Influence of Binaural Cues on Auditory Stream Segregation in Younger and Older Normal- Hearing Listeners**
*Nathan Higgins*, Carrie Secor, Erol J. Ozmeral*

**Lunch On Own**
12:30 PM - 1:30 PM

**Poster Session III with Coffee**
1:30 PM - 3:00 PM
*Peninsula Ballroom*

**Auditory Nerve**

**PS-385. Application of Non-Invasive Electrocochleography in a Clinically Relevant Mouse Model of Hearing Instability**
*Talah Wafa*, Rafal Olszewski, Tracy Fitzgerald, Michael Hoa*

**PS-386. Computational Model of Human Auditory Evoked Potentials at the Peripheral and Brainstem Levels**
*Miguel Temboury Gutiérrez*, Gerard Encina-Llamas, Torsten Dau*

**PS-387. Effect of Auditory Attention on Otoacoustic Emission Delay**
*Yuri Dowaki*, Sho Otsuka, Seiji Nakagawa*

**PS-388. Introducing Different Spontaneous-Rate Classes of Auditory Nerve Fibers to the CARFAC v3 Cochlear Model**
*Dick Lyon, Jason Mikiel-Hunter*, Rob Schonberger, Honglin Yu*

**PS-389. Effects of Cortical Activation on Medial Olivocochlear Reflex**
*Kandai Uchiyama*, Sho Otsuka, Seiji Nakagawa*

**PS-390. The Relationship of the Cortilymph Wave to the Traveling Wave, Auditory-Nerve Responses, and Low-Frequency Downward Glides**
*John Guinan**

**PS-391. Afferent Connection From Cochlea to Flocculus/Paraflocculus Complex**
*Max Gattie*, Xiaodong Tan, Gabriella Sekerková, Marco Martina, Claus-Peter Richter*

**PS-392. Integration of Functional Human Auditory Neural Circuits Based on a Three-Dimensional Carbon Nanotube System**
*Yiyun Lou*, Jiaoyao Ma, Mingyu Xia, Wenyan Li*

**Brainstem: Structure & Function**

**PS-393. Multiple Sources of Cholinergic Input to the Nuclei of the Lateral Lemniscus**
*Dayanara B. Lohr, Emily E. Echols, Isabella Ackerman, Shreeya Kaur, William A. Noftz, Brett Schofield**

**PS-394. Comparative Physiology of Action Potential Generation in Neurons of the Mntb**
*Laura Console-Meyer, Felix Felmy**

**PS-395. An investigation on Mitochondrial Protein Makers in Mouse Cochlear Nucleus Changing During Aging**
*Meijian Wang*, Ruijie Cai, Ting Zhao, Xintong Li, Sidi Liu, Huihui Liu, Hao Wu*

**PS-396. Noise-Induced Hearing Loss Enhances Ca2+-Dependent Spontaneous Bursting Activity in Lateral Cochlear Efferents**
*Hui Hong*, Laurence O. Trussell*

**PS-397. Mitochondrial Morphology Differences in the Auditory Brainstem of Fragile X Syndrome Mice Using Electron Microscopy**
*Naleyshka Colon*, Amita Chawla, Elizabeth McCullagh*

**PS-398. Synaptic Variation of Auditory Nerve Inputs Decreases Temporal Precision but Improves Stimulus Reproduction in Globular Bushy Cells**
*Chunjian Wang*, Go Ashida, Christian Keine, Ivan Milenkovic*

**Midbrain: Structure & Function**

**PS-399. Characterizing Novel Candidate Molecular Markers of Inferior Colliculus Neuron Types**
*Elie Huez*, Michael Roberts*

**PS-400. Serotonergic Modulation of Inhibitory and Excitatory Neurons in the Inferior Colliculus**
*Karen Galindo*, Nicole Hall, Marina Silveira*

**Auditory Cortex and Thalamus: Structure & Function**

**PS-401. Social Experience Dependent Plasticity in Micro-Organization and Population Coding of Sequences of Mouse Vocalizations in the Mouse Auditory Cortex**
*Srishti Jain, Sohini Gupta*, Swapna Agarwalla, Sharba Bandyopadhyay*

**PS-402. Stimulus-Specific Suppression Distinguishes Layer 5 from Layer 6b Extratelencephalic Neurons**
*Madan Ghimire*, Ross Williamson*

**PS-403. Functional in Vivo Characterization of Layer 6 Corticothalamic Neurons in Primary Auditory Cortex**
*Marina Cardoso de Oliveira*, Patrick O. Kanold*

**Primary Auditory Cortex**

**PS-404. Neural Mechanisms of Rhythm Perception and Encoding in the Marmoset Auditory Cortex**
*Chen Li**

**Inner Ear: Anatomy & Physiology**

**PS-405. Immediate Upregulation of Nr4a1 Mrna in Response to Blast-Induced Cochlear Injury in Mice**
*Shingo Yasutake*, Kunio Mizutari, Takaomi Kurioka*

**PS-406. Developmental Expression of the Ha Tagged α9 Nachr Subunit in the Mouse Cochlea**
*Hakim Hiel*, Eleftheria Slika, Fatima Chakir, Paul Fuchs*

**PS-407. Transcriptomic Heterogeneity in Young C57BL/6N Mice Due to the Presence of the Cdh23ahl Allele**
*Sherylanne Newton*, Marisa Flook Pereira, Carlos Aguilar, Michael Bowl*

**PS-408. Functional Role of FLRT3 in Mammalian Auditory Hair Cells**
*Wanying Feng*, Xiaofen LI, Pingbo Huang*

**PS-409. Single-Nucleus RNA-Sequencing Profiling of Mouse Cochlea in Response to Cisplatin**
*Amanda Bonczkowski*, Franz Gareza, Erica Sadler, Katharine Fernandez, Rafal Olszewski, Mark Warchol, Michael Hoa, Cathy Yea Won Sung, Lisa Cunningham*

**PS-410. Adriamycin Nephropathy Causes Sensorineural Hearing Loss via Blood-Labyrinth Barrier Disruption and Hyperpermeability in Balb/c Mice**
*Sheng Jin, Tae Hwan Kim, Min Jung Park, Yong-Ho Park, Jin Sheng**

**PS-411. Gonad-Derived Hormones Mediate Sex Differences in the Maturation of Peripheral Auditory Sensitivity in C57BL/6J Mice From Adolescence to Adulthood**
*Nicholas Lozier, Max Aizenstein, Essence Williams, Maria Rubio**

**PS-412. The Diversity of Murine Type II Spiral Ganglion Neurons Biophysical Properties**
*Nathaniel Nowak*, Radha Kalluri*

**PS-413. Pathology of Fresh Human Cochleae Imaged With OCT and Validated With Histological Assessment**
*Paul Secchia*, Ephraim Oyetunji, Aleksandrs Zosuls, Anbuselvan Dharmarajan, Jennifer T. O'Malley, MengYu Zhu, Andreas Eckhard, Hideko Nakajima*

**PS-414. Reliability of Potential Biomarkers in the Neurodiagnostic Auditory Brainstem Response**
*Aryn Kamerer*, Marlana Petersen, Katelyn Chapman, Kyler Vugteveen, William Allen*

**PS-415. Identification of Soluble Factors Affecting Blood-Labyrinth Barrier Permeability During Cisplatin Treatment via Single Nucleus RNA-Sequencing**
*Cathy Yea Won Sung*, Franz Gareza, Amanda Bonczkowski, Erica Sadler, Katharine Fernandez, Rafal Olszewski, Michael Hoa, Mark Warchol, Lisa Cunningham*

**PS-416. Gating of Hair Cell Ca2+ Channels Governs the Activity of Cochlear Neurons**
*Nare Karagulyan*, Anupriya Thirumalai, Susann Michanski, Yumeng Qi, Qinghua Fang, Haoyu Wang, Nadine Ortner, Jörg Striessnig, Nicola Strenzke, Carolin Wichmann, Yunfeng Hua, Tobias Moser*

**PS-417. Investigating Norrin Expression Patterns Within the Cochlea**
*Ilkem Sevgili*, Yushi Hayashi, Albert Edge*

**PS-418. Investigating DNA Damage Response and Apoptosis in Cisplatin-Induced Ototoxicity**
*Franz Gareza*, Cathy Yea Won Sung, Amanda Bonczkowski, John Lee, Lisa Cunningham*

**PS-419. 3D Reconstruction of the Inner Ear Membranous Labyrinth Using 7 Tesla Magnetic Resonance Imaging and Advanced Post-Processing Techniques**

*Syed Ahmad*, Joon Soo Kim, Diane Jung, Zahra Sayyid, Adrian Paez, John P. Carey, Jun Hua, Bryan K. Ward*

**Inner Ear: Damage and Protection of Hair Cells**

**PS-420. Characterizing a Multi-Dose Kanamycin Ototoxicity Mouse Model**

*Yingkun Yang*, Sung-Won Choi, Danial Naseem, Anthony Ricci, Alan Cheng*

**PS-421. The Role of Oncomodulin in HPβCD-Induced Hearing Loss in Mice**

*Mi-Jung Kim*, Robert Fuentes, Jing Zheng*

**PS-422. Hair Cell Survival Following Selective Denervation of the Spiral Ganglion Neurons in Neonatal Mice**

*Sahiti Vemula*, Joshua Lin, Nhi Nguyen, Seiji Shibata*

**PS-423. Hyperosmotic Sisomicin Infusion: A Mouse Model for Hearing Loss**

*Ayse Maraslioglu Sperber*, Fabian Blanc, Stefan Heller, Nesrine Benkafadar*

**PS-424. Evaluation of Hearing Loss Induced by Blast Exposure of Varying Intensity and Frequency in CBA/J Mice**

*Yutaka Koizumi*, Aaron Remenschneider, Jeffrey Cheng, Christopher J. Smalt, Kunio Mizutari, Seiji Kakehata*

**PS-425. FKBP5 Regulates Map Kinase in the Organ of Corti After Noise-Induced Hearing Loss: RNA-Seq Analysis in Mice**

*Ryotaro Omichi*, Yukihide Maeda, Yu-ichiro Tominaga*

**PS-426. Identifying Protector Chemicals of Mechanosensory Hair Cell via Measuring Zebrafish Acoustic Startle Response of Lateral Line**
*Ling Zheng, Qiaosen Shen, Tong Zhao, Dong Liu, Fangyi Chen**

**PS-427. The Potential of Natural Therapies to Treat Aminoglycoside-Induced Hearing Loss**
*Hannah Fleming*, Savarimuthu Igacimuthu, Perumal Pandikumar, Marisa Zallocchi*

**PS-428. Investigating the Combined Detrimental Effects of Noise Exposure and Electrode Insertion Trauma for Hearing Preservation Outcomes**
*Kayla Minesinger*, Rachele Sangaletti, Maria Camila Salazar, Maria Fernanda Yepes, Federica M. Raciti, Suhrud Rajguru*

**PS-429. Exploring New Frontiers in Otoprotection: Evaluating the Efficacy of Novel Compounds in an Ex Vivo Cochlear Implant Trauma Model**
*Nicholas DiStefano*, Rahul Mittal, David Elisha, Jake Langlie, Jeenu Mittal, Adrien A. Eshraghi*

**PS-430. Identification of Protective Molecules against Cisplatin Induced Ototoxicity**
*Salimata Kane*, Pierre-Bernard Van Lerberghe, Laurent Meijer, Laurence Delacroix, Brigitte Malgrange*

**PS-431. Expression of Aryl Hydrocarbon Receptor in Supporting Cells and Glia: Protective Role in Cochlear Hair Cells**
*Sujata Pandey*, Shelley Tischkau, Brandon Cox*

**PS-432. Characterizing Antimicrobial and Ototoxic Properties of Novel Gentamicin Derivative**
*Jacqueline Yao*, Julia Abitbol, Anthony Ricci, Alan Cheng*

**PS-433. Ototoxic Effects of Tobramycin and Lipopolysaccharide: Auditory Impact in Cdh23 Mice**
*Nicole Rud*, Jonathan Fleegel, Alyssa Burd, Sarath Vijayakumar*

**PS-434. Effects of Cholesterol Modulation on Cisplatin-Induced Hearing Loss**
*Megan Guidry*, John Lee, Lizhen Wang, Katharine Fernandez, Lisa Cunningham*

**Inner Ear: Damage and Protection of Neurons & Synapses**

**PS-435. Anti-FAM19A5 Antibody Enhances Auditory Function in a Noise-Induced Hearing Loss Mouse Model by Restoring Ribbon Synapses**
*Hei Yeun Koo*, Hyehyun Min, Soon-Gu Kwon, Han-Byul Kim, Yosub Park, Jae Young Seong, Jinwoong Bok*

**PS-436. A Mouse Model of Unilateral Stereotactic Radiosurgery-Induced Hearing Loss**
*Dimitrios Daskalou*, Francis Rousset, Stéphanie Sgroi, Lucie Oberhauser, Nicolas Dupuy, Jean-Philippe Thiran, Constantin Tuleasca, Ileana O Jelescu, Marc Levivier, Pascal Senn*

**PS-437. of a Lipid Regulator Fenofibrate Against Agihl in Mice**
*Vijayprakash Namakkal Manickam*, Adrian Draney, Lyudmila Batalkina, Marisa Zallocchi*

**PS-438. Noise-Induced Cochlear Synaptopathy in C57BL/6N Mice as a Function of Trauma Strength: Ribbons Are More Vulnerable than Postsynapses**
*Kerstin Blum, Pauline Schepsky, Philip Derleder, Philipp Schätzle, Fahmi Nasri, Philipp Fischer, Jutta Engel*, Simone Kurt*

**PS-439. Diagnostic Methods for Potential Cochlear Synaptopathy in Humans**
*Lichun Zhang*, Florian Herrmann Schmidt, Yannik Bastian Rufus Böhlke, Karsten Ehrt, Wilma Großmann, Robert Mlynski*

**PS-440. Assessment of Liraglutide's Therapeutic Effect on Hearing Function of Chinchillas Exposed to Recurring High-Intensity Blasts**
*Shangyuan Jiang*, Qunfeng Cai, Roshan Sharma, Yijie Jiang, Rong Gan*

**PS-441. Psychedelic Drugs Induce the Formation of New Synapses in the Cochlea**
*Elena Chrysostomou, Yuzuru Ninoyu, Sammy Weiser Novak, Lauren Sullivan, Yuning Wang, Weronika Matysik, Kasie Mays, Sungwoo Park, Pamela Maher, Rick Friedman, David Olson, Uri Manor**

**PS-442. Associations Between Physiological Indicators of Cochlear Deafferentation and Listening Effort in Military Veterans With Normal Audiograms**
*Naomi Bramhall*, Brad Buran, Garnett McMillan*

**PS-443. Combining Multiple ABR and EFR Stimuli to Predict Cochlear Deafferentation in Individual Humans**
*Brad Buran*, Garnett McMillan, Sarah Verhulst, Naomi Bramhall*

**Inner Ear: Drug Delivery**

**PS-444. Ebselen-Eluting Silicone Strips Reduce Low Frequency Hearing Loss in a Guinea Pig Model of Cochlear Implantation**
*Rende Gu, Kushal Sharma, Annie Jia, G. Michael Wall, Jonathan Kil**

**PS-445. Enhancing Round Window Membrane Permeability: Efficacy and Safety of Adjuvants for Intratympanic Dexamethasone Delivery**
*Ye Lin Kim*, Kyusun Park, Min-Chae Jeon, Chan Mi Lee, Shi Nae Park, Jae Sang Han*

**PS-446. Evaluation of the Efficacy and Safety of the High Molecular Weight Hyaluronic Acid Vehicle for the Prevention of Ototoxic Hearing Loss**
*Yu-Jung Hwang*, TaeSoo Noh, Sang-Yeon Lee, Moo Kyun Park, Jun-ho Lee, Myung-Whan Suh*

**PS-447. Comparison of Long-Term in Vivo Pharmacokinetics Between Fully Loaded and Strip-Coated Electrode Carrier Dummies With Dexamethasone**
*Arne Liebau*, Bernd Kammerer, Sören Schilp, Kenneth Mugridge, Susanne Braun, Stefan K Plontke*

**PS-448. Development and Verifying the Therapeutic Effect of Intra-Tympanic Controlled Nanoparticle Drug Delivery Carrier for Inner Ear Disorders**
*Tae-Soo Noh*, Yu-Jung Hwang, Sang-Yeon Lee, Moo Kyun Park, Jun-Ho Lee, Yu-Mi Bae, Ha-Yeon Noh, Jin-Ki kim, Myung-Whan Suh*

**Development: Cellular/Systems**

**PS-449. Hearing Impairment in the Fmr1 Knockout Mouse Model for Fragile X Syndrome**
*Sarah Hunter*, Ashton Baxter*, Jeffrey Rumschlag, Hainan Lang, Brent Wilkerson**

**PS-450. Auditory System Development in Genetically Distinct Rat Models of Autism**
*Manasi Inamdar*, Laurel Hart, Alexander Cue, Daniel Legowski, Noelle James, Benjamin Auerbach*

**PS-451. Developing a 3D Motor Neuron Organoid and Schwann Cell Co-Culture in a Microfluidic Device for Facial Nerve Injury Model**
*Ji Eun Choi*, Haet Nim Lim, Min Young Lee, Jae Yun Jung*

**PS-452. Raman Spectroscopic Label-Free Microscopy to Detect Biochemical Property Changes in Pluripotent Stem Cells Induced Toward Human Early Otic Lineage**
*Keshi Chung, Elias Estephan, Ludivine Rouillon, Damien Veret, Alban Dussouter, Azel Zine**

**PS-453. Ribbon Synapse Assembly and Refinement during Hair Cell Maturation in Human Inner Ear Organoids**
*Shweta Reddy, Eri Hashino, V Shweta Reddy**

**PS-454. Temporal Changes in Neuronal Innervation During Human Inner Ear Organoid Development**
*Maria Martinez*, Shweta Reddy, Eri Hashino*

**PS-455. Requirement of SMOC1, an Extracellular Protein, in Morphogenesis of the Middle and Inner Ear**
*Kazuya Ono*, Takeru Ota, Tatsuya Katsuno, Hiroshi Hibino*

**PS-456. PKM2 Controls Cochlear Development through Lactate-Dependent Transcriptional Regulation**
*Mingxuan Wu, Mingyu Xia, Huawei Li, Wenyan Li**

**PS-457. Effect of ITGA8 Inactivation During Inner Ear Development**
*Dinesh Gawande*, Iman Ezzat, Lyudmila Batalkina, Marisa Zallocchi*

**PS-458. POU3F4 is a Critical Factor in Auditory and Vestibuar Synaptic Development**
*Yifan (Paul) Zhou, Raymond Huang, Paige Brooks, Satish Ghimire, Marco Nascone, Kevin Rose, Wei Song, Bryan Rivers, Ronna Hertzano, Wu Zhou, Hong Zhu, Thomas Coate**

**PS-459. Investigation of the Gene Regulatory Network That Determines the Timing of Cell Cycle Exit and Developmental Patterning in the Organ of Corti**
*Yeeun Kim*, Yun Ji Bertken, John Duc Nguyen, Eva Jahanshir, Juan Llamas, Ksenia Gnedeva*

**PS-460. Creer Recombination Rate in Murine Intermediate Cells: A Comparison Between Three Different Models**
*Mahesh Nayak*, Justine Renauld, Rene Vielman Quevedo*

**PS-461. Avian Cochlear Nucleus Neurons Exhibit Tonotopic Specializations Across Development**
*Kristine McLellan*, Jason Sanchez*

Mon Poster 3

**Genetics A: Genomics and Gene Regulation**

**PS-462. Spatial Transcriptomics and Its Application to the Mouse Cochlea**
*Hannah Odom*, Christopher Shults, Wei Song, Ori Zalzman, Ran Elkon, Robert Morell, Ronna Hertzano*

**PS-463. The Ticking Clock of Hearing: Precision in Gene Expression Timing for Optimal Rescue**
*Samprita Das*, Uri Manor*

**PS-464. Transcription Factor Helios is Necessary for Both Outer Hair Cell Maturation and Functional Maintenance**
*Christopher Shults*, Hannah Odom, Wei Song, Reza Amanipour, Beatrice Milon, Elena Chrysostomou, Ran Elkon, Michael Bowl, Ronna Hertzano*

**PS-465. ESRP1 and ESRP2 Regulate Hair Cell Function by Affecting mRNA Stability in Zebrafish**
*Xuebo Yao, Yan Zhang, Xiaying Hong, Zhigang Xu**

**PS-466. Promotion of New Connexin Gene Expression in the Cochlea after Deletion of Cx26 (GJB2)**
*Tianying Zhai*, Yi-Ding Yu, Chun Liang, Yong Kong, Hong-Bo Zhao*

**PS-467. Mapping Chromatin Interactions in Cochlear Cells Using Micro-C Technology**
*Tuba Ege*, Celia Bloom, Khushboo Patel, Litao Tao*

**Genetics B: General**

**PS-468. Molecular Genetic Testing for Usher Syndrome in a Diverse South Florida Population**
*Xue Liu*, Zachary Cromar, Ryan Chen, Denise Yan, Susan Blanton, Byron Lam*

**PS-469. Precision Medicine of Hereditary Hearing Loss – the Diagnostic Rate of Whole-Exome Sequencing**
*Yi-Lu Li*, Jessica Peng-Chieh Chen, Jiunn-Liang Wu*

**PS-470. Genetic Hearing Loss: Molecular Diagnostic Challenges and Solutions**
*Lara Kamal*, Zippora Brownstein, Inbar Blech, Katherine Domb, Yazeed Zoabi, Shadi J. Khoury, Tal Patalon, Asaf Peretz, Juan Fernandez-Recio, Xavier de La Cruz, Fabian Glaser, Noam Shomron, Karen B. Avraham*

**PS-471. Genomic Foundation of Sensorineural Hearing Loss**
*Sang-Yeon Lee**

**PS-472. Cep250 in Atypical Usher Syndrome**
*Natalie Rodeman*, Aray Adylkhan, Xiaowei Lu*

**PS-473. Genotype-Phenotype Correlations in DFNA5-Related Hearing Loss**
*Joseph Chin*, William D. Walls, Kai Wang, Amanda Odell, Diana L. Kolbe, Kevin T. Booth, Hela Azaiez, Richard J.H. Smith*

**PS-474. Deciphering the Role of Rfx1/3 in Cochlear Hair Cell Development and Function**
*Ningjin Wu*, Kathleen Gwilliam, Reza Amanipour, Wei Song, Beatrice Milon, Rani Elkon, Ronna Hertzano*

**PS-475. Reduced Level of Kcne1, Kcnj10 and Col4a3 are Sufficient to Maintain Hearing**
*Darcey A. Kirwin*, Elisa Martelletti, Daniel R. Pentland, Nina Treder, Neil Ingham, Karen P. Steel*

**PS-476. Unveiling the Genetic Architecture of Hearing Loss in Populations With African Ancestry**
*Andrea DeFreese*, Tanguy du Mérac, Rene Gifford, Taha Jan*

**Aging**

**PS-477. Analyzing Mitochondrial Heteroplasmy and DNA Copies in the HEI-OC1 Cell Line Treated With Hydrogen Peroxide and Cochlear Samples of CBA/CaJ Mice**
*Bo Ding*, Xiaoxia Zhu, Parveen Bazard, Akil Turner, Justin Gibbons, Freyda Mannering, Minh Tam Nguyen, Robert D. Frisina*

**PS-478. Big Brown Bats (Eptesicus fuscus) are Resistant to Age-Related Hearing Loss**
*Grace Capshaw*, Clarice Diebold, Danielle Adams, Jack Rayner, Gerald Wilkinson, Cynthia Moss, Amanda Lauer*

**PS-479. Gender Differences in the Fbn Rat Model of Aging: Investigation of Abr Waveforms and Ribbon Synapse Changes**
*Donald Caspary*, Lynne Ling, Rui Cai, Venezia Carmona, Debbie Hamilton, Josie Long, Leeza Zavelsky, Brandon Cox*

**PS-480. Neural Synchrony is a Sensitive Measure of Early Age-Related Auditory Deficits in Mice**
*Emily Fabrizio-Stover*, Shelby Payne, Jiaying Wu, Kelly Harris, Hainan Lang*

**PS-481. Biomarkers of Alzheimer's Disease (AD) Expression Levels Increase with Aging in the CBA/CaJ Mouse Auditory System**
*Xiao Xia Zhu*, Bo Ding, Joseph P. Walton, Robert D. Frisina*

**PS-482. Genome-Wide Association Study for Age-Related Hearing Loss in CFW Mice**
*Thomas Zhou*, Ely Boussaty, Oksana Polesskaya, Jennifer Luu, Kwang Pak, Caroline Ellis, Abraham A. Palmer, Rick Friedman*

**PS-483. Association Between Ethnicity/Race and Extended High Frequency Hearing: Implications for Understanding Early Signs of Auditory Aging**
*Shruthi Ananth*, Monica Trevino, Srikanta Mishra*

**PS-484. The Association of Diabetes With the Rate of Hearing Decline in Aging**
*Lauren Dillard*, Kathleen Bainbridge, Lois Matthews, Judy Dubno*

**PS-485. Healthy Aging Increases the Neural Reliance on Higher-Level Processing in Competing Speech Comprehension**
*Vivien Barchet*, Andrea Bruera, Jasmin Wend, Johanna Rimmele, Jonas Obleser, Gesa Hartwigsen*

**PS-486. Effects of Presbycusis on the Production of Voice and Enjoyment of Amateur Choral Singing**
*Jessica Edgar*, Fernando Nodal, Samantha Dieckmann, Victoria Bajo*

**PS-487. Role of Prenatal Stress in Accelerating Age-Related Hearing Loss**
*Satoshi Hara*, Kali Burke, Firasat Ali Shah, Harumi Saeki, Tomoaki Ito, Hajime Orita, Takashi Anzai, Yusuke Takata, Kazusaku Kamiya, Fumihiko Matsumoto, Amanda Lauer, Kathy Gabrielson*

**PS-488. Gap Detection Ability Declines With Central Auditory Neurodegeneration Following Age-Related Cochlear Synaptopathy**
*Takaomi Kurioka*, Kunio Mizutari*

**Tinnitus**

**PS-489. Behavioral Validation of Salicylate-Induced Hyperacusis in CBA/CaJ Mice Using An Active Avoidance Paradigm**
*Jm Rahman*, Dimitri Brunelle, Collin Park, Joseph Walton*

**PS-490. Combining Psychoeducation, Sound Exposure, and Counseling: A New Therapeutic Approach for Hyperacusis**
*Michel Benard*, Sandrien Thieren, Paula van Dommelen*

**Hearing Loss: Consequences and Adaptation**

**PS-491. Auditory Processing Deficits following Exposure to Open-Field Blasts in a Non-Human Animal Model**
*JoAnn McGee*, Xiaohui Lin, Catherine Johnson, Edward J. Walsh*

**PS-492. Mitochondrial Dysfunction and Metabolic Maladaptation in the Stria Vascularis of Alport Syndrome Mice: Insights From Noise-Induced Metabolic Stress Testing**
*Brendan Smyth*, Nathan Yates Nelson, Linda Weisenmiller, Michael Anne Gratton*

**PS-493. Cortical Responses in the Primary and Higher-Order Auditory Cortex of Cochlear Implant-Stimulated Unilaterally Deaf Cats**
*Prasandhya Astagiri Yusuf, Elvina Firdaus, Peter Hubka, Jochen Tillein, Andrej Kral, Rüdiger Land**

**PS-494. Differential Sensitivity of Speech-In-Noise Instruments to Central Auditory Deficits**
*Lucas Brizolara*, Nicole Whittle, Kelli Sugai, Christian Herrera Ortiz, Marjorie R. Leek, Caleb Barcenas, Eric Christopherson, Grace Lee, Jonathan Venezia*

**PS-495. Evaluation of Model- and Neural-Network-Based Augmented Hearing Algorithms**
*Attila Fráter, Chuan Wen, Marjoleen Wouters, Guy Torfs, Iris Arweiler, Frederic Acke, Ingeborg Dhooge, Sarah Verhulst**

**PS-496. Moderate Noise Exposure Influences the Cochlear Nucleus Function in a Frequency-Related Pattern**
*Wenyue Xue*, Jason Xie, Keziah Hui, Jun Yan*

**PS-497. Clinical Assessments of Functional Auditory Performance Better Expose the Impact of Hearing Loss on Operational Performance Than Audiometry Alone**
*Heath Jones*, Jennifer Noetzel, Kyle Hale, Paula Henry, Kichol Lee, Kevin Andres, JR Stefanson*

**PS-498. Amygdalar Hyperactivity and Non-Discriminate Auditory Threat Evaluation After Noise-Induced Sensorineural Hearing Loss**
*Bshara Awwad*, Jennifer Zhu, Daniel Polley*

**PS-499. Development of Human Inner Ear Organoid Platforms for Human Auditory/Vestibular Disorders**
*Xue Liu*, Michelle DeMarchena, John Le, Derek Dykxhoorn, Zheng Yi Chen, Pei-Ciao Tang*

**PS-500. The Role of Extremely Long-Lived Proteins in Acquired Hearing Loss**
*Yuvraj Joshi*, Jeffrey Savas*

**PS-501. Perception of Auditory and Visual Emotions in Children With Hearing Aids**
*Evelien Dirks*, Laura Rachman, Michel Benard, Bert Maat, Rolien Free, Deniz Baskent*

**PS-502. Quantifying Hidden Hearing Loss through the Efficient Coding Hypothesis**
*Juan Fuentes*, Irene Onorato, Roland Schaette, Livia De Hoz, David McAlpine*

**PS-503. Integrating Physiological and Perceptual Assays to Resolve the Effects of Sensorineural Hearing Loss on Neural Place and Time Cues for Pitch**
*Andrew Sivaprakasam*, Samantha Hauser, Michael Heinz, Hari Bharadwaj*

**PS-504. Peritraumatic Near-Infrared Treatment Attenuates the Severity of Permanent Hearing Loss**
*Max Meuser*, Susanne Schwitzer, Parisa Faraji, Arne Ernst, Dietmar Basta*

**PS-505. Stimulus Optimization and Cross-Sectional Analysis of Frequency-Following Responses in Individuals With Sensorineural Hearing Loss**
*Laura Jacxsens*, Lana Biot, Tinne Vandenbroeke, Emilie Cardon, Vincent Van Rompaey, Willem De Hertogh, Carles Escera, Marc J.W. Lammers*

**Auditory Prostheses**

**PS-506. Surgical Planning for Implantable Middle Ear Microphone in Sheep Using Temporal Bone Micro-CT**
*Isadora Comens*, Chaoqun Zhou, Emma F. Wawrzynek, John Zhang, D. Bradley Welling, Jeffrey Lang, Hideko Heidi Nakajima, Elizabeth Olson*

**PS-507. Revisiting Analog Stimulation in a Guinea Pig Model of Cochlear Implant**
*Victor Adenis*, Ryan Bartholomew, Jae-Ik Lee, Drew Montigny, M. Christian Brown, Daniel J. Lee, Shelley Fried, Julie Arenberg*

**PS-508. Cochlea Implants in Meniere's Disease – Altered Response Capacity of the Spiral Ganglion Cells and the Influence of Prior Intratympanic Gentamicin and Corticosteroids Therapy on Speech Understanding**
*Katrin Reimann*, Oyuki Brosseit, Frederik Gillhausen, Rainer M. Weiß, Kristina Sinemus, Boris A. Stuck, Jochen Müller-Mazzotta, Kruthika Thangavelu*

**PS-509. Optical Imaging of Auditory Cortex Responses in the Awake Common Marmoset (Callithrix Jacchus) With Unilateral Cochlear Implants**
*Sherry Shen*, Yang Zhang, Xiaoqin Wang*

**PS-510. Effects of Aging and Processing Speed on Temporal Gap Detection in Cochlear Implant Users**
*Kara Leyzac*, Kelly Harris*

**PS-511. The Effects of Dexamethasone-Eluting Cochlear Implant Arrays on Post-Operative Longitudinal Impedance Measurements and Intracochlear Computed Tomography Changes in Humans**
*Uzair Khan*, Rachel Scheperle, Bruce Gantz, Alexander Claussen, Marlan Hansen*

**PS-512. Influence of Boundary Conditions on Bone Conduction Experiments: A Finite Element Study**
*Hyun Seong Shin*, Namkeun Kim*

**PS-513. Measuring the Effective Polarity of Electrical Excitation across the Auditory-Nerve Array to Enhance Spectral Resolution by Cochlear-Implant Listeners**
*Robert Carlyon*, Francois Guerit, John M. Deeks*

**PS-514. Effects of Stimulation Parameters on the Phase Locking Value in Postlingually Deafened Adult Cochlear Implant Users**
*Sydney Chratian, Yi Yuan, Christopher Mueller, Shuman He**

**PS-515. Evaluating the Spread of Excitation with Red Light Optogenetic Stimulation of the Auditory Nerve Through Computer Simulations and In-Vivo Electrophysiology**
*Elisabeth Koert*, Jonathan Goetz, Anna Vavakou, Niels Albrecht, Bettina Wolf, Tobias Moser*

**PS-516. Developing Novel Electrical Stimulation Strategies for Cochlear Implant Users Based on a Model of the Healthy Human Cochlea**
*Maryam Hosseini*, Tim Brochier, Jason Mikiel-Hunter, Zachary Smith, Dick Lyon*

**PS-517. Neural Network Models of Hearing Clarify Factors Limiting Cochlear Implant Outcomes**
*Annesya Banerjee*, Mark Saddler, Josh McDermott*

**PS-518. Effect of Piezoelectric Thickness on Dual-Bandwidth Accelerometer Design for Totally Implantable Auditory Prostheses Applications**
*Panagiota Kitsopoulos*, Karl Grosh*

**PS-519. Atypical ECAP Measures and Auditory Outcomes in Cochlear Implant Users With Vestibular Schwannoma: A Case Series Study**
*Mahan Azadpour*, Taylor Payne, Nicole Capach, Megan Eitel, J. Thomas Roland*

**PS-520. Ultra-High Resolution Models of Neural Activity in the Human Inner Ear**
*Werner Hemmert*, Albert Croner, Alissa Breit, Johannes Melcher, Mahdi Fallahtaherpazir, Martin Dierolf, Klaus Achterhold, Julia Herzen, Franz Pfeiffer, Rudolf Glueckert, Anneliese Schrott-Fischer, Siwei Bai*

**PS-521. Development of a Novel Pitch Discrimination Test for Cochlear Implant Users**
*Angeline Truong, Audrey Limb, Patpong Jiradejvong, Charles Limb, Charles Limb**

**PS-522. A Novel Self-Unrolling Branched Cochlear Implant Electrode Design for High-Resolution Electrical Stimulation**
*Wonil Sohn*, Elsa Acosta, Pavlo Zolotavin, Lan Luan, Chong Xie*

**PS-523. In-Silico Framework for Benchmarking Optogenetic Hearing Restoration**
*Lakshay Khurana*, Petr Nejedly, Daniel J. Jagger, Lukasz Jablonski, Tobias Moser*

**PS-524. Feasibility of a Handheld Robotic Cochlear Implant Insertion**
*Nathan Kemper*, Marlan Hansen, Constantinos Nikou*

**PS-525. The Relationship of Neural Sensitivity and Focused Perceptual Thresholds: An Indicator for Future Cochlear Implant Programming**
*Dietmar Wohlbauer*, Charles Hem, Caylin McCallick, Faten Awwad, Julie Arenberg*

**PS-526. Cortical Temporal Mismatch Compensation in Bimodal Cochlear Implant Users: A Selective Attention Decoding and Pupillometry Study**
*Hanna Dolhopiatenko*, Waldo Nogueira*

**PS-527. Cochlear Anatomy Impacts Neural Health and Current Spread at the Electrode-Nerve Interface in Children with Bilateral Cochlear Implants**
*Carina Sabourin*, Stephen Lomber, Jaina Negandhi, Sharon Cushing, Blake Papsin, Karen Gordon*

**PS-528. Acoustic Stimulation of the Human round Window by Laser-Induced Nonlinear Optoacoustics**
*Michael Tomanek*, Liza Lengert, Mohammad Ghoncheh, Hinnerk Lohmann, Nils Prenzler, Stefan Kalies, Sonja Johannsmeier, Tammo Ripken, Alexander Heisterkamp, Hannes Maier*

**PS-529. ALFIES Unwrapped: Recording Cortical Responses to Sustained High-Rate Stimulation in Cochlear-Implant Users**
*Charlotte Garcia*, Dorothee Arzounian, Francois Guerit, Robert P. Carlyon*

**PS-530. The Effects of Spatial and Contextual Cues on Listening Effort**
*Agudemu Borjigin*, Nimesha Dantanarayana, Tanvi Thakkar, Ruth Litovsky*

**PS-531. Remote Auditory Training to Improve Listening Comprehension of Adult Cochlear Implant Users**
*Naama Tsach, Talma Shpak, Riyad Khnifes, Karen Banai*, Rama Novogrodsky*

**PS-532. Auditory Outcomes in Cochlear Implantation for Children With Usher Syndrome**
*David Elisha*, Jake Langlie, Rahul Mittal, Nicholas DiStefano, Maria-Pia Tuset, Chrisanda Sanchez, Jordan McNair, Meredith Holcomb, Jeenu Mittal, Adrien Eshraghi*

**PS-533. Decoding Auditory Selective Attention in Normal Hearing and Cochlear Implant Listeners**
*Jusung Ham*, Jinhee Kim, Hwan Shim, Kyogu Lee, Barbara Shinn-Cunningham, Inyong Choi*

**PS-534. Differential Use of Auditory Feedback in the Real-Time Control of Speech Movements by Deaf Talkers With Cochlear Implants and Peers With Normal-Hearing**
*Matthew Masapollo*, Susan Nittrouer, Rosalie Gendron, Lucie Menard, David Ostry*

**PS-535. Electric Auditory Brainstem Response (EABR) Properties and Histology of a New 32-Channel Cochlear Implant System**
*Dong-min Kang*, Goun Choe, Doo-Hee Kim, Tae-Soo Noh, Yu-Jung Hwang, Soo-Won Shin, Gwang-Jin Choi, Jung-U Lim, Ho-Seung Lee, Kyou-Sik Min, Myung-Whan Suh*

**PS-536. Computational Loudness Model of an Electrically Stimulated Cochlea**
*Franklin Alvarez Cardinale*, Waldo Nogueira*

**PS-537. Electrical Modelling of Cochlear Implant Electrodes for Detection of Cell Occupation and Monitoring Stimulation Efficiency**
*Mit Bhavsar*, Merle Sehlmeyer, Stefan Zimmermann, Hannes Maier*

**Clinical Otolaryngology & Pathology**

**PS-538. Contralateral Botulinum Toxin Injection Accelerates Recovery in a Animal Model of Facial Nerve Palsy**
*Min-Chae Jeon, Ye Lin Kim, Kyusun Park, Chan Mi Lee, Jae Sang Han, Shi Nae Park, Min-Chae Jeon**

**PS-539. Seasonal Variation in Peripheral Vestibular Disorders Based on Korean Population Data**
*Junhui Jeong*, Tae Mi Youk, Hyun Seung Choi*

**PS-540. Identifying Barriers to Vestibular Rehabilitation Therapy in South Florida**
*Madison Hawthorne*, Luis Rodriguez-Diaz, Devin Kennedy, Michael Hoffer, Erin Williams*

**PS-541. Predicting Variability in Pediatric Cochlear Implant Outcomes Through Synchronous Brain Activation Patterns: Insights From fNIRS**
*Chen-Chi Wu*, Hsueh-Ching Tseng, Pei-Hsuan Lin, Chia-Feng Lu*

**PS-542. Dmso Does Not Aid in Reducing Decalcification Time of Human Temporal Bones**
*Richard Har*, Martin Leyhe, Nevra Keskin Yilmaz, Sebahattin Cureoglu, Meredith Adams, Rafael da Costa Monsanto*

**PS-543. Primary Culture of Inner Ear Schwannoma**
*Jonas Scheffler*, Arne Liebau, Eric Lehner, Sabine Koitzsch, Julia Reiber, Stefan Plontke*

**PS-544. A First Look at Human Inner Ear Pathology in POU4F3 Variants: Findings From Three Human Temporal Bone Donors**

*Diana Correa*, Jennifer T. O'Malley*, Christopher Giardina, Alison Brown, Sami Amr, Alicia Quesnel*

**PS-545. Evaluating Underexplored Factors Contributing to Sudden Sensorineural Hearing Loss Recovery**

*Devin Kennedy*, Jacquie Golden, Addison Lana, Matthew Wiefels, Madeline Pyle, Michael Hoffer, Erin Williams*

**PS-546. Improvement of Patient Reported Outcomes of Bimodal Ci-Users Compared to Binaural Hearing Aids: A Randomized Controlled Trial**

*Yeliz Jakobsen, Jesper Hvass Schmidt**

**PS-547. Serum Level of Mmp-9 and its Genetic Polymorphism as a Biomarkers of Neuroplasticity in Prelingual Deafness Treatment by Cochlear Implantation**

*Monika Matusiak*, Dominika Oziębło, Monika Ołdak, Henryk Skarzynski, Leszek Kaczmarek, Emilia Rejmak*

**Otoacoustic Emissions**

**PS-548. Mechanisms of Medial Olivocochlear Reflex Enhancement Based on Temporal Prediction - An Investigation by Simultaneous Measurements of Delta-Band Brain Rhythm and Brainstem**

*Yuki Ishizka*, Sho Otsuka, Seiji Nakagawa*

**Development: Human Subjects**

**PS-549. Preliminary Evaluations of Speech, Language, and Hearing Functions of Students in Deaf Schools**

*Yao Chen*, Chang Liu, Jingjing Guan, Ying Hao, Qinfang Xu*

**PS-550. Preferences for Loudness and Pitch Vary Across Cultures**

*Malinda McPherson*, Eduardo Undurraga, Mariana Poblete, Seleni Rojas, Roberto Zariquiey, Bryan Medina, Josh McDermott*

**PS-551. Tests of Human Auditory Temporal Resolution: Psychophysical Measurements of Normal Hearing Listeners by Bayesian Estimation**

*Takashi Morimoto*, Yayoi Yamamoto, Chie Obuchi, Yasuhide Okamoto, Sho Kanzaki, Shuji Mori*

**PS-552. Within-Subject Standard Deviations in Auditory Masking Tasks Are Higher for Children with Language-Based Learning Impairments Than Controls**

*Talia A. Rawitz, Hannah R. Rostollan, Beverly A. Wright**

**PS-553. Frequency Resolution and Processing Efficiency in Children With Language-Based Learning Impairments**

*M. Casper Mayer, Hannah R. Rostollan, Beverly A. Wright**

**PS-554. Investigating the Effect of Head Movements on Front-Back Discrimination and Sound Externalization with Hearing Aids**

*Tobias Greif*, Virginia Best, Elin Roverud, Pinar Ertürk, Robert Baumgartner*

**Multisensory Processing/Interactions**

**PS-555. Blindness, Cortical Reorganization, and the Neuroscience of Creativity: A Case Study Investigation of Blind Piano Prodigy Matthew Whitaker**

*Chetan Giduturi*, Karen Barrett, Nicole Jiam, Lucas Hahn, Walker Payne, Stephanie Purnell, Patpong Jiradejvong, Charles Limb*

**Middle & External Ear**

**PS-556. Establishing a Rat Chronic Suppurative Otitis Media Model with Eustachian Tube Blockage Using Gelatin Sponge**

*Seokhwan Lee, Sung-Won Choi**

**PS-557. Automated Classification of Middle- And Inner-Ear Mechanical Pathologies Based on Impedance and Air-Bone Gap**

*Anna Frazier*, Gabrielle R. Merchant, Hideko Heidi Nakajima, Stephen T. Neely*

**PS-558. Developing a Time- And Frequency-Domain Nonlinear Finite Element Model for the Human Middle Ear**

*Andrew Tubelli*, Saddat Nazir, Sunil Puria, Jeffrey Cheng*

**PS-559. Implantation of a Eustachian Tube Stent in a Model of Eustachian Tube Dysfunction**

*Katharina Schmitt, Malena Timm, Philipp Krüger, Niels Oppel, Alexandra Napp, Friederike Pohl, Robert Schuon, Marion Bankstahl, Thomas Lenarz, Tobias Stein, Gerrit Paasche**

**PS-560. In Vivo Investigation of a Degradable Polymeric Stent for the Eustachian Tube**

*Stina Winkelmann, Kerstin Lebahn, Malena Timm, Alexandra Napp, Katharina Schmitt, Niels Oppel, Friederike Pohl, Niels Grabow, Thomas Lenarz, Gerrit Paasche**

**PS-561. A Deep Neural Network Trained on Finite-Element Simulation Data as a Surrogate Model of the Middle Ear**
*Alireza Heidari, Mahmoud Ramze Rezaee, Hamid Motallebzadeh*, W. Robert J. Funnell*

**PS-562. Modeling Vibrations of the Human Middle Ear in Bone Conduction**
*Xiying Guan**

**PS-563. Development of Ossicular Palpation Training Simulator Using Haptic Device**
*Sinyoung Lee*, Sho Kanzaki, Takuji Koike, Yoshiyuki Noda*

**PS-564. Detection of Bacterial Vs Inflammatory Acute Otitis Media Using Icg-Maltotriose in Short-Wave Infrared (SWIR)**
*Melissa Chaehyun Lee*, Roy Park, Mark Nyaeme, Anping Xia, Mia Hedrick, Tulio Valdez*

**PS-565. A Novel Model of Eosinophilic Otitis Media and Exploration of ILC2 in Middle Ear Mucosa**
*Daisuke Matsushita*, Atsushi Matsubara, Naomi Kudo, Tomoaki Fujita*

**PS-566. Nonlinear Displacement of the Tympanic Membrane in Response to Static Pressure and Low Frequency Tones: A Computational Study**
*Nastaran Gholami*, Hamid Motallebzadeh, Sunil Puria, Hong Zhu, Wu Zhou, Richard D. Rabbitt*

**PS-567. Characteristics of Frequency- and Temporal Resolutions, and Speech Perception by Bone-Conducted Stimuli Presented to the Facial Parts**
*Seiji Nakagawa*, Ko Uemura, Sho Otsuka*

**PS-568. Admittance at the Eardrum Estimated From Canal Measurements**
*Jonathan Siegel*, Susan Voss, Stephen Neely*

**PS-569. Restoration of Middle Ear Function in Partial Ossicular Discontinuity: A Basic Science and Clinical Correlation**
*Keelin Fallon*, Jeffrey Cheng, Aaron Remenschneider*

**PS-570. Osteoprotegerin Deficiency in the Human Otic Capsule as a Potential Driver of Otosclerosis**
*Zohar Hovev*, Sebastian Zwicky, Jennifer O\'Malley, MengYu Zhu, Andreas Eckhard*

**PS-571. Intratympanic Dexamethasone Administration Reduces Radiation-Induced Middle Ear Mucosal Damage**
*Tae Hwan Kim, Sheng Jin, Soo Jeong Kim, Yong-Ho Park, Kim Tae Hwan**

**PS-572. Effects of Characteristics of Exposed Noise on the Intelligibility of Bone-Conducted Speech With Earplugging**
*Kazusa Uchida*, Sho Otsuka, Seiji Nakagawa*

**PS-573. Middle Ear Transfer Functions: High-speed Measurement and Analysis at Moderate to High-Intensity Sound Levels**
*Jonathan Oliveira Luiz*, John Rosowski, Cosme Furlong, Jeffrey Cheng*

**PS-574. Effects of Auricular Size and Hardness on Propagation Components of Cartilage Conduction: Comparison Among Auricular-hematoma, Child and Normal-auricle Subjects**
*Akane Tamura*, Sho Otsuka, Hiroko Kotani, Seiji Nakagawa*

**PS-575. Origin and Function of Tissue-Resident Macrophages in Postnatal Development of the Eardrum**
*Xiaorui Shi*, Lingling Neng, Kushal Sharma, Allan Kachelmeier, Xiaorui Shi*

**PS-576. Monocyte-Derived Macrophages, Signaled by TRPV1, Promote Angiogenesis and Wound Healing in the Tympanic Membrane**
*Xiaorui Shi*, Lingling Neng, Kushal Sharma, Allan Kachelmeier*

**Other**

**PS-577. An Open Source Hearing Research Platform**
*Odile Clavier*, Joshua Alexander, Mattheus Ueckermann, WIlliam Audette, Véronique Archambault-Léger, Christopher Brooks, Brian Graybill, Michael Heinz*

**PS-578. Refining Convolutional Neural Networks for Temporal Bone Imaging Segmentation Using 3-Dimensional Distance Maps**
*Andy S. Ding*, Manish Sahu, Mathias Unberath, Russell H. Taylor, Francis X. Creighton*

Mon Poster 3

**Symposium 5: Across Species: The Functional Role of Cochlear Synaptopathy for Speech Coding in the Brain (CoSySpeech)**
**Chair:** Marlies Knipper
**Co-chair:** Sarah Verhulst
3:00 PM - 5:00 PM
*Ocean Ballroom 1 - 4*

**3:00 PM - 3:30 PM SYMP-54**
**Theoretical and Empirical Approaches to Understanding the Perceptual Consequences of Auditory Synaptopathy**
*Andrew Oxenham*, Magdalena Wojtczak*

**3:30 PM - 3:45 PM SYMP-55**
**Across-Species Speech Coding Processing Models**
*Sarah Verhulst*, Etienne Gaudrain*

**3:45 PM - 4:00 PM SYMP-56**
**Impact of Cochlear Synaptopathy on Vowel Coding in Gerbil Auditory Nerve**
*Daniil Kiselev*, Artem Diuba, Jean-Luc Puel, Jerome Bourien*

**4:00 PM - 4:15 PM SYMP-57**
**Phoneme Encoding in the Inferior Colliculus of Gerbils, With and Without Noise Induced Cochlear Synaptopathy**
*Warren Bakay*, Ana Belen Lao-Rodríguez, Manuel Malmierca*

**4:15 PM - 4:30 PM SYMP-58**
**Examination of Speech Coding in the Human Auditory Nerve Using Intracranial Recordings**
*Xavier Dubernard*, Arthur Seidermann, Frédéric Venail, Jean-Charles Kleiber, Jean-Luc Puel, Jerome Bourien*

**4:30 PM - 4:45 PM SYMP-59**
**Stimulus Onset Contributions to Speech Comprehension**
*Marlies Knipper*, Jakob Schirmer, Konrad Dapper, Stephan Wolpert, Marjoleen Wouters, Katharina Bader, Wibke Singer, Deniz Baskent, Etienne Gaudrain, Sarah Verhulst, Christoph Braun, Matthias H. J. Munk, Ernst Dalhoff, Lukas Rüttiger*

**4:45 PM - 5:00 PM SYMP-60**
**Across-Species Modeling Insights into Hearing-Impaired Speech Coding**
*Sarah Verhulst*, Morgan Thienpont, Marjoleen Wouters, Francois Deloche*

**Podium 11: Advances in Vestibular Science and Rehabilitation: From Cellular Mechanisms to Clinical Innovations**
**Moderators:** Taha Jan & Divya Chari
3:00 PM - 5:00 PM
*Ocean Ballroom 5 - 8*

**3:00 PM - 3:15 PM PD-88**
**Characterization of Viral Transfection of Human Vestibular Epithelial Tissues in Vitro**
*Chisako Tanaka*, Sushobhan Biswas, Tian Wang, Micheal Freeman, Anika Patro, Elizabeth Perkins, Kareem Tawfik, Aaron Moberly, Matthew O'Malley, Marc Bennett, David Haynes, Alan G. Chang, Taha A. Jan*

**3:15 PM - 3:30 PM PD-89**
**Blast Exposure, Vestibular Sequelae, and the Role of Therapeutic Hypothermia in Mitigating Blast-induced Vestibular Dysfunction**
*Pavan Krishnan*, Federica M. Raciti, Yuan Gao, Megan Barber, Rachele Sangaletti, Suhrud Rajguru*

**3:30 PM - 3:45 PM PD-90**
**Optimizing Postural Stability Clinical Assessment**
*Talah Wafa*, Christopher Zalewski, Carmen Brewer, Gayla Poling*

**3:45 PM - 4:00 PM PD-91**
**Increasing Access to Vestibular Rehabilitation Using Machine Vision-Based Automation**
*Erin Williams*, Felipe Echeverri Tribin, Luis Rodriguez-Diaz, Blaine Ayotte, Christopher McKenna, Odile Clavier, Michael Hoffer*

**4:00 PM - 4:15 PM PD-92**

**Bone-Conducted Vibration Reduces Vestibulo-Ocular Reflex Time Constant and Motion Sickness during Step Velocity Testing**

*Didier Depireux*, Daniel Stolzberg, Eve Mnatsakanyan, Tin Truong, Samuel Owen, Chelsea Nava, Brooke Pearce*

**4:15 PM - 4:30 PM PD-93**

**Sex-Specific Impairment in Spatial and Episodic Memories and Vestibular Function in Aging Shank3 KO Mouse Model of Autism**

*Nelson Shi, Patrick Wu, Dylan Arevian, Soroush Sadeghi, Tara Deemyad**

**4:30 PM - 4:45 PM PD-94**

**The Relationship Among Vestibular, Hearing, and Balance Outcomes in Individuals With Down Syndrome**

*Casey Vandervelde, Jessie Patterson, Heather Porter, Gabrielle R. Merchant, Kristen Janky**

**4:45 PM - 5:00 PM PD-95**

**Role of Transcription Factor Six2 in the Development of Vestibular Epithelia**

*Sumana Ghosh*, Punam Thapa, Vineel Vanga, Kaylee Zettler, Steven Gressett, Garner Fincher, Beth Baker, Bradley Walters*

**Podium 12: OTOF Success and GJB2 Progress**

**Moderators:** Yen-Fu Cheng & Hela Azaiez

3:00 PM - 5:00 PM

*Ocean Ballroom 9 - 12*

**3:00 PM - 3:15 PM PD-96**

**Safety and Efficacy of DB-OTO Gene Therapy in Children With Profound Deafness Due to Otoferlin Variants: Data From the Chord Phase 1/2 Open-Label Trial**

*Jay Rubenstein*, Manohar Bance, Lawrence Lustig, Akira Ishiyama, Robert Nash, Ruben Polo, Manuel Jesus Manrique, Evie Landry, Margaret A Meredith, Tera Quigley, Jason Riggs, Eduardo Corrales, Jonathon Whitton, Jeffery Anderson, Vassili Valayannopoulos*

**3:15 PM - 3:30 PM PD-97**

**OTOV101 Gene Therapy for Autosomal Recessive Deafness 9: A Multicenter, Open-Label, Single-Arm, Investigator Initiated Intervention Study**

*Renjie Chai, Jieyu Qi*, Liyan Zhang, Ling Lu, Fangzhi Tan, Cheng Cheng, Wenxiu Dong, Yinyi Zhou, Lulu Jiang, Chang Tan, Shanzhong Zhang, Huaien Song, Maoli Duan, Xia Gao, Dingjun Zha, Yu Sun, Lei Xu, FanGang Zeng*

**3:30 PM - 3:45 PM PD-98**

**Effectiveness of Gene Therapy in Patients with DFNB9: Evidence From Cortex and Development**

*Jiajia Zhang*, Zengzhi Guo, Changjie Pan, Chunchun Hu, Xinyang Weng, Bing Chen, Zheng-Yi Chen, Shan Sun, Xiu Xu, Huawei Li, Fei Chen, Yilai Shu*

**3:45 PM - 4:00 PM PD-99**

**Rapid Emergence of Cortical Sound Processing and Auditory Perception Following Otoferlin Gene Transfer Therapy in Young Adult Otof-/- Mice**

*Kameron Clayton*, Korey Sudana, Jennifer Zhu, Elizabeth Norris, Evan Hale, Myunghoon Yoo, Artur Indzhykulian, Daniel Polley*

**4:00 PM - 4:15 PM PD-100**

**Preclinical Studies Using a Novel Gene Therapy Show Robust Rescue of Hearing for a Common Hereditary Deafness**

*Andre Landin Malt, Felicia Gilels, Ashley Hinton, Maryna Ivanchenko, Jason Farnsworth, Yaqiao Li, William Neidermyer, May Wang, Tian Yang, Jessica Chiang, Marc Johnson, Casey Maguire, David P. Corey, Will McLean, Shawn Harriman, Jodi Cook, K. Domenica Karavitaki**

**4:15 PM - 4:30 PM PD-101**

**Development of AAV Gene Therapy Targeting GJB2 Related Hearing Loss by Capsid and Promoter Modification**

*Kazusaku Kamiya*, Daisuke Arai, Takao Ukaji, Makoto Matsuyama, Hidekane Yoshimura, Shin-ya Nishio, Sho Kanzaki, Yutaka Takumi, Shin-ichi Usami, Katsuhisa Ikeda*

**4:30 PM - 4:45 PM PD-102**

**From Cells to Cures: hIPSC-Derived Inner Ear Organoids and RNA Therapy to Resolve Genetic Inner Ear Diseases**

*Esther Fousert*, Winnie van den Boogard, Wouter van der Valk, Amy Lucassen, John de Groot, Peter Paul van Benthem, Hannie Kremer, Erik de Vrieze, Erwin van Wijk, Heiko Locher*

**4:45 PM - 5:00 PM PD-103**

**Novel Large Animal Model for Human Inner Ear Gene Therapy: Transgene Expression of Viral Vectors in Pigs**

*Erdem Yildiz, Till Buschhorn*, Caroline Sesztak, Anselm Joseph Gadenstaetter, Matthias Gerlitz, Clemens Honeder, Hinrich Staecker, Christoph Arnoldner, Lukas Landegger*

**ARO Awards Ceremony**
5:00 PM - 6:30 PM
*Crystal Ballroom CDE*

**Awards Reception**
6:30 PM - 7:30 PM
*Crystal Ballroom AB*

**Clinician Scientist Networking Event**
8:00 PM - 10:00 PM
*Merritt 1*

# Tuesday, February 25, 2025

**ARO Registration**
7:00 AM - 6:00 PM
*Crystal Registration Desk*

**Speaker Ready Room**
7:00 AM - 6:00 PM
*Labrid A*

**Parenting Room**
7:30 AM - 6:00 PM
*Ocean Office 1*

**Prayer/Meditation Room**
7:30 AM - 6:00 PM
*Hinalea*

**Young Investigator Symposium 2: Bridging the Senses: Lessons Learned at the Intersection of Audition and Vision**
**Chair:** Malinda McPherson
**Co-chair:** Abigail Noyce
8:00 AM - 10:00 AM
*Ocean Ballroom 1 - 4*

**8:00 AM - 8:30 AM SYMP-61**
**"Hearing with the eyes": Visual Perception for Auditory Scientists**
*Abigail Noyce**

**8:30 AM - 8:45 AM SYMP-62**
**Spatiotemporal Neural Dynamics of Cross-Modal Integration in Audiovisual Perception**
*Yalda Mohsenzadeh*, Yu Hu*

**8:45 AM - 9:00 AM SYMP-63**
**Salient Sounds Boost Visual-Cortical Processing and Enhance Visual Perception**
*Viola Stoermer**

**9:00 AM - 9:15 AM SYMP-64**
**How the Visual Domain Might Elucidate the Fidelity of Auditory Working Memory**
*Jamal Williams**

**9:15 AM - 9:30 AM SYMP-65**
**Memory Performance in Hearing and Vision is Differentially Impacted by Task Structure and Stimulus Similarity**
*Malinda McPherson**

**9:30 AM - 9:45 AM SYMP-66**
**Model-Brain Comparisons in the Visual and Auditory Domains**
*Jenelle Feather**

**9:45 AM - 10:00 AM SYMP-67**
**Automatic Perceptual Segmentation Results in Biased Acuity in Audition and Vision**
*Linda Garami*, Maria Geffen, József Fiser*

**Podium 13: Cochlear-Specific Genomics and Gene Regulation**
**Moderators:** Matthew Kelley & Jingyun Qiu
8:00 AM - 10:00 AM
*Ocean Ballroom 5 - 8*

**8:00 AM - 8:15 AM PD-104**

**The Genetic Landscape of Hearing Loss: Insights From a Multiethnic Cohort of Over 7,700 Cases**

*Hela Azaiez*, Amanda Odell, Estella Roster, Diana Kolbe, Donghong Wang, Maria Wong, Carla Nishimura, Kathy Frees, Amanda Taylor, Daniel Walls, Elisabeth A Black-Ziegelbein, Adela Mansilla, Joseph Chin, Kevin T Booth, Miles Klimara, Kiersten Knobbe, Luke Hovey, Erika Renkes, Paige Harlan, Cathy Feng, Jori E. Hendon, Amy E. Weaver, Richard JH Smith*

**8:15 AM - 8:30 AM PD-105**

**Big Data to Precision Medicine for Hearing Impairment**

*Zippora Brownstein*, Lara Kamal, Inbar Blech, Yazeed Zoabi, Shadi J. Khoury, Tal Patalon, Asaf Peretz, Juan Fernandez-Recio, Xavier de La Cruz, Fabian Glaser, Noam Shomron, Karen B. Avraham, Lara Kamal*

**8:30 AM - 8:45 AM PD-106**

**Cell Death; Type Dependent Interactions Between Immune Cells and Sensory Hair Cell Regeneration Programs**

*Daniela Muench, Shiyuan Chen, Elizabeth Ellis, Nicolas Denans, Mark Lush, Tatjana Piotrowski**

**8:45 AM - 9:00 AM PD-107**

**Comparative Maturation and Sensory Hair Cell Regeneration Potential in the Inner Ear**

*Marcela Lipovsek*, Rachel Williams, Jimena Perez Lloret*

**9:00 AM - 9:15 AM PD-108**

**Six1 is Essential for the Maturation and Homeostasis of the Auditory Sensory Organ in Adult Mice**

*Ting Zhang, Xiaohui Ma, Jinshu Xu, Jun Li, Pin-Xian Xu**

**9:15 AM - 9:30 AM PD-109**
**Characterizing Gene Regulatory Networks in Mouse Developing Hair Cells Using Bioinformatic Tools and Omics Integration Strategies**
*Celia Bloom*, Tuba Ege, Mi Zhou, Guanfang Xie, Litao Tao*

**9:30 AM - 9:45 AM PD-110**
**Ligand Dependent Function of the Retinoic Acid Receptor Alpha Complex During Cochlear Organogenesis**
*Saikat Chakraborty, Shuze Wang, Jack Ruhala, Jie Liu, Joerg Waldhaus**

**9:45 AM - 10:00 AM PD-111**
**Cochlear Mesenchyme Consists of Four Cellular Subtypes Regulated by Distinct POU3F4 Related Transcriptional Pathways**
*Wei Song*, Kevin Rose, Beatrice Milon, Yang Song, Thomas Coate, Ran Elkon, Ronna Hertzano*

**Podium 14: New Advances in Tinnitus: Humans and Animal Models**
**Moderators:** Daniel Polley & Joel Berger
8:00 AM - 10:00 AM
*Ocean Ballroom 9 - 12*

**8:00 AM - 8:15 AM PD-112**
**Effects of Lifetime Occupational Noise Exposure on Tinnitus in Older Adults with Hearing Loss**
*Sabina Storbjerg Houmøller*, Li-Tang Tsai, Sreeram K Narayanan, Carl Pedersen, Dan Dupont Hougaard, Michael Gaihede, Christian Godballe, Jesper Hvass Schmidt*

**8:15 AM - 8:30 AM PD-113**

**Genetic Architecture of Tinnitus: A Genome-Wide Association Study Among Women**

*Nan Lin, Raji Balasubramanian, Heather A. Eliassen, Konstantina M. Stankovic, Gary Curhan, Sharon Curhan, Oana Zeleznik**

**8:30 AM - 8:45 AM PD-114**

**Hearing Damage Due to Use of Radio Ear-Pieces in the United Kingdom Police**

*Hannah Guest, Christopher Plack**

**8:45 AM - 9:00 AM PD-115**

**Suppressing Distracting Sounds: Neurophysiological and Behavioral Assays to Distinguish Between Benign and Bothersome Tinnitus**

*David Sorensen*, Jenna Sugai, Kenneth Hancock, Daniel Polley*

**9:00 AM - 9:15 AM PD-116**

**Hyperexcitability in the Central Auditory System Caused by Chronic Noise Exposure**

*Fei Xu, Guangdi Chen, Wei Sun**

**9:15 AM - 9:30 AM PD-117**

**Tinnitus is Associated with Greater GABA(A) Receptor Availability in the Human Primary Auditory Cortex**

*Pim Van Dijk*, Marc Thioux, Emile de Kleine, Sonja Pyott, Antoon Willemsen, Erik de Vries*

**9:30 AM - 9:45 AM PD-118**

**Tinnitus is Associated with Reduced Spontaneous Spiking Activity in Auditory Nerve Fibers**

*Imme IJsseldijk, Amarins Heeringa**

**9:45 AM - 10:00 AM PD-119**
**Ebselen Permanently Reverses Noise-Induced Tinnitus in Young and Older Mice with Age-Related Hearing Loss**
*Annie Jia, Kushal Sharma, Rende Gu, Ryan Longenecker, Jonathan Kil**

**Exhibits Open**
9:00 AM - 5:00 PM
*Peninsula Ballroom and Foyer*

**Break**
10:00 AM - 10:30 AM
*Ocean Foyer*

**Symposium 6: Electric-Acoustic Interactions within and across Ears: Animal, human, and Computational Models from Periphery to Cortex**
**Chair:** Waldo Nogueira
**Co-chair:** Lina Reiss
**Co-chair:** Yang-Soo Yoon
10:30 AM - 12:30 PM
*Ocean Ballroom 1 - 4*

**10:35 AM - 10:50 AM SYMP-68**
**Outcomes of Electric-Acoustic Stimulation in the Same Ear: Insights From Electrophysiological Measures in Animal Models and Cochlear Implant Users**
*Viral Tejani**

**10:50 AM - 11:05 AM SYMP-69**
**Simulating Intracochlear Electrocochleography With a Combined Model of Acoustic Hearing and Electric Current Spread in the Cochlea**
*Margriet van Gendt*, Aristeidis Choustoulakis, Jeroen Briaire, Johan Frijns*

**11:05 AM - 11:20 AM SYMP-70**
**Psychoacoustic Electric-Acoustic Masking With Round Window Extra-Cochlear Electric Stimulation in Cochlear Implant Users With Residual Hearing**
*Patrick Hinz*, Waldo Nogueira*

**11:20 AM - 11:35 AM SYMP-71**
**Effects of Residual Hearing in the Non-Implanted Ear on Device Use and Auditory Development in Children with Bimodal Hearing (Including Single Sided Deafness)**
*Karen Gordon*, Hanne Bartels, Harrison Gao, Robel Alemu, Melissa Polonenko, Emily Wener, Hyo Jeong Lee, Jaina Negandhi, Blake Papsin, Sharon Cushing*

**11:35 AM - 11:50 AM SYMP-72**
**Binaural Cue Sensitivity and Spatial Hearing in Eas Candidates: Pre- To Post-Implant Performance and Processing in Adults and Children**
*Rene Gifford*, Jonathan Neukam, Linjie Shi, Linsey Sunderhaus*

**11:50 AM - 12:05 PM SYMP-73**
**Bimodal Neuromodulation for Tinnitus Treatment: Scientific to Real-World Evidence**
*Hubert Lim**

**Podium 15: Genetics of Hearing Loss: Determining Causation and Function**
**Moderators:** Morag Lewis & Karl Koehler
10:30 AM - 12:30 PM
*Ocean Ballroom 5 - 8*

**10:30 AM - 10:45 AM PD-120**
**Single Nuclei RNA-Sequencing Reveals Genetic and Cellular Insights Into Cisplatin-Induced Ototoxicity**
*Deanne Nixie Miao*, Emilia Luca, Janilyn Arsenion, John Pham, Alain Dabdoub, Britt Drogemoller*

**10:45 AM - 11:00 AM PD-121**
**Identification of ATP8A2 as a Novel Dfna Gene Associated With Late-Onset Hearing Loss: Insights From Human and Mouse Models**
*Jing Cheng*, Jing Wang, Lanchen Wang, Wan Hua, Libo Liu, Yu Huang, Guotong Lin, Lei Song, Huijun Yuan*

**11:00 AM - 11:15 AM PD-122**
**Gene Therapy in a Rabbit Model for USH3A**
*Diane Prieskorn, Lisa Beyer, Y Eugene Chen, Dongshan Yang, Yehoash Raphael**

**11:15 AM - 11:30 AM PD-123**
**Functional Results and Implications of the SLC26A5 Genotype R399X/T470N for Genetic Nonsyndromic Hearing Loss DFNB61**
*Rosemary Kabahuma*, Kazuaki Homma, Satoe Takahashi, ZhengYi Chen, Michael Pepper, Xue Liu*

**11:30 AM - 11:45 AM PD-124**
**Functional Outcome in a Rationally Designed Genomically Humanized Mouse Model for Dominantly Inherited Hearing Loss DFNA9.**
*Vincent Van Rompaey*, Dorien Verdoodt, Erwin Van Wijk, Peter Ponsaerts, Fien Aben, Lize Sels, Evi De Backer, Hanne Gommeren, Krystyna Szewczyk, Sanne Broekman, Hanka Venselaar, Guy Van Camp, Erik de Vrieze*

**11:45 AM - 12:00 PM PD-125**
**Critical Challenges in Splicing-Related Variant Analysis for Accurate Pathogenicity Assessment**
*Yu Lu*, Bingqian Yang, Linke Li*

**12:00 PM - 12:15 p.m PD-126**
**Unraveling the Genetic Basis of Autosomal Dominant Hearing Loss**
*Dominika Oziębło, Marcin L. Leja, Nina Gan, Natalia Baldyga, Henryk Skarzynski, Monika Ołdak**

**12:15 PM - 12:30 PM PD-127**
**Beyond the Gene Panel: Methods to Identify Missing Genetic Causes of Pediatric Sensorineural Hearing Loss**
*Shelby Redfield*, Tieqi Sun, Adrian Pastolero, Margaret Kenna, Eliot Shearer*

**Podium 16: Decoding the Aging Auditory System: Molecular Mechanisms, Functional Decline, and Therapeutic Prospects**
**Moderators:** Kelly Harris & Ilkem Sevgili
10:30 AM - 12:30 PM
*Ocean Ballroom 9 - 12*

**10:30 AM - 10:45 AM PD-128**
**Genetic Contribution to Hearing Loss Progression in Aged Diversity Outbred Mice**
*Daniel Johnson*, Sarah Cancelarich, Kara Campos, Jacqueline Otto, Kevin Bugge, Irina Marcovich, Meghan Drummond*

**10:45 AM - 11:00 AM PD-129**
**Age-related Mitochondrial Depolarization and Mitophagy Impairment in the Cochlear Biobattery**
*Tyreek Jenkins*, Jiaying Wu, Li Li, John Lemasters, Hainan Lang*

**11:00 AM - 11:15 AM PD-130**
**Single-Nucleus Profiling of Inner Ear Aging Reveals Cellular Diversity and Hair Cell Degeneration Caused by Inflammation-Induced Aberrant Rna Splicing**
*Mingyu Xia*, Jiaoyao Ma, Yunjie Li, Wenyan Li, Huawei Li*

**11:15 AM - 11:30 AM PD-131**

**Unraveling Age-Related Cellular and Molecular Mechanisms Associated with Vestibular Hair Cells and Their Slow pace of Aging Compared to Cochlear Hair Cells**

*Samadhi Kulasooriya*, Huizhan Liu, Sarath Vijayakumar, Celia Bloom, Mi Zhou, Litao Tao*

**11:30 AM - 11:45 AM PD-132**

**Pou4f3 is Critical for Stereocilia Bundle Maintenance and Hair Cell Survival in Adult Mammalian Cristae**

*Brad Walters*, Kendra Stansak, Tianwen Chen, Caroline Nall, Tierah Macon, Wu Zhou, Hong Zhu, Brandon C. Cox*

**11:45 AM - 12:00 PM PD-133**

**Physiological and Histological Characterization of a Macaque Model of Presbycusis**

*Swarat Kulkarni*, Amy Stahl, David Pitchford, Leslie Liberman, M. Charles Liberman, Troy A Hackett, Ramnarayan Ramachandran*

**12:00 PM - 12:15 PM PD-134**

**Noise Induced Hidden Hearing Loss Accelerates Alzheimer's Disease Development and Progression**

*Tianying Zhai*, Chun Liang, Peng Zhe, Yong Kong, Hong-Bo Zhao*

**12:15 PM - 12:30 PM PD-135**

**Structural Integrity of the Auditory-Language Brain Networks Varies With Cognitive Status and Accounts for Speech-In-Noise Deficits in Older Adults**

*Gavin Bidelman*, Jack Stirn, Connor Shin, Elaina Lewis, Mengyuan Zhou, Rose Rizzi, Jessica MacLean*

**Lunch On Own**

12:30 PM - 1:30 PM

**Young Investigator Luncheon (Ticket Required)**
12:30 PM - 2:00 PM
*Crystal Ballroom CDE*

Join us to hear from Dr. Melissa Caras, the 2025 Geraldine Dietz Fox Young Investigator Award recipient. Dr. Caras has been recognized for her groundbreaking contributions to understanding the mechanisms behind auditory perception and learning. Gain valuable insights into her personal approaches to science and research, as well as her philosophy on advancing the field.

**Poster Session IV with Coffee**
1:30 PM - 3:00 PM
*Peninsula Ballroom*

**Auditory Nerve**

**PS-579. Synaptic Transmission at the Endbulb of Held Deteriorates in Mcu Knockout Mice**
*Guanyu Li*, Ruili Xie*

**PS-580. Electric Threshold and ECAP Measures of Neural Health Show Varying Trends in Patients Between Cochlear Implant Surgery and Initial Activation**
*Jennifer Anyanwu*, Holden Sanders, Lina Reiss*

**PS-581. Intraoperative Extracochlear Electrically-Evoked Auditory Brainstem Response for Assessment of Cochlear Nerve Function in Translabyrinthine Vestibular Schwannoma Resection**
*Alena Pauley*, Benjamin Ostrander, Jonathan Dilgen, Peter Dixon, Marc Schwartz, Rick Friedman, Douglas Bennion*

**PS-582. Uncovering Neuronal and Glial Cell Diversity in the Human Spiral Ganglion to Advance Hearing Loss Therapies**
*Boaz Ehiogu*, Emilia Luca, Ryosuke Yamamoto, Alain Dabdoub*

**PS-583. Spike-Rate Adaptation and Facilitation in Biophysical Models of the Electrically Stimulated Human Auditory Nerve**
*Lukas Driendl*, Siwei Bai, Albert Croner, Carmen Castaneda, Werner Hemmert*

**PS-584. Ecap Simulation of Combined Cochlear and Vestibular Stimulation Employing Realistic Human Inner Ear Anatomy**
*Björn Vey*, Michael Handler, Baumgarten Daniel*

**PS-585. Accuracy and Efficiency of a Swept Modulation Depth Stimulus for Cross-Species Neurometric Physiological Analyses**
*Afagh Farhadi*, Hari Bharadwaj, Michael Heinz*

**PS-586. Effects of Lifetime Noise Exposure on Auditory Brainstem Response Morphology**
*William Allen*, Aryn Kamerer*

**PS-587. Exploration of Electrocochleography Variability in Patients with Hearing Instability**
*Jennifer Chisholm*, Christopher Zalewski, Talah Wafa, Noelle Allemang, Julie Christensen, Hui Cheng, Julia Telischi, Gayla Poling, Anna Centeno, Marcia Mulquin, Michael Hoa*

**Brainstem: Structure & Function**
**PS-588. Characterizing Medial Olivocochlear(MOC)-Mediated Enhancement and its Dependence on Auditory and Moc Stimulation Parameters**
*Choongheon Lee*, Joseph Holt*

**PS-589. Development of a Rapid Auditory Brainstem Response Threshold Estimation Algorithm for Human Audiometry: A Simulation Experiment of Suprathreshold Sampling Strategies for Accuracy and Efficiency**
*Erik Petersen*, Sandy Huang, Brianna Ralston, Yi Shen, Rafael Delgado*

**PS-590. Sex Differences in the Auditory Processing of Musical Sounds as Revealed With the Frequency Following Response**
*Joseph Luetkehans*, Trent Nicol, Jennifer Krizman, Nina Kraus*

**PS-591. Neural Circuitry Mapping of Oxytocin**
*Genesis Alarcon*, Elizabeth McCullagh, Tamara Woodley*

**PS-592. Functional Characterization of Non-Calyceal Inputs in the Medial Nucleus of the Trapezoid Body**
*Laura Console-Meyer*, Florian Jenzen, Nikolaos Kladisios, Felix Felmy*

**PS-593. Neuromodulation in the Descending Auditory System: Mechanisms Underlying Serotoninergic Excitation of Medial Olivocochlear Efferent Neurons**
*Kirupa Suthakar*, Catherine Weisz*

**PS-594. Cochlear Amplification Modulates Synaptic Transmission at the Endbulb of Held Synapse in the Cochlear Nucleus**
*Fang Wang*, Yige Li, Geng-Lin Li*

**Primary Auditory Cortex**

**PS-595. Inhibitory Interneurons in the Mouse Primary Auditory Cortex Drive Contrast Adaptation**

*Omer Zeliger*, Christopher Angeloni, Valerie Baubet, Erin Michel, Maria Geffen*

**PS-596. The Influence of Stimulus Duration on the Acoustic Change Complex in Normal-Hearing Adults**

*Lana Biot, Laura Jacxsens, Emilie Cardon, Huib Versnel, Annick Gilles, Vincent Van Rompaey, Marc Lammers**

**Hair Cells: Anatomy & Physiology**

**PS-597. Fast Transmission between Vestibular Type I Hair Cells and Their Calyceal Afferents in Mice**

*Donatella Contini**

**PS-598. Calcium Imaging of Mechanically Evoked Hair Cell and Afferent Population Activities in Mammalian Vestibular Inner Ear**

*Christopher Luong*, Marina Kabirova, Olivia Lutz, Dana Silvian, Ruth Anne Eatock*

**PS-599. Hair Cell Synaptic Dysfunction of Otof p.R1939Q Knock-In Mouse**

*Kwon Woo Kang*, Kyu-Hee Han, Yehree Kim, JuAng Kim, Min Young Kim, Jin Hee Han, Bong Jik Kim, Byung Yoon Choi, Eunyoung Yi*

**PS-600. Investigation on Inner Hair Cell Stereocilia Stimulation Mechanisms Through 3D Finite Element Model of the Mouse Organ of Corti**

*Yanli Wang, Sunil Puria**

**PS-601. Localization of Piezo2 in Vestibular and Auditory End Organs in Mice**
*Tianwen Chen, John Lee, Zelma Guisela Iriarte, Caroline Sit, Kendra Stansak, Kathleen T. Yee, Douglas E. Vetter, Brad Walters, Hong Zhu, Wu Zhou**

**PS-602. Assessment of Lateral Line Efferent Innervation and Rheotaxis Behavior in chrna9 Mutant Zebrafish**
*Keziah-Khue Nguyen*, Sophie Cohen-Bodenes, Kylie Schache, Lavinia Sheets*

**PS-603. Visualizing how Presynaptic Activity Shapes Ribbon Formation in Zebrafish**
*Olivia Molano*, Saman Hussain, Sophie Lear, Katherine Pinter, Katie Kindt*

**PS-604. Stereocilia Elongation is Regulated by Formin-Dependent Organization of Ankle Links**
*Chun-Yu Tung, Xiayi Liao, Benjamin Perrin**

**PS-605. The Role of MYO7A Isoforms in Tuning Hair Cell Function**
*Sihan Li*, Jinho Park, Andrew Mecca, Giusy Caprara, Natchanon Sittipongpittaya, Gloria Sheynkman, Edward Egelman, Anthony Peng, Jonathan Bird, Jung-Bum Shin*

**PS-606. Evaluating the Loss of Esrrg on the Cochlear Ribbon Synapses**
*Shri Vidhya Seshadri*, Stuart L. Johnson, Walter Marcotti, Lisa S. Nolan*

**PS-607. Spatiotemporal Models to Investigate Population-Level Activity in the Vestibular Inner Ear**
*Olivia Lutz*, Hannah Martin, Christopher Luong, Marina Kabirova, Dana Silvian, Brent Doiron, Ruth Anne Eatock*

**PS-608. Do Changes in Resting Mechanotransduction Current Impact the Cytoskeleton Actin Composition Within Stereocilia and Cuticular Plate of Auditory Hair Cells?**
*Juliana Castro Jimenez*, Sara Macias Palacio, A. Catalina Velez-Ortega*

**PS-609. Auxiliary Subunit LRRC52 Regulates Bk Channel Function and Localization in Outer Hair Cells**
*Samuel Webb, Piece Yen, Maolei Xiao, Choongheon Lee, Kevin K. Ohlemiller, Joseph Holt, Mark Rutherford, Stuart Johnson**

**PS-610. Molecular Identity of a Gating Spring**
*Thomas Effertz*, Philip Hehlert, Dirk Beutner, Martin Göpfert*

**PS-611. Stiffness Changes and Force Production of Outer Hair Cells During Mechanical Stimulation**
*Kuni Iwasa**

**PS-612. Lack of MAP2 Cause Sensorineural Hearing Loss and Vestibular Dysfunction**
*Kazuki Shin'ya*, Tomohiro Miyasaka, Akihiro Harada, Kobayasi Kohta*

**PS-613. Does Stereocilia Separation-To-Height Ratio Accurately Define the Geometric Gain?**
*Varun Goyal*, Karl Grosh*

**PS-614. The Effect of TMC1 Deafness Mutations on Cochlear Hair Cell Loss**
*Runjia Cui*, Shaikh Emdadur Rahman, Angela Ballesteros*

**PS-615. Paralemmin-3 – an Essential Constituent of the Submembrane Cytoskeleton of Auditory Hair Cells**

*Victoria Halim*, Iman Bahader, Christina Ullrich, Makoto Kuwabara, Dennis Derstroff, Kathrin Kusch, Nicola Strenzke, Carolin Wichmann, Dominik Oliver, Christian Vogl, Manfred Kilimann*

**PS-616. Acbd7 is Essential for Maintaining Auditory and Vestibular Functions Associated With Hair Cell Synaptic Transmission**

*Mingxuan Wu, Gaogan Jia, Yanyan Jia, Mingyu Xia, Huawei Li, Wenyan Li**

**PS-617. BAIAP2L2 Modulates Actin Protrusion Shape via Espin-1-Dependent Actin Regulation**

*Shiqiong Hu*, Runjia Cui, Evan Krystofiak, Willy Sun, Karyn Jourdeuil, Miloslav Sedlacek, Bechara Kachar*

**PS-618. Comprehensive Profiling and Structural Analysis of Kinocilia in Adult Cochlear and Vestibular Hair Cell**

*Amirrasoul Tavakoli Targhi*, Zhenhong Xu, Huizhan Liu, Samadhi Kulasooriya, Su Tu, Celia Bloom, T. Derek Johnson, Yi Li, Jian Zuo, Litao Tao, Bechara Kachar, David He*

**PS-619. Myosin Xva Isoforms Participate in the Mechanotransduction-Dependent Remodeling of the Actin Cytoskeleton in Auditory Stereocilia**

*Ana I. Lopez-Porras*, Ava M. Kruse, Mark T McClendon, A. Catalina Velez-Ortega*

**PS-620. Elastic Links Are Required for High Positive Correlations Between Inner-Hair-Cell Stereocilia**

*Riccardo Marrocchio, Daibhid O. Maoileidigh**

**PS-621. Viscoelasticity Accounts for Fast Adaptation in Outer-Hair-Cell Bundles**
*Rayan Chatterjee, Daibhid O Maoileidigh**

**PS-622. The shaker-1 Mutation Highlights the Role of Myosin Viia in Maintaining of the Morphological Integrity of the Shortest Rows of Stereocilia in Cochlear Hair Cells**
*Anna Underhill, Ana Amariutei, Samuel Webb, Fiorella Grandi, Adam Carlton, Andrew O'Connors, Francesca De Faveri, Mauricio Saenz-Roldan, Marie-José Lecomte, Stuart Johnson, Saaid Safieddine, Corné J. Kros, Walter Marcotti**

**PS-623. Evoked Calcium Signals in Intact Vestibular Epithelium and Their Relationship to Electrical Changes in Hair Cells and Afferent Neurons**
*Marina Kabirova*, Christopher Luong, Olivia Lutz, Ruth Anne Eatock*

**PS-624. Technical Details on Single-Molecule Microscopy of MYO7A Trafficking in Live Hair Cell Stereocilia**
*Mrudhula Sajeevadathan*, Harshad Vishwasrao, Inna Belyantseva, Yasuko Ishibashi, Samuel Adadey, Narinobu Harada, Hari Shroff, Thomas Friedman, Takushi Miyoshi*

**PS-625. MYO15A Rescues Elongation of Developmentally-Stunted Stereocilia in Adult Hair Cells**
*Elli Hartig*, Benjamin Low, Michael Wiles, Basile Tarchini*

**PS-626. AAK1 Regulates Membrane Homeostasis of Cochlear Hair Cells**
*Yihang Zheng*, Qingjun Jiang, Tingting Du, Lei Song, Hao Wu*

**PS-627. The role of PCDH15-CD2 Phosphorylation in Hair Bundle Morphogenesis and Function**
*Aray Adylkhan*, Anna Andreeva, Alison Lim, Phillip Wilson, Bao-Tich Nguyen, Ulrich Mueller, Xiaowei Lu*

**PS-628. Novel Heterozygous USH1C Mutation Impacts Hair Cell Mechanotransduction and Causes Progressive Hearing Loss**
*Yanyan Jia*, Wenyan Li*

**PS-629. Hair Cell Apoptosis and Scramblase Activity in Tmc1 Mutations**
*Robert Fettiplace*, Maryline Beurg, Dakota Konrad*

**PS-630. Identifying Key Molecules Involved in the Biogenesis, Transport, and Recycling of Synaptic Vesicles at Ribbon Synapses**
*Sandeep David*, Katherine Pinter, Katie Kindt*

**Inner Ear: Cochlear Mechanics**

**PS-631. The Cochlear Hook Region Detects Harmonics Beyond the Canonical Hearing Range in Guinea Pigs**
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*Yuichiro Tominaga*, Ryotaro Omichi, Yukihide Maeda*

**PS-767. The Cellular and Molecular Architecture of the Mammalian Vestibular System**
*Meghna Kolluri*, Paula Fontanet, Charles Petitpre, Csaba Adori, Prach Techameena, Haohao Wu, Shih-Hsin Chang, Beatriz Del Blanco, Angel Barco, Saida Hadjab, Francois Lallemend*

**Other**

**PS-768. Comparative Assessment of Imaging Modalities for Cochlear Visualization Through Temporal Bone in an Ex Vivo Porcine Model**
*Akil Turner*, Mikalai Budzevich, Savannah Gladd, Xiao Xia Zhu, Bo Ding, Robert D. Frisina, Parveen Barzard*

**Mini-Podium 3: Human Inner Ear Anatomy: Techniques**
**Moderators:** Alicia Quesnel & Nathaniel Nowak
3:00 PM - 4:00 PM
*Ocean Ballroom 5 - 8*

**3:00 PM - 3:15 PM PD-135**
**Automatic Pre-Operative Scalae Segmentation and Quantification Using Synchrotron Radiation Phase-Contrast Imaging**
*Ashley Micuda*, Daniel Newsted, Sumit Agrawal, Hanif Ladak*

**3:15 PM - 3:30 PM PD-136**

**Characterizing the Human Membranous Labyrinth Position Within the Lateral Semicircular Canal: A Histologic Analysis and Proposal for Pathology-Guided Classification**

*Koffi Lakpa*, Rafael da Costa Monsanto, Maurizio Falcioni, Sabrina Huang, Gisselle Garcia, Yazeed Qahadad, Andrew Fishman, Józef Mierzwiński, Arnaldo Rivera, Sebahattin Cureoglu, Michael Puricelli*

**3:30 PM - 3:45 PM PD-137**

**Machine Learning Pipeline for Human Spiral Ganglion Neuron Quantification, Demonstrated on an Adult and Infant with Consecutive Serial Sections**

*Christopher Giardina*, Jennifer O'Malley, Anbuselvan Dharmarajan, M. Charles Liberman, Julie Arenberg, Alicia Quesnel*

**3:45 PM - 4:00 PM PD-138**

**Multiplex Immunofluorescence Staining of Human Inner Ear Celloidin Embedded Sections**

*Ivan Lopez*, Achilles Kanaris, Gail Ishiyama, Akira Ishiyama*

**Mini-Podium 4: Auditory Cortex: From Inhibitory Networks and Signal-in-Nose Detection to Categorization and Loudness Perception**

**Moderators:** Lauren Kreeger & Audrey Drotos
3:00 PM - 4:00 PM
*Ocean Ballroom 9 - 12*

**3:00 PM - 3:15 PM PD-139**

**Recurrent Inhibitory Networks in Layer 1 of the Mouse Primary Auditory Cortex**

*Lucas Vattino*, Maryse E. Thomas, Cathryn MacGregor, Christine Junhui Liu, Carolyn G. Sweeney, Anne Takesian*

**3:15 PM - 3:30 PM PD-140**
**Enhancing Signal-In-Noise Detection by Learning-Induced Plasticity Mechanisms in the Auditory Cortex**
*Nilay Atesyakar*, Andrea Shang, Kasia Bieszczad*

**3:30 PM - 3:45 PM PD-141**
**Neuronal Correlates Underlying Auditory Categorization and Bias in Mice**
*Anjali Sinha*, Jared Collina, Gozde Erdil, Maria Geffen*

**3:45 PM - 4:00 PM PD-142**
**Cortical Determinants of Loudness Perception and Loudness Hyperacusis: Mechanisms to Treatments**
*Kameron Clayton*, Matthew McGill, Bshara Awwad, Kamryn Stecyk, Korey Sudana, Caroline Kremer, Desislava Skerleva, Divya Narayanan, Jennifer Zhu, Kenneth Hancock, Sharon Kujawa, Elliott Kozin, Daniel Polley*

**Special Symposium: Young Investigators from the Cross-Disciplinary Otitis Media Mentoring Network towards Diversity (COMMeND): Bridging Gaps in Otitis Media Research**
**Chair:** Regie Lyn Santos-Cortez
**Co-chair:** Diego Preciado
**Co-chair:** Allen F. Ryan
3:00 PM - 5:00 PM
*Ocean Ballroom 1 - 4*

**3:01 PM - 3:14 PM SYMP-74**
**The Role of Diet in Tympanostomy Tube Otorrhea**
*Kavita Dedhia*, Alyssa Tindall, Jillian Karpink, Ashley Williams, Terri Giordano, Virginia Stallings*

**3:14 PM - 3:27 PM SYMP-75**
**Hearing Thresholds and Middle Ear Analysis of the A2ml1-Knockout Mouse Model**
*Matthew Hill**

**3:27 PM - 3:40 PM SYMP-76**
**Otitis Media: Single-Cell Transcriptomics and Microfluidic Disease Modeling**
*Arwa Kurabi**

**3:40 PM - 3:53 PM SYMP-77**
**Type I Interferon Signaling Enhances Streptococcus Pneumoniae Middle Ear Infection**
*Steven Shaw*, Gabriela Heslop, Sarah Gitomer, Sarah Clark*

**3:53 PM - 4:06 PM SYMP-78**
**Role of Muc5b Overexpression in Middle Ear Pathology and Otitis Media Susceptibility**
*Helen Gomez*, David A. Schwartz, Ivana V. Yang, Arwa Kurabi, Allen F. Ryan, Regie Lyn P. Santos-Cortez*

**4:06 PM - 4:19 PM SYMP-79**
**Exploring Bacterial Dark Matter: The Function of Virulence-Associated Accessory Genes in Chronic Haemophilus Influenzae Infections**
*Mary Marino*, Evangeline Williams, Jocelyn Hammond, Karan Bamb, Armoni Mayes, Kalisse Horne, Bhaswati Sen, Danielle Piazza, Laura Anastor-Walters, Ben Janto, Donald Hall, Garth Ehrlich, Joshua Mell*

**4:19 PM - 4:22 PM SYMP-80**
**Pan-Transcriptomic Analysis of Diverse Clinical Haemophilus Influenzae Isolates During Biofilm Development**
*Evangeline Williams*, Karan Bamb, Ari Gordon, Rachel Ehrlich, Jocelyn Hammond, Bhaswati Sen, Azad Ahmed, Garth Ehrlich, Ravinder Kaur, Michael Pichichero, Joshua Mell*

**4:22 PM - 4:35 PM SYMP-81**

**Cold Microplasma Exposure as a Novel Therapeutic Treatment for Bacterial Acute Otitis Media Demonstrated in a Small Animal Model**

*Guillermo Monroy*, Zhenglun Wu, Eric J Chaney, Darold R Spillman, Michael B Jamrozy, Kavita Desai Kabelitz, Andrey Mironov, Alexander Ho, Gang Xiao, Edita Aksamitiene, Marina Marjanovic, Daniel A Llano, Helen Nguyen, J. Gary Eden, Stephen A Boppart*

**Mini-Podium 5: Innovative Approaches to Hearing Preservation: From Gene Therapy to Light-Based Therapies**

**Moderators:** Philippe Vincent & Donatella Contini

4:15 PM - 5:15 PM

*Ocean Ballroom 5 - 8*

**4:15 PM - 4:30 PM PD-143**

**An Antioxidative Gene Therapy for the Prevention of Noise Induced Hearing Loss**

*Shrivaishnavi Chandrasekar*, Damian Gulbin-Murphy, Todd Mowery*

**4:30 PM - 4:45 PM PD-144**

**Maintain Genomic Stability Could Prevent Calcium Imbalance Induced Hair Cell Degeneration**

*Ruijie Cai*, Hongchao Liu, Yunge Gao, Xiaotong Ma, Huihui Liu, Hao Wu*

**4:45 PM - 5:00 PM PD-145**

**Detecting and Disambiguating "Hidden" Cochlear Pathologies: Inner Hair Cell Injury and Cochlear Synaptopathy**

*Samantha Hauser*, Andrew Sivaprakasam, Hari Bharadwaj, Michael Heinz*

**5:00 PM - 5:15 p.m PD-146**

**Photobiomodulation as a Non-Invasive Thermal Therapy for Hearing Preservation**

*Jeremy Ryan*, Fateme Esmailie*

**Mini-Podium 6: Auditory Midbrain: Structure and Function**
**Moderators:** Audrey Drotos & Ken Henry
4:15 PM - 5:15 PM
*Ocean Ballroom 9 - 12*

**4:15 PM - 4:30 PM PD-147**
**Auditory Feature Discrimination in a Rat Model of Fragile X Syndrome**
*David Gauthier*, Noelle James, Benjamin Auerbach*

**4:30 PM - 4:45 PM PD-148**
**Auditory and Tactile Processing in the Mouse Inferior Colliculus**
*Blom Kraakman*, Aaron Wong*

**4:45 PM - 5:00 PM PD-149**
**Differences in Short-Term Synaptic Plasticity at Cochlear Nucleus Synapses onto Two Classes of Inferior Colliculus Neurons**
*Yoani Herrera*, Michael Roberts*

**5:00 PM - 5:15 PM PD-150**
**Neural Cues in the Budgerigar Inferior Colliculus for Behavioral Detection of Transient and Sustained Tones in Noise**
*Yingxuan Wang*, Margaret R. Youngman, Kristina S. Abrams, Kenneth S. Henry*

**5:15 PM - 7:15 PM**
**Honoring the Contributions of Dr. Brenda Lonsbury-Martin to Physiological Measures of Auditory Function**
**Chair:** Laura Dreisbach
**Co-chair:** Gayla Poling
**Co-chair:** Jonathan Siegel
*Ocean Ballroom 1 - 4*

**5:20 PM - 5:45 PM SYMP-82**
**Forty Years of Otoacoustic Emissions Research in the Lonsbury-Martin and Martin Laboratory: From Mysterious Origins to Widespread Adoption to the Implications of Recent Cochlear Mechanics Discoveries**
*Barden Stagner*, Glen Martin, Brenda Lonsbury-Martin*

**5:45 PM - 6:10 PM SYMP-83**
**Brenda Lonsbury-Martin: Early Milestones in a Distinguished Career**
*Hongzhe Li**

**6:10 PM - 6:35 PM SYMP-84**
**An Intracochlear Look at the Generation of Low-Frequency Distortion Product Otoacoustic Emissions**
*Wei Dong*, Glen K. Martin*

**6:35 PM - 7:00 PM SYMP-85**
**Multiple Mechanisms, Distributed Sources, and Wave Interference: Toward an Understanding of What Shapes Distortion-Product Otoacoustic Emissions**
*James Dewey**

Tue

**ARO Short Course**
**Chair:** Brandon Cox
**Co-chair:** Jeffrey Holt
5:15 PM - 6:45 PM
*Ocean Ballroom 5 - 8*

**5:15 PM - 5:45 PM SYMP-86**
**Deep Dreaming of Hearing Proteins – Everything You Wanted to Know but Were Afraid to Ask about Protein Structure Prediction with Alphafold**
*Marcos Sotomayor**

**5:45 PM - 6:00 PM SYMP-87**
**Novel Deep Learning-Based Tools for Inner Ear Research**
*Uri Manor**

**6:00 PM - 6:15 PM SYMP-88**
**Novel Deep Learning-Based Tools for Inner Ear Research**
*Yasmin Kassim**

**6:15 PM - 6:45 PM SYMP-89**
**Towards a Clinically Viable Speech Neuroprosthesis**
*Alexander Silva**

**spARO Town Hall**
6:15 PM - 7:15 PM
*Canaveral 1*

**Hair Ball**
8:00 PM - 12:00 AM
*Crystal Ballroom*

## Wednesday, February 26, 2025

**Speaker Ready Room**
7:00 AM - 10:30 AM
*Labrid A*

**ARO Registration**
7:00 AM - 12:00 PM
*Crystal Registration Desk*

**Parenting Room**
7:30 AM - 12:00 PM
*Ocean Office 1*

**Prayer/Meditation Room**
7:30 AM - 12:00 PM
*Hinalea*

**Podium 17: Multisensory Interactions**
**Moderators:** Joel Berger & Samantha Davis
8:00 AM - 10:00 AM
*Ocean Ballroom 1 - 4*

**8:00 AM - 8:15 AM PD-151**
**Multisensory Integration in the Zebrafish Brain: Hearing Loss Affects the Bimodal Audio–Visual Interactions in the Tectum**
*Peng Sun*, Teresa Nicolson*

**8:15 AM - 8:30 AM PD-152**
**Do "Intuitive" Auditory Cues Facilitate Performance of a Reaching Task? Investigating Shared Features of Auditory and Motor Dynamics**
*Bruno Mesquita*, Mehrdad Kashefi, Rahul Vij, Ingrid Johnsrude*

**8:30 AM - 8:45 AM PD-153**
**Neural Signatures of Emerging Audio-Motor Mappings**
*Haiqin Zhang*, Giorgia Cantisani, Shihab A Shamma*

**8:45 AM - 9:00 AM PD-154**
**Sensory Motor Decoding From Violin Playing**
*Rupesh Chillale*, Seong Jong Yoo, Cornelia Fermüller, Shihab Shamma*

**9:00 AM - 9:15 AM PD-155**
**Subcortical Responses to Continuous Speech under Crossmodal Divided Attention**
*Zilong Xie**

**9:15 AM - 9:30 AM PD-156**
**Can Audiovisual Integration Training Improve Speech Understanding in Noise for Adults with Cochlear Implants?**
*Ansley Kunnath*, René Gifford, Mark Wallace*

**9:30 AM - 9:45 AM PD-157**
**Audiovisual Speech-Evoked Oscillatory Dynamics in Younger and Older Adult**
*James Dias*, Carolyn McClaskey, Kelly Harris*

**9:45 AM - 10:00 AM PD-158**
**Audiovisual Integration in Cochlear Implant Users: A Functional Near-Infrared Spectroscopy (fNIRS) Study Comparing Visual Cues in Speech Perception**
*Yi Yuan*, Yingying Wang, Bailey Javidi, Christopher Mueller, Shuman He*

**Podium 18: Emerging Gene Therapies for Hearing and Balance Disorders**
**Moderators:** Elisa Martelletti & Gwenaëlle Géléoc
8:00 AM - 10:00 AM
*Ocean Ballroom 5 - 8*

**8:00 AM - 8:15 AM PD-159**

**A Base Editor for the Long-Term Restoration of Auditory Function in Mice With Recessive Profound Deafness**

*Chong Cui*, Shengyi Wang, Daqi Wang, Jingjing Zhao, Bowei Huang, Biyun Zhu, Yuxin Chen, Honghai Tang, Yu Han, Cheng Ye, Dan Mu, Chengdong Zhang, Yuan Yang, Yihan Bao, Jun Lv, Shuang Han, Geng-Lin Li, Huawei Li, Yilai Shu*

**8:15 AM - 8:30 AM PD-160**

**AAV-mediated Yap Inhibition for Treatment of Vestibular Schwannoma**

*Kevin Biju*, Juan Llamas, Yeeun Kim, Dorothy W. Pan, Seiji B. Shibata, Joni K. Doherty, John S. Oghalai, Ksenia Gnedeva*

**8:30 AM - 8:45 AM PD-161**

**Lentiviral Gene Therapy Can Effectively Address Recessive Hearing and Balance Disorders**

*Antonio Bon-Nieves, Peixin Huang, Felix Warnecke, Julianne Schott, Michael Morgan, Athanasia Warnecke, Axel Schambach, Hinrich Staecker**

**8:45 AM - 9:00 AM PD-162**

**Novel Antisense Therapy to Durably Treat USH2A Patients**

*Stephanie Mauriac*, Yu-Han Huang, Jiahe Jin, Sydney O'Malley, Carl Nist-Lund, Jiyoon Lee, Jennifer B Phillips, Jeremy Wegner, Monte Westerfield, Karl Koehler, Timothy Yu, Gwenaelle Geleoc*

**9:00 AM - 9:15 AM PD-163**

**Gene Therapy Versus Cochlear Implantation in Restoring Hearing Function and Speech Perception for Deafness Individuals**

*Xiaoting Cheng**

**9:15 AM - 9:30 AM PD-164**
**AAVR Expression is Essential for AAV Vector Transduction in Sensory Hair Cells**
*Fan Wu*, Guisheng Chen, Rui Hu, Yiqing Zheng, Suhua Sha*

**9:30 AM - 9:45 AM PD-165**
**PAM-Flexible Adenine Base Editing to Rescue Hearing Loss in a Humanized MPZL2 Mouse Model Harboring East Asian Founder Mutation**
*Sang-Yeon Lee*, Sohyang Jung, Won Hoon Choi, Luoying Jiang, Shao Wei Hu, Yilai Shu*

**9:45 AM - 10:00 AM PD-166**
**Neutralizing Anti-AAV Antibodies in Blood and CSF: Lessons Learned for the Inner Ear**
*Paul Krumpoeck*, Kleopatra Rapti, Ellen Wiedtke, Erdem Yildiz, Aldine Tu, Christian Matula, Christoph Arnoldner, Dirk Grimm, Lukas Landegger*

**Podium 19: Psychoacoustics: From Acoustic Startle to Auditory Attention**
**Moderators:** Mahan Azadpour & Ebtesam Sajjadi
8:00 AM - 10:00 AM
*Ocean Ballroom 9 - 12*

**8:00 AM - 8:15 AM PD-167**
**Acoustic Startle, TTS, and Tinnitus Decrease Sound Localization and Speech-In-Noise Performance**
*Nathaniel Greene*, Carol Sammeth, Nick Brunstad, Greg Rule, Ted Argo*

**8:15 AM - 8:30 AM PD-168**
**Development of Gap Detection During Adolescence**
*Julia Huyck*, Lauren Cammenga, Allison Steinbrenner, Preston Wise, Serena Sereki, Jordin Benedict*

**8:30 AM - 8:45 AM PD-169**
**Electroacoustic Pitch Matching in Cochlear Implant Users With Single-Sided Deafness**
*Maya Hatley*, Rene Gifford, Artur Lorens, Jonathan Neukam, Annette Lavender, Nicole Capach, Elad Sagi, Ariel Hight, Mahan Azadpour, Mario Svirsky*

**8:45 AM - 9:00 AM PD-170**
**Pupil-linked Arousal Tracks Adaptive Auditory Belief Updating in Spatially and Temporally Dynamic Environments**
*Roman Fleischmann*, David Meijer, Ulrich Pomper, Michelle Spierings, Robert Baumgartner*

**9:00 AM - 9:15 AM PD-171**
**Auditory Attention Decoding for Selective Hearing: Bridging Metrics and User Experience**
*Vishal Choudhari*, Kiki Van der Heijden, Xiaomin He, Nima Mesgarani*

**9:15 AM - 9:30 AM PD-172**
**How Working Memory Capacity and Cognitive Load Influence Spoken Word Processing: Evidence From Eye-Tracking and Pupillometry**
*Gal Nitsan*, Boaz M. Ben-David, Karen Banai*

**9:30 AM - 9:45 AM PD-173**
**Hidden in Plain Sight: Facial Signatures of Auditory Cognition and Hearing Disorder**
*Samuel Smith*, Jenna Sugai, Daniel Polley*

**9:45 AM - 10:00 AM PD-174**
**Measuring and Modeling Multi-Source Environmental Sound Recognition**
*Sagarika Alavilli*, Josh McDermott*

**Exhibits Open**
9:00 AM - 12:00 PM
*Peninsula Ballroom and Foyer*

**Break**
10:00 AM - 10:30 AM
*Ocean Foyer*

**Podium 20: Frontiers in Auditory Prostheses**
**Moderators:** Thomas Talavage & Athanasia Warnecke
10:30 AM - 12:30 PM
*Ocean Ballroom 1 - 4*

**10:30 AM - 10:45 AM PD-175**
**A Computational Model of the Electrically or Acoustically Evoked Compound Action Potential and Electrocochleography in Cochlear Implant Users With Residual Hearin**
*Waldo Nogueira*, Yixuan Zhang, Daniel Kipping*

**10:45 AM - 11:00 AM PD-176**
**Cochlear Implantation Outcomes in Genotyped Subjects With Sensorineural Hearing Loss**
*Cris Lanting*, Mirthe Fehrman, Wendy Huinck, Emmanuel Mylanus, Helger Yntema, Lonneke Haer-Wigman, Hannie Kremer, Ronald Pennings*

**11:00 AM - 11:15 AM PD-177**
**Cochlear Implants With Dexamethasone-Eluting Electrode Arrays Reduce Foreign Body Response in a Murine Model of Cochlear Implantation and Human Subjects**
*Muhammad Rahman*, Brian Mostaert, Peter Eckard, Shakila Mahmuda Fatima, Rachel Scheperle, Md Ibrahim Razu, Bryce Hunger, Rafal Olszewski, Shoujun Gu, Cristina Garcia, Nashwaan Ali Khan, Douglas M. Bennion, Jacob Oleson, Ya Lang Enke, Jonathon Kirk, Robert Gay, Robert Morell, Keiko Hirose, Michael Hoa, Alexander Claussen, Marlan Hansen*

**11:15 AM - 11:30 AM PD-178**

**Four-Dimensional Computed Tomography of Cochlear Implantation: A Synchrotron-Based Feasibility Study**

*Seyed Alireza Rohani*, Franziska Niemann, Ashley Micuda, Ning Zhu, Sergey Gasilov, Masoud Zoka Assadi, Sumit K. Agrawal, Hanif M. Ladak*

**11:30 AM - 11:45 AM PD-179**

**Audio Recordings With a Fully-Implanted Microphone for Cochlear Implants**

*Emma Wawrzynek*, John Zhang, Ioannis Kymissis, Elizabeth Olson, Jeffrey Lang, Hideko Heidi Nakajima*

**11:45 AM - 12:00 PM PD-180**

**"First in Man" Optoacoustic Stimulation of the Peripheral Hearing Organ**

*Sebastian Langguth, Nina-Marie Burmeister, Aaron Urschel, Larissa Schatteburg, Svenja Meurer, Mircea Teodorescu, Christian Hochbruck, Bernhard Schick, Gentiana Wenzel**

**12:00 PM - 12:15 PM PD-181**

**Auditory Nerve Penetrating Electrode Device Stability and Nerve Function following Chronic Implantation**

*Holly Holman*, Joseph Crew, W. Mitchel Thomas, Richard Gurgel, Inderbir Sondh, Meredith Adams, Moritz Leber, Florian Solzbacher, Hubert Lim, Loren Rieth, David J. Warren*

**12:15 PM - 12:30 PM PD-182**

**A Stable and Broad Frequency-Selective Cochlear Nucleus Implant Using Penetrating Ultra-Flexible Electrode Arrays**

*Hao Wu*, Jinxi Pan, Bodi Liu, Zeyu Wang, Guangyuan Chen, Chengyao Wang, Huan Jia, Zhaoyan Wang, Chi Ren, Zhengtuo Zhao*

**Podium 21: Transcription, Metabolomic, and Cellular Dynamics in Inner Ear Development: Mice and Human Organoids**
**Moderators:** Alain Dabdoub & Benkafadar Nesrine
10:30 AM - 12:30 PM
*Ocean Ballroom 5 - 8*

**10:30 AM - 10:45 AM PD-183**
**Constraint-Based Modelling and Functional Imaging Reveal that Metabolic Reprogramming Drives Tonotopic Development in the Murine Organ of Corti**
*James O'Sullivan*, Claire Scott, Daniel J. Jagger, Anwen Bullen, Zoe Mann*

**10:45 AM - 11:00 AM PD-184**
**Targeted Cell Interconversions Reveal Inner Hair Cell Induction of Supporting Cell Identity and Distribution in the Organ of Corti**
*Ignacio Garcia-Gomez*, Jemma L. Webber, Berta Soria-Izquierdo, John C. Clancy, Yingjie Zhou, Trevor D.M. Harriman, Charles P. Murphey, Anne Duggan, Mary Ann Cheatham, Jaime García-Añoveros*

**11:00 AM - 11:15 AM PD-185**
**Investigating the Molecular Properties of the Stria Vascularis**
*Matsya Thulasiram*, Ryosuke Yamamoto, Rafal Olszewski, Shoujun Gu, Robert Morell, Michael Hoa, Alain Dabdoub*

**11:15 AM - 11:30 AM PD-186**
**Coordinated Regulation of Immature and Mature Hair Cell Genes in Thyroid Hormone-Treated Human Cochlear Organoids**
*Tsubasa Saeki*, Yoshitomo Ueda, Stephen Moore, Eri Hashino*

**11:30 AM - 11:45 AM PD-187**
**Everted Inner Ear Organoids: Generating Surface Hair Cell Sensory Epithelia to Better Investigate Human Development and Disease**
*Carl Nist-Lund*, Camila Perea, Jiahe Jin, Jingyuan Zhang, Qianyi Ma, Wouter van der Valk, Matthew Steinhart, Jiyoon Lee, Karl Koehler*

**11:45 AM - 12:00 PM PD-188**
**Progenitor Cell Dynamics in mESC-Derived Inner Ear Organoids: Insights From Single-Cell RNA Sequencing**
*Jiayi Wu, Stefan Heller, Maggie Matern**

**12:00 PM - 12:15 PM PD-189**
**Vestibular Ganglion Neuron Organization and Peripheral Targeting Are Regulated by Their Birthdates**
*Zachary Stoner*, Doris Wu*

**12:15 PM - 12:30 PM PD-190**
**Single Cell Profiling of the Developing Utricle Reveals Transcriptional Diversity of Hair Cells**
*Beatrice Mao*, Matthew Kelley*

**Podium 22: Brainstem: Structure and Function**
**Moderators:** Ross Maddox & Ruili Xie
10:30 AM - 12:30 PM
*Ocean Ballroom 9 - 12*

**10:30 AM - 12:00 PM PD-191**
**Rapid, Accurate Prediction of Hearing Thresholds Using the Parallel Auditory Brainstem Response (pABR) in Adults With Hearing Loss**
*Melissa Polonenko*, Isabel Herb, Ross Maddox*

**10:30 AM - 10:45 AM PD-192**
**Tonotopically Patterned Expression of HCN Channels Contributes to the Precision of Temporal Encoding in Cochlear Nucleus Neurons**
*Kwame Owusu-Nyantakyi*, Lashaka Hamlette, Stefan Oline, Sonia Weimann, R. Michael Burger*

**10:45 AM - 11:00 AM PD-193**
**DNLL Neurons Improve on Poor MSO IPD-Tuning at Very Low Frequencies through an Iceberg Effect**
*Philip Joris*, Philip Smith*

**11:00 AM - 11:15 AM PD-194**
**Noise-Induced Hearing Loss Enhances Ca2+-Dependent Spontaneous Bursting Activity in Lateral Cochlear Efferents**
*Hui Hong*, Laurence O. Trussell*

**11:15 AM - 11:30 AM PD-195**
**SK Channel Dysfunction Underlies Excessive Neurotransmission in Fragile X Syndrome Mouse**
*Tianhao Wu, Tianyi Xiao, Youad Darwish, Hai Huang**

**11:30 AM - 11:45 AM PD-196**
**In Utero Exposure to Valproic Acid Abolishes the MNTB Projection to the Medial Geniculat**
*Yusra Mansour, Randy Kulesza**

**12:00 PM - 12:15 PM PD-197**
**Origins of the Auditory Brainstem Response (ABR) in Mice: Source Localization With Multichannel Topographic EEG**
*Xue Wang, Andrej Kral, Rüdiger Land**

**12:15 PM - 12:30 PM PD-198**
**Gene Expression Changes in the Inferior Colliculus after Sound Exposure**
*Suryaveer Kapoor, John Zhou, Marmar Moussa, Alice Burghard**

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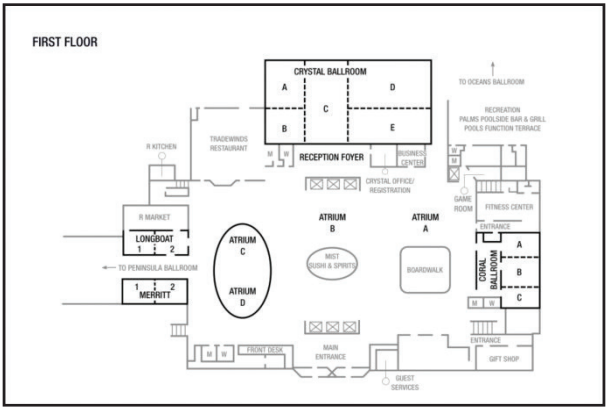
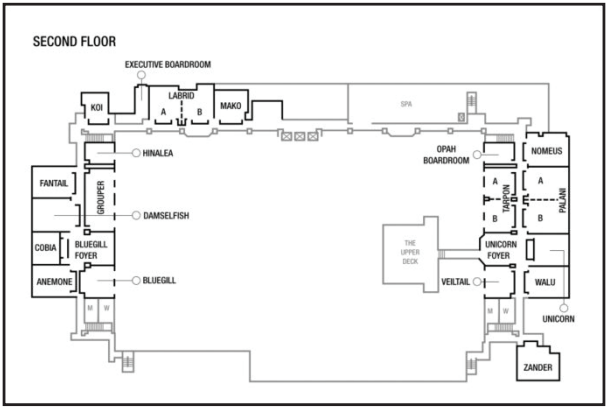
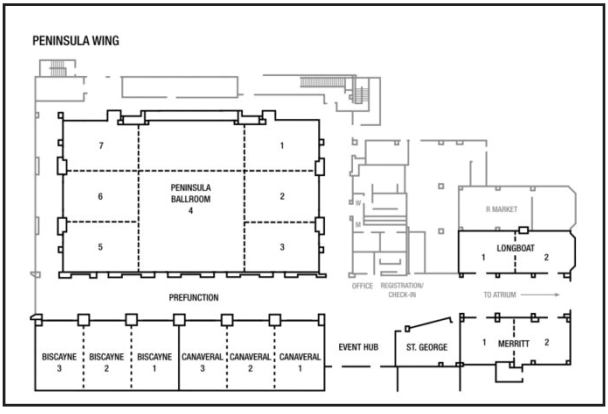
# MEETING SPACE FLOOR PLAN



# SAVE THE DATE

## February 07 - 11, 2026

Puerto Rico Convention Center

ARO 49TH ANNUAL
MidWinter Meeting

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