



43RD ANNUAL
MidWinter Meeting

January 25 - 29, 2020



San Jose McEnergy Convention Center

San Jose

CALIFORNIA

A

ARO OFFICERS FOR 2019-2020

- PRESIDENT:** **Keiko Hirose, MD (19-20)**
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Washington University School of Medicine
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- PRESIDENT ELECT:** **Ruth Litovsky, PhD (19-20)**
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1500 Highland Avenue
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- PAST PRESIDENT:** **Karen P. Steel, PhD (19-20)**
Kings College London
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London, United Kingdom SE1 1UL
- SECRETARY/
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- COMMUNICATIONS
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- COUNCIL MEMBERS
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- ARO
Executive
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19 Mantua Road
Mt. Royal, NJ 08061



Conference Program of the 43rd Annual MidWinter Meeting

Welcome to ARO 2020 in San José! This is a transformative year for ARO with our meeting taking place at a new venue and the date being moved to January. The ARO MidWinter Meeting has traditionally met in mid-February, and our destinations have included Florida, New Orleans, Denver, Baltimore, and Southern California. This year, we will be converging on our newest location: **San José, California** from **January 25-29, 2020**. We are looking forward to experiencing the San José Convention Center and the surrounding downtown area.

This year's meeting yielded 1328 abstract submissions, resulting in nearly 300 oral presentations and 1096 posters. We are very fortunate that Matt Kelley, who has served as ARO President in the past, continues to provide leadership for ARO as the new Chair of the Program Committee. Carolina Abdala and Christopher Shera, the scientific program co-chairs, and all of the members of the Program Committee have organized a fantastic meeting! It feels as if we are embarking on an adventure as we navigate this novel environment to find familiar faces and to make new friends and colleagues. We anticipate that the outstanding science at our MidWinter Meeting will continue to lead the way.

The Presidential Symposium this year focuses on the immune system, the interaction between immunity and the nervous system, the origin and function of myeloid cells, and their contributions to disease. I am thrilled to introduce three scientists from outside of the auditory field: Jessica Williams, Gretchen Diehl, and Bahareh Ajami. We will also hear from three ARO members, Mark Warchol, Andy Griffith, and Barbara Canlon, who have studied inflammation and its contributions to the inner ear. I hope that you will find this work novel and interesting, and another important element of understanding inner ear function and disease.

This year, Lynne Werner receives the Award of Merit, the highest commendation in our society. We look forward to Dan Sanes' narrative of her brilliant career and her seminal contributions to our understanding of how hearing develops in infants and how we measure hearing in our youngest individuals. We will also present the Geraldine Dietz Fox Young Investigator Award at this event. Stay tuned to

receive this announcement in a future communication. Also, we will introduce two new awards for next year: the ARO Pioneer Award in Basic Science and ARO Innovator Award in Clinical Science. These new awards have been developed to recognize researchers who are midcareer and whose body of work has contributed in a significant way to the advancement of hearing and vestibular sciences. The Awards Committee under the leadership of Ruth Anne Eatock, has identified the need to broaden the recognition of exceptional work in our field. These two new prizes will serve to increase the visibility of these important investigators and to recognize them for their remarkable contributions.

Young Investigators: be prepared for a full schedule including high impact, thought-provoking research presentations and poster sessions, opportunities to connect with mentors and future collaborators, and many spARO events designed for students, residents, fellows, and postdocs. There are many opportunities for networking, finding your next position, and learning how to succeed in funding your research.

Debara Tucci, Director of the NIDCD, will hold a Town Hall meeting on Sunday afternoon in conjunction with the ARO Business Meeting. At the conclusion of the business meeting, I will hand the gavel to our President-Elect, Ruth Litovsky, and thank our Past-President, Karen Steel, who has helped me tremendously in my role as president. I would like to thank all members of ARO Council and the ARO committees who over the past year have contributed their time and made ARO the superb research society that it is today. I would also like to extend my thanks to all of you who have contributed your science to the program: the quality of your work and your willingness to share it with us is what makes ARO truly special.

See you at ARO in San José!

Keiko Hirose
President ARO 2020

Conference Objectives

At the conclusion of the MidWinter Meeting, participants should be better able to:

- Explain current concepts of the function of normal and diseased states of the ear and other head and neck structures
- Recognize current controversies in research questions in auditory neuroscience and otolaryngology
- Describe key research questions and promising areas of research in otolaryngology and auditory neuroscience

Registration

The 2020 MidWinter Meeting Registration Desk is located in the **Executive Ballroom Foyer** and will be open and staffed during the following hours:

Friday, January 24	4:00 PM - 7:00 PM
Saturday, January 25	7:00 AM - 6:00 PM
Sunday, January 26	7:00 AM - 6:00 PM
Monday, January 27	7:00 AM - 6:00 PM
Tuesday, January 28	7:00 AM - 6:00 PM
Wednesday, January 29	7:00 AM - 12:00 PM

Admission

Conference name badges are required for admission to all activities related to the 43rd Annual MidWinter Meeting, including the Exhibit Hall and social events.

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

Program and Abstract Books

A limited supply of the abstracts in USB format will be available for purchase at the ARO MidWinter Meeting Registration Desk for \$20 US Dollars. Electronic copies of the books are also available online at www.aro.org.

Mobile App

Be sure to download our mobile app to enhance your experience at the 2020 ARO MidWinter Meeting! You'll be able to plan your day by performing detailed abstract searches and can also view the schedule, browse exhibitors, sponsors, maps and general show info. *You must create an account in order to view abstracts/save talks to your itinerary.*

The app is compatible with iPhones, iPads, iPod Touches and Android devices. Download the "eventScribe" app

on the App Store/Google Play and search “ARO MWM”. Be sure to select the 2020 ARO MWM to access this year’s app. You can also access the same information via our website version of the app through any browser on any device!

Program Organization

Poster presenters will be available at their posters during the 1:00 PM-2:00 PM period on their presentation date. In addition, authors may note other times that they will be available at their poster. Each presentation on the following pages has been formatted in the following example:

Abstract Number

PD - 1000

ARO MidWinter Meeting – Abstract Example
Jon Jones; Steven Smith; Will Williams;
Dan Danielson

Presenter marked in **Bold**

Presentation legend:

SYMP = Symposium Presentation

PD = Podium Presentation

PS = Poster Presentation

Speaker Ready Room

The 2020 Program Committee is committed to providing attendees 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 Room 213 and will be open the following days and times:

Location: Room 213

Friday, January 24	4:00 PM - 7:00 PM
Saturday, January 25	7:00 AM - 6:00 PM
Sunday, January 26	7:00 AM - 6:00 PM
Monday, January 27	7:00 AM - 6:00 PM
Tuesday, January 28	7:00 AM - 6:00 PM
Wednesday, January 29	7:00 AM - 10:00 AM

Mobile Devices

As a courtesy to the speakers and your fellow attendees, please switch your mobile device(s) to silent while attending the sessions.

Recording Policy

ARO does not permit audio or photographic recording of any research data presented at the meeting.

Breaks

Complimentary coffee and tea will be available in the morning and at selected breaks.

Assisted Listening Devices



A limited amount of assisted listening devices are available at the AV Booth in the rear of Room 220ABC.

A Special Note for the Disabled

ARO wishes to take steps that are required to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. If you need any auxiliary aids or services identified in the American with Disabilities Act, or any assistance in registering for this course please contact ARO Meetings Department at meetings@aro.org; via telephone at 856-423-0041, option 2; or write to ARO Meetings Department, 19 Mantua Road, Mt. Royal, NJ 08061.

Lactation Room

Please come to the ARO Registration Desk for location and access. Available hours are noted in the mobile app.

About San Jose

San José is known as a business mecca, but it's not all about work. Visitors will discover that Silicon Valley takes play seriously, making the most of its 300 days of great weather. California's 3rd largest city is one of the safest, boasting a variety of family activities and plenty to do for the culture vultures too.

It's easy to find your way to San José with three international airports within the Bay Area to choose from. Located just 3.9 miles from downtown San José, the San José International Airport is the best kept secret for traveling to San José. The airport includes such high-tech perks as free high-speed wireless Internet throughout, power outlets and USB ports in arm rests, and concierge robots.

VISIT over 250 downtown dining and entertainment options and free downtown high-speed wireless Internet.

PLAY at 193 regional and city parks and gardens, including 60 miles of trails for the best hiking, walking and biking under the sun.

EXPERIENCE an abundance of cultural offerings and attractions including The Tech Interactive, the Winchester Mystery House, San Pedro Square Market, the Rosicrucian Egyptian Museum, the San José Museum of Art and Santana Row, San José's premier shopping destination.

Weather:

Typical west coast winter weather awaits you in San José, CA. Temperatures in the past have averaged a low of 42°F up to a high of 60°F with rain always remaining a possibility. It is advisable to pack a sweater or light jacket as meeting rooms tend to be cold.

Fly In:

San José Mineta International Airport (SJC) is Silicon Valley's airport and is located less than 4 miles from downtown San Jose. Serving nearly 4 million people and averaging 170+ daily flights, 40+ nonstop destinations and 15 domestic and international carriers, you're sure to find a flight. If not, no worries, San Francisco and Oakland international airports are a short drive.

Rail In:

From San Francisco, hop on Caltrain which connects you directly to San José Diridon station as your downtown stop.

From Oakland, you can take Bart to Millbrae where you can catch the Caltrain to San José. For a shorter route, you can hop on Bart to the city of Fremont followed by a car service or public bus to San José.

Hotels:**SAN JOSÉ MARRIOTT**

300 S Almaden Blvd
San Jose, CA 95110, USA
Phone: 1-408-280-1300

FAIRMONT SAN JOSÉ

170 South Market Street
San Jose, CA 95113, USA
Phone: 1-408-998-1900

HILTON SAN JOSÉ

300 S Almaden Blvd
San Jose, CA 95110, USA
Phone: 1-408-287-2100

WESTIN SAN JOSÉ

302 South Market Street
San Jose, CA 95113, USA
Phone: 1-408-295-2000



Schedule of Events

Friday, January 24, 2020		
4:00 PM - 7:00 PM	Registration Open	Executive Ballroom Foyer
7:00 PM - 10:00 PM	Speaker Ready Room	Room 213
Saturday, January 25, 2020		
7:00 AM-6:00 PM	Registration	Executive Ballroom Foyer
7:00 AM-6:00 PM	Speaker Ready Room	Room 213
7:30 AM-8:00 AM	Morning Break	Grand Ballroom Prefunction
8:00 AM- 12:00 PM	Presidential Symposium Innate Immunity in the Auditory System	Grand Ballroom 220A
10:00 AM - 10:20 AM	Mid-Morning Break	Grand Ballroom Prefunction
12:00 PM - 6:30 PM	Exhibit Hall Open	Executive Ballroom ABDEFG and Hallway to Hall 1
12:00 PM	Poster Session 1 Set up at 12:00 PM Open 24 hours	Executive Ballroom ABDEFG and Hallway to Hall 1
12:00 PM - 1:30 PM	Lunch (on own)	N/A
12:15 PM - 1:30 PM	Travel Awards Lunch	Room 212AB
12:15 PM - 1:15 PM	Mentoring Session Publishing	Room 211A
12:15 PM - 1:15 PM	Mentoring Session Lab Management	Room 211C
12:15 PM - 1:15 PM	Mentoring Session Clinician Scientist	Room 211D
12:00 PM	Poster Session 1 Open 24 hours Afferents and Efferents of the Vestibular System Animal Models of Human Otologic Disease Auditory Brainstem I: Normal Hearing & Hearing Impairment Auditory Nerve: Anatomy & Physiology Auditory Nerve: Damage & Protection Auditory Prosthesis I Auditory Prosthesis II Blast and Head Trauma Cochlear Mechanics I Collicular/Midbrain Circuitry Genetics: General Inner Ear: Anatomy & Physiology Middle Ear Noise Injury Sensorineural Hearing Loss and Audiology Tinnitus: Human Studies and Animal Models VOR, VEMP, VsEP	Executive Ballroom
1:30 PM - 2:30 PM	Coffee Break	Executive Ballroom DH
2:00 PM - 4:00 PM	Symposium: Gene Therapeutic Approaches for Hearing Loss	Grand Ballroom 220A
2:00 PM - 4:00 PM	Symposium: Characterizing Auditory Function with Functional Near-Infrared Spectroscopy	Grand Ballroom 220B
2:00 PM - 4:00 PM	Podium: Speech Perception	Grand Ballroom 220C

Schedule of Events

Saturday, January 25, 2020 (continued)		
3:00 PM - 5:00 PM	spARO Reverse Science Fair	The Tech Interactive
4:30 PM - 6:30 PM	Poster Blitz	Grand Ballroom 220B
4:30 PM - 6:30 PM	Tribute to Shig Kuwada	Grand Ballroom 220C
5:30 PM - 6:30 PM	Welcome Get Together	Executive Ballroom and Foyer
6:00 PM - 7:30 PM	NIDCD Workshop #1: Applying for NIDCD Training and Career Development Awards	Room 211A
6:00 PM - 7:30 PM	NIDCD Workshop #2: Early Stage Investigators (ESI) and New Investigators (NI)	Room 211B
6:00 PM - 7:30 PM	NIDCD Workshop #3: SBIR and STTR Grant Programs from NIH / NIDCD	Room 211C
Sunday, January 26, 2020		
7:00 AM - 6:00 PM	Registration	Executive Ballroom Foyer
7:00 AM - 6:00 PM	Speaker Ready Room	Room 213
7:30 AM - 8:00 AM	Morning Break	Grand Ballroom Prefunction
8:00 AM - 10:00 AM	Symposium: Binaural Processing with Hearing Impairment	Grand Ballroom 220A
8:00 AM - 10:00 AM	Podium: Development: Patterning	Grand Ballroom 220B
8:00 AM - 10:00 AM	Podium: Cochlear Mechanics: Ad Astra per Alas Cochleum	Grand Ballroom 220C
9:00 AM - 5:00 PM	Exhibit Hall Open	Executive Ballroom
10:00 AM - 10:30 AM	Mid-Morning Break	Grand Ballroom Prefunction
10:30 AM - 12:30 PM	Podium: Vestibular Periphery	Grand Ballroom 220A
10:30 AM - 12:30 PM	Podium: Gene and Drug Delivery into the Inner Ear	Grand Ballroom 220B
10:30 AM - 12:30 PM	Symposium: A Multidisciplinary Approach to Tinnitus	Grand Ballroom 220C
12:00 PM - 2:00 PM	Awards Committee	Room 211C
12:00 PM - 2:00 PM	Long Range Planning	Room 211D
12:00 PM	Poster Session 2 Set up at 12:00 PM Open 24 hours	Executive Ballroom
12:15 PM - 1:15 PM	Funding Your Scientific Genius!	Room 211B
12:15 PM - 1:30 PM	Women in Science Roundtable	Room 212ABCD
12:15 PM - 1:30 PM	Travel Awards Committee	Room 211A
12:30 PM - 1:00 PM	Lunch (on own)	N/A

Schedule of Events

Sunday, January 26, 2020 (continued)		
1:00 PM	<p style="text-align: center;">Poster Session 2 Open 24 hours</p> <p>Age-Related Hearing Loss: Behavioral & Physiological Assessments Auditory Cortex - Human Studies I Auditory Cortex: Processing and Perception Auditory Protheses III Auditory Protheses IV Binaural Hearing and Speech Perception Binaural Hearing: Cochlear Implants, Bone Conduction, and Hearing Aids Clinical Vestibular Disorders Development I Endolymph & Ménière's Disease Gene Expression and Regulation Potpourri Hair Cells to Vestibular Nuclei Human Temporal Bone Studies, Head and Neck Disease Inner Ear Therapeutics I Neuron and Synapse Regeneration Otitis Externa, Otitis Media and Eustachian Tube Pathology Otoacoustic Emissions I Psychoacoustic Studies on Humans and Animals Synaptopathy</p>	Executive Ballroom
1:30 PM - 2:30 PM	Coffee Break	Executive Ballroom DH
2:00 PM - 4:00 PM	Symposium: Auditory Brainstem and Midbrain Implants: Advances in Basic and Translational Research	Grand Ballroom 220A
2:00 PM - 4:00 PM	Symposium: On the Form and Functions of Type II Spiral Ganglion Neurons	Grand Ballroom 220B
2:00 PM - 4:00 PM	Podium: Plasticity Following Hearing Loss or Restoration	Grand Ballroom 220C
4:00 PM - 5:00 PM	Mentoring Session Careers in Industry	Room 211A
4:00 PM - 5:00 PM	Mentoring Session Navigating the Grant Landscape as a Trainee/Getting Grants	Room 211B
4:00 PM - 5:00 PM	gEAR Workshop	Room 212AB
4:00 PM - 5:00 PM	spARO Science Communication Workshop	Grand Ballroom 220B
5:00 PM - 6:00 PM	Mentorship Program Social	Room 211AB
6:00 PM - 7:00 PM	ARO Business Meeting/ NIDCD Town Hall	Grand Ballroom 220C
7:30 PM - 9:15 PM	ERC Event at Montgomery Theater	
Monday, January 27, 2020		
7:00 AM - 6:00 PM	Registration	Executive Ballroom Foyer
7:00 AM - 6:00 PM	Speaker Ready Room	Room 213
7:00 AM - 8:00 AM	Morning Break	Grand Ballroom Prefunction
8:00 AM - 10:00 AM	Podium: Traditional Psychophysics and Sound Perception	Grand Ballroom 220A

Schedule of Events

Monday, January 27, 2020 (continued)		
8:00 AM - 10:00 AM	Symposium: Pulling the Threads of Hair Cell Fate with an Omic Tug	Grand Ballroom 220B
8:00 AM - 10:00 AM	Symposium: Stereocilia Dynamics: Insights into Cytoskeleton and Membrane Organization	Grand Ballroom 220C
9:00 AM - 5:00 PM	Exhibit Hall Open	Executive Ballroom
10:00 AM - 10:30 AM	Mid-Morning Break	Executive Ballroom DH
10:30 AM - 12:30 PM	Symposium: Coming to Our Senses: Vestibular Research, From Molecules to Systems, Commonalities and Differences with the Auditory System	Grand Ballroom 220A
10:30 AM - 12:30 PM	Podium: Hair Bundles and Mechanotransduction	Grand Ballroom 220B
10:30 AM - 12:30 PM	Podium: Gene Expression and Regulation	Grand Ballroom 220C
11:30 AM - 1:00 PM	JARO Editorial Board	Room 111
12:00 PM	Poster Session 3 Set up at 12:00 PM Open 24 hours	Executive Ballroom
12:00 PM - 2:00 PM	Diversity and Minority Affairs	Room 211C
12:15 PM - 1:30 PM	External Relations Committee	Room 211D
12:15 PM - 1:30 PM	Young Investigator Lunch	Room 212ABCD
12:30 PM - 1:00 PM	Lunch (on own)	N/A
12:00 PM - 2:00 PM	Program Committee	Room 211B
12:00 PM - 2:00 PM	Finance & Investment Committee	Room 211A
1:00 PM	<p style="text-align: center;">Poster Session 3 Open 24 hours</p> <p>Auditory Cortex - Human Studies II Auditory Learning Auditory Protheses V Auditory Protheses VI Auditory Protheses VII Binaural Hearing in Animals: Neural Recordings Cochlear Mechanics II Complex Sounds in Complex Environments Electrophysiology of Binaural Hearing Hair Cell Regeneration Human Auditory Development Inner Ear: Drug Delivery Inner Ear: Gene Therapy Mechanotransduction Otoacoustic Emissions II Ototoxicity I Physiology and Attention in Speech Perception Plasticity in the Central Auditory Pathway Speech Perception Methodology Stem Cells Tinnitus Vestibular Orientation</p>	Executive Ballroom
1:30 PM - 2:30 PM	Coffee Break	Grand Ballroom Prefunction

Schedule of Events

Monday, January 27, 2020 (continued)		
2:00 PM - 4:00 PM	Symposium: Exploring the Structure and Function of Hair-Cell Ribbon Synapses	Grand Ballroom 220A
2:00 PM - 4:00 PM	Podium: Recent Advances in Age-Related Hearing Loss	Grand Ballroom 220B
2:00 PM - 4:00 PM	Symposium: Infection and Inflammation from Middle Ear to Inner Ear: Effects on Hearing	Grand Ballroom 220C
4:00 PM - 5:00 PM	Mentoring Session Work-life Balance	Room 211B
4:00 PM - 5:00 PM	Mentoring Session Interviewing and Negotiation Skill Development	Room 211A
5:00 PM - 6:00 PM	spARO Town Hall	Room 212AB
5:30 PM - 7:00 PM	Award of Merit Lecture Honoring Lynne Werner	Grand Ballroom 220A
7:00 PM - 8:00 PM	Awards Reception	Grand Ballroom Foyer
8:00 PM - 11:00 PM	spARO Student/Postdoc/ Medical Resident Social	Camino Brewing
Tuesday, January 28, 2020		
7:00 AM - 6:00 PM	Registration	Executive Ballroom Foyer
7:00 AM - 6:00 PM	Speaker Ready Room	Room 213
7:30 AM - 8:00 AM	Morning Break	Grand Ballroom Prefunction
8:00 AM - 10:00 AM	Podium: Middle-Ear Bonanza	Grand Ballroom 220A
8:00 AM - 10:00 AM	Symposium: The Current Status of Inner Ear Neurons: Development, Death, and Stem Cell-Based Transplantation Therapies	Grand Ballroom 220B
8:00 AM - 10:00M	Podium: Auditory Brainstem: Beyond Hearing Detection	Grand Ballroom 220C
10:00 AM - 10:30 AM	Mid-Morning Break	Grand Ballroom Prefunction
10:30 AM - 12:30 PM	Symposium: The Newborn Hearing Screen – Its History, Where We Are, and Where We Should Be Going	Grand Ballroom 220A
10:30 AM - 12:30 PM	Podium: Regeneration	Grand Ballroom 220B
10:30 AM - 12:30 PM	Symposium: Neuroplasticity and Tinnitus – In Memory of Larry Roberts	Grand Ballroom 220C
12:00 PM	Poster Session 4 Set up at 12:00 PM Open 24 hours	Executive Ballroom
12:15 PM - 1:15 PM	Behind the Scenes with Publication!	Room 212B
12:30 PM - 1:00 PM	Lunch (on own)	N/A
12:15 PM - 1:15 PM	Mentoring Session Job Search and Independence	Room 211A
12:15 PM - 1:15 PM	Mentoring Session Mentor-Mentee Communication	Room 211B
12:15 PM - 1:15 PM	Mentoring Session Teaching and Research	Room 211C
12:15 PM - 1:30 PM	International Committee	Room 211D

Schedule of Events

Tuesday, January 28, 2020 (continued)		
1:00 PM	<p style="text-align: center;">Poster Session 4 Open 24 hours</p> <p>Age-Related Changes in Animal Models Auditory Brainstem II: Normal Hearing & Hearing Impairment Auditory Brainstem: Functional Measurements Auditory Brainstem: Molecules & Function Auditory Cortex: Neural Mechanisms Auditory Cortex: Neural Responses Binaural Hearing: Psychoacoustics, Modeling, and Multisensory Collicular/Midbrain Function Development II Hair Cell Synaptic Transmission Hair Cells Inner Ear Therapeutics II Inner Ear: Fluids & Vasculature Inner Ear: Synapses & Auditory Nerve Ototoxicity II Outer Hair Cells Plasticity After Hearing Loss or Restoration Speech Psychophysics Therapeutics for the Prevention of Age-Related Hearing Loss</p>	Executive Ballroom
1:30 PM - 2:30 PM	Coffee Break	Grand Ballroom Prefunction
2:00 PM - 4:00 PM	Podium: Generally Genetics	Grand Ballroom 220A
2:00 PM - 4:00 PM	Podium: Clinical Otolaryngology and Pathology	Grand Ballroom 220B
2:00 PM - 4:00 PM	Podium: Auditory Prostheses: Factors and Mechanisms Shaping Outcomes	Grand Ballroom 220C
4:00 PM - 5:00 PM	gEAR Workshop	Room 212AB
8:00 PM - 12:00 AM	Hair Ball	Grand Ballroom 220B
Wednesday, January 29, 2020		
7:00 AM - 12:00 PM	Registration	Executive Ballroom Foyer
7:00 AM - 11:00 AM	Speaker Ready Room	Room 213
7:00 AM - 8:00 AM	Morning Break	Grand Ballroom Prefunction
8:00 AM - 10:00 AM	Podium: Brain Imaging of Auditory Function - Human Studies	Grand Ballroom 220A
8:00 AM - 10:00 AM	Podium: Auditory Nerve Function	Grand Ballroom 220B
8:00 AM - 10:00 AM	Podium: Inner Ear Therapeutics	Grand Ballroom 220C
10:00 AM - 10:30 AM	Mid-Morning Break	Grand Ballroom Prefunction
10:30 AM - 12:30 PM	Podium: Auditory Circuits for Sound Processing and Perception	Grand Ballroom 220A
10:30 AM - 12:30 PM	Podium: Development: Molecular Foundations	Grand Ballroom 220B
10:30 AM - 12:30 PM	Podium: Inner Ear Structure & Function	Grand Ballroom 220C

Special Events & Meetings

Travel Awards Luncheon

Saturday, January 25, 2020 12:15 PM-1:30 PM
Room 212 AB

Special Guest Speaker:

Wade Chien

Associate Professor

Division of Otolaryngology & Skull Base Surgery

Johns Hopkins School of Medicine

Neurotologist

Inner Ear Gene Therapy Program

NIDCD/NIH

NIDCD Workshops

NIDCD Workshop 1:

Applying for NIDCD Training and Career Development Awards

Saturday, January 25, 2020 6:00 PM-7:30 PM
Room 211A

This workshop will include an overview of research training and career development opportunities appropriate for graduate students, postdoctoral fellows and new clinician investigators. The presentation will include essential information on the submission and review of individual NRSA fellowship awards (F30, F31 & F32), as well as selected mentored career development (K-) awards. Drs. Alberto Rivera-Rentas and Melissa Stick will lead the discussion and provide updates on these funding mechanisms.

NIDCD Workshop 2:

Early Stage Investigators (ESI) and New Investigators (NI)

Saturday, January 25, 2020 6:00 PM-7:30 PM
Room 211B

This workshop will provide information for junior scientists seeking to obtain their first research project grant. The goal is to answer questions and clarify the application, review, and award process for the NIDCD Early Career Research (ECR) R21 Award and the NIDCD R01 award with respect to ESIs and new investigators. This workshop is intended for both postdoctoral trainees ready to transition to independence and individuals who have recently transitioned to independence, e.g. accepted a new faculty position and are in the early stages of establishing an independent research program. The presentation will include an overview of the NIDCD Early Career Research (ECR) R21 Award and provide information to facilitate the most expeditious route to funding for R01s. Drs. Kelly King and Katherine Shim will lead the discussion.

Special Events & Meetings Continued

NIDCD Workshop 3:

SBIR and STTR Grant Programs from NIH/NIDCD

Saturday, January 25, 2020

6:00 PM-7:30 PM

Room 211C

This workshop will provide an overview of these unique grants, which have funds set aside for awards to small businesses based in the U.S.A. Postdocs considering a new career path or a brief foray into commercialization are especially encouraged to attend. NIDCD staff Drs. Roger Miller and Shiguang Yang will share the latest updates for these grant programs. Formal presentations will briefly go over the crucial elements of successful applications and substantial time will be allowed to answer questions raised by attendees.

Investigators of all stages are welcome. The emphasis however will be on information most useful to those in early career stages seeking NIH/NIDCD funding for research, training, and career development and those seeking information about Small Business Research grants.

Women in Science Luncheon

Sunday, January 26, 2020

12:15 PM-1:30 PM

Room 212ABCD

Please join us for a discussion on women related issues.

ARO Business Meeting and NIDCD Update

Sunday, January 26, 2020

6:00 PM-7:00 PM

Grand Ballroom 220C

*Immediately following the ARO Business Meeting, the new **Director of the NIDCD, Dr. Debara Tucci**, will present an update on NIDCD and discuss future directions. Dr. Tucci will also answer questions from attendees.*

Public Outreach Event

Musae on the Brain: Women in Voice and Science

Sunday, January 26, 2020

7:30 PM-9:15 PM

Montgomery Theater

This is a public event. Join us for a fantastic evening of music and science by Musae (musae.org/), San Francisco's premier women's choral ensemble, and scientists Sarah Schneider and Dana Boebinger. Tickets are \$15 (general), \$10 (student/trainee). Watch for email blast, website updates, and as always, check the AROMWM Twitter feed.

Special Events & Meetings Continued

spARO Social

Monday, January 27, 2020

8:00 PM-11:00 PM

Camino Brewing
718 S 1st Street
San Jose, CA 95113
408-352-5331

gEAR Workshop

Sunday, January 26, 2020

and Tuesday, January 28, 2020

4:00 PM – 5:00 PM

Room 212AB

Get into gEAR! *The gEAR (UMgEAR.org) is a portal for visualization, analysis and sharing of multi-omic data. Join us to create an account and explore the portal's capabilities in a 90-min hands-on workshop with guided exercises. Please bring your laptop. Further support for uploading of private datasets is available after the workshop.*

Special Events & Meetings Continued

Participants

General Interest Panels ARO '20

Funding your Scientific Genius!

Sunday, January 26, 2020 12:15 PM-1:15 PM
Room 211B

Participants

Introduction

Larry Hoffman

American Neurotology Society

Ronna Hertzano

<https://www.americanneurotologysociety.com>

American Hearing Research Foundation

Joan Wincentsen

<https://www.american-hearing.org>

American Otological Society

John Oghalai

<https://www.americanotologicalsociety.org>

Action on Hearing Loss

Cláudia Gonçalves

<https://www.actiononhearingloss.org.uk>

Cures Within Reach

Clare Thibodeaux

<https://cureswithinreach.org/>

Fondation pour l'Audition

Marie-Josée Duran

<https://www.fondationpourlaudition.org/en>

Hearing Health Foundation

Christopher Geissler

[https://hearinghealthfoundation.org/=](https://hearinghealthfoundation.org/)

Military Funding Opportunities

NIDCD/NIH

Janet Cyr

<https://www.nidcd.nih.gov>

Veteran's Administration

Lina Kubli

Lina.Kubli@va.gov

Whether you are an early stage or seasoned investigator, this session will provide key information from private and federal organizations dedicated to your scientific success! New opportunities will be announced, so grab your lunch and attend! The presenters are happy to discuss your ideas.

Special Events & Meetings Continued

Participants

General Interest Panels *ARO '20*

Behind the Scenes with Publication!

Tuesday, January 28, 2020 12:15 PM-1:15 PM
Room 212B

Participants

Larry Hoffman
Geffen School of
Medicine, UCLA
ARO Program Committee

Andrew Oxenham
University of Minnesota
Editor-in-Chief
Trends in Hearing

Barbara Canlon
Karolinska Institute
Editor-in-Chief
Hearing Research

Brenda Ryals
James Madison University
Editor-in-Chief
Ear & Hearing

Ben Crane
University of Rochester
Associate Editor
Otology & Neurotology

Peter Narins
University of California,
Los Angeles
Associate Editor
J. of Comparative
Physiology A

Paul Manis
University of North Carolina
Editor-in-Chief
JARO

This panel of highly experienced journal editors will provide insights concerning contemporary topics in publishing, including insightful reviewing as author and reviewer, interpreting journal metrics, and new opportunities to establish a leadership profile.

Awards Ceremony and Reception(following)

Monday, February 11, 2020 5:30 PM - 8:00 PM
Grand Ballroom 220A

Honoring:

Award of Merit Recipient
Dr. Lynne Werner
Young Investigator Award Recipient

Hair Ball

Tuesday, January 28, 2020 8:00 PM-MIDNIGHT
Grand Ballroom 220B

Performance by: *Shaky Feelin'*

Special Events & Meetings Continued

ARO Council Meetings

Friday, January 24, 2020 8:00 AM-3:00 PM

Tuesday, January 28, 2020 12:00 PM-2:00 PM

ARO Committee Meetings

* Lunches to be provided for Committee Members only, tickets will be provided.

<i>Time</i>	<i>Committee</i>	<i>Location</i>
Sunday, January 26, 2020		
12:00 PM - 2:00 PM	Awards Committee	211C
12:00 PM - 2:00 PM	Long Range Planning	211D
12:15 PM - 1:30 PM	Travel Awards Committee	211A
Monday, January 27, 2020		
11:30 PM - 1:00 PM	JARO Editorial Board	111
12:00 PM - 2:00 PM	Diversity and Minority Affairs Committee	211C
12:15 PM - 1:30 PM	External Relations Committee	211D
12:00 PM - 2:00 PM	Program Committee	211B
12:00 PM - 2:00 PM	Finance & Investment Committee	211A
Tuesday, January 28, 2020		
12:15 PM - 1:30 PM	International Committee	211D
6:30 PM - 8:00 PM	spARO Steering Committee	Elyse Restaurant

Special Events & Meetings Continued

ARO Ancillary Meetings

<i>Time</i>	<i>Ancillary Meeting</i>	<i>Location</i>
Saturday, January 25, 2020		
3:00 PM - 5:00 PM	NIH/NIDCD Meeting	111
4:00 PM - 5:00 PM	NIDCD T32 Program Director's Meeting	211A
Sunday, January 26, 2020		
12:30 PM - 1:30 PM	Hearing Research Board Mtg	111
4:00 PM - 5:00PM	gEAR Workshop	212 AB
Monday, January 27, 2020		
5:00 PM - 6:00 PM	Scientific Director CNRS	212D
Tuesday, January 28, 2020		
12:00 PM - 1:30 PM	AN Modeling Meeting	212 A
4:00 PM - 5:00 PM	gEAR Workshop	212 AB

ARO Committees

PROGRAM COMMITTEE

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Matt Kelley, PhD (3/19 - 2/22)

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Maria Rubio, MD, PhD (3/19 - 2/22)

Konstantina Stankovic, MD, PhD (3/17 - 2/20)

Eric Thompson, PhD (3/17 - 2/20)

Matt Winn, PhD (3/19 - 2/22)

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Long Range Planning Committee Chair

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Catherine (Cat) Weisz, PhD (3/17 - 2/20)

Program Chair

Matthew W. Kelley, PhD (3/19 - 2/22)

spARO Representative Chair

Nicole Jiam (3/18 - 2/19)

ARO Committees

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Amy Poremba, PhD, NIDCD Rep.

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Aaron Tward, MD, PhD (3/19 - 2/22)

Catherine Weisz, PhD (3/18 - 2/21)

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Spain (3/18 - 2/21)

spARO Representative: Kirupa Suthakar

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Heidi Nakajima, MD, PhD (3/19 - 2/20)

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Lisa Olson, PhD (3/17 - 2/20)

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Lukas Landegger: Austria (3/19 - 2/22)

Yong Lu, PhD: USA (3/19 - 2/22)

Takayuki Nakagawa, MD, PhD: Japan (3/18 - 2/21)

Sonya Pyott, PhD: Netherlands (3/18 - 2/21)

Saima Riazuddin, PhD: USA (3/19 - 2/22)

Council Liaison: Gwen Geleoc, PhD (3/18 - 2/21)

spARO Representative: Patrick Atkinson, PhD

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JinWoong Bok, PhD (3/18 - 2/21)

Tom Coate, PhD (3/18 - 2/21)

Stephanie Eckrich (3/18 - 2/21)

Jeff Lichtenhan, PhD (3/17 - 2/20)

Manuel Malmierca, MD, PhD (3/18 - 2/21)

Jim Phillips, PhD (3/18 - 2/21)

Diana Peterson (3/18 - 2/21)

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spARO Representative: Cathy Sung

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Mentorship and spARO Events Program

Mentorship

2020 spARO Mentoring Sessions:

Professionals, Junior Faculty, Postdocs, Grad Students, & Research Assistants - Come Join the Discussion!

Ever wonder how someone runs a lab, yet still has a life? How to talk to your advisor (or advisee) in a more constructive manner? Or how people transition between academia and industry?

Once again, we will be offering multiple mentorship sessions focused on many of the critical issues related to a successful and fulfilling scientific career.

So run out, grab a lunch to go, and come join us for these open discussions.

Saturday | 12:15 pm – 1:15 pm

Mentoring Session: Publishing	Room 211A
Mentoring Session: Lab Management	Room 211C
Mentoring Session: Clinician Scientist	Room 211D

Saturday | 3:00 pm – 5:00 pm

spARO Reverse Science Fair
The Tech Interactive

Sunday | 12:15 pm – 1:30 pm

Women in Science Roundtable

Sunday | 4:00 pm – 5:00 pm

Mentoring Session: Careers in Industry	Room 211A
Mentoring Session: Navigating the Grant Landscape as a Trainee/Getting Grants	Room 211B

Sunday | 4:00 pm – 5:00 pm

spARO Science Communication Workshop

Sunday | 5:00 pm – 6:00 pm

Mentorship Program Social

Monday | 12:15 pm – 1:30 pm

Young Investigators Luncheon

Monday | 4:00 pm – 5:00 pm

Mentoring Session: Work-life Balance	Room 211B
Mentoring Session: Interviewing and Negotiation Skill Development Room	Room 211A

Monday | 5:00 pm – 6:00 pm

spARO Town Hall

Monday | 8:00 pm – 11:00 pm

spARO Social at Camino Brewing

Tuesday | 12:15 pm – 1:15 pm

Mentoring Session:

Job Search and Independence Room 211A

Mentoring Session:

Mentor-Mentee Communication Room 211B

Mentoring Session: Teaching and Research Room 211C

Travel Award Recipients

Henderson Travel Award Winners:

Marina Salorio-Corbetto

Eric Nisenbaum

Suzanne de Bruijn

Chelsea Blankenship

Fondation pour l'Audition Award Winner:

Fabian Blanc

Travel Award Winners:

Shadi Ahmadmehrabi

Calvin Kersbergen

Emily Allen

Jeong-seo Kim

Seba Ausili

Takashi Kojima

Sarah Bakst

Shannon Lefler

Parveen Bazard

Xiaojun Li

Holly Beaulac

Andres Llico Gallardo

Jose María Bermúdez

Chase Mackey

Muñoz

Carolyn McClaskey

Fabian Blanc

Michaela Mueller

Chelsea Blankenship

Eric Nisenbaum

Eileen Brister

Aida Nourbakhsh

Emily Burg

George Ordiway

Kali Burke

Nihaad Paraouty

Luis Cassinotti

Ashley Parker

Nam Hyun Cho

Devon Pawley

Janet Choi

Stefanie Peña

Alexander Claussen

Evan Ratzan

Parinaz Dabestani

Luis Rivera-Perez

Samantha Davis

Daniel Romano

Suzanne de Bruijn

Marina Salorio-Corbetto

Niklas Edvall

Laurel Screven

Afagh Farhadi

Viraj Shah

Michelle Frank

Austen Sitko

Tom Gajecki

Jeffrey Skidmore

Jay Gantz

Samantha Stiepan

Charlotte Garcia

Angelo Augusto Sumalde

Sumana Ghosh

Farshid Taghizadeh

Hannah Goldberg

Natalia Trpchevska

Aravind Chenrayan

Lucas Vattino

Govindaraju

Soumya Venkitakrishnan

Charles Heller

Zhirong Wang

Chengjie Huang

John Wilson

Matthew Ingersoll

Victor Wong

Lingchao Ji

Fan Wu

Exhibits

Educational and informational exhibits will be available in the Grand Ballroom during the MidWinter Meeting. Exhibiting company representatives will be available to answer your questions about their products and services. Please visit the exhibits and thank the representatives for their support.

Saturday, January 25	12:00 PM – 6:30 PM
Sunday, January 26	9:00 AM – 5:00 PM
Monday, January 27	9:00 AM – 2:00 PM

2020 Exhibitors

Audioptics Medical, Inc.

Booth #102

1971 Parkwood Terrace

Halifax, NS Canada

Phone 774-329-1679

Email rob.adamson@audiopticsmedical.com

Audioptics Medical has developed a middle ear microscope capable of seeing through the tympanic membrane to image the middle ear and of performing vibrometric measurements on middle ear structures.

Charles River

Booth #107

251 Ballardvale St

Wilmington, MA 01887

Phone 1-877-CRIVER

Email AskCharlesRiver@crl.com

Web www.criver.com

As the world's largest and most advanced Discovery & Safety CRO, Charles River is committed to helping our partners expedite their nonclinical drug development with exceptional preclinical services, state-of-the-art facilities and expert regulatory guidance. From individual specialty toxicology and IND-enabling studies, we can design customized programs, anticipate challenges, and avoid roadblocks.

CILcare**Booth #104**

500 Shire Way

Lexington, MA 02421

Phone 617-899-4795

Email marie-pierre.pasdelou@cilcare.comWeb www.cilcare.com

CILcare is a unique CRO specialized in ear disorders. We offer preclinical services and consultancy to accelerate the development of innovative products for hearing loss, tinnitus, and otic disorders.

Cortech Solutions, Inc.**Booth #106**

1409 Audubon Blvd., Suite B1

Wilmington, NC 28403

Phone 910-362-1143

Email sales@cortechsolutions.comWeb www.cortechsolutions.com

Advanced EEG/ERP systems, fNIRS, auditory stimulus delivery, TMS stimulation and navigation, response devices and more. Our tools for cortical, brainstem and behavioral measurements work in a wide range of environments, including MRI, MEG, TMS, real-world and more. Visit us to learn about the latest developments for 2020!

ENT Clinical**Booth #105**

Broederplein 41-43

ZEIST 3703 CD

Netherlands

Phone +31 - (0)30 - 6569188

Email erik.vanzanderbergen@entclinical.comWeb www.entclinical.com

ENT Clinical is the science-driven Clinical Research Organization which combines academic expertise and operational capacity to successfully deliver clinical trials in the hearing field. We can design, set up and deliver world-class clinical trials.

Etymotic Research**Booth #108**

61 Martin Lane

Elk Grove Village, IL 60007

Phone 847-228-0006

Fax 847-228-6836

Email customer-service@etymotic.comWeb www.etymotic.com

Etymotic Research, Booth #108, is featuring the ER10X Extended Bandwidth Probe System. This extremely small, lightweight low noise microphone offers an extended bandwidth to 40 kHz. In addition, it features low distortion (up to 100 dB SNR) and 90 dB SPL maximum. It comes with single use, disposable probe tubes

Intelligent Hearing Systems**Booth #100**

6860 SW 81 Street

Miami, FL 33143

Phone: 800-447-9783

Fax: 305-668-6103

Email: sales@ihsys.comWeb: www.ihsys.com

High frequency speakers and systems for testing Auditory Evoked Potentials (SmartEP), Otoacoustic Emissions (SmartOAE), and Somatosensory EPs. Advanced research tools include a continuous EEG acquisition system (SmartEP-CAM), an Frequency Following Response module, and IHS USB Development kit that provides total control and development of software for the SmartUSB platform.

Interacoustics**Booth #101**

Audiometer Allé 1

5500 Middelfart, Denmark

Phone: +45 6371 3555

Email: info@interacoustics.comWeb: www.interacoustics.com

A system for measuring Wide Band Tympanometry and Wide Band Absorbance / Reflectance is exhibited by Interacoustics at ARO 2018. The system is developed together with Douglas Keefe, Ph. D. and Boys Town National Research Hospital. Also ABR with Chirp stimuli will be on display by Interacoustics, a world leading full line supplier of audiometric equipment.

IstoVisio, Inc.**Booth #112**

3592 Collins Ferry Dr, Suite 140
Morgantown, WV 26505
Phone: 304-677-3025
Email: michael@syglass.io
Web: www.syglass.io

Explore big volumetric microscopy data in stereoscopic 3D VR with syGlass!

**National Institute on Deafness and
Other Communication Disorders****Booth #110**

Bldg. 31, Rm. 3C25, 31 Center Drive
Bethesda, MD 20892
Phone: 240-398-1559
Fax: 240-402-2265
Email: wongb@mail.nih.gov
Web: www.nidcd.nih.gov

The NIDCD supports and conducts research in the normal and disordered processes of hearing, balance, taste, smell, voice, speech, and language. Scientists at all levels can apply for research and training opportunities on the NIH campus in Bethesda, Maryland (intramural training) or at institutions nationwide (extramural training). More info: www.nidcd.nih.gov.

NeuroNexus**Booth #113**

655 Fairfield Ct, Suite 100
Ann Arbor, MI 48108
Phone: 734-913-8858
Email: apaez@neuronexus.com
Web: www.neuronexus.com

NeuroNexus powers research through innovative microelectrodes, systems, and software. NeuroNexus microelectrodes include high-quality, customizable arrays for electrophysiology. NeuroNexus systems provide integrated plug-and-play solutions to support diverse neurophysiology experiments and workflows up to 512 channels and counting. The NeuroNexus software platform provides powerful, scalable, tools for handling neurophysiological data.

Shenzhen Giant Technologies Co.,Ltd Booth #109
Room 102-10 Building 3, Ruiteng Innovation Park
Nanshan District
Shenzhen, China
Phone: 86-15099926052
Email: 386972067@qq.com

Shenzhen Giant technology is a company, working in neurosciences (hearing) lab equipment. Our products cover auditory and vestibular functional testing on modal animals, such as zebrafish and mouse. We have: 1) Multiple animal ABR (Auditory Brain-stem Response) for rodents; 2) VOR (vestibular ocular reflex) testing system for mouse and zebrafish; 3) Auditory function testing (startle response) system for zebrafish. All products are made from the published research prototype system.

SutterInstrument

Booth #114

One Digital Drive
Narato, CA 94949
Phone: 415-883-0128
Fax: 415-883-0572
Web: www.sutter.com

Visit the the Sutter Instrument booth to see the dPatch® and IPA patch clamp amplifier and data analysis systems along with SutterPatch, our comprehensive integrated software package. Other products include the versatile BOB open platform upright microscope, the highly-stable TRIO 3-axis manipulator system. P-1000 micropipette puller, and much more.

Tucker-Davis Technologies

Booth #115

11930 Research Circle
Alachua, FL 32615
Phone: 386-462-9622
Email: rzagurski@tdt.com
Web: www.tdt.com

Tucker-Davis Technologies (TDT) provides products for basic and applied research in the neurophysiology, hearing, and speech sciences as well as for general data acquisition applications. We offer a complete line of modular DSP-based data acquisition and stimulus generation systems.

Turner Scientific LLC**Booth #111**

1351 Lincoln Avenue

Jacksonville, IL 62650

Phone: 217-602-0306

Email: jturner@turnerscientific.comWeb: www.turnerscientific.com

Turner Scientific is an audiologic preclinical contract research organization. We conduct efficacy studies for hearing, tinnitus, and vestibular treatments, and screen compounds for ototoxicity, using multiple animal models (mice, rats, guinea pigs, rabbits, non-human primates, others). Assessments include behavioral testing, gap detection tinnitus testing, ABRs, immunohistochemistry, and many other modalities.

ViewPoint Life Sciences**Booth #103**

2550 Bates

Suite 404

Montreal, QC H3S 1A7

Canada

Phone: 1-514-343-3003

Email: ebatut@vplsi.comWeb: www.vplsi.com

Lynne A. Werner

2020 ARO Award of Merit Recipient



Lynne Ann Werner was born in Pittsburgh, Pennsylvania. The oldest of seven children, she describes her childhood as “unremarkable.” She received her bachelor’s degree from Northwestern University. Having sampled majors in biology, chemistry, education, and anthropology, she finally settled on psychology.

Following graduation, Lynne stayed in the Chicago area and began graduate school at Loyola University of Chicago, in the lab of Debbie Holmes, a developmental psychologist working mostly on visual perceptual development. In the Holmes lab she began her lifelong adventure toward discovering what human infants hear, completing a dissertation entitled “Auditory frequency analysis in infancy” in addition to several other papers on visual attention and a neurophysiology study on the goldfish 8th nerve with Richard Fay. Lynne then took a position as Assistant Professor of Psychology at Virginia Commonwealth University. Soon after that she was enticed to move her lab to the University of Virginia, and then in 1986 she moved to the University of Washington, where she rapidly rose to Full Professor with Tenure. She officially retired and became Professor Emeritus in 2017, but still continues to mentor junior scientists and to collaborate on research in other labs.

Early in her career, Lynne began running in her efforts to quit smoking. She ran her first marathon a year later and has since run nearly 200 marathons and ultramarathons. She no longer smokes. Lynne’s other interests include baseball, classical music and opera, theater, train travel, beer, cooking, camping, and hiking. Lynne has been married to David Olsho for 48 years. David is also a runner. They have two daughters: Lauren Olsho is a health economist with a research focus on nutrition and risky behavior; Alexis Olsho is a researcher in physics education. Lynne and David have three grandchildren, Daisy, Sidney, and Willa, all of whom she describes as “sweet”, “smart,” and “**good runners**”.

When Lynne started her work on infant hearing in the 1980s, there were few quantitative behavioral data on young infants. There were careful observations of responses to a variety of acoustic stimuli, and there were studies based on the habituation of infant responses to sound that allowed researchers to determine whether infants could discriminate between two quite different sounds. However, these paradigms did not allow researchers to quantify infant sensitivity or to compare infants and adults directly. The

conditioned head-turn procedure developed by researchers at the University of Washington was a great advance that allowed for estimation of both detection and discrimination thresholds in the clinic as well as in the lab. Unfortunately, the conditioned head-turn technique does not yield reliable results for infants younger than about 6 months of age.

In 1987, Lynne and her colleagues introduced a major paradigm shift in the study of infant hearing, the Observer-based Psychophysical Procedure (OPP). This procedure combines the conditioned head-turn technique and the forced-choice preferential looking procedure, developed for infant vision studies by Davida Teller at University of Washington. This method actually tests the ability of a trained observer to detect a sound or a change in a sound using only the infant's behavior as evidence. It is incredibly powerful and has allowed the collection of reliable psychophysical data on a large variety of acoustic parameters in normal-hearing and hearing-impaired infants as young as a few weeks old.

Armed with this new, powerful methodology, Lynne's lab produced a series of remarkable studies that told us how infants detect, discriminate, or categorize acoustic stimuli. Among the important findings of her experiments, is that while some infant perceptual skills are surprisingly mature by 6 months of age (e.g., high frequency discrimination, low frequency resolution, and pitch categorization), other percepts remain immature, even as infants begin to acquire their first words (e.g., gap detection and spectral ripple discrimination). During this period, Lynne not only trained her students in OPP, but opened her lab to colleagues from the US and abroad who learned the OPP procedure and applied it to a variety of research questions. It is not an overstatement to say the research from Lynne's lab is the pillar upon which Developmental Psychoacoustics is built.

Age-related improvements in auditory performance were sometimes attributed to failures of attention, memory, or general "efficiency". While such effects were considered uninteresting to some hearing researchers, Lynne and the members of her lab demonstrated that such cognitive factors had a direct effect of infants' perception. For example, one reason that infants are worse than adults at detecting a tone in noise is that while adults listen selectively for a particular frequency, infants listen broadly across frequency. One consequence is that infants are actually better than adults at detecting unexpected tones. The idea that listening strategy changes during infancy and childhood has broad implications for our understanding of the development of speech perception and for pediatric audiology.

Another facet of Lynne's research contribution is her attempts to interpret her behavioral results in the context of our emerging understanding of the physiology and pharmacology of the auditory periphery and the brain. This is apparent in

her early work, in her collaborations relating psychophysical measures to conductive, cochlear and brainstem measures in infants, and in her recent studies of hearing-impaired children. It is most apparent in her book entitled “Human Auditory Development” and in the many superb chapters she has authored and co-authored.

Lynne’s work has been widely recognized. Her R01 grant “Development of Frequency Resolution” was continuously funded, first by NINCDS then by NIDCD, from 1985 to 2018. She was elected a Fellow of the Acoustical Society of America in 2002. Since arriving at the University of Washington she has served as the research advisor to 26 graduate students and postdoctoral fellows. She was recognized as Outstanding Mentor by the Student Council of the Acoustical Society in 2018.

Finally, in order to understand what makes Lynne Werner an outstanding recipient of the 2020 ARO Award of Merit, it is important to understand her commitment to her colleagues and the fields of Auditory Science. She served on or chaired more than 30 university and national committees and was principal investigator on conference grants, core grants, and a training grant. While this shows her commitment and leadership outside the lab, her commitment to her colleagues has always been a top priority. We have never seen her turn down a request to help with a grant or a paper, or provide advice, or attend a practice talk. Every letter for this nomination stressed Lynne’s commitment as a mentor and colleague and her leadership as a role model for women in science. Her students and colleagues are thrilled that Lynne Ann Werner is receiving the Award of Merit from the Association for Research in Otolaryngology.

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Acknowledgements

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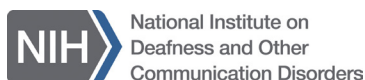
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- Submit proposals online at www.American-Hearing.org
- Deadline is Friday, August 14, 2020
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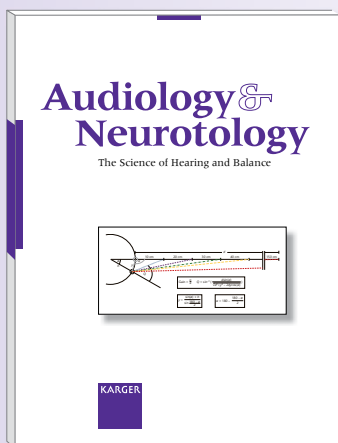
**Look for AHRF at
the "Funding Your
Scientific Genius"
panel, Sunday,
January 26!**

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 National Institute on
Deafness and Other
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Notes

Friday, January 24, 2020

Registration

4:00 PM – 7:00 PM

Executive Ballroom Foyer

Saturday, January 25, 2020

Registration

7:00 AM – 6:00 PM

Executive Ballroom Foyer

Speaker Ready Room

7:00 AM – 6:00 PM

Room 213

Morning Coffee Break

7:30 AM – 8:00 AM

Grand Ballroom Foyer

Presidential Symposium

Innate Immunity in the Auditory System

Chair: Keiko Hirose

8:00 AM – 12:30 PM

Grand Ballroom 220A

8:00 AM

Introduction by Keiko Hirose

8:30 AM | **PRES SYMP 1**

Innate Immunity in the Central Nervous System

Jessica Williams

9:00 AM | **PRES SYMP 2**

Microbiota and Development of Intestinal Immunity

Gretchen Diehl

9:30 AM | **PRES SYMP 3**

Homeostasis and Inflammatory Signature of Myeloid Cells in the Central Nervous System:

Lost in Translation

Bahareh Ajami

Mid-morning Break

10:00 AM – 10:20 AM

Grand Ballroom Foyer

10:20 AM | **PRES SYMP 4**

Innate Immune Cells in the Inner Ear: Macrophage Interactions with Hair Cells and Afferent Neurons

Mark Warchol

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10:50 AM | **PRES SYMP 5**

**NLRP3 Mutation and Cochlear Autoinflammation
Cause Syndromic and Nonsyndromic Hearing Loss
DFNA34 Responsive to Anakinra Therapy**

Andrew Griffith

11:20 AM | **PRES SYMP 6**

**Interplay between Cochlear Inflammation,
Circadian Rhythms and Noise Damage**

Barbara Canlon

11:50 AM

Remarks from Keiko Hirose

Exhibit Hall Open

12:00 PM – 6:30 PM

Executive Ballroom

Lunch (on own)

12:00 PM – 2:00 PM

Mentoring Sessions

12:15 PM – 1:15 PM

- **Publishing**
Room 211A
- **Lab Management**
Room 211C
- **Clinician Scientist**
Room 211D

Travel Awards Lunch

12:15 PM – 1:30 PM

Room 212AB

Poster Session 1 - Open 24 hours

1:00 PM to 11:00 AM Sunday

Executive Ballroom

Afferents and Efferents of the Vestibular System

PS 1

**Phase Locking of Vestibular Afferent Neurons in
the Oyster Toadfish**

Richard D. Rabbitt; Marta Iversen

PS 2**Resurgent Sodium Currents in Mature Vestibular Calyx Afferent Terminals***Frances Meredith; Karen Dockstader; Katherine Rennie***PS 3****Persistent and Resurgent Voltage-gated Sodium Currents in Mouse Vestibular Ganglion Neurons***Selina Baeza Loya; Ruth Anne Eatock***PS 4****A Generative Model of Vestibular Afferent Discharge Reveals a Targeted Deficit of Gentamicin-Induced Hypofunction***Larry Hoffman; Michael G. Paulin***PS 5****The High Precision of Phase Locking of Guinea Pig Irregular Otolith Afferents to High Frequency Sound and Vibration***Ian S. Curthoys; Wally Grant; Ann M. Burgess; Alan Brichta; Rebecca Lim***PS 6****Assessment of Utricular Nerve, Hair cell and Mechanical Function, In Vivo.***C Pastras; S Stefani; Camp A; Ian S. Curthoys; Daniel Brown***PS 7****Excitatory GABAergic Modulation of the Vestibular Nerve***Yugandhar Ramakrishna; Soroush Sadeghi***PS 8****Efferent Cholinergic Targets in the Mammalian Utricle***Johnny J. Saldate; Felix E. Schweizer; Larry Hoffman***PS 9****Further Characterization of Mouse Behavioral Models for Probing Vestibular Efferent Function.***Natalie B. Dang; Anjali Sinha; Choongheon Lee; Joseph C. Holt***PS 10****Characterizing the Use of Intrabulla Drug Application to Target Efferent Synaptic Mechanisms in the Vestibular Periphery***Choongheon Lee; Anjali Sinha; Natalie B. Dang; Joseph C. Holt*

PS 11

Raman Spectroscopy to Identify Changes in the Tympanic Membrane Associated With Acute Otitis Media

Anping Xia; Tulio A Valdez; Surya Singh; Mahbuba Tusty; Andrey Victorovich Malkovskiy; David Zarabanda; Meena Easwaran¹

PS 12

Development of Gold Nanoclusters as Adjuvants for the Treatment of Chronic Suppurative Otitis Media

Laurent Adonis Bekale; Anping Xia; Kelly M. Khomtchouk; Peter Santa Maria

PS 13

Predictive Power of Antibiotic Tolerance and Preclinical Evaluation of Fluoroquinolone Treatment of Pseudomonas aeruginosa Chronic Suppurative Otitis Media

Kelly M. Khomtchouk; Ali Kouhi; Anping Xia; Peter Santa Maria

PS 14

Characterizing the Osteolytic and Osteoblastic Responses to Cholesteatoma and Oncolytic Virotherapy

Joseph Pinkl; Ivy Schweinzger; Josephine Fernandez; Mark Currier; Noga Lipschitz; Timothy P. Cripe; Ravi N. Samy; Brian R. Earl

PS 15

An Investigative Study on Efficacy and Safety of Intratympanic Botulinum Toxin

Jung Mee Park; Min Jung Kim; Jaclyn Vidal; So Young Park; Shi Nae Park

PS 16

Sensorineural Hearing Loss Occurs in a Pseudomonas Aeruginosa Chronic Suppurative Otitis Media Mouse Model

Anping Xia; Zhixin Cao; Xiaohua Chen; Laurent Adonis Bekale; Peter Santa Maria

PS 17

Anatomical Consequences of Postnatal Zika Virus Infection on the Cochlea and Vestibular End Organs in a Mouse Model

Kathleen T. Yee; Biswas Neupane; Fengwei Bai; Douglas E. Vetter

PS 18

The Acoustic Reflex: A Comparison Between Noise-induced Hearing Loss and Selective Inner Hair Cell Loss in Carboplatin-treated Chinchillas

Andie Zang; Monica Trevino; Karen Pawlowski; Edward Lobarinas

PS 19

Hearing Preservation from Controlled Internal Jugular Vein Compression During Traumatic Noise Exposure

Celia D. Escabi; Christina Campbell; Karen S. Pawlowski; Brian Sindelar; Colleen Le Prell; Edward Lobarinas

PS 20

Role of Neuroinflammation in Noise Induced Hearing Loss

Ana H. Kim; Hunki Paek

PS 21

Murine Complement Factor H Mutation May Share Mechanism with Sudden Hearing Loss

Kevin Ig-Izevbekhai; Hangsoo Kim; Jianqi Cui; Rui Ma; Wenchao Song; Daqing Li

PS 22

Hearing Impairment in Xeroderma Pigmentosum type A

Takeshi Fujita; Tatsuya Furukawa; Natsumi Uehara; Hitomi Shinomiya; Daisuke Yamashita; Mariko Tsujimoto; Akinobu Kakigi; Chikako Nishigori; Ken-ichi Nibu

PS 23

Mutation of SLC7A14 Causes Syndromic Hearing Loss

Kimberlee Giffen; Huizhan Liu; David Z. He

PS 24

The Dual AT1R/ETAR Blocker Sparsentan Prevents Hearing Loss and Renal Disease in Alport Mice

Michael Anne Gratton; Dominic Cosgrove; Jared J. Hartsock; Grady Phillips; Ruth Gill; Brianna Dufek; Duane Delimont; Daniel Meehan; Celia Jenkinson; Radko Komers

PS 25

Cdkn2a Deletion and Ototoxic Stress Synergistically Promote Abnormal Schwann Cell Proliferation in the Inner Ear

Kendra L. Stansak; Johnathan D. Jones; Bradley J. Walters

PS 26**A Method for Electrophysiological Evaluation of Peripheral Facial Nerve in Rats**

Ji Eun Choi; Nathaniel Carpena; Jae-Hun Lee; Gwangjin Jeong; So-Young Chang; Hee-Won Jeong; Min Young Lee; Sehwan Kim; Jae Yun Jung

PS 27**Expression of advanced glycation end-product (AGEs) in the cultured utricles**

Kazuma Sugahara; Yoshinobu Hirose; Makoto Hashimoto; Shunsuke Tarumoto; Hiroshi Yamashita

**Auditory Brainstem I:
Normal Hearing & Hearing Impairment**

PS 28**Temporal Processing in the Cochlear Nucleus of an Autism Model Mouse**

Tessa-Jonne Ropp; Michael Kasten; Paul Manis

PS 29**Induction mechanisms of activity -dependent changes in the endbulb of Held**

Nicole F. Wong; Matthew A. Xu-Friedman

PS 30**Expression and Neurotransmitter Association of Synaptic Calcium Sensor Synaptotagmin in the Avian Auditory Brain Stem**

Katrina M. MacLeod; Sangeeta Pandya

PS 31**Spontaneous Action Potential Activity in Ultra Low Frequency Nucleus Magnocellularis is HCN Channel Dependent**

George Ordiway; Jason Sanchez

PS 32**Ultrastructural Changes of Murine Endbulb of Held Active Zones upon Maturation**

Anika Hintze; Anna Steyer; Wiebke Möbius; Carolin Wichmann

PS 33**Cell Types of the Dorsal Cochlear Nucleus that Receive Descending Input from the Inferior Colliculus**

Timothy Balmer; Laurence Trussell

PS 34

Synaptic Properties of a Novel Inhibitory Neuron Type, L-Stellate Cells in the Cochlear Nucleus

Tenzin Ngodup; Laurence Trussell

PS 35

Loose Coupling Between SK and P/Q-type Ca²⁺ Channels in Cartwheel Cells of the Dorsal Cochlear Nucleus.

Tomohiko Irie

PS 36

Small Dendritic Inputs Increase Temporal Precision of Large Axosomatic Inputs in a Model of Spherical Bushy Cells

Elisabeth Koert; Thomas Kuenzel

PS 37

Muscarinic Modulation of M- and H-Currents in Gerbil Spherical Bushy Cells

Charlène Gillet; Thomas Kuenzel

PS 38

Characterization of a Large Population of Cochlear Nucleus Small Cells

Adam Hockley; Calvin Wu; Susan E. Shore

PS 39

Variability in Synaptic Input Strength may Reduce the Cost for Synaptic Transmission of Bushy Cells in the Cochlear Nucleus

Go Ashida; Jutta Kretzberg

PS 40

Age-dependent changes in the level of vesicular proteins and glutamate receptors in the auditory brainstem of Fmr1 knockout mice

Diego Zorio; Xiaoyu Wang; Thomas Ayzenshtat; Yuan Wang

PS 41

FMRP dependency for developmental synaptic plasticity of auditory neurons

Xiaoyan Yu; Xiaoyu Wang; Austin Burns; Diego Zorio; Yuan Wang

PS 42

Influence of Microglia on Spiral Ganglion and Cochlear Nucleus Neuron Survival Following Hair Cell Death in Mature Mice

Van A. Redila; Ling Tong; Robin M. Gibson; Tejbeer Kaur; Mark Warchol; Edwin W. Rubel

PS 43

Stimulation of Auditory Nerve Fibers with Trains of Shocks Engages Excitatory Interconnections Between T Stellate Cells of the Ventral Cochlear Nucleus

Xiao-Jie Cao; Donata Oertel

PS 44

Organizational Features of the Auditory Periphery shapes the Development of Tonotopically Distributed Membrane Properties in Cochlear Nucleus Neurons

Lashaka Jones; Weise Chang; Zoe Mann; Matthew W. Kelley; Michael Burger

PS 45

Noise Exposure in Adult Mouse Induces Burst Firing and Changes in Auditory Nerve Synapses in Dorsal Cochlear Nucleus (DCN) Pyramidal Neurons.

Michael Kasten; Tessa-Jonne Ropp; Paul Manis

Auditory Nerve: Anatomy & Physiology

PS 46

Pou3f4 In The Otic Mesenchyme Is Essential For Development Of Normal Spiral Ganglion Neuron Innervation Patterns In The Mammalian Cochlea

Mansa Gurjar; Johnny Jung; Vinodh Balendran; Elizabeth Staab; Thomas Coate

PS 47

Phase Locking of Auditory-Nerve Fibers: Investigating the Origin of the Level-Dependent Exponential Transfer Function

Adam J. Peterson; Peter Heil

PS 48

Physiology and Anatomy of Glutamate Receptors at the Inner Hair Cell to Auditory Nerve Fiber Synapse Suggest GluA2-lacking, Ca²⁺-permeable AMPA Receptors Contribute to Transmission in the Mammalian Cochlea

Juan Goutman; Shelby Payne; Babak V-Ghaffari; Shashank Chepurwar; Adish Dani; Mark Rutherford

PS 49

Spatial Origins of Click-Evoked Cochlear Compound Action Potentials

Shannon Lefler; Shawn Goodman; Choongheon Lee; John Guinan; Jeffery Lichtenhan

PS 50**A Modeling Analysis of a Forward Masking Paradigm Proposed to Estimate Cochlear Compression**

Gerard Encina-Llamas; Jens C. Thuren Lindahl; Bastian Epp

PS 51**Contribution of Auditory Nerve Nodal Structural Refinement to Postnatal Maturation of Mouse Auditory Function**

Clarisse H. Panganiban; Kenyaria V. Noble; Carolyn M. McClaskey; Kelly C. Harris; Hainan Lang

PS 52**Optical Coding Using Photopharmacological Stimulation of Ionotropic Glutamate Receptors in Spiral Ganglion Neurons**

Antoine Huet; Aida Garrido; Carlo Matera; Pau Gorostiza

PS 53**Neural crest and placode contributions to congenital deafness in Waardenburg-Shah syndrome**
*Takako Makita***PS 54****Efferent feedback improves representation of speech envelope in auditory nerve in a stimulus-specific manner**

Jason Mikiel-Hunter; Heivet Hernandez-Perez; David McAlpine; Jessica J. M. Monaghan

Auditory Nerve: Damage & Protection

PS 55**Assessing the Effects of Kainic Acid-Induced Auditory-Nerve Damage on Envelope-Following Responses in the Budgerigar**

John Wilson; Kristina Abrams; Kenneth S. Henry

PS 56**Noise-Induced Cochlear Synaptopathy in Guinea Pig**

Monica Benson; Nathaniel T. Greene; John Peacock; Daniel J. Tollin

PS 57**The Effect of Chronic Electrical Stimulation on Functional and Histological Measures of Auditory Nerve Degeneration**

Dyan Ramekers; Sjaak F. Klis; Huib Versnel

PS 58

Exploring the Impact of Peripheral Myelin Disorders on Inner Ear Structure and Function Using Mouse Models of Charcot-Marie-Tooth Disease.

Luis R. Cassinotti; Lingchao Ji; Aditi S. Desai; Adam T. Palermo; Joseph C. Burns; Gabriel Corfas

PS 59

Mild Therapeutic Hypothermia: New Insights On The Protective Mechanisms In Cochlear Implant-Induced Hearing Loss

Rachele Sangaletti; Elizabeth Dugan; Federica Maddalena Raciti; Curtis King; W. Dalton Dietrich; Michael Hoffer; Suhurd M. Rajguru

PS 60

Development of Middle-Ear-Muscle Reflex (MEMR) Biomarker in Mouse

Ann E. Hickox; Arun Senapati; Trang Nguyen; Lars Becker; Lillian Smith; Raja Poda; Jessica Wang; Jillian Zoglio; Qi-Ying Hu; Janeta V. Popovici-Muller; Inmaculada Silos-Santiago

PS 61

Contribution of Auditory Nerve Fibers to the Auditory Nerve Neurophonic in Human

Xavier Dubernard; Frederic Venail; Jean-Charles Kleiber; Arnaud Bazin; André Chays; Jean-Luc Puel; Jérôme Bourien

PS 62

Hidden Hearing Loss in Human Temporal Bones: Primary Neural Degeneration in Noise Damaged Human Ears.

Peizhe Wu; Leslie D. Liberman; Jennifer T. O'Malley; M. Charles Liberman

PS 63

Kainate- and AMPA-Induced Cochlear Synaptopathy in Gerbils

Artem Diuba; Vivien Foulquier; Jérôme Bourien; Martin Nedelec; Gilles Desmadryl; Sharon G. Kujawa; Jean-Luc Puel

PS 64

MHCII KO mice are protected from SGN degeneration after deafening

Muhammad Taifur Rahman; Benjamin M. Gansemer; Jack Parker; Zhenshen Zhang; Catherine Kane; Steven H. Green

PS 65**Disruption of ErbB Receptor Signaling in Schwann Cells Results in Hidden Hearing Loss.***Luis R. Cassinotti; Aditi S. Desai; David Kohrman; Beatriz C. Borges; Gabriel Corfas***PS 66****In Silico Examination of Noise-Induced and Age-Related Cochlear Deafferentation in Mice***Jérôme Bourien; Jean-Luc Puel; Sharon G. Kujawa***PS 67****A Convolutional Neural-Network Model of the Human Auditory Periphery for Real-time Applications and Studies of Hearing Impairment***Fotios Drakopoulos; Deepak Baby; Arthur Van Den Broucke; Sarah Verhulst***PS 68****Steroid sex hormones promote regeneration of cochlear synapses after excitotoxic trauma***Sepand Bafti; Ning Hu; Steven H. Green***PS 69****A Novel Chinchilla Model of Blast-Induced Auditory Injury for Hearing Damage Prediction and****Prevention Using 3D Printed “Helmet” and Earplug***Shangyuan Jiang; Kyle Smith; Junfeng Liang; Xuelin Wang; Ariana Gannon; Marcus Brown; Rong Z. Gan***PS 70****Comparison of Various Neurotrophic Compounds for Preservation of the Auditory Nerve in Deafened Guinea Pigs***Henk Vink; Dyan Ramekers; Glauco Cristofaro; Hans Thomeer; Huib Versnel***PS 71****Immune Response Activation in the Spiral Ganglion of Aminoglycoside Deafened Rats***Benjamin M. Gansemer; Muhammad Taifur Rahman; Steven H. Green***PS 72****Activity-dependent Synaptopathy and Demyelination of Auditory Neurons following Conductive Hearing Loss in Adult Mice***Takaomi Kurioka; Sachiyo Mogi; Manabu Tanaka; Taku Yamashita*

PS 73

Physiological Response Properties of Auditory Nerve Fibers in Mice following Cochlear Synaptopathy

Kirupa Suthakar; M. Charles Liberman

PS 74

Targeting Alpha-Tubulin Acetylation in Spiral Ganglion Neurons for the Treatment of Hearing Loss.

Victor Wong; David Goldberg; Wilfredo Medllado; Brett Langley; Dianna Willis

Auditory Prostheses I

PS 75

Influence of Electrode to Cochlear Duct Length Ratio on Post-Operative Speech Understanding Outcomes

Shayna Cooperman; Ksenia A. Aaron; Emma Tran; Nikolas Blevins; Matthew B. Fitzgerald

PS 76

Coatings for Cochlear Implants: How Protective Properties Depend on Cross-linking

Ryan Horne; Megan J. Foggia; Linjing Xu; Bradley Jones; C. Allan Guymon; Marlan R. Hansen

PS 77

Molecular Pathways Activations Following Insertion Trauma and Chronic Cochlear Implantation

Melissa Urbain; Florence François; Jean Charles Ceccato; Jean-Luc Puel; Frederic Venail

PS 78

Zwitterionic Coatings Reduce the Inflammatory Foreign Body Response to Cochlear Implant Biomaterials

Megan J. Foggia; Jamison Chamberlain; C. Allan Guymon; Marlan R. Hansen

PS 79

The Response of Macrophages to Cochlear Implant Biomaterials

Megan J. Foggia; Timon Higgins; Linjing Xu; C. Allan Guymon; Marlan R. Hansen

PS 80

Characterization of the Human Helicotrema: Implications for Cochlear Duct Length and Frequency Mapping

Luke Helpard; Hao Li; Helge Rask-Andersen; Sumit Agrawal; Hanif Ladak

PS 81

Voltage Distribution in the Facial Nerve Canal with Intracochlear Cochlear Implant Stimulation: a Human Cadaver Study

Simone R. de Rijk; Chen Jiang; Manohar Bance

PS 82

Evaluating the Efficacy of a Novel Compound in Providing Otoprotection using an in vitro Model of Electrode Insertion Trauma

Viraj Shah; Jeenu Mittal; David Shahal; Priyanka Sinha; Erdogan Bulut; Rahul Mittal; Adrien A. Eshraghi

PS 83

Evaluating the Efficacy of New Otoprotective Drugs for Cochlear Implantation Trauma with or without Electrical Stimulation using in vitro and in vivo Models.

Adrien A. Eshraghi; Jeenu Mittal; Viraj Shah; David Shahal; Erdogan Bulut; Carolyn Garnham; Hannah Marwede; Jorge Bohorquez; Rahul Mittal

PS 84

Comparative Analysis of Post-Surgical Fibrosis in the Implanted Ear

Donald L. Swiderski; Deborah J. Colesa; Jenna Devare; Bryan E. Pfingst; Yehoash Raphael

PS 85

Long-term effects and potential limits of intratympanic dexamethasone-loaded hydrogels combined with dexamethasone-eluting cochlear electrodes in a guinea pig model

Navid Ahmadi; Julia Clara Gausterer; Clemens Honeder; Christoph Arnoldner

PS 86

Electrical Stimulation in the Cochlea: Influence of Microstructures inside the Modiolar Bone

Siwei Bai; Jörg Encke; Frank Böhnke; Werner Hemmert

PS 87

Modelling the human cochlear length and clinical cochlear length measurements: Consequences for CI length selection

Marcus Müller; Pia Glang; Thore Schade-Mann; Fritz Schneider; Anke Tropitzsch; Hubert Löwenheim

PS 88

Macrophage Response to Low- and High- Current Level Cochlear Electric Stimulation in CX3CR1+/GFP Mice

Rene Vielman Quevedo; Alexander D. Claussen; Brian Mostaert; Jonathon R. Kirk; Marlan R. Hansen

Auditory Prostheses II

PS 89

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Eric Nisenbaum; Olena Bracho; Stefanie Peña; Esperanza Bas; Cristina Fernandez-Valle; Michael Ivan; Fred Telischi; Xuezhong Liu; Christine Dinh

PS 233

Test-Retest Reliability of Serum Prestin Levels in Normal Hearing Young Adults

Ashley Parker; Kouros Parham; Erika Skoe

PS 234

The Effect of Diabetes on The Prognosis of Sudden Sensorineural Hearing Loss: Propensity Score Matching Analysis

Yunjae Lee; hayoung byun; jaeho chung

PS 235

Early detection of occupational noise induced cochlear synaptopathy among young adults with normal audiograms through electrocochleogram

Qixuan Wang; Lu Yang; zhiwu huang; Hao Wu

PS 236

Predictive Factors for Hearing aid Satisfaction for Experienced and First-time Hearing aid Users: Using the International Outcome Inventory for Hearing aids

Sabina S. Houmoeller; Anne Wolff; Vijay Narne; Gérard Loquet; Dan Dupont Hougaard; Dorte Hammershøi; Christian Godballe; Jesper Hvass Schmidt

PS 237 - WITHDRAWN**PS 238**

The effects of an active noise control technology applied to earphones on preferred listening levels in noisy environments

Takunari Hoshina; Daiki Fujiyama; Takuji Koike; Katsuhisa Ikeda

PS 239

An Early Health Economic Model on Hearing Loss: the potential added value of Novel Hearing Therapeutics

Rishi Mandavia; Yvette Horstink; Mirre Scholte; Janneke Grutters; Evie Landry; Carl May; Maroeka Rovers; Anne G. Schilder

PS 240

The PATH study: Preparing for the Adoption of novel Therapeutics in Hearing loss.

Rishi Mandavia; Anne G. Schilder; Maroeka Rovers; Carl May

PS 241 - Withdrawn

Tinnitus: Human Studies and Animal Models

PS 242

Inducing Tinnitus in Guinea Pigs Through Stimulus Timing-Dependent Plasticity

Michael Selesko; Jennifer Lampen; Rebekah Weeks; Calvin Wu; Adam Hockley; Susan E. Shore

PS 243

Bushy cells of the ventral cochlear nucleus and their relationship to tinnitus and hyperacusis

David T. Martel; Susan E. Shore

PS 244

VAcHT Expression in the Cochlear Nucleus of Guinea Pigs After Tinnitus Induction and Reversal

Jennifer Lampen; Karan Joseph; Susan E. Shore

PS 245

Decoding Acute Tinnitus by Classifying Dorsal Cochlear Nucleus Spiking Activity

Calvin Wu; Susan E. Shore

PS 246

Comparison of three methods to detect tinnitus on a rat salicylate-induced tinnitus model

Sylvie Pucheu; Camille Dejean; Amandine Laboulais; Veronique Baudoux; Maida Cardoso; Yves Cazals; Arnaud Norena; Christophe Goze-Bac; Gaelle Naert

PS 247**TNF-alpha mediates blast-induced tinnitus: Behavioral, electrophysiological and immunocytochemical studies***Hao Luo; Xiuyuan Liang; Bin Liu; Edward Pace; Ruishuang Geng; Shaowen Bao; Jinsheng Zhang***PS 248****Blocking TNF-alpha Mitigates Blast-Induced Neural Anomalies in the Auditory and Limbic Systems and Protects Hearing***Ethan Firestone; Hao Luo; Edward Pace; Bin Liu; Shane Perrine; Shaowen Bao; Jinsheng Zhang***PS 249****Effects of Tinnitus and Hearing Loss on Spatial Release from Speech-on-speech Masking and Physiological Proxies of Cochlear Synaptopathy**
*Chhayakant Patro; Nour El Hidek; Heather A. Kreft; Magdalena Wojtczak***PS 250****Discriminating Tinnitus Subgroups Based on the Audiometric Profile***Eleni Genitsaridi; Theodore Kypraios; Derek Hoare; Deborah Hall***PS 251****Evaluating Candidate Measurement Instruments for Assessing the Impact of Chronic Subjective Tinnitus on Ability to Concentrate***Maryam Shabbir; Michael Akeroyd; Deborah Hall***PS 252****Alterations in Auditory Brainstem Response Latencies in Subjects with Constant Tinnitus***Niklas Edvall; Golbarg Mehraei; Andra Lazar; Esma Idrizbegovic; Barbara Canlon; Christopher Cederroth***PS 253****A Pharmacogenomic Approach to Unravel the Genetic Contributors to Tinnitus***Natalia Trpchevska; Yitian Zhou; Kristi Krebs; Lili Milani; Volker Lauschke; Barbara Canlon; Christopher Cederroth***PS 254****Intracochlear Voltage Induced During Non- or Minimally-Invasive Electrical Stimulation of the Cochlea for Tinnitus Relief***Marina Salorio-Corbetto; Simone R. de Rijk; Chen Jiang; Manohar Bance*

PS 255

TRPC6 knockout mice exhibit lower vestibulo-ocular reflex (VOR) gain to high frequency head rotation

Jun Huang; Tianwen Chen; Youguo Xu; Amy Pang; Yang Ou; Jerome Allison; Zhen Wang; Wu Zhou; Hong Zhu

PS 256

Gravity Affects VOR Adaptation to Magnetic Vestibular Stimulation

Jacob M. Pogson; Dale C. Roberts; Jorge Otero-Millan; David S. Zee; Bryan K. Ward

PS 257

Effect of Viewing Distance on the Vestibuloocular Reflex in Central Field Loss

Anca Velisar; Natela Shanidze

PS 258

A Novel 3D Video Oculography System for Measuring Three Dimensional Vestibulo-Ocular Reflex

Junfeng Liang; Venus Luong; Josh McCraw; Shangru Wu; Gallucci Spencer; Ke Zhang; Ryan Myers; Rong Z. Gan; Chenkai Dai

PS 259

Development of real-time 3D video-oculography using high quality infrared video Frenzel and galvanic evoked vestibulo-ocular monitoring.

Makoto Hashimoto; Yosuke Okinaka; Hironori Fujii; Kazuma Sugahara; Yoshinobu Hirose; Shunsuke Tarumoto; Takuo Ikeda; Hiroshi Yamashita

PS 260

Evaluation of Motor Function in Rats with Noise-Induced Vestibular Loss

Courtney E. Stewart; David S. Bauer; Ariane C. Kanicki; Richard A. Altschuler; W Michael King

PS 261

Instrumental and Strategic Development of the Short Latency Otolith Evoked Potential in Humans: Some Preliminary Observations

Anthony T. Cacace; Sabahet T. Rizvi; Faith W. Akin; Paul Kileny

PS 262

Novel Evaluation Method for CVEMP

Toru Seo; Izumi Koizuka

PS 263**Effects of Sports-Related Head Impact on Otolith Function in Young adults: Preliminary Findings***Amanda Rodriguez; Sarah Schmoker; Jonathan Chiao***PS 264****Detecting Superior Semicircular Canal Dehiscence Syndrome using 2 kHz cVEMP in a Clinical Population***Kimberley Noij; Aaron K. Remenschneider; Barbara S. Herrmann; John Guinan; Steven D. Rauch***PS 265****Potential Screening Utility of 4 kHz oVEMP Responses in the Diagnosis of Superior Canal Dehiscence Syndrome***Kristen K. Steenerson; Emma Tran; Austin Swanson; Yona Vaisbuch; Matthew B. Fitzgerald; Jeffrey D. Sharon*

Coffee Break

1:30 PM – 2:00 PM

Executive Ballroom DH

Characterizing Auditory Function with Functional Near-Infrared Spectroscopy

Chairs: Antje Ihlefeld & Robert Luke

2:00 PM – 4:00 PM

*Grand Ballroom 220B*2:00 PM | **SYMP 1****Functional Near Infrared Spectroscopy: Enabling Routine Functional Brain Imaging**
*Maria A. Franceschini*2:30 PM | **SYMP 2****A Review of the Potential for fNIRS Deployed With Audiological Intent**
*Hamish Innes-Brown*2:45 PM | **SYMP 3****Using fNIRS to Investigate Effortful Listening in Cochlear Implant and Normal Hearing Listeners**
*Xin Zhou; Ruth Y. Litovsky*3:00 PM | **SYMP 4****Using Functional Near-infrared Spectroscopy to Characterize Listening Effort in Hearing-Device Users**
Ian Wiggins; Francisca Perea Perez; Graham Naylor; Adriana Zekveld; Douglas Hartley

3:15 PM | **SYMP 5**

fNIRS Applications for Clinical Management of Hearing Loss in Infants

Colette McKay; Julia Wunderlich; Emily Jeffries; Namita Bhojani; Boris Savkovic; Michael Eager; Virginia Olivares; Hamish Innes-Brown

3:30 PM | **SYMP 6**

Using Optical Neuroimaging to Understand Cognitive Effort in Listeners with Cochlear Implants

Jonathan E. Peelle

3:45 PM | **SYMP 7**

Functional near Infrared Spectroscopy Can Help Predict and Monitor Cochlear Implant Outcome

Douglas Hartley; Carly Anderson; Rachael Lawrence; Ian Wiggins

Gene Therapeutic Approaches for Hearing Loss

Chairs: Karen Avraham & Anne Schilder

2:00 PM – 4:00 PM

Grand Ballroom 220A

2:00 PM | **SYMP 8**

Genome Editing with and Without CRISPR

Adi Barzel

2:30 PM | **SYMP 9**

Next Generation Gene Therapies for Genetic Hearing Loss

Jeffrey R. Holt

2:45 PM | **SYMP 10**

Developing Comprehensive Patient Databases to Prepare for Gene Therapy Trials in Hearing Loss

Anne G. Schilder

3:00 PM | **SYMP 11**

The Adeno-Associated Viral Anc80 (AAVAnc80) Vector - Precision Genetic Medicines to Address Hearing Loss

Michelle D. Valero

3:15 PM | **SYMP 12**

Moving Gene therapies for Hearing Loss into the Clinic

Jonathan Whitton

3:30 PM | **SYMP 13**

Optimizing Delivery of Molecular Therapeutics to the Inner Ear

Hinrich Staecker

3:45 PM | **SYMP 14**

Biohybrid Cochlear Implants: An Approach for Molecular Therapy in Cochlear Implantation?

Jennifer Schulze; Eva Rohde; Thomas Lenarz; Hinrich Staecker; Mario Gimona; Athanasia Warneck

Speech Perception

Moderators: Matthew Winn & Mishaela DiNino

2:00 PM – 4:00 PM

Grand Ballroom 220C

2:00 PM | **PD 1**

Age-Related Changes in Phonetic Cue Usage: Contributions to Speech Understanding in Noise

Mishaela DiNino; Lillian Behm; Yunan Charles Wu; Barbara G. Shinn-Cunningham; Lori L. Holt

2:15 PM | **PD 2**

Effects of Age on the Electrophysiological Correlates of Continuous-speech Processing

Juraj Mesik; Lucia A. Ray; Magdalena Wojtczak

2:30 PM | **PD 3**

Challenging Speech Perception: A Potential Role for Individual Differences in Perceptual Learning

Karen Banai; Limor Lavie

2:45 PM | **PD 4**

Understanding Different Forms of Degraded Speech as an Auditory Skill

Stephen C. Van Hedger; Ingrid Johnsrude

3:00 PM | **PD 5**

Examining listener's use of cross-modal temporal cues in audiovisual speech perception

Kaylah Lalonde; Destinee Halverson

3:15 PM | **PD 6**

Taking Attention Away from the Auditory Modality: Behavioral and Electrophysiological Effects on Continuous Speech Processing

Zilong Xie; Bharath Chandrasekaran

3:30 PM | **PD 7**

Active Listening: A Framework for Generating and Recognizing Speech

Emma Holmes; Noor Sajid; David Quiroga-Martinez; Thomas Parr; Cathy Price; Karl Friston

3:45 PM | **PD 8**

Cognitive Resources are Recruited Highly Consistently Across Individuals During Story Listening

Matthew T. Bain; Björn Herrmann; Ingrid Johnsrude

Poster Blitz

4:15 PM – 6:15 PM

Grand Ballroom 220B

Special Session in Memory of Shigeyuki Kuwada

Chair: Laurel H. Carney

4:30 PM – 6:30 PM

Grand Ballroom 220C

4:30 PM

Introduction from Laurel Carney

4:33 PM | **SYMP 15**

Peakers, Troughers and Tweeners

Tom C. T. Yin

4:46 PM | **SYMP 16**

The Kid, the Curmudgeon, and the Rabbit: Recollections from the Kuwada Lab's Early Days

Terrence R. Stanford

4:59 PM | **SYMP 17**

From Cochlear Nucleus to Cortical Evoked Potentials: Two Decades of the Neurophysiology of Monaural and Binaural Hearing with Shige San

Ranjan Batra

5:12 PM | **SYMP 18**

You Stick'em, I'll Stain'em and how Shig's AMFR was a Blast

Douglas L. Oliver

5:25 PM | **SYMP 19**

Gain Control by Local Circuits in the Inferior Colliculus: The Legacy of the Rabbit

Shobhana Sivaramakrishnan

5:38 PM | **SYMP 20**

Transformation in ITD Processing in the Auditory Pathway: From Superior Olivary Complex to Auditory Cortex

Douglas C. Fitzpatrick

5:51 PM | **SYMP 21**

**OFF inhibition to the Inferior Colliculus:
a Computational Study on its Functions in
Coding Speech**

Yan Gai

6:04 PM | **SYMP 22**

**Auditory Distance Coding using Amplitude
Modulation Depth**

Pavel Zahorik; Laurel H. Carney; Duck O. Kim

6:17 PM | **SYMP 23**

Remembrance of Shig Kuwada

Duck O. Kim

Welcome Get Together

5:30 PM – 6:30 PM

Executive Ballroom

NIDCD Workshops

6:00 PM – 7:30 PM

**NIDCD Workshop #1 Applying for NIDCD Training
and Career Development Awards**

Room 211A

Presenters: Dr. Kelly King and Dr. Katherine Shim

**NIDCD Workshop #2 Early Stage Investigators (ESI)
and New Investigators (NI)**

Room 211B

Presenters: Dr. Kelly King and Dr. Katherine Shim

**NIDCD Workshop #3 SBIR and STTR Grant
Programs from NIH / NIDCD**

Room 211C

Presenters: Dr. Roger Miller and Dr. Shiguang Yang

Speaker Ready Room

7:00 PM – 10:00 PM

Room 213

Registration

7:00 AM – 6:00 PM

Executive Ballroom Foyer

Speaker Ready Room

7:00 AM – 6:00 PM

Room 213

Morning Coffee Break

7:30 AM – 8:00 AM

Grand Ballroom Foyer

**Binaural Processing with
Hearing Impairment**

Chairs: Sean Anderson & Jonas Klug

8:00 AM – 10:00 AM

Grand Ballroom 220A

8:00 AM | **SYMP 24**

**Auditory Motion Perception in Noise for Listeners
with Cochlear Implants and with Normal Hearing**

Michaela Warnecke; Ruth Y. Litovsky

8:15 AM | **SYMP 25**

**Neurophysiological Measures of Binaural
Processing – from the Lab to the Clinic**

*Lindsey N. Van Yper; Jaime A. Undurraga; Juan Pablo
Faúndez; David McAlpine*

8:30 AM | **SYMP 26**

**Frequency Limit of ITD Sensitivity in Normal
Hearing and Hearing Impaired Systems –
Experimental Data and Model**

*Helen Heinemann; Jonas Klug; Sven Herrmann; Go
Ashida; Jörg Encke; Mathias Dietz*

8:45 AM | **SYMP 27**

**Aided Loudness and Speech Perception Outcomes
in Children and Adults with Extended Bandwidth
Hearing Aids**

*Maaïke Van Eeckhoutte; Danielle Glista; Paula
Folkeard; Robin O'Hagan; Susan Scollie*

9:00 AM | **SYMP 28**

**Binaural Hearing in Single-Sided Deafness with a
Cochlear Implant**

Sebastian Ausili

9:15 AM | **SYMP 29**

Using Temporal Envelope ITD Sensitivity to Match Electric and Acoustic Hearing in Patients with Unilateral Cochlear Implants and Residual, Contralateral Acoustic Hearing: Localization and Speech Perception Outcomes

Coral Dirks; Peggy Nelson; Andrew J. Oxenham

9:30 AM | **SYMP 30**

Binaural Processing in Children with Asymmetric Hearing Who Listen with Bimodal Devices

Melissa J. Polonenko; Karen A. Gordon

9:45 AM | **SYMP 31**

Comparison of Single Cell Spike Rate and Timing in the Brainstem in Response to Cochlear Implant and Acoustic Stimulation

Michaela Müller; Barbara Beiderbeck; Benedikt Grothe; Michael Pecka

Cochlear Mechanics:

Ad Astra per Alas Cochleum

Moderators: Renata Sisto & Amir Nankali

8:00 AM – 10:00 AM

Grand Ballroom 220C

8:00 AM | **PD 9**

An Extended Model of the Characteristics of Spontaneous Otoacoustic Emissions in Lizards

Geoffrey A. Manley; Pim Van Dijk; Hero Wit

8:15 AM | **PD 10**

Effects of Voltage and Membrane Cholesterol on Prestin Conformation: Insights from Molecular Dynamics Simulations

Jashan Sandhu; Richard D. Rabbitt; Tamara C. Bidone

8:30 AM | **PD 11**

A Case To Re-Evaluate Baseline Shifts Of The Basilar Membrane -- 30 Years Later

Eric L. Le Page

8:45 AM | **PD 12**

Properties of the Traveling Wave measured with Optical Coherent Tomography (OCT)

Marcel van der Heijden; Anna Vavakou; Nigel P. Cooper

9:00 AM | **PD 13**

Acoustic Coupling between Active Oscillators Explains Identical-Frequency Spontaneous Otoacoustic Emissions from the Two Ears

Daibhid O Maoileidigh; Yuttana Roongthumskul; AJ Hudspeth

9:15 AM | **PD 14**

Nonlinear Cochlear Mechanics Without Direct BM Vibration-Amplification Feedback.

Alessandro Altoè; Christopher A. SHERA

9:30 AM | **PD 15**

Three-Dimensional Motion Pattern of the Human Inner Ear during Bone Conduction Stimulation

Stefan Stenfelt; Mohammad Ghoncheh; Patrick Maas; Hannes Maier

9:45 AM | **PD 16**

Generation Mechanisms and Intracochlear Dynamics of Spontaneous Otoacoustic Emissions

Thomas Bowling; Haiqi Wen; Julien Meaud

Development: Patterning

Moderators: Michael Hoa & Magdalena Zak

8:00 AM – 10:00 AM

Grand Ballroom 220B

8:00 AM | **PD 17**

Characterization of Spiral Ganglion Neuron Subgroup Development Using Single Cell RNA-Seq

Tessa R. Sanders; Matthew W. Kelley

8:15 AM | **PD 18**

Molecular Basis of Neuronal Diversification in the Mouse Cochlea

Brikha Shrestha; Lorna Wu; Lisa Goodrich

8:30 AM | **PD 19**

Shear forces drive precise patterning of hair cells in the mammalian inner ear

Roie Cohen; Liat Amir-Zilberstein; Micha Hersch; Shiran Wolland; Shahar Taiber; Fumio Matsuzaki; Sverre Bergmann; Karen B. Avraham; David Sprinzak

8:45 AM | **PD 20**

The Role of LIN28B and Let-7 miRNAs in Cochlear Tonotopic Specialization

Meenakshi Prajapati-DiNubila; Angelika Doetzlhofer

9:00 AM | **PD 21**

Dual regulation of planar polarization by Wnt-dependent and -independent pathways in the developing mouse cochlea

Elvis Huarcaya Najarro; Jennifer Huang; Adrian Jacobo; Lee Quiruz; Nicolas Grillet; Alan Cheng

9:15 AM | **PD 22**

High Resolution Imaging of Hair-Cell Ribbon Synapse Formation and Stabilization

Natalie Mosqueda; Katie Kindt

9:30 AM | **PD 23**

Early Development of Resident Macrophages in the Mouse Cochlea Depends on Yolk Sac Hematopoiesis

Takayuki Okano; Ippei Kishimoto; Koichi Omori

9:45 AM | **PD 24**

Wnt Signalling Regulates the Formation of Inner Ear Sensory Organs by Antagonizing Prosensory Signals

Magdalena Zak; Vincent Plagnol; Nicolas Daudet

Exhibit Hall Open

9:00 AM – 5:00 PM

Executive Ballroom

Mid-Morning Break

10:00 AM – 10:30 AM

Grand Ballroom Foyer

A Multidisciplinary Approach to Tinnitus

Chairs: Rebecca M. Lewis & Josef P. Rauschecker

10:30 AM – 12:30 PM

Grand Ballroom 220C

10:30 AM | **SYMP 32**

The Holy Grail for Subjective Tinnitus? Seeking Standardisation amongst Heterogeneity

Deborah A. Hall

11:00 AM | **SYMP 33**

Audiology Treatments for Tinnitus and Hyperacusis

Richard Tyler; Ann Perreau

11:30 AM | **SYMP 34**

Mindfulness Based Tinnitus Stress Reduction: Tinnitus, Brain Functioning, Psychology & Mindfulness

Jennifer Gans

12:00 PM | **SYMP 35**

Emotional and Cognitive Impact of Tinnitus: Role of Frontostriatal Gating

Josef P. Rauschecker

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Gene and Drug Delivery into the Inner Ear

Moderators: Alan Cheng & Maryna Ivanchenko

10:30 AM – 12:30 PM

Grand Ballroom 220B

10:30 AM | **PD 25**

Gene Therapy Using RNA Interference with Concomitant Gene Replacement in a Mature Murine Model of TMC1-related Hearing Loss

Yoh-ichiro Iwasa; Paul Ranum; Seiji Shibata; Hidekane Yoshimura; Ryotaro Omichi; Cody West; Richard J.H. Smith

10:45 AM | **PD 26**

Preclinical Testing of AAV9-PHP.B for Transgene Delivery to the Non-Human Primate Cochlea

Maryna V. Ivanchenko; Killian S. Hanlon; Maya K. Devine; David P. Corey; Casey A. Maguire

11:00 AM | **PD 27**

Template-free Genome Editing Profiles are Biased in Postmitotic Hair Cells

Wei Xiong; Lian Liu; Jie Li

11:15 AM | **PD 28**

Local Delivery of Adeno-Associated Virus Vectors with Neurotrophin Gene Prevents Reduction in Synapses and ABR Amplitude in Noise Exposed Rats

Subhendu Mukherjee; Ayesha Noman; Brandon T. Paul; Andrew Dimitrijevic; Joseph Chen; Vincent Lin; Trung Le

11:30 AM | **PD 29**

Supraparticle-Mediated Drug Delivery Supports Retention and Biodistribution of Neurotrophin 3 in the Guinea Pig Cochlea

Niliksha Gunewardene; Yutian Ma; Patrick Lam; Rachael Richardson; Frank Caruso; Andrew Wise

11:45 AM | **PD 30**

A665-conjugated Acetylcysteine target prestin of outer hair cells with peptide hydrogel delivery preventing cisplatin-induced hearing loss

Jiaqi Pang; Hao Xiong; Yiqing Zheng

12:00 PM | **PD 31**

Extracellular Vesicles from HEI-OC1 Cells as Nanocarriers for Anti-inflammatory Drugs and Pro-resolving Mediators

Gilda M. Kalinec; Lucy Gao; Withaker Cohn; Julian Whitelegge; Kym Faull; Federico Kalinec

12:15 PM | **PD 32**

Additive Manufacturing of Fully Metallic Precision Microneedles for Round Window Membrane Perforation

Aykut Aksit; Amber M. Parker; Anil K. Lalwani; Alan C. West; Jeffrey W. Kysar

Vestibular Periphery

Moderators: Suhrud Rajguru & Donatella Contini

10:30 AM – 12:30 PM

Grand Ballroom 220A

10:30 AM | **PD 33**

Hearing and Proprioception Defects in Drosophila Dyb Mutants: Model for Meniere Disease

Teresa Requena Navarro; Alyona Keder; Joerg T. Albert; Andrew Jarman

10:45 AM | **PD 34**

Sox2 Maintains Type II Hair Cell Fate in Adult Mouse Vestibular Organs

Brandon C. Cox; Rémy Pujol; Tot B. Nguyen; Jennifer S. Stone

11:00 AM | **PD 35**

Dissecting the Differentiation Fates of Hair Cells in the Vestibular Sensory Epithelia during Mouse Inner Ear Development using Single Cell Transcriptomics

Soumya Negi; Gabriela Pregernig; Kathy So; Ryan McCarthy; Ning Pan; Tian Yang; Michael DeRan; Adam T. Palermo; Joseph C. Burns

11:15 AM | **PD 36**

The 3-D Spatial Orientation of the Vestibular Organs are altered in Casp3 deficient mice

Rebecca Cook; Shinji Urata; Tomoko Makishima

11:30 AM | **PD 37**

W276S/W276S mutation in KCNQ4 causes vestibular dysfunction via hair cell degeneration after acceleration stimulation

Hansol Hong; Jinsei Jung; Jae Young Choi; Gyu Cheol Han; Sung Huhn Kim

11:45 AM | **PD 38**

Evaluation of Synaptic Ribbon Architectures and Distributions in Vestibular Neuroepithelia Using Super-resolution Fluorescence Microscopy

Johnny J. Saldade; Felix E. Schweizer; Larry F. Hoffman

12:00 PM | **PD 39**

Sensitivity of Type I hair cells to infrared radiation is conferred by intracellular TRPV4

Federica Maddalena Raciti; Weitao Jiang; Suhurd M. Rajguru

12:15 PM | **PD 40**

A Novel Cell Niche in the Cristae Ampullaris with Unprecedented Acetylcholine Evoked Calcium Transients in Mice

Holly A. Holman; Richard D. Rabbitt

Awards Committee

12:00 PM – 2:00 PM

Room 211C

Long Range Planning

12:00 PM – 2:00 PM

Room 211D

Funding Your Scientific Genius!

12:15 PM – 1:15 PM

Room 211B

Travel Awards Committee

12:15 PM – 1:30 PM

Room 211A

Women in Science Roundtable Lunch

12:15 PM – 1:30 PM

Room 212ABCD

Lunch (on own)

12:30 PM – 1:00 PM

Poster Session 2 - Open 24 hours

1:00 PM – 11:00 AM

Executive Ballroom

Age-Related Hearing Loss: Behavioral and Physiological Assessments

PS 266

The Effects of Ageing, Hearing Loss and Tinnitus on White Matter in the Human Auditory Pathway

Oliver Profant; Antonín Škoch; Jaroslav Tintěra; Veronika Svobodová; Diana Tothová; Josef Syka

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PS 267

Alzheimer's Disease (AD) Mouse Models Show Features of Hidden Hearing Loss at an Early Age
Mincheol Kang; Seojin Park; Jeong Han Lee; Robert Renden; Ebenezer N. Yamoah

PS 268

Age-related Changes in the Auditory Steady-State Response Measured across the Lifespan of CBA/CaJ Mice
Kendra E. Stebbins; Joseph P. Walton

PS 269

Auditory-Frontal Channeling In Alpha And Beta Bands Is Altered by Age-Related Hearing Loss and Relates To Speech Perception In Noise
Caitlin Price; Gavin Bidelman

PS 270

Natural Progression of Age-Related Hearing Loss in Male Wistar Rats
Mathieu Petremann; Christophe Tran Van Ba; Charlotte Romanet; Viviana Delgado-Betancourt; Pauline Liaudet; Vincent Descosy; Jonas Dyhrfeld-Johnsen

PS 271

Hearing Impairment Directly Associated with Cognitive Function Decline: Results from the AGES-Reykjavik Study
Chuan-Ming Li; Howard J. Hoffman; Christa L. Themann; Gudny Eiriksdottir; Johanna E. Sverrisdottir; Vilmundur Gudnason; Hannes Petersen

PS 272

Relating Perception of Temporal Fine Structure to Measures of Synaptopathy in the Gerbil
Henning Oetjen; Sonny Bovee; Friederike Steenken; Christine Köppl; Georg M. Klump

PS 273

Age-Related Effects on the Perceptual Resolution of Attended Temporal and Spatial Acoustic Features
Kristina C. Backer; Lee M. Miller; Gregg H. Recanzone

PS 274

Exposure to a Temporally Modulated Augmented Acoustic Environment Improves Behavioral Gap Detection in Old CBA/CaJ Mice
Collin Park; Ryan Longenecker; Dimitri Brunnell; Mary Reith; Joseph P. Walton

PS 275

Differential time course of cochlear processing deficits and GABAergic inhibition in the aging Mongolian gerbil

Mariella Kessler; Mario Lukacevic; Martin Mamach; Jens P. Bankstahl; Frank M. Bengel; Tobias L. Ross; Georg Berding; Georg M. Klump

PS 276

Clinical feasibility of auditory processing tests in Japanese older adults: a pilot study

Shohei Fujimoto; Yukihide Maeda; Kazunori Nishizaki

PS 277

Time Course of Synaptopathy and Compound Auditory-Nerve Activity in Quiet-Aged Gerbils

Friederike Steenken; Rainer Beutelmann; Amarins N. Heeringa; Sonny Bovee; Henning Oetjen; Georg M. Klump; Christine Koepl

PS 278

EEG Measures of Auditory Processing in Aging Mice
Jeffrey A. Rumschlag; Jonathan W. Lovelace; Khaleel A. Razak

PS 279

Aging and the Auditory Nerve – Synaptic Structure, Endbulb Morphology and Peripheral Physiology

Kiera E. Grierson; Satoshi Nishitani; Tan Pongstaporn; David Ryugo

PS 280

Neural Envelope Coding in Middle-aged Humans with Normal Audiograms

Homeira Kafi; Alexandra Mai; Kelsey Dougherty; Anna Hagedorn; Hari Bharadwaj

PS 281

Peripheral Contributions to Age-Related Reductions in Phase Locking

Samira Anderson; Alanna Schloss; Rebecca Bieber

PS 282

Age-Related Changes in Auditory Nerve Fiber Frequency Tuning, Temporal Coding, and Spontaneous Rate

Amarins N. Heeringa; Lichun Zhang; Go Ashida; Rainer Beutelmann; Friederike Steenken; Christine Koepl

PS 283

Blockade of Corticothalamic Projections Alters Coding in Medial Geniculate Body to Less Salient Modulated Stimuli

Srinivasa Prasad Kommajosyula; Edward Bartlett; Rui Cai; Donald Caspary

PS 284

The Influence of Presbycusis on the Processing of Temporal Features of Sound Stimuli in the Auditory Cortex of Rats

Josef Syka; Kateryna Pysanenko; Zbyněk Bureš

PS 285

The Characteristics of Peripheral Cochlear Function And Central Auditory Function in Different Age Groups

Minfei Qian; Hao Wu; zhiwu huang; Qixuan Wang

Auditory Cortex – Human Studies I

PS 286

Difficulties with Speech-in-Noise Perception Related to Fundamental Grouping Processes in Auditory Cortex

Emma Holmes; Karl Friston; Timothy Griffiths

PS 287

High Frequency Cortical Processing of Continuous Speech in Younger and Older Listeners

Joshua P. Kulasingham; Christian Brodbeck; Alessandro Presacco; Stefanie E. Kuchinsky; Samira Anderson; Jonathan Z. Simon

PS 288

Fundamental Properties of Auditory Cortical Activity in Children as Observed from Direct Intracranial Recordings

Ariane Rhone; Kirill Nourski; Christopher Kovach; Brian Dlouhy; Mitchell Steinschneider

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Betty Y. Chen; Nnenna Ezeilo; Kaley A. Graves; Tianwen Chen; Jun Huang; Hong Zhu; Wu Zhou; Bradley J. Walters; Brandon C. Cox

PS 429**Single-cell RNA-seq Reveals Novel Cell Subtypes and Gene Expression Patterns in the Mouse Crista Ampullaris**

Brent A. Wilkerson; Alex D. Chitsazan; Heather L. Zebroski; Olivia Bermingham-McDonogh

PS 430

Hypergravity stimulation deteriorates vestibular function in mouse with selective ablation of p2rx2
Sang Hyun Kwak; Hansol Hong; Jae Young Choi; Gyu Cheol Han; Sung Huhn Kim

PS 431

Evidences of vestibular synaptopathy induced by aminoglycoside exposure
Hee-Won Jeong; Jae-Hun Lee; Han-Seung Nam; Hyeongbeom Kim; Ilyong Park; Nathaniel Carpena; So-Young Chang; Ji Eun Choi; Min Young Lee; Phil-Sang Chung; Jae Yun Jung

PS 432

Electrical Response Evoked by Pulsed Infrared Stimulation on Mouse Peripheral Vestibular System
Weitao Jiang; Fangyi Chen; Dingxuan Zeng

PS 433

Bilateral Round Window Ouabain Application as a Model for Vestibular Hypofunction
Matthew Farr; Leila Abbas; Jaydip Ray; Marcelo N. Rivolta

PS 434

The Starliner Zebrafish Mutant Has Central Deficits in Hearing and Balance
Yan Gao; Eliot Smith; Itallia Pacentine; Timothy Erickson; Alex Nechiporuk; Teresa Nicolson

PS 435

Central Defects in the raumschiff Zebrafish Mutant
Anna Shipman; Matthew Hill; Eliot Smith; Timothy Erickson; Teresa Nicolson

PS 436

Systemic Injection of CGRP Prolongs a Nausea-like State in Mice
Benjamin Liang; Catherine Hauser; Stefanie Faucher; Raajan Jonnala; Shafaqat Rahman; Anne E. Luebke

PS 437

Systemic Injection of CGRP Increases Postural Sway and Auditory Sensitivity in Mice
Benjamin Liang; Catherine Hauser; Stefanie Faucher; Raajan Jonnala; Shafaqat Rahman; Anne E. Luebke

PS 438

Vestibulo-Sympathetic Projections: Synaptic Proteins Associated with Vestibular Axonal Varicosities in the Rostral and Caudal Ventrolateral Medullary Regions of the Rat

Amelia H. Gagliuso; Giorgio P. Martinelli; Gay R. Holstein

PS 439

Stochastic Noise Differentially Effects Neuronal Subtypes within the Medial Vestibular Nucleus In Vitro

S Stefani; C Pastras; P Breen; J Serrador; M Schubert; Camp A

**Human Temporal Bone Studies,
Head and Neck Disease**

PS 440

Middle-Ear-Muscle Forces Could Aid the Diagnosis of Otosclerosis with Wideband Tympanometry (WBT)

Anbuselvan Dharmarajan; Mike E. Ravicz; Kevin N. O'Connor; Sunil Puria

PS 441

Improving Anatomical Understanding of the Human Tympanic Membrane Through Histologic Processing and Imaging

Jennifer S. Zhu; Nicole Black; Dhrumi Gandhi; Aaron K. Remenschneider

PS 442

Intra-Operative Assessment of Ossicular Mobility: Measurements in Cadavers and Numerical Analysis

Takuji Koike; Sho Kanzaki; Sinyoung Lee; Yuuka Irie; Takaaki Fujishiro; Chee Sze Keat; Takenobu Higo; Kenji Ohoyama; Masaaki Hayashi; Hajime Ikegami

PS 443

Soft Tissue Stimulation Result in Hearing by Skull Bone Vibration

Stefan Stenfelt; Srdan Prodanovic

PS 444

3D X-ray Microscopy Quantification of Intracochlear Tissue Response and Trauma Following Cochlear Implantation in Multiple Species

Alexander D. Claussen; Christopher Kaufmann; Rene Vielman Quevedo; Brian Mostaert; Marlan R. Hansen

PS 445**Fetuin A – A Potential Biomarker of Hearing Loss***Wei Liu; Goran Laurell; Jesper Edvardsson-rasmussen; Per-Olof Eriksson***PS 446****Are thickened subneuroepithelial extracellular deposits of the cristae ampullares in the human associated with vestibular diseases?***Tadao Okayasu; Jennifer T. O'Malley; Joseph B. Nadol***PS 447****Otopathologic Findings in Patients with Alzheimer's Disease***Renata M. Knoll; Nicholas Koen; Rory J. Lubner; Victor E. Alvarez; David H. Jung; Aaron K. Remenschneider; Elliott D. Kozin***PS 448****Effect of Intermittent Hypoxia on Respiratory Allergic Reaction***Do-Yang Park; Dong Young Kim; Jung Jun Lee; Hun Yi Park; Hyun Jun Kim; Chul-Ho Kim***PS 449****Determining Neck Lymph Node Level Patterns in Different Subtypes of Head and Neck Cancer***Brianna Hope; Rahul Varman; Joehassin Cordero*

Inner Ear Therapeutics I

PS 450**Mitochondrial-ROS Induced Cochlear Hair Cell Death in IDH2 Deficiency Can be Prevented by Mitochondria-Targeted Antioxidant MitoQ***Myung Hoon Yoo; Ye-Ri Kim; Min-A Kim; Un-Kyung Kim; Kyu-Yup Lee***PS 451****Quinoxaline protects hair cells from noise-induced damage***Marisa Zallocchi; Jian Zuo; Santanu Hati; Sonia Rocha-Sanchez; Umesh Pyakurel; Shikha Tarang***PS 452****Drug-Induced Hearing Loss Prevention through Clinical Data Driven Drug Re-purposing***Dong Xu; Shaikh Emdadur Rahman; Yuying Huang***PS 453****Reducing Cisplatin-Induced Hearing Loss by Manipulating the Blood Labyrinth Barrier***Ayesha Noman; Subhendu Mukherjee; Trung Le*

PS 454**Screening Hair Cell Protection in Autophagy Library using the zebrafish lateral line**

Yoshinobu Hirose; Kazuma Sugahara; Makoto Hashimoto; Shunsuke Tarumoto; Hiroshi Yamashita

PS 455**Drug Repurposing by Transcriptomic Analysis Identifies Potential Otoprotective Agent for Noise-induced Hearing Loss**

Parinaz Dabestani; Joseph DiGuseppi; Cassidy Nguyen; Jian Zuo; Sarath Vijayakumar

PS 456**Identification of Exosome Associated Factors that Protect Against Aminoglycoside Induced Hair Cell Death**

Tucker Q. Costain; Lizhen Wang; Andrew M. Breglio; Lindsey A. May; Nora C. Welsh; D. Eric Anderson; Melanie Barzik; Lisa L. Cunningham

PS 457**Too much of a good thing: High doses of antioxidant can damage P3 cochlear cultures**

Haiyan Jiang; Dalian Ding; Richard Salvi

PS 458**Protective Effects of Synthesized Berbamine Analogs Against Aminoglycoside-Induced Hair Cell Death**

Alexandria Hudson; Gavin Lockard; Bruce Blough; Peter Steyger; Allison Coffin

PS 459**Evaluation of various therapeutic classes in protection against cisplatin-induced hearing loss (Preclinical models)**

Natalia Tsivkovskaia; Rayne Fernandez; Claudia Fernandez; Bonnie E. Jacques; Fabrice Piu

PS 460**Otoprotective Effect of Selegiline in Noise-Induced Hearing Loss in BALB/c Mice**

Judit Szepesy; Viktória Humli; Ágnes Szirmai; Gábor Polony; Anita Gáborján; László Tamás; Tibor Zelles

PS 461**Role of Mitochondrial Deacetylase SIRT3 in Hearing Protection**

Xiaodong Tan; Yingjie Zhou; Aditi Agarwal; Alan Robinson; David Gius; Claus-Peter Richter

PS 462**Transcriptome Analysis to Identify Drugs Against Cisplatin-Induced Ototoxicity**

Pezhman Salehi; Marisa Zallocchi; Madeleine Urbanek; Molly Kubesh; Zhuo Li; Kimberlee Giffen; Tal Teitz; Jian Zuo

PS 463**DB-020 Protects Cells from Cisplatin Cytotoxicity in vitro and Hair Cells in a Guinea Pig Model of Cisplatin Induced Ototoxicity**

Yong Ren; Changsuk Moon; Ryan McCarthy; Yuan Xu; Brendan Arsenault; Qi-Ying Hu; Ruiben Feng; Janeta V. Popovici-Muller; John Lee; John Soglia; Inmaculada Silos-Santiago; Fuxin Shi

PS 464**Ex Vivo Evaluation of the Therapeutic Potential of Several Drug Classes to Prevent Cisplatin Mediated Ototoxicity in the Rat Cochlea**

Pranav D. Mathur; Phillip Uribe; Stephanie Szobota; Anne Harrop-Jones; Sairey Siegel; Oliver Silerio; Fabrice Piu; Bonnie E. Jacques; Alan C. Foster

PS 465**Cellular Senescence Caused by a Low Concentration of Hydrogen Peroxide is Alleviated by a NAC Treatment in a HEI-OC1 Cell Line**

Tae-Hwan Kim; Min Jung Park; Yong-Ho Park

Neuron and Synapse Regeneration

PS 466**Electrical Stimulation and Exogenous BDNF and NT-3 in Murine Cochlea Explant Cultures: Only a Neural Survival Factor or also Promoting Axonal Outgrowth?**

Dominik Schmidbauer; Stefan Fink; Francis Rousset; Marcus Müller; Pascal Senn; Rudolf Glueckert

PS 467**Single-Cell Fluorescence Analysis of Pseudotemporal Ordered Cells Provides Protein Expression Dynamics for Neuronal Differentiation**

Zhichao Song; Alejandra Laureano; Kishan Patel; Sylvia Yip; Azadeh Jadali; Kelvin Y. Kwan

PS 468**Directional Growth and Development of Spiral Ganglion Neurons Regulated by Superparamagnetic Iron Oxide Nanoparticles and Magnetic Field**

Menghui Liao; Renjie Chai

PS 469

A novel bisphosphonate-NT-3 small molecule derivative for regeneration of spiral ganglion synapses

Judith Kempfle; Andrea Zhang; Marlon Duro; Carolina Amador; Boris Kashemirov; Charles McKenna; David H. Jung

PS 470

A 3D Finite Element Model of the Diffusion Profile of BDNF in the Murine Inner Ear: Biological Validation

Shreyas Bharadwaj; Kevin Nella; Sajel Peters; Christian Roque; Rachel Heuer; Jose Fernandez; Andy Oleksijew; Kyle Coots; Akihiro Matsuoka

Otitis Externa, Otitis Media and Eustachian Tube Pathology

PS 471

Single Application Thixotropic Drug Delivery Systems for Otitis Externa

Bogdan Serban; Jeremy Alverson; Nigel Priestley; Monica Serban

PS 472

Deep Learning in Automated Region Proposal and Diagnosis of Chronic Otitis Media Based on Computed Tomography

Yan-Mei Yang; Yi-Ke Li; Yu-Shu Cheng; Zi-Yu He; Juan-Mei Yang; Jiang-Hong Xu; Zhang-Cai Chi; Fang-Lu Chi; Dongdong Ren

PS 473

A System for High-throughput Clinical Optical Coherence Tomography and Vibrometry

Robert Adamson; Dan MacDougall; Josh Farrell; Christine Morrison; Matthew Jahns; Matthew Farrell; Drew Hubley; David Morris; Nael Shoman

PS 474

A New Detection Scheme for Detection of Otitis Media with Effusion

Junfeng Liang; Warid Islam; Ke Zhang; Chen Wang; Sarah Crooks; Rong Z. Gan; Qinggong Tang; Bin Zheng; Chenkai Dai

PS 475

High-energy Visible Light Inactivation of Bacteria Found in Otitis Media

Shae D. Morgan; Deborah Yoder-Himes; John Naber; Thomas J. Roussel; Douglas Jackson; Rachel Berry

PS 476**Hearing Loss and Audiologic Features in Children with Down Syndrome**

Siran Liu; Fangfang Zhao; Robin Tellez; Alberto Costa; Sarah Mowry; Qingyin Zheng

PS 477**High Frequency Hearing Following Middle Ear Surgery**

Marc Polanik; Danielle Trakimas; Jeffrey Cheng; Elliott D. Kozin; Aaron K. Remenschneider

PS 478**Assessment of Eustachian tube with optical coherence tomography**

Jae Ho Chung; Yeon Hoon Kim; Hayoung Byun; Yunjae Lee; Hongki Yoo,

PS 479**Cone Beam CT with Different Prototypes of a Eustachian Tube Stent**

Robert Schuon; Tamara Wilfling; Philipp Krueger; Tobias Stein; Kerstin Schuemann; Niels Grabow; Thomas Lenarz; Gerrit Paasche

PS 480**Mid-term Results of Fluoroscopy-guided Balloon Dilation using a Flexible Guide Wire to Treat Obstructive Eustachian tube Dysfunction**

Yehree Kim; Kun Yung Kim; Jung-Hoon Park; Sung Hwan Yoon; Jae Yong Jeon; Ho-Young Song; Hong Ju Park; Woo Seok Kang

PS 481**Serial Histopathologic Changes after Repeated Eustachian Tube Balloon Dilation in Rats**

Yehree Kim; Zhe Wang; Jun Min Kang; Ho-Young Song; Hong Ju Park; Woo Seok Kang

PS 482**Complications After Eustachian Tube Dilatation**

Ingo Todt; Holger Sudhoff

PS 483**A Novel Technique for Patulous Eustachian Tube Surgery**

Holger Sudhoff; Ingo Todt

PS 484**Development of Eustachian Tube Dysfunction in a Rat Model**

Yehree Kim; Zhe Wang; Jung-Hoon Park; Sung Hwan Yoon; Jae Yong Jeon; Ho-Young Song; Hong Ju Park; Woo Seok Kang

Otoacoustic Emissions I

PS 485

Comparing Spontaneous and Stimulus Frequency Otoacoustic Emissions in Mice with Tectorial Membrane Defects

Mary Ann Cheatham; Yingjie Zhou; Peter Dallos

PS 486

The Effects of the Mouse Middle Ear on Otoacoustic Emissions

Hamid Motallebzadeh; Sunil Puria

PS 487

An Otoacoustic Emissions Screen to Identify Hearing Loss Mutations in the Rhesus Macaque Colony at the Oregon National Primate Research Center

J. Beth Kempton; Edward V. Porsov; Samuel M. Peterson; Benjamin N. Bimber; Betsy Ferguson; John V. Brigande

PS 488

Loading the Basilar Membrane: Effects of Heavy Beads on Reflection-Source OAEs in Gerbil

Sebastiaan Meenderink; Xiaohui Lin; Wei Dong

PS 489

Acoustic Communication is Not Compromised by Dymorphic Features in Cururu Toads

Ariadna Cobo-Cuan; Luís Felipe Toledo; Peter M. Narins

PS 490

Otoacoustic Emissions Show Hearing Impairment as an Early non-Motor Feature of Parkinson's Disease

Andrea Viziano; Arturo Moletti; Rocco Cerroni; Elena Garasto; Mariangela Pierantozzi; Renata Sisto; Alessandro Stefani

PS 491

Longitudinal Monitoring of Medial Olivocochlear Reflex Inhibition in Patients with Cystic Fibrosis Receiving Intravenous Aminoglycoside Treatments

Angela Garinis; Patrick Feeney; Douglas Keefe; Dawn Konrad-Martin; Garnett McMillan; Jay Vachhani

PS 492

Utilizing Cochlear Place-Specific Properties in Distortion Product Otoacoustic Emission Stimuli for the Identification of Hearing Loss

Samantha Stiepan; Sumitrajit Dhar

PS 493**Developing a Combined SFOAE+DPOAE Diagnostic Profile**

Carolina Abdala; Chandan Suresh; Ping Luo; Christopher A. Shera

PS 494**Diagnostic Accuracy of Clinical DPOAEs and High-Frequency Chirp TEOAEs to Identify Aminoglycoside Ototoxicity and Detect Significant Changes in Hearing in Individuals with Cystic Fibrosis**

Chelsea Blankenship; Lisa Hunter; Lindsey Bittinger; Jordan Caylor; Douglas H. Keefe; Patrick Feeney; Denis Fitzpatrick

Psychoacoustic Studies on Humans and Animals

PS 495**The Effects of Blasts on Hearing in CBA/CaJ Mice**

Kali Burke; Senthivelan Manohar; Laurel Screven; Amanda M. Lauer; Richard Salvi; Micheal L. Dent

PS 496**Effects of Noise Level Statistics and Instantaneous Compression on Adaptation to Noise in Word Recognition**

Enrique A. Lopez-Poveda; Miriam I. Marrufo-Pérez; Dora Sturla; Almudena Eustaquio-Martin

PS 497**Gap Detection Tests Reveal Central Auditory Deficits in Adults with Well Controlled Human Immunodeficiency Virus Infection**

Jay Buckley; Christopher Cox; Gayle Springer; Abigail Fellows; Peter Torre; Howard J. Hoffman; Michael Plankey

PS 498**A 6 dB Increase in Trauma Level reduces ABR Wave 1 Amplitude without Alteration of Behavioral Thresholds**

Katja Bleckmann; Sonja J. Pyott; Georg M. Klump

PS 499**Effect of the Distribution of Tone Frequency in Tone Cloud Scene on the Discrimination of Notched Noise**
Shunsuke Kidani

PS 500

Masking of Amplitude-Modulation Detection by Low-Frequency Temporal Fine Structure in Listeners with Normal Hearing and Sensorineural Hearing Loss

Charles Babb; Kenneth S. Henry

PS 501

Spectrotemporal Modulation Discrimination in Normal Hearing School-Aged Children and Adults: Effects of Age and Vocoding.

Anisha R. Noble; Jesse M. Resnick; Jay T. Rubinstein; Lynne A. Werner; Mariette S. Broncheau; David L. Horn

PS 502

Informational Masking in the Modulation Domain

Christopher Conroy; Gerald Kidd

PS 503

Investigating the role of harmonic cancellation in masked speech intelligibility

Luna Prud'homme; Mathieu Lavandier; Virginia Best

PS 504

The Effect of Harmonic Number and Pitch Salience on the Ability to Understand Speech-on-speech Based on Differences in Fundamental Frequency

Sara M. K. Madsen; Andrew J. Oxenham; Torsten Dau

PS 505

Sensitivity to Temporal Fine Structure Predicts Language Skills in Children with Sensorineural Hearing Loss

Lorna Halliday; Laurianne Cabrera

PS 506

Factors Underlying the Relationships Between Performance on Different Psychoacoustic Tasks During Adolescence

Julia J. Huyck; Beverly A. Wright

PS 507

Modeling Pitch Perception of Concurrent High-Frequency Complex Tones with Auditory Nerve Simulations

Daniel R. Guest; Andrew J. Oxenham

PS 508

The Discriminability of Temporal and Frequency Modulations in Budgerigars' Natural Vocalizations
Huaizhen Cai

PS 509**Multiple Integration Windows in Auditory Perception***Richard McWalter; Josh H. McDermott***PS 510****Extending the GammaChirp Model of Notched-Noise Masking to Include Absolute Threshold: Exploring Improvements in the Fit Provided by Assuming an Internal, Level-Dependent, Cochlear Noise Floor***Kenji Yokota; Toshio Irino; Roy D. Patterson***PS 511****Internal Noise in AM and FM Detection***Sarah Attia; Andrew King; Leo Varnet; Christian Lorenzi***PS 512****Sensitivity to Periodicity: Potential Discrepancies between Frequency-Following Response and Psychophysics***Yi Shen; Ryan Anderson; William P. Shofner***PS 513****Characterizing Comodulation Masking Release in Hearing-Impaired Listeners***Jonathan Regev; Paolo A. Mesiano; Johannes Zaar; Torsten Dau***PS 514****Connecting a Biophysical Auditory Periphery Model to Perceptual Back-ends for Psychoacoustic Performance Prediction across Tasks***Alejandro Osses Vecchi; Sarah Verhulst***PS 515****The Effect of Broadband Elicitor Duration on Transient-Evoked Otoacoustic Emissions and a Behavioral Measure of Gain Reduction***William B. Salloom; Kristen Wade; Hari Bharadwaj; Elizabeth A. Strickland***PS 516****Effects of Tone Duration on Three Psychophysical Measures: Evidence of Temporal Integration in Rhesus Macaques***Chase Mackey; Alejandro Tarabillo; Ramnarayan Ramachandran*

Synaptopathy

PS 517

Persistence of the Acoustic Reflex After Selective Inner Hair Cell Loss and its Relation to Auditory Tasks in Carboplatin-treated Chinchillas

Monica Trevino; Celia D. Escabi; Karen Pawlowski; Edward Lobarinas

PS 518

SENS-401 Significantly Reduces ABR Wave 1 Amplitude Loss after Chronic Noise Exposure in a Rat Model

Mathieu Petremann; Christophe Tran Van Ba; Viviana Delgado-Betancourt; Charlotte Romanet; Vincent Descossy; Pauline Liaudet; Jonas Dyhrfeld-Johnsen

PS 519

Relationship Among Selective Inner Hair Cell Loss, Auditory Brainstem Response Amplitudes and Acoustic Reflexes in Carboplatin Treated Chinchillas

Celia D. Escabi; Monica Trevino; Christina Campbell; Karen Pawlowski; Edward Lobarinas

PS 520

The Role of Sex in the Pathophysiology and Treatment of Cochlear Synaptopathy

Stephanie Rouse; Ian Matthews; Dylan Chan

PS 521

Endolymphatic Hydrops is a Marker of Synaptopathy Following Traumatic Noise Exposure

Ido Badash; Patricia M. Quiñones; Juemei Wang; Christopher G. Lui; Frank D. Macías-Escrivá; Brian E. Applegate; John S. Oghalai

PS 522

Effect of IGF1 Receptor Antagonist on Presynaptic Ribbons in Inner Hair Cells in Mouse Cochlear Explants

Li Gao; Tomoko Kita; Tatsuya Katsuno; Koichi Omori; Takayuki Nakagawa

PS 523

Circadian impact of Cisplatin-induced Ototoxicity on Synaptic Ribbons.

Evangelia Tserga; Heela Sarlus; Rocio Moreno-Paublete; Erik Björn; Barbara Canlon; Christopher Cederroth

PS 524

Characterization of OTO-413, an intratympanic sustained-exposure formulation of the neurotrophic factor BDNF, in preclinical models of cochlear synaptopathy

Natalia Tsivkovskaia; Xiaobo Wang; Claudia Fernandez; Jeremy Barden; Rayne Fernandez; Phillip Uribe; Bonnie E. Jacques; Fabrice Piu

PS 525

Post-Exposure Recovery of Synaptic Counts and Ribbon Gradients in Noise-Exposed Guinea Pigs

Tyler T. Hickman; Ken Hashimoto; M. Charles Liberman

PS 526

Multiple Outcome Parameters of Auditory Evoked Potential for measuring Noise-induced Cochlear Synaptopathy and its Postnoise Time Course

Ning Hu; Zhenshen Zhang; Steven H. Green

PS 527

Lack of Macrophages Impair Spontaneous Repair of Ribbon Synapses After Synaptopathic Acoustic Trauma in C57BL/6 Mice

Anna C. Clayman; Kevin Ohlemiller; Mark Warchol; Tejbeer Kaur

PS 528

Photobiomodulation protects noise induced cochlear synaptopathy by affecting synaptogenesis

Jae-Hun Lee; Jun-Sang Bae; Nathaniel Carpena; Hee-Won Jeong; So-Young Chang; Ji Eun Choi; Min Young Lee; Phil-Sang Chung; Jae Yun Jung

PS 529

Temporary versus permanent synaptic loss from repeated noise exposure in Guinea pigs and C57 mice

Jian Wang; Zhen Zhang; Liqiang Fan

PS 530

Measures of Synaptopathy Linked with Tinnitus and Hyperacusis

Naomi F. Bramhall; Sarah M. Theodoroff; Sean D. Kampel

PS 531

Modulating the Cochlear Proteostasis Network to Prevent Hidden Hearing Loss

Jeffrey N. Savas; Nopporn Jongkamonwiwat; Miguel A. Ramirez

Coffee Break

1:30 PM – 2:30 PM

Executive Ballroom DH

Auditory Brainstem and Midbrain Implants: Advances in Basic and Translational Research

Chairs: Mahan Azadpour & Andreas Bahmer

2:00 PM – 4:00 PM

Grand Ballroom 220A

2:00 PM | **SYMP 36**

Investigating Perceptual Limitations in ABI and AMI Devices

Colette McKay; Karl-Heinz Dyballa; Waldo Nogueira; Hubert H. Lim; Thomas Lenarz

2:30 PM | **SYMP 37**

How the Auditory Brainstem Implant Advances Auditory Neuroscience

Robert V. Shannon

2:45 PM | **SYMP 38**

New Directions in Central Auditory Prosthesis: Development of an Auditory Midbrain Implant and an Auditory Nerve Implant

Hubert H. Lim; Thomas Lenarz

3:00 PM | **SYMP 39**

Revisiting the Design of the Auditory Brainstem Implants Using Microtechnology

Nicolas Vachicouras; Osama Tarabichi; Vivek V. Kanumuri; M. Christian Brown; Daniel J. Lee; Stéphanie Lacour

3:15 PM | **SYMP 40**

New Insights Into Array Position and Perception in Adult Auditory Brainstem Implant Patients

Dana Egra-Dagan; Isabeau van Beurden; Barbara S. Herrmann; Mary E. Cunnane; Samuel R. Barber; M. Christian Brown; Daniel J. Lee

3:30 PM | **SYMP 41**

Computational Modeling of Auditory Brainstem and Midbrain Networks for Improving Central Auditory Prosthesis

Andreas Bahmer

3:45 PM | **SYMP 42**

Temporal Processing and Hearing Performance with Auditory Brainstem Implants

Mahan Azadpour; William H. Shapiro; Mario A. Svirsky

On the Form and Functions of Type II Spiral-Ganglion Neurons

Chairs: Tom Coate & Michaels Deans

2:00 PM – 4:00 PM

Grand Ballroom 220B

2:00 PM | **SYMP 43**

Introduction to Type II SGNs and Eph/Ephrin Signaling in Type II SGN Development

Thomas Coate; Juliet Mejia; Mansa Gurjar

2:15 PM | **SYMP 44**

Seq-ing Insights into Molecular Heterogeneity of Spiral Ganglion Neurons

Brikha Shrestha; Lisa Goodrich

2:30 PM | **SYMP 45**

Staying in or Going Out: Neurotropic and Neurotrophic Signals in Spiral Ganglion Peripheral Process Navigation

Bernd Fritzsich; Karen Elliott Thompson; Jennifer Kersigo

2:45 PM | **SYMP 46**

PCP Signaling and Axon Pathfinding: Molecular Trail Blazes that Guide Growth Cone Navigation

Michael Deans

3:00 PM | **SYMP 47**

Peripheral Sensory Neurons that Participate in the Perception Pain

Rebecca Seal

3:30 PM | **SYMP 48**

The Not-so-hidden 'Hearing Loss' of Type II Cochlear Afferents

Paul Fuchs

3:45 PM | **SYMP 49**

Efferent Inhibition of Type II Cochlear Afferents

Catherine Weisz

Plasticity Following Hearing Loss or Restoration

Moderators: Steve Lomber & Andrej Kral

2:00 PM – 4:00 PM

Grand Ballroom 220C

2:00 PM | **PD 41**

Hearing loss is associated with modified brain oscillations during non-auditory verbal working memory

Brandon T. Paul; Arunan Srikanthanathan; Andrew Dimitrijevic

2:15 PM | **PD 42**

Neural Acclimatization to Hearing Aids

Hanin Karawani; Samira Anderson

2:30 PM | **PD 43**

Effects of Auditory Hair Cell Ablation on Spatial Learning/Memory

Z. Jason Qian; Anthony Ricci

2:45 PM | **PD 44**

Deep Neural Networks With Simulated Hearing Impairment Replicate Behavioral Deficits of Hearing Impaired Listeners

Mark R. Saddler; Jenelle Feather; Andrew Franci; Ray Gonzalez; Josh H. McDermott

3:00 PM | **PD 45**

Developmental sensory deprivation weakens interareal coupling in the auditory connectome

Prasandhya Yusuf; Peter Hubka; Jochen Tillein; Martin Vinck; Andrej Kral

3:15 PM | **PD 46**

Auditory Sequence Learning with Linguistic and Environmental Stimuli in Cochlear Implant Users as Compared to Normal Hearing Listeners

Liat Kishon-Rabin; Shira Cohen; Ronen Perez

3:30 PM | **PD 47**

Neuromodulation Enhances Plasticity in a Rodent Model of Cochlear Implant Use

Erin G. Glennon; Mario A. Svirsky; Robert C. Froemke

3:45 PM | **PD 48**

Tinnitus Induced Hyperexcitability in View of Deafness and Cochlear Implants?

Marlies Knipper; Pim van Dijk; David Baguley; Lukas Rüttiger

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Mentoring Sessions

4:00 PM – 5:00 PM

- **Careers in Industry**
Room 211A
 - **Navigating the Grant Landscape as a Trainee/Getting Grants**
Room 211B
-

spARO Science Communication Workshop

4:00 PM – 5:00 PM

Grand Ballroom 220B

gEAR Workshop

4:00 PM – 5:00 PM

Room 212AB

Mentorship Program Social

5:00 PM – 6:00 PM

Room 211AB

ARO Business Meeting/NIDCD Town Hall

6:00 PM – 7:00 PM

Grand Ballroom 220C

ERC Outreach Event (Montgomery Theater)

7:30 PM – 9:15 PM

271 S. Market Street, San Jose

Registration

7:00 AM – 6:00 PM

Executive Ballroom Foyer

Speaker Ready Room

7:00 AM – 6:00 PM

Room 213

Morning Break

7:00 AM – 8:00 AM

Grand Ballroom Foyer

**Pulling the Threads of Hair Cell Fate
with an Omic Tug**

Chairs: Ronna Hertzano & Mike Bowl

8:00 AM – 10:00 AM

Grand Ballroom 220B

8:00 AM | **SYMP 50**

**Functional Characterization and Therapeutic
Targeting of Gene Regulatory Elements**

Nadav Ahituv

8:30 AM | **SYMP 51**

**“First came Atoh1.....: Epigenetic Mechanisms
Guiding Hair Cell Gene Regulatory Networks
During Development and Transdifferentiation.”**

Neil Segil

8:45 AM | **SYMP 52**

**The Role of GF11 in Hair Cell Development: Further
Hints From RiboTag Analyses**

Maggie Matern

9:00 AM | **SYMP 53**

**Outer vs Inner Hair Cell Fate Consolidation by Zinc
Finger Transcription Factor INSM1**

Jaime Garcia-Añoveros

9:15 AM | **SYMP 54**

**RFX Transcription factors – Key Regulators of Hair
Cell Terminal Differentiation**

Ronna Hertzano

9:30 AM | **SYMP 55**

**Helios, Helping Illuminate Our Understanding of
Outer Hair Cell Maturation**

Michael Bowl

9:45 AM | **SYMP 56**

Transcription Factors and Hair Cell Fate; Where Do We Go From Here?

Matthew W. Kelley

Stereocilia Dynamics: Insights into Cytoskeleton and Membrane Organization

Chairs: A. Catalina Velez-Ortega & Ben Perrin

8:00 AM – 10:00 AM

Grand Ballroom 220C

8:00 AM | **SYMP 57**

New Tools for a Dynamic View of GPSM2-GNAI Function in Stereocilia

Anil Akturk; Amandine Jarysta; Basile Tarchini

8:15 AM | **SYMP 58**

Characterization of the Molecular Impact of Deafness Mutations in MYO3A

Laura K. Gunther; Joseph A. Cirilo; Christopher M. Yengo

8:30 AM | **SYMP 59**

Molecular Mechanisms that Shape the Stereocilia Actin Cytoskeleton

Jonathan E. Bird

8:45 AM | **SYMP 60**

Role of Myosin XV Isoforms in the Mechanotransduction-dependent Remodeling of the Stereocilia Cytoskeleton

Ana I. López-Porras; Gregory Frolenkov; A. Catalina Vélez-Ortega

9:00 AM | **SYMP 61**

Mechanotransduction-dependent Control of Stereocilia Dimensions and Row Identity in Inner Hair Cells

Jocelyn F. Krey; Paroma Chatterjee; Rachel A. Dumont; Dongseok Choi; Jonathan E. Bird; Peter G. Barr-Gillespie

9:15 AM | **SYMP 62**

Refining Stereocilia Shape by Severing Actin Filaments

Jamis McGrath; Benjamin Perrin

9:30 AM | **SYMP 63**

Voltage and Calcium Modulate Stereocilia Membrane Fluidity: Implications Regarding Hair Cell Mechanotransduction

Shefin George; Charles Steel; Anthony Ricci

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9:45 AM | **SYMP 64**

LOXHD1 is required for Mechanotransduction and Lipid Dynamics in Mature Hair Cells

*Alix Trouillet; Shefin George; Katharine Miller; Noor Ali; Charles Steel; Anthony Ricci; **Nicolas Grillet***

Traditional Psychophysics and Sound Perception

Moderators: Pavel Zahorik & Laurianne Cabrera

8:00 AM – 10:00 AM

Grand Ballroom 220A

8:00 AM | **PD 49**

Speech in Noise Perception in Childhood: Role of Modulation Filtering and Processing Efficiency

*Irene Lorenzini; Christian Lorenzi; **Laurianne Cabrera***

8:15 AM | **PD 50**

The Roles of Long-Term Envelope Regularity and Efferent Activation in the Simultaneous Masker Phase Effect

Hisaaki Tabuchi; Bernhard Laback

8:30 AM | **PD 51**

Are a Sound and the Background in Which It Is Presented Perceived Simultaneously?

Beverly A. Wright; Ruijing Ning; Victoria Smith; Julia R. Curato; Matthew B. Fitzgerald

8:45 AM | **PD 52**

Probing Spectrotemporal Modulation Processing to Better Understand Supra-Threshold Hearing Deficits

Emmanuel Ponsot; Peter Neri

9:00 AM | **PD 53**

A Population of Adults with Normal Hearing Sensitivity but Significant Noise Exposure and/or Tinnitus exhibit Speech Recognition Deficits at High Levels and Weak Middle-Ear-Muscle-Reflexes

James Shehorn; Olaf Strelcyk; Pavel Zahorik

9:15 AM | **PD 54**

Effects of Age on Behavioral and Electrophysiological Measures of Cochlear Synaptopathy in Humans

*Samuele Carcagno; **Christopher J. Plack***

9:30 AM | **PD 55**

Sound-Offset Sensitivity in Individuals with Speech-in-Noise Perception Difficulties

*Fatima Ali; Stuart Rosen; Doris E. Bamiou; **Jennifer F. Linden***

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9:45 AM | **PD 56**

Selective Sensory Gating of Behaviorally Significant Sounds during Sleep

Philipp van Kronenberg; Linus Milinski; Livia de Hoz

Exhibit Hall Open

9:00 AM – 5:00 PM

Executive Ballroom

Mid-Morning Break

10:00 AM – 10:30 AM

Executive Ballroom DH

Coming to Our Senses: Vestibular Research From Molecules to Systems – Commonalities and Differences with the Auditory System

Chairs: Gwenaelle S. Geleoc & Hong Zhu

10:30 AM – 12:30 PM

Grand Ballroom 220A

10:30 AM | **SYMP 65**

Introduction: What Binds and Distinguishes Vestibular and Auditory Research?

Ruth Anne Eatock

11:00 AM | **SYMP 66**

Genetic of Audio-Vestibular Disorders

Jose Antonio Lopez-Escamez; Alvaro Gallego-Martinez; Pablo Roman-Naranjo; Teresa Requena

11:15 AM | **SYMP 67**

How Mammalian Vestibular Hair Cells Differ From Auditory Hair Cells

Katie Rennie

11:30 AM | **SYMP 68**

Role of Tmc1 and Tmc2 Channels in Hair Cells of the Vestibular Organs

John Lee; Gwenaelle S. Geleoc

11:45 AM | **SYMP 69**

The Unusual Hair Cell – Calyx Terminal Synapse in the Vestibular Periphery

Soroush Sadeghi; Elisabeth Glowatzki

12:00 PM | **SYMP 70**

The New Vestibular Stimuli: Sound and Vibration

Ian S. Curthoys; J. Wally Grant; Alan Brichta; Rebecca Lim

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12:15 PM | **SYMP 71**

Single afferent recording of vestibular responses to acoustic stimuli

Hong Zhu; Wu Zhou

Gene Expression and Regulation

Moderators: Lisa Nolan & Ruben Stepanyan

10:30 AM – 12:30 PM

Grand Ballroom 220C

10:30 AM | **PD 57**

Comparing Mouse and Human Fetal Cochlear Development with Single Cell Analysis

Kevin Shengyang Yu; Stacey Frumm; Jason Park; Katharine Lee; Daniel Wong; Lauren Byrnes; Sarah Knox; Julie Sneddon; Aaron Tward

10:45 AM | **PD 58**

RNA-seq Profiling and Co-expression Network Analysis of lncRNAs and mRNAs Reveal Novel Pathogenesis of Noise-induced Hidden Hearing Loss

Wei Wei; Xi Shi; Wei Xiong; Lu He; Shusheng Gong; Ke Liu; Xiulan Ma

11:00 AM | **PD 59**

Co-regulation of multiple genes promote inner ear progenitors to regenerate hair cells via AAV mediated gene therapy

Renjie Chai

11:15 AM | **PD 60**

Functional Evaluation of Hair Cell Specific Promoter Variants for Gene Therapy in the Inner Ear

Sarah Cancelarich; Ning Pan; Lars Becker; Janell Smith; Danielle Velez; Daniela Di Battista Miani; Max Beyman; Kathryn Ellis; Martin Schwander; Jonathon Whitton; Adam T. Palermo; Christos Kyratsous; Leah Sabin; Meghan C. Drummond

11:30 AM | **PD 61**

Single-cell Transcriptional Profiling of Mature Cochlear Inner and Outer Hair Cells

Giovanni Diaz; Joerg Waldhaus; Daniel Ellwanger; Mirko Scheibinger; Amanda Janesick; Stefan Heller

11:45 AM | **PD 62**

Mice with Targeted Deletion of the Estrogen-Related Receptor Gamma (ESRRG) Gene exhibit a Low Frequency Hearing Loss.

Lisa S. Nolan

12:00 PM | **PD 63**

Gom1 mice as a model of otitis media

Qingyin Zheng; Wenyi Huang; HePing Yu; Lu Lu; YuKe Zheng; Christopher Mccarty; JiangPing Zhang; Bo Hua Hu

12:15 PM | **PD 64**

The CDHR3 c.1586G>A (p.Cys529Tyr) Variant is Protective against Otitis Media in Children

Scott Hirsch, MD; Tori C. Bootpetch Roberts, BS; Norman R. Friedman, MD; Todd M. Wine, MD; Sven-Olrik Streubel, MD; Jeremy D. Prager, MBA, MD; Patricia J. Yoon, MD; Kenny H. Chan, MD; Melissa A. Scholes, MD; Daniel N. Frank, PhD; Regie Lyn P. Santos-Cortez

Hair Bundles and Mechanotransduction

Moderators: Teresa Nicolson & Korne Cros

10:30 AM – 12:30 PM

Grand Ballroom 220B

10:30 AM | **PD 65**

Viscoelastic Coupling of Stereocilia Coordinates Whole Bundle Motion in Mammalian Auditory Inner Hair Cells

Alexandra L. Scharr; Daibhid O Maoileidigh; Anthony Ricci

10:45 AM | **PD 66**

TRIOBP-5 is Required to Establish and Maintain Stereocilia Rootlet Architecture: Implications for Presbycusis and Gene Therapy

Inna A. Belyantseva; Tatsuya Katsuno; Alexander X. Cartagena-Rivera; Keisuke Ohta; Ronald S. Petralia; Kazuya Ono; Risa Tona; Ayesha Imtiaz; Atteeq Rehman; Hiroshi Kiyonari; Tracy S. Fitzgerald; Takaya Abe; Makoto Ikeya; Cristina Fenollar-Ferrer; Kohei Segawa; Koichi Omori; Juichi Ito; Gregory I. Frolenkov; Shin-ichiro Kitajiri; Thomas B. Friedman

11:00 AM | **PD 67**

ANKRD24 is Required for Hair Bundle Organization and Hearing Function in the Mouse Cochlea.

Jocelyn F. Krey; Julia Halford; Rachel A. Dumont; Michael Bateschell; Bo Zhao; Peter G. Barr-Gillespie

11:15 AM | **PD 68**

Structuring Inner-Ear Mechanotransduction

Deepanshu Choudhary; Yoshie Narui; Brandon L. Neel; Sanket Walujkar; Jeffrey M. Lotthammer; Joseph C. Sudar; Collin Nisler; Lahiru N. Wimalasena; Carissa F. Klansack; Pedro De-la-Torre; Conghui Chen; Raul Araya-Secchi; Elakkiya Tamilselvan; **Marcos Sotomayor**

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11:30 AM | **PD 69**

Novel Myosin VIIa Isoforms And Their Significance For Shaping Hair Cell Mechanotransduction And Hearing Function.

Sihan Li; Andrew Mecca; Jeewoo Kim; Elizabeth Wagner; Tingting Du; Guisy Caprara; Runjia Cui; Ivan Rebutini; Bechara Kachar; Anthony Peng; Jung-Bum Shin

11:45 AM | **PD 70**

Exploring the Functional Implications of the Structural Relationship Between TMC1 and TMEM16 proteins.

Angela Ballesteros; Kenton J. Swartz

12:00 PM | **PD 71**

Tmie and TMC1/2 Cooperate to Form Mechanotransduction Channels in Cochlear Hair Cells

Christopher L. Cunningham; Xufeng Qiu; Zizhen Wu; Bo Zhao; Ye-Hyun Kim; Amanda M. Lauer; Ulrich Mueller

12:15 PM | **PD 72**

Unconventional Secretory Pathway Activation Restores Hair Cell Mechanotransduction in an Usher Syndrome type IIIA Model

Suhasini Gopal; Yvonne Lee; Ruben Stepanyan; Brian McDermott; Kumar Alagramam

JARO Editorial Board

11:30 AM – 1:00 PM

Room 111

Diversity and Minority Affairs

12:00 PM – 2:00 PM

Room 211C

External Relations Committee

12:15 PM – 1:30 PM

Room 211D

Young Investigators Luncheon

12:15 PM – 1:30 PM

Room 212ABCD

Finance & Investment Committee

12:00 PM – 2:00 PM

Room 211A

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Lunch (on own)

12:30 PM – 1:00 PM

Program Committee

12:00 PM – 2:00 PM

Room 211B

Poster Session 3 - Open 24 hours

1:00 PM – 11:00 AM

Executive Ballroom

Auditory Cortex: Human Studies II

PS 532

Switches in Perception During Auditory Streaming of Bistable Stimuli Enhances BOLD Activity in Auditory Cortex

Nathan C. Higgins; Alexandra Scurry; Fang Jiang; David F. Little; Mounya Elhilali; Claude Alain; Joel S. Snyder

PS 533

Central Auditory Tests Show Differences Between Drug Treatment Regimens in Human Immunodeficiency Virus Affected Adults

Fengxiang Song; Yi Zhan; Hongzhou Lu; Guochao Chen; Abigail Fellows; Sigfrid Soli; Odile Clavier; Jay Buckley; Yuxin Shi

PS 534

Tinnitus and Auditory Cortex; Using Adapted Functional Near-Infrared-Spectroscopy to Expand Brain Imaging in Humans

Angela Ash-Rafzadeh; Tianqu Tian Zhai; Xiao-Su Hu; Jessica Kim; Juan San Juan; Mohammed Islam; Ioulia Kovelman; Gregory Basura

PS 535

Electrophysiological Measurement of Working Memory in Veterans with APD: Effects of Sensory Modality on the N-back test

Melissa A. Papesh; Melissa T. Frederick; Curtis J. Billings; Frederick J. Gallun

PS 536

Cortical Processing of Location and Feature Changes of Sounds in Normal Hearing Listeners

Fawen Zhang; Kelli McGuire; Gabrielle Firestone; Qian-jie Fu

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PS 537**Isolating Neural Correlates of Streaming and Attention to Components within Complex Tones***Hao Lu; Andrew J. Oxenham***PS 538****[18F]FDG PET Imaging to visualize Asymmetry of the Inferior Colliculi and Primary Auditory Cortex in Asymmetric Hearing Loss***Iva Speck; Susan Arndt; Johannes Thurow; Antje Aschendorff; Ganna Blazhenets; Philipp T. Meyer; Lars Frings***PS 539****Neural Mechanisms underlying Speech Perception in Listeners with Cochlear Implants Mapped using High-density Diffuse Optical Tomography***Arefeh Sherafati; Mahlega S. Hassanpour; Noel Dwyer; Adam T. Eggebrecht; Joseph P. Culver; Jill B. Firszt; Jonathan E. Peelle***PS 540****Concurrent EEG and Pupillometry Measures of Listening Effort while Listening to Speech in Noise.***Emily Graber; Emmanuel Chan; Brandon T. Paul; Andrew Dimitrijevic***PS 541****Neural modulation to direction and speaker in spatial multi-talker speech perception***Prachi Patel; Jose Herrero; Ashesh Mehta; Nima Mesgarani***PS 542****Neural Correlates of Auditory Enhancement***Anahita H. Mehta; Lei Feng; Andrew J. Oxenham***PS 543****Signatures of Regularity in Low- and High-Frequency Activity Recorded from Human Primary and Non-Primary Auditory Cortex***Alexander Billig; Phillip Gander; Christopher Kovach; Hiroto Kawasaki; Timothy Griffiths; Ingrid Johnsrude; Matthew Howard; Maria Chait***PS 544****Task Effects on Cortical Responses to Auditory Novelty: An Intracranial Electrophysiology Study***Kirill Nourski; Mitchell Steinschneider; Ariane Rhone; Hiroto Kawasaki; Matthew Banks*

PS 545

Using Functional Near-Infrared Spectroscopy to Assess Auditory Responses in Auditory and Lateral Frontal Cortex

Min Zhang; Antje Ihlefeld

PS 546

Effects of Linguistic and Non-Linguistic Interference on Speech Categorization and Neural Encoding

Jared Carter; Gavin Bidelman

Auditory Learning

PS 547

Rapid Perceptual Learning and Individual Differences in the Recognition of Rapid Speech in Younger and Older Adults

Tali Rotman; Limor Lavie; Karen Banai

PS 548

Rats Discriminate the Salience of Deviant Stimuli in an Oddball Paradigm

Camilo J. Morado-Díaz; Gonzalo Terreros; Cristian Aedo-Sánchez; Daniel Duque; Manuel S. Malmierca

PS 549

Observational Learning Exploits the Available Physical and Social Cues

Nihaad Paraouty; Joey A. Charbonneau; Dan H. Sanes

PS 550

Auditory Categorical Learning is Shaped by Inherent Musical Listening Skills

Kelsey Mankel; Gavin Bidelman

Auditory Prostheses V

PS 551

Electric Stimulation Thresholds Are Correlated with Acoustic Hearing Changes in an Aged Guinea Pig Cochlear Implant Model

Lina Reiss; Melissa Lawrence; Irina Omelchenko; Wenxuan He; Michael Reiss; Jonathon R. Kirk; Douglas Fitzpatrick

PS 552

Relationship between Peripheral Spread of Excitation and Binaural Fusion in Bilateral Cochlear Implant Users

Logan Remington; Holden Sanders; Morgan Eddolls; Lina Reiss

PS 553

Acoustically Evoked Compound Action Potentials (CAPs) Recorded from Electro-Acoustic Stimulation (EAS) Cochlear Implant Users: A Preliminary Study
Jeong-Seo Kim; Viral Tejani; Carolyn Brown; Paul Abbas; Inyong Choi

PS 554

Perceptual Integration of Speech Information Across Ears with Bilateral Cochlear Implants and Simulations in Normal-Hearing
Sean R. Anderson; Frederick J. Gallun; Ruth Y. Litovsky

PS 555

Within-Ear Balancing of Response Strength Between Acoustic and Electric Stimulation Improves Interaural Time Difference Coding in an Animal Model of Single-Sided Deafness
Maike Vollmer; Merle Berents; Andrew Curran; Armin Wiegner

PS 556

Unilateral Hearing Loss During Development and Adulthood Differently Disrupts Binaural Integration in the Auditory Midbrain
Andrew Curran; Maike Vollmer

PS 557

Effects of Amplitude Modulation on Binaural Pitch Fusion in Cochlear Implant Users
Yonghee Oh; Lina Reiss

PS 558

Comparison of Acoustic and Electrical Functional Changes Over Time after Cochlear Implant Surgery
Deborah J. Colesa; Laila A. Al-Jerdi; Donald L. Swiderski; Yehoash Raphael; Bryan E. Pfingst

PS 559

Comparing Complementary Usage of Information with Better-Ear-Listening in Bimodal and Single-Sided Deaf Cochlear Implant Users
Ben Williges; Ladan Zamanindezhad; Tim Jürgens

PS 560

A Computational Model of Electric-Acoustic Stimulation in Cochlear Implant Subjects with Residual Hearing
Daniel Alrutz; Waldo Nogueira

PS 561

Influence of Cochlear Place Frequency on Initial Low-frequency Pitch Matches in Cochlear Implant Recipients with Normal Hearing in the Contralateral Ear

Brendan P. O'Connell; Michael W. Canfarotta; Emily Buss; Kevin D. Brown; Margaret T. Dillon

PS 562

Spatial Disadvantage in the Listening of Spatialized Noise by Bilateral and Bimodal Cochlear Implant Patients

Qian-jie Fu; Shelby Willis; Kevin Xu; Quinton Gopen; Akira Ishiyama

Auditory Prostheses VI

PS 563

Auditory Profiling and Profile-based Hearing-aid Processing Strategies

Raul H. Sanchez-Lopez; Michal Fereczkowski; Sébastien Santurette; Tobias Neher; Torsten Dau

PS 564

Computational Optimization of Total Ossicular Replacement Prosthesis Shape

Mario Milazzo; Pieter G. G. Muyshondt; Josephine V. Carstensen; Joris J. J. Dirckx; Serena Danti; Markus J. Buehler

PS 565

Comparison of Perception Characteristics of Distantly-presented Bone-conducted Sounds between Ultrasonic and Low-frequency Ranges

Riki Ogino; Koichiro Doi; Sho Otsuka; Seiji Nakagawa

PS 566

Benefits of a new hearing device termed as cartilage conduction hearing aids in the ears with aural atresia

Tadashi Nishimura; Hiroshi Hosoi; Osamu Saito; Tadao Okayasu; Chihiro Morimoto; Toshiaki Yamanaka; Tadashi Kitahara

PS 567

Perceptual characteristics of bone-conducted ultrasound presented to the neck, trunk, and arms – Effect of self-demodulation in the human body

Koichiro Doi; Riki Ogino; Sho Otsuka; Seiji Nakagawa

PS 568

Which patients with a unilateral hearing aid for symmetric sensorineural hearing loss have auditory deprivation?

Hyun Jin Lee; Gina Na; Jinsei Jung

PS 569

Development of the novel hearing device as a substitute for the bone conduction hearing aid

Ichiro Furuta; Hideaki Ogita; Fukuichiro Iguchi; Takayuki Okano; Kohei Yamahara; Tatsuya Namatsu; Shinsuke Shichi; Kazuya Nakatera; Yoshihiro Iwasaki; Shuichi Kawata; Koichi Omori; Norio Yamamoto

PS 570

New stapes-head (SH) coupler for Vibrant Soundbridge (VSB) system

Birthe Warnholtz; Merlin Schär; Pascale Cuny; Kathrin Sonntag; Ivo Dobrev; Flurin Pfiffner; Christof Rösli; Alexander Huber; Jae Hoon Sim

PS 571

Clinical Performance of a New Implant System for Bone Conduction Hearing

Susan Arndt; Emmanuel Mylanus; Rob Briggs; Piotr Skarzynski; Steven Telian

PS 572

Predicting the Utility of Hearing-Aid Noise Reduction based on Spectro-Temporal Modulation Detection

Johannes Zaar; Lisbeth Simonsen; Thomas Behrens; Torsten Dau; Søren Laugesen

PS 573

Validation of a Fitting Method for Over-The-Counter Hearing Aids: A Clinical Trial

Soumya Venkitakrishnan; Dana Urbanski; Yu-Hsiang Wu

PS 574

Diaphanoscopy of the Tympanic Membrane

Madeleine Goblet; Farnaz Matin; Thomas Lenarz; Gerrit Paasche

PS 575

Effects of Body-Coupled Ultrasound Stimulation on the Auditory System for a New Hearing Technology

Gerardo Rodriguez; John Basile; Hubert H. Lim

Auditory Prostheses VII

PS 576

The Optical Cochlear Implant

Claus-Peter Richter

PS 577

Hearing Colors: Evaluation of Frequency Representation in Optogenetic Midbrain Implants
Meike Rogalla; Adina Seibert; K. Jannis Hildebrandt

PS 578

Combined Optogenetic and Electrical Stimulation of Auditory Neurons
Alex Thompson; Andrew Wise; William Hart; Karina Needham; James Fallon; Paul Stoddart; Rachael Richardson

PS 579

Comparison of Responses to DCN or VCN Electrode Placements in a Mouse Model of the Auditory Brainstem Implant (ABI)
Stephen McInturff; Nicolas Vachicouras; Stéphanie Lacour; Daniel J. Lee; Christian Brown

PS 580

A Penetrating Auditory-Nerve Electrode for Improved Transmission of Temporal Fine Structure
John C. Middlebrooks; Bing Xu; Matthew L Richardson; Harrison W Lin

PS 581

Development and Translation of an Intracranial Auditory Nerve Implant
Hubert H. Lim; Abigail Heiller; Meredith Adams; Loren Rieth; Moritz Leber; Karl-Heinz Dyballa; Waldo Nogueira; Geoffrey Ghose; Luke Johnson; Amir Samii; Rob Franklin; David Warren; Bo Connelly; Florian Solzbacher; Andrew J. Oxenham; Thomas Lenarz

PS 582

Pre-Clinical Validation of Silicon-Based Auditory Brainstem Protheses
Nicholas Nolta; Pejman Ghelich; Martin Han

PS 583

Light-induced Protein Synthesis in Human Mesenchymal Stem Cells for Cochlea Implants
Nina L. Wichert; Andy Martinez; Martin Witt; Rebecca Jonczyk; Malte Sgodda; Lani Torres; Marc Wahalla; Alexander Heisterkamp; Tobias Cantz; Holger Blume; Cornelia Blume

PS 584

Robotic Insertion of New Cochlea Implants
Hideaki Ogita; Koji Nishimura; Takayuki Nakagawa; Juichi Ito; Tetsuro Tsuji; Satoyuki Kawano; Hidetoshi Kotera; Takeshi Nizuka; Masanori Enrin; Hisakazu Ninomiya

PS 585

Safety of Transcranial Ultrasound for Neuromodulation and a Novel Hearing Technology

John Basile; Gerardo Rodriguez; James Kerber; Hubert H. Lim

Binaural Hearing in Animals: Neural Recordings

PS 586

Hidden Island Navigation Task (HINT): A Novel Paradigm to Study Auditory Processing During Goal-Oriented Behavior in Freely Moving Animals

Dardo N. Ferreiro; Diana Amaro; Lucile Belliveau; Michael Pecka

PS 587

Age-Related Changes to Binary Hearing and the Auditory Brainstem in the Mongolian Gerbil

Elizabeth McCullagh; Alexandra Lucas; Shani Poleg; Nathaniel T. Greene; John Peacock; Melinda Anderson; Daniel J. Tollin; Achim Klug

PS 588

In Vivo Physiological and Functional Investigation of Cholinergic Modulation in the MNTB of Adult Gerbil

Chao Zhang; Nichole L. Beebe; Michael Pecka; Brett R. Schofield; Michael Burger

PS 589

Neuronal Encodings of Upper Spatial Hemifield Across the Ascending Auditory Pathway of awake mouse (*mus musculus*)

Paul LC Feyen; Alfonso Junior Apicella

PS 590

Loss of Neural Sensitivity to Interaural Time Difference Following Noise-Induced Hearing Loss

Hariprakash Haragopal; Ryan Dorkoski; Gareth A. Whaley; Timothy R. Wohl; Noelle C. Stroud; Mitchell L. Day

PS 591

The Effect of Anticipated Cue Reliability on the Barn Owl's Discriminability of Sound Location

Keanu Shadron; Roland Feger; Andrea J. Bae; Brian J. Fischer; José L. Peña

PS 592

Pushing the envelope: understanding responses of low-frequency MSO neurons through their sensitivity to the stimulus envelope

Jason Mikiel-Hunter; Barbara Biederbeck; Michael Pecka; David McAlpine

Cochlear Mechanics II

PS 593

Localization of Harmonic Distortion inside the Cochlear Partition in Sensitive Gerbil Cochleae

Tianying Ren; Wenxuan He

PS 594

Even-order Distortion Products in the Organ of Corti at the Base of the Gerbil Cochlea

Anna Vavakou; Nigel P. Cooper; Marcel van der Heijden

PS 595

Frequency Dependence of Harmonic Distortions in Vibrations of the Mouse Organ of Corti

James B. Dewey; Alessandro Altoè; Christopher A. Shera; Brian E. Applegate; John S. Oghalai

PS 596

Two-tone Acoustic Suppression in the Ear Canal Mirrors Organ of Corti but not Basilar Membrane Suppression

Jonathan H. Siegel

PS 597

Does the “Reticular Lamina nonlinearity” contribute to the basal DPOAE source?

Renata Sisto; Arturo Moleti

PS 598

Effects of Rotation of the Stereociliary Bundles of Outer Hair Cells on the Cochlear Amplification

Michio Murakoshi; Hiroshi Wada

PS 599

Resonance in Outer Hair Cells is Essential for Human Auditory System

Yasushi Horii; Wenjia Hong; Airi Tamaki; Toshiaki Kitamura; Koichiro Wasano

PS 600

Output Evaluation of a Transcutaneous and a Percutaneous Bone Conduction Device using LDV and Intracochlear Pressure measurements

Mohammad Ghoncheh; Stefan Stenfelt; Patrick Maas; Hannes Maier

PS 601

Influence on Intracochlear Sound Pressure Variations due to Round Window Reinforcement: A Human Temporal Bone Study

Nuwan Liyanage; Julian Grosse; Lukas Prochazka; Adrian Dalbert; Michail Chatzimichalis; Christof Röösl; Tobias Kleinjung; Alexander Huber; Flurin Pfiffner

PS 602

Transport of Prestin-dependent Fructose in the Outer Hair Cell Electromotil Responses

Metin BUDAK; Zuleyha Dilek GULMEZ; Erdogan BULUT; Rahul Mittal; Adrien A. Eshraghi

PS 603

Building a Structural Model of the Tip-Link Cadherin-23 Protein

Pedro De-la-Torre; Jasanvir Sandhu; Joseph Sudar; Deepanshu Choudhary; Marissa Boyer; Florencia Velez-Cortes; Jeshua K. Avila; Collin Nisler; Michael Leake; Marcos Sotomayor

PS 604

LATS1 Deficiency Cause Congenital Hearing Loss Associated with Mouse Cochlea Abnormally

Takanori Nishiyama; Masato Fujioka; Makoto Hosoya; Naoki Oishi; Tatsuhiko Harada; Kaoru Ogawa

PS 605

Identification of Hearing-Loss Associated Mutations in MYO6 and In Vitro Functional Analysis

Timothy F. Day; Shin-ichiro Oka; Shin-ichiro Kitajiri; Hideaki Moteki; Shin-ya Nishio; Shin-ichi Usami

PS 606

Generation of Schwann Cells from unaffected and NF2-mutated human iPSCs

Nicholas Gosstola; Zaohua Huang; Eric Nisenbaum; Christine Dinh; Fred Telischi; Derek Dykxhoorn; Dykxhoorn; Xue Liu; Cristina Fernandez-Valle

Complex Sounds in Complex Environments

PS 607

Minimal oscillator model of auditory streaming

Andrea Ferrario; James Rankin

PS 608

Pupil Response to Rapid Predictable Auditory Sequences

Alice E. Milne; Christina Tampakaki; Sijia Zhao; Maria Chait

PS 609**Segregation from Noise as Outlier Detection***Jarrold M. Hicks; Josh H. McDermott***PS 610****Is Auditory Saliency Just About the Acoustic Structure of Natural Scenes?***Sandeep Reddy Kothinti; Mounya Elhilali***PS 611****Resetting of Auditory and Visual Segregation Occurs Only After Transient Stimuli of the Same Modality***Ambar G. Monjaras; Nathan C. Higgins; Breanne D. Yerkes; David F. Little; Jessica E. Nave-Blodgett; Mounya Elhilali; Joel S. Snyder***PS 612****Auditory Sustained Attention Fluctuates Similarly to Visual Sustained Attention***Hiroki Terashima; Ken Kihara; Jun I. Kawahara; Hirohito M. Kondo***PS 613****Loudness Discomfort Level as a Test for Hyperacusis: Test - Retest Reliability and its Clinical Value***Jaclyn Vidal; Jung Mee Park; Jae Sang Han; Hamzah Alshaikh; Shi Nae Park***PS 614****Modulation Transfer Functions Measured with Broad- and Narrow-band Noise Carriers in a Deep Neural Network Trained for Natural Sound Recognition***Takuya Koumura; Hiroki Terashima; Shigeto Furukawa***PS 615****Comparison of Cartilage-conduction and Conventional Bone-conduction Hearings on Fundamental Perception Characteristics: Temporal and Frequency Resolution***Gaik Sean Yap; Sho Otsuka; Seiji Nakagawa***PS 616****Effect of the vibrator placement on perception and propagation of bone-conducted sound during earplugging***Taishi Shinobu; Sho Otsuka; Seiji Nakagawa*

PS 617

The Discussion on The Influence of Different Materials of Earplugs in Bone Conduction Measurements.

Xiuyuan Qin; Sho Otsuka; Seiji Nakagawa

PS 618

Sound Descriptions of Musicianship: Relationships between Pitch Discrimination, Audiometric Measures of Hearing Sensitivity and Musical Skill.

Justin Cha; Kevin Ng; Devin Inabinet; Jan de la Cruz; Patricia Tan; Gabriella Musacchia

PS 619

Musician Advantage for F0 Coding

Kelly Whiteford; Angela Sim; Kara Stevens; Andrew J. Oxenham

PS 620

Exploring the Relationship between Statistical Surprisal and Music Engagement

Sandeep Reddy Kothinti; Benjamin Skerritt-Davis; Aditya G. Nair; Alain de Cheveigné; Mounya Elhilali

PS 621

Harmonicity Aids Detection of Sounds in Noise

Malinda McPherson; River Grace; Josh H. McDermott

PS 622

Effects of Modified Auditory Feedback Simulating Age-Related Hearing Loss on Piano Performances

Minoru Tsuzaki; Noriko Maegawa; Chie Ohsawa; Hideki Banno; Toshio Irino

PS 623

Simultaneous Measures of Auditory Brainstem Frequency Following Response, Pupillary Response, and Microsaccade during Auditory Selective Attention Task

Shimpei Yamagishi; Shigeto Furukawa

PS 624

Sensitivity of Eye-Metrical Responses to Sound Saliency: Contributions of Detectability, Signal-to-Noise Ratio, and Spectral Consistency of Acoustic Context

Yung-Hao Yang; Hsin-I Liao; Shigeto Furukawa

PS 625

Phasic arousal suppresses suboptimal auditory decision biases in mice and humans

Jan Willem de Gee; Konstantinos Tsetsos; David McCormick; Tobias Donner; Matthew J. McGinley

PS 626

Automated Classification of Acoustic Startle Reflex Measurements in Young CBA/CaJ Mice using Machine Learning

Timothy Fawcett; Chad Cooper; Ryan Longenecker; Joseph P. Walton

PS 627

Psychoacoustical assessment of thermal impression of HVAC sounds

Seiji Nakagawa; Takuya Hotehama

Electrophysiology of Binaural Hearing

PS 628

Effect of Interaural Frequency Mismatch on Lateralization Threshold and the Binaural Interaction Component of the Auditory Brainstem Response in Human Subjects

Carol A. Sammeth; Nathaniel T. Greene; Andrew D. Brown; Daniel J. Tollin

PS 629

Cortical Electrophysiology Indices of Fixed vs. Moving Stimuli

Barrett St. George; Barbara Cone

PS 630

Anticipated ITD Statistics in Human Sound Localization

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Eva Cai; Nicole Black; Eden E.L. Tanner; Samir Mitragotri; Elliott D. Kozin; Aaron K. Remenschneider

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PS 681**AAV mediated gene therapy restores auditory sensitivity in mouse models of autosomal recessive non syndromic deafness DFNB31 and Usher syndrome type IID**

Hannah Goldberg; Yukako Asai; Bifeng Pan; Kevin Isgrig; Wade Chien; Jun Yang; Gwenaelle S. Geleoc

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Niliksha Gunewardene; Danielle R. Lenz; Rachael Richardson; Andrew Wise; Robert Ng

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Fabian Blanc; Alexis-Pierre Bemelmens; Corentin Affortit; Michel Mondain; Florence François; Charlène Joséphine; Jean-Luc Puel; Jing Wang

PS 684**Developmental dependent effects of local gene therapy in Usher syndrome type IG**

Ghizlene Lahlou; Charlotte Calvet; Vincent Michel; Jacques Boutet de Monvel; Christine Petit; Saaid Safieddine

PS 685**The Adeno-Associated Viral Anc80 Vector****Efficiently Transduces Inner Ear Cells in****Cynomolgus Macaques (*Macaca fascicularis*)***Shimon P. Francis; Michael J. McKenna; Yuan Gao; Robert Ng; Enping Qu; Luk H. Vandenberghe; William Sewell; Emmanuel J. Simons; Michelle D. Valero***PS 686****Comparison of AAV-GFP vs. AAV-Cre for Studying****Transduction Patterns in the Mouse Inner Ear***Moaz Sinan; Kevin Isgrig; Jianliang Zhu; Wade Chien***PS 687****Transduction Efficiency of Synthetic and****Conventional AAVs for Cochlear Lateral Wall***Kevin Isgrig; Yasuko Ishibashi; Hong Jun Wang; Devin McDougald; Jean Bennett; Wade Chien***PS 688****A Promising New Type of Self-assembled DNA-based Nanospheres for Drug or Gene Therapy in Inner Ear***Hao Wu; Dehong Yu; Xueling Wang; Yuming Chen; JiaYi Gu***PS 689****Identification and Characterization of****POU4F3 Transcriptional Agonists for Hair Cell****Regeneration in Mammalian Cochleae***Vikrant Rai; Santanu Hati; Hao Feng; Joe R. Frank; Zhenhang Xu; Sarath Vijayakumar; Douglas Auld; Jian Zuo***PS 690****Ex vivo assessment of AAV capsid variant tropism and safety in the rat cochlea***Phillip Uribe; Pranav D. Mathur; Christopher Bartolome; David Jaramillo; Anne Harrop-Jones; Stephanie Szobota; Fabrice Piu; Steven Pennock; Alan C. Foster; Mark Shearman; Bonnie E. Jacques***PS 691****Dual Adeno-Associated Viral Anc80 Vector****Efficiently Transduces Inner Ear Cells in Non-****Human Primates***Yuanzhao Darcy; Shimon P. Francis; Michael J. McKenna; Robert Ng; Enping Qu; Yuan Gao; Cathy Sung; Yukako Asai; William Sewell; Emmanuel J. Simons; Michelle D. Valero*

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Martin Schwander; Xudong Wu; Shu-Lin Liu; Sarah Cancelarich; Xichun Zhang; Gabriela Pregernig; Kathryn Ellis; Fuxin Shi; Kathy So; Leah Sabin; Meghan C. Drummond; Ning Pan; Jonathon Whitton; Joseph C. Burns; Adam T. Palermo

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David Soler; Manikandan Mayakannan; Andrew Sloan; Thomas McCormick; Ruben Stepanyan

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Yael Zaltz, PhD; Liat Kishon-Rabin; Avi Karni, MD; Daphne Ari-Even Roth, PhD

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Xiu Zhai; Mina Sedeghi; Fatemeh Khatami; Heather Read; Ian Stevenson; Monty Escabi

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Patrick Atkinson; Beatrice Milon; Tomokatsu Udagawa; Yang Song; Elvis Huarcaya Najarro; Ronna Hertzano; Alan Cheng

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Yozo Inagaki; Diane M. Prieskorn; Lisa A. Beyer; Liqian Liu; Yehoash Raphael; R. Keith Duncan

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Ichiro Fukunaga; Cheng Chen; keiko kanayama; yoko oe; Sayaka Ohta; Katsuhisa Ikeda; Kazusaku Kamiya

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Nike Gnanateja Gurindapalli; Bharath Chandrasekaran

PS 769

A Study of the Pan-European Prevalence of Tinnitus and Hearing Difficulty using a Standardized Set of Questions

Roshni Biswas; Alessandra Lugo; Deborah A. Hall; Michael Akeroyd; Xiaoqiu Liu; Winfried Schlee; Silvano Gallus

PS 770

Identification of functional biomarkers of tinnitus and tinnitus/hyperacusis in patients

Benedikt Hofmeier; Fatma Refat; Pauline Hinrichs; Marlies Knipper; Lukas Rüttiger; Uwe Klose; Stephan Wolpert

PS 771

Mapping the Cortical Tinnitus Network Using Acoustically- and Electrically-induced Suppression

Phillip Gander; William Sedley; Sukhbinder Kumar; Hiroyuki Oya; Christopher Kovach; Kirill Nourski; Hiroto Kawasaki; Matthew Howard; Timothy Griffiths

PS 772

Random Forest Classification to Predict Response to High-Definition Transcranial Direct Current Stimulation Therapy for Tinnitus

Emilie Cardon; Laure Jacquemin; Griet Mertens; Paul Van de Heyning; Olivier M. Vanderveken; Vedat Topsakal; Vincent Van Rompaey; Annick Gilles

PS 773

Tinnitus Does Not Impair Auditory Perception

Fan-Gang Zeng; Matthew L Richardson; Katie Turner

PS 774

Hearing Protection Use, Noise Exposure, and Tinnitus in US Adolescents and Adults: A Nationally Representative Study

Janet S. Choi; Joni K. Doherty

Vestibular Orientation

PS 775

Timing Effects on Visual-Vestibular Heading Perception in Normal Subjects

Raul Rodriguez

PS 776

Comparison of Spatial Navigation in Real-World vs. Virtual Reality Environments in Healthy Adults

Elliott Rebello; Eric Wei; Dara Bakar; Qiliang He; Timothy McNamara; Yuri Agrawal

PS 777

Impaired Spatial Cognition in Bilateral Vestibulopathy is related to Hearing Loss.

Bieke Dobbels; Griet Mertens; Annick Gilles; Julie Moyaert; Raymond Van de Berg; Erik Fransen; Paul Van de Heyning; Vincent Van Rompaey

PS 778

Effect of Visual Target Ambiguity on the Semicircular Ocular Reflex

Yumiko O. Kato; Koshi Mikami; Shuichi Sakamoto; Izumi Koizuka

PS 779

Effect of Visual Field Size on Common Causation Perception During Visual-inertial Heading Estimation.

Benjamin T. Crane; Raul Rodriguez

PS 780

Bilateral vestibulopathy decreases self-motion perception

Raymond Van de Berg; Lisa van stiphout; Floor Lucieer; Maksim Pleshkov; Vincent Van Rompaey; Josine Widdershoven; Angélica Perez-Fornos; Nils Guinand; Herman Kingma

PS 781

Vestibular Contributions to Place-Based and Route-Based Navigation Strategies

Eric Wei; Elliott Rebello; Qiliang He; Timothy McNamara; Yuri Agrawal

PS 782

Treatment of Gravitational Pull Sensation in Patients With Mal de Debarquement Syndrome (MdDS).

Sergei Yakushin; Viviana Mucci; Bernard Cohen

Coffee Break

1:30 PM – 2:30 PM

Grand Ballroom Foyer

Exploring the Structure and Function of Hair-Cell Ribbon Synapses

Chairs: Christian Vogl & Katie Kindt

2:00 PM – 4:00 PM

Grand Ballroom 220A

2:00 PM | **SYMP 72**

Cochlear Excitability and Excitotoxicity

Mark Rutherford

2:30 PM | **SYMP 73**

Understanding Sound Encoding: Functional, Anatomical and Molecular Correlation of Response Properties of Cochlear Inner Hair Cell Synapses

Lina Maria Jaime; Tobias Moser

2:45 PM | **SYMP 74**

Using Optical Approaches in the Zebrafish Lateral-line to Understand Ribbon Synapses

Qiuxiang Zhang; Katie Kindt

3:00 PM | **SYMP 75**

Elucidating Morphological Changes of Hair Cell Ribbon Synapses Upon Maturation

Susann Michanski; Timo Henneck; Tina Pangršič Vilfan; Anna Maria Steyer; Wiebke Möbius; Carolin Wichmann

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3:15 PM | **SYMP 76**

Mechanism Underlying DFNA25

Yuvraj Joshi; Stéphanie Miot; Jérôme Bourien; Marie Guillet; Gaston Sendin; Jing Wang; Salah El Mestikawy; Jean-Luc Puel; Regis Nouvian

3:30 PM | **SYMP 77**

Active Zone Assembly and Protein Turnover in Cochlear Inner Hair Cells

Christian Vogl; Roos Voorn; Cristian Setz; Silvio Rizzoli

3:45 PM | **SYMP 78**

Imaging Cochlea In Vivo: First Step Towards Watching Hair Cells in Action

Jinkyung Kim; Anthony Ricci

Infection and Inflammation from Middle Ear to Inner Ear—Effects on Hearing

Chairs: Allen F. Ryan & Qing Zheng

2:00 PM – 4:00 PM

Grand Ballroom 220C

2:00 PM | **SYMP 79**

Single-cell RNASeq and selective deletion define the roles of middle ear cell types during otitis media

Allen F Ryan; Arwa Kurabi

2:30 PM | **SYMP 80**

Targeting the biofilm to develop novel approaches to treat and prevent otitis media due to nontypeable *Haemophilus influenzae*

Lauren Bakaletz; Steven Goodman

2:45 PM | **SYMP 81**

Otitis Media Susceptibility and Changes in the Head and Neck Microbiome due to Genetic Variants

Regie Lyn Santos-Cortez

3:00 PM | **SYMP 82**

Role of Eustachian Tube Dysfunction in Otitis Media

Cuneyt Alper

3:15 PM | **SYMP 83**

Development of a New Humanized Mouse Model to Study Otitis Media

Arwa Kurabi

3:30 PM | **SYMP 84**

Exploring the genetic landscape of chronic Otitis Media: towards new therapies for glue ear

Steve Brown

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3:45 PM | **SYMP 85**

Infection and Inflammation from Middle Ear to Inner Ear, Effects on Hearing in mouse models for Usher and Down syndromes

Qing Zheng

Recent Advances in Age-Related Hearing Loss

Moderators: Kelly Harris & Hong-Bo Zhao

2:00 PM – 4:00 PM

Grand Ballroom 220B

2:00 PM | **PD 73**

Structural and Functional Changes in Hair Cells and Auditory Neurons in Aged Mouse Models with a Hearing Phenotype Similar to Humans

Jeong Han Lee; Maria Cristina Perez-Flores; Seojin Park; Mincheol Kang; Michael Anne Gratton; Guy Perkins; Ebenezer N. Yamoah

2:15 PM | **PD 74**

Characterization of Hearing Function in APP/PS1 Alzheimer's Disease Mice

Yang Liu; Shu Fang; Li-Man Liu; Yan Zhu; Hong-Bo Zhao

2:30 PM | **PD 75**

The Role of Complement Signaling in Cochlear Function and Age-Related Hearing Loss

Kenyaria V. Noble; Gang Li; LaShardai Brown; Jeremy Barth; Carl Atkinson; Baerbal Rohrer; Hainan Lang

2:45 PM | **PD 76**

Structural and Functional Changes in the Stria Vascularis of the Aging CBA/CAJ Mouse.

Michael Anne Gratton; Jared J. Hartsock; Ruth Gill; Grady Phillips; Brianna Dufek; Dominic Cosgrove

3:00 PM | **PD 77**

ATP-Purinergic Receptor P2x2 Deficiency Induced Aging-Related Hearing Loss

Hong-Bo Zhao; Shu Fang; Yang Liu; Li-Man Liu; Ling Mei; Yan Zhu

3:15 PM | **PD 78**

G6PD Overexpression Protects from Oxidative Stress and Retard Age-related Hearing Loss Progression

Jose M. Bermúdez-Muñoz; Adelaida M. Celaya; Sara Hijazo-Pechero; Manuel Serrano; Jing Wang; Isabel Varela-Nieto

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3:30 PM | **PD 79**

Autophagy regulates the degeneration of the auditory cortex through the AMPK-mTOR-ULK1 signaling pathway

jie yuan; baoai han; Haiying Sun

3:45 PM | **PD 80**

Evidence for Central Gain in the Auditory System of Older Adults

Kelly C. Harris; James W. Dias; Carolyn M. McClaskey

Mentoring Sessions

4:00 PM – 5:00 PM

- **Work-life Balance**
Room 211B
- **Interviewing and Negotiation**
Skill Development
Room 211A

spARO Town Hall

5:00 PM – 6:00 PM

Room 212AB

Award of Merit Lecture Honoring Lynne Werner

5:30 PM – 7:00 PM

Grand Ballroom 220A

Award of Merit Reception

7:00 PM – 8:00 PM

Grand Ballroom Foyer

spARO Student/Postdoc/Medical Resident Social (bring your badge)

8:00 PM – 11:00 PM

Camino Brewing

718 S 1st St, San Jose, CA

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Registration

7:00 AM – 6:00 PM

Executive Ballroom Foyer

Speaker Ready Room

7:00 AM – 6:00 PM

Room 213

Morning Break

7:30 AM – 8:00 AM

Grand Ballroom Foyer

**The Current Status of Inner Ear Neurons:
Development, Death, and Stem Cell-Based
Transplantation Therapies**

Chairs: Aleta Steevens & Peter Santi

8:00 AM – 10:00 AM

Grand Ballroom 220B

8:00 AM | **SYMP 86**

**Generating Exogenic Cells for Transplantation
in Gene Edited Animals via Blastocyst
Complementation**

Walter C. Low

8:15 AM | **SYMP 87**

**Genetic Pathways Involved in Otic Neuroblast
Specification**

Amy E. Kiernan

8:30 AM | **SYMP 88**

**Inner Ear Neuron Development and Auditory
Circuit Wiring**

Lisa Goodrich

8:45 AM | **SYMP 89**

**Primary Neural Degeneration in the Inner Ear:
Mechanisms, Prevalence, and Diagnosis**

M. Charles Liberman

9:00 AM | **SYMP 90**

Inner Ear Stem Cells for Auditory Neuron Repair

Albert Edge

9:15 AM | **SYMP 91**

**Generating Inner Ear Neurons using Blastocyst
Complementation**

Aleta Steevens; Walter C. Low; Peter Santi

9:30 AM | **SYMP 92**

Stem Cell Transplantation to the Inner Ear

Hainan Lang

9:45 AM | **SYMP 93**

**Diagnosis and Treatment of Human Spiral
Ganglion Dysfunction**

Hinrich Staecker; Adam Mellot; Athanasia Warnecke

**Auditory Brainstem:
Beyond Hearing Detection**

Moderators: Daibhid O Maoileidigh & Gabriella Musacchia

8:00 AM – 10:00 AM

Grand Ballroom 220C

8:00 AM | **PD 81**

**Relationships between perception, the frequency
following response and acoustic features of speech
and music stimuli**

*Steven Losorelli; Gabriella Musacchia; Vivian Lou;
Blair Kaneshiro; Nikolas Blevins; Matthew B. Fitzgerald*

8:15 AM | **PD 82**

Auditory Brainstem Detection Thresholds

George S. Liu; Noor-E-Seher Ali; Daibhid O Maoileidigh

8:30 AM | **PD 83**

**Membrane Filters Influence Sensitivity to Interaural
Delay in the Envelope of High-Frequency Sound**

*Andrew Brughera; Jessica J. M. Monaghan; David
McAlpine*

8:45 AM | **PD 84**

**Subcortical Responses to Continuous Music in
Human Listeners**

Tong Shan; Ross K. Maddox

9:00 AM | **PD 85**

**An Efficient and Robust Approach to Detect Auditory
Evoked Responses using Adaptive Averaging**

*Yunfeng Hua; Haoyu Wang; Bei Li; Xu Ding; Xueling
Wang; Zhiwu Huang; Hao Wu*

9:15 AM | **PD 86**

**Simultaneous Investigation of Subcortical and
Cortical Sensitivity to Temporal Information**

*Sonia Varma; Sangamanatha Veeranna; David Purcell;
Ingrid Johnsrude; Björn Herrmann*

9:30 AM | **PD 87**

Frequency Following Responses to Voice Pitch in Newborn Infants: Effect of Phototherapy

Jiong Hu; Gabriella Musacchia; Qin Hong; Matthew B. Fitzgerald

9:45 AM | **PD 88**

Effects of speech enhancement on brainstem coding of consonants in normal-hearing listeners

Jayaganesh Swaminathan; Rupa Balachandran; Gabriella Musacchia; Virginia Best; Kevin Ng; Justin Cha

Middle Ear Bonanza

Moderators: Daniel Rasetshwane & Caitlin O'Connel-Rodwell

8:00 AM – 10:00 AM

Grand Ballroom 220A

8:00 AM | **PD 89**

Changes in Saccade-Related Eardrum Oscillations After Surgical Denervation of the Stapedius Muscle

Stephanie Schlebusch; Matthew Cooper; David Kaylie; Cynthia King; David Murphy; Christopher A. Shera; Jennifer Groh

8:15 AM | **PD 90**

Frequency Dependence of Stapes Displacement and Intracochlear Pressure in Response to Very High Level, High Frequency Sounds

Nathaniel T. Greene; Mohamed Alhussaini; James Easter; Daniel J. Tollin; Theodore Argo; Tim Walilko

8:30 AM | **PD 91**

Examining the Efficacy of Forward-Pressure-Calibrated Activators on Wideband Measures of the Middle-Ear Muscle Reflex.

Jordan A. Beim; Chhayakant Patro; Magdalena Wojtczak

8:45 AM | **PD 92**

Comparison of Two Ear-Canal-Reflectance Measurement Principles in Adult Ears

Kren Monrad Nørgaard; Efren Fernandez-Grande; Constanze Schmuck; Søren Laugesen

9:00 AM | **PD 93**

In Vitro Sound-Induced Motion of Biomimetic 3D-Printed Tympanic Membrane Grafts

Marta Pawluczuk; Nicole Black; Elliott D. Kozin; Aaron K. Remenschneider; Jeffrey Cheng

9:15 AM | **PD 94**

Otopathologic Changes of the Incudomalleolar Joint in Patients with Rheumatoid Arthritis

Melissa Castillo-Bustamante; Marc Polanik; Dhrumi Gandhi; Elliott D. Kozin; Aaron K. Remenschneider

9:30 AM | **PD 95**

Middle-Ear Sound Transmission under Static Pressure Change in Humans

Birthe Warnholtz; Ivo Dobrev; Benjamin Sackmann; Michael Lauxmann; Alexander Huber; Jae Hoon Sim

9:45 AM | **PD 96**

Vibration measurements of the gerbil eardrum under pressure sweeps

Orhun Kose; W. Robert J. Funnell; Sam J. Daniel

Mid-Morning Break

10:00 AM – 10:30 AM

Grand Ballroom Foyer

Neuroplasticity and Tinnitus – In Memory of Dr. Larry E. Roberts

Chairs: Susan E. Shore & Victoria M. Bajo

10:30 AM – 12:30 PM

Grand Ballroom 220C

10:45 AM | **SYMP 94**

Introduction and Tribute to Larry Roberts

Richard Salvi

11:00 AM | **SYMP 95**

Homeostatic and Timing-Dependent Plasticity following Cochlear Damage and their Association with Tinnitus in Animal Models

Susan E. Shore

11:15 AM | **SYMP 96**

Neural plasticity following Restricted Cochlear Deafferentation and Optogenetic Silencing of the Auditory Cortex.

Victoria Bajo

11:30 AM | **SYMP 97**

Auditory Thalamus and Tinnitus

Don M. Caspary

11:45 PM | **SYMP 98**

Measures of Tinnitus-Related Plasticity in Humans

Brandon T. Paul

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12:00 PM | **SYMP 99**

Residual Inhibition and Tinnitus in Animal Models
Alex Galazyuk

12:15 PM | **SYMP 100**

Reconciling Animal Studies with Tinnitus in Humans
Jos Eggermont

The Newborn Hearing Screen – Its History – Where We Are and Where We Should Be Going

Chairs: Jun Shen & Richard Smith

10:30 AM – 12:30 PM

Grand Ballroom 220A

10:30 AM | **SYMP 101**

Lessons Learned from 30 Years of Universal Newborn Hearing Screening
Karl White

11:00 AM | **SYMP 102**

National Coordination Center Newborn Hearing Screening Work Group Consensus and Plan to Implement Genetic Screening in the United States
Richard Smith

11:15 AM | **SYMP 103**

Nationwide Population Genetic Screening Improves Outcomes of Newborn Screening for Hearing Loss in China
Jun Shen

11:30 AM | **SYMP 104**

Concurrent Hearing and Genetic Screening of 180,469 Neonates with Follow-up in Beijing, China
Pu Dai

11:45 AM | **SYMP 105**

The Value of Genetic Screening: Lessons Learned in CMV Positive Screening and Followed by Genetic Testing

12:00 PM | **SYMP 106**

Sequencing a Baby for an Optimal Outcome: A Genomic Future for Newborn Screening
Anne Giersch

12:15 PM | **SYMP 107**

Panel Discussion

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Regeneration

Moderators: Melissa McGovern & Alan Cheng

10:30 AM – 12:30 PM

Grand Ballroom 220B

10:30 AM | **PD 97**

High Resolution Characterization of Transcriptional Responses during Zebrafish Hair Cell Regeneration

Sungmin Baek; Daniel Diaz; Tatjana Piotrowski

10:45 AM | **PD 98**

Ototoxic Damage Induces Interferon Signaling in Chicken Cochlear Epithelial Supporting Cells

Amanda Janesick; Mirko Scheibinger; Nesrine Benkafadar; Stefan Heller

11:00 AM | **PD 99**

Cross-Species Analysis of Gene Regulatory Networks Underlying Hair Cell Regeneration

Gurmanna Kalra; Brian Herb; Nesrine Benkafadar; Amanda Janesick; Beatrice Milon; Kevin Rose; Mirko Scheibinger; Michael Lovett; Tatjana Piotrowski; Stefan Heller; Ronna Hertzano; Neil Segil; Seth Ament; Peter G. Barr-Gillespie; Hearing Restoration Project

11:15 AM | **PD 100**

LATS, YAP, and TEAD Control of Proliferation in the Ear

Mark A. Rudolf; Mikolaj M. Kozlowski; Jeffrey T. Corwin

11:30 AM | **PD 101**

Ablation of Lgr5+ Cochlear Supporting Cells Induces Mitotic Regeneration by the Greater Epithelial Ridge

Tomokatsu Udagawa; Beatrice Milon; Patrick Atkinson; Yang Song; Elvis Huarcaya Najarro; Mirko Scheibinger; Ronna Hertzano; Alan Cheng

11:45 AM | **PD 102**

Conditional Inactivation of LSD1 Promotes Atoh1-mediated Hair Cell Conversion in Mouse Cochlea

Yan Zhang; Huizhan Liu; Sarath Vijayakumar; Cassidy Nguyen; David Z. He; Jian Zuo

12:00 PM | **PD 103**

LIN28B Controls the Regenerative Capacity of Cochlear Supporting Cells

Xiaojun Li; Angelika Doetzlhofer

12:15 PM | **PD 104**

RGMa Inhibition Promotes Synaptic Regeneration between Spiral Ganglion Neurons and Inner Hair Cells.

Jerome NEVOUX; Mihaela Alexandru; Thomas Bellocq; Lei Tanaka-Ouyang; Kohsuke Tani; Albert Edge

Behind the Scenes with Publication!

12:15 PM – 1:15 PM

Room 212B

Mentoring Session

12:15 PM – 1:15 PM

- **Job Search and Independence**
Room 211A
- **Mentor-Mentee Communication**
Room 211B
- **Teaching and Research**
Room 211C

International Committee

12:15 PM – 1:30 PM

Room 211D

Lunch (on own)

12:30 PM – 1:00 PM

Poster Session 4 - Open 24 hours

1:00 PM – 11:00 AM

Executive Ballroom

Age-Related Changes in Animal Models

PS 783

Preventing Presbycusis in Mice with Enhanced Medial Olivocochlear Feedback

Gonzalo B. Terreros; Luis E. Boero; Valeria C. Castagna; Sebastian Silva; Marcelo J. Moglie; Juan Maass; Paul Fuchs; Paul Delano; A. Belén Elgoyhen; M. Eugenia Gómez-Casati

PS 784

Exposure to a Temporally Modulated Augmented Acoustic Environment Alters Tonotopic Organization and Improves Gap Detection in IC Neurons in Old CBA/CaJ Mice

Luis Franco-Waite; Ryan Longenecker; terrance Jones; Rachal Love; Timothy Fawcett; Joseph P. Walton

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PS 785

Gene Expression and SVK-1 Cell Treatment Analyses of Connexin 30 and 43 in Relation to Age-Related Hearing Loss

Jennifer Pineros; Xiaoxia Zhu; Bo Ding; Robert D. Frisina

PS 786

Investigation of Mechanisms and Prevention of Age-Related Decline of Outer Hair Cell Function in Aging CBA/CaJ Mice: Ibuprofen Treatments

Parveen Bazard; Bo Ding; Xiaoxia Zhu; Thomas Parks; Parmvir Bahia; Thomas T. Clark; Robert D. Frisina

PS 787

Age-Related Hearing Loss in Zebrafish: Surprising Senescence in an Animal with Continuous Hair Cell Turnover

Allison Coffin; Riuyu Zeng; Coty Jasper; Phillip Uribe; Bonnie E. Jacques; Joseph Sisneros

PS 788

Age-Related Hearing Loss in CBA/CaJ Mice: Inflammatory Induced TNF α Changes in the Mouse Cochlea

Cody D. Spence; Bo Ding; Xiaoxia Zhu; Mark A. Bauer; Robert D. Frisina

PS 789

Expression Level Changes of Inflammatory and Apoptotic Biomarkers under Hydrogen Peroxide Stress in HEI-OC1 Cochlear Cells

Mark A. Bauer; Bo Ding; Xiaoxia Zhu; Robert D. Frisina

PS 790

Mechanisms of Protection from Premature Hearing Loss in Transgenic TFB1 Mice via Down-regulation the ROS-dependent Activation of AMPK Signaling

Jingjing Zhao; Gen Li; Nuno Raimundo; Hao Wu; Lei Song

PS 791

Metformin modulated lipid metabolism and attenuated AHL through activation of AMPK

Yanlin Xiao; Hanqing Lin

PS 792

RNA-seq Analysis of Potential lncRNAs for Age-Related Hearing Loss in a Mouse Model

Tong Zhao; Xiuzhen Liu; Zehua Sun; Jinjin Zhang; Xiaolin Zhang; Chaoyun Wang; Bo Li; Tihua Zheng; Qingyin Zheng

PS 793

Degradation and Modification of Cochlear Gap Junction Proteins in Early Development of Age-related Hearing Loss

Shori Tajima; Katsuhisa Ikeda; Kazusaku Kamiya

Auditory Brainstem II: Normal Hearing & Hearing Impairment

PS 794

Intrinsic Properties of Mouse MNTB Principal Neurons are Heterogeneous

Mackenna Wollet; Jun Hee Kim

PS 795

Effect of Inhibitory Synapses from the Medial Nucleus of the Trapezoid Body onto Medial Olivocochlear Efferent Neurons

Lester Torres Cadenas; Matthew Fischl; Catherine Weisz

PS 796

Investigation of Inhibitory Input and Synaptic Integration in Medial Olivocochlear Neurons using Novel Approaches In Vitro

Matthew Fischl; Catherine Weisz

PS 797

Plasticity of Ascending and Descending Inputs onto Medial Olivocochlear Efferent Neurons

Gabriel E. Romero; Laurence Trussell

PS 798

Fast Endocytosis and Dynamin Block at Auditory Brainstem Synapses

Andre Dagostin; Henrique von Gersdorff

PS 799

Modulations of Neural Action Potential Rates Can Influence Electrical Properties of Oligodendrocytes and Myelination of Individual Trapezoid Body Axons

Mihai Stancu; Ezhilarasan Rajaram; Hilde Wohlfrom; Tejbeer Kaur; Mark Warchol; Edwin W. Rubel; Conny Kopp-Scheinflug

PS 800

Urocortin 3 Provides Strength and Endurance to Calyces of Held tuned to Low Sound Frequencies within the Medial Nucleus of the Trapezoid Body (MNTB).

Sara Pagella; Ian D. Forsythe; Conny Kopp-Scheinflug

PS 801

Effects of NLX-101, a 5-HT_{1A} Serotonin Receptor Agonist, on the Auditory Brainstem Response of CBA/J Mice

Mackenzie Mills; Nikita Kumar; Robert Withnell; Laura M. Hurley

PS 802

Hyperreactivity to Loud Noise and Increased Anxiety-like Behaviors in Serotonin Transporter (SERT) Knockout (KO) Mice After Noise Exposure

Ye-Hyun Kim; James H. Engel; Mark Scotto Di Vetta; Amanda M. Lauer

PS 803

Synaptic NMDA currents and Short-Term Plasticity influence Spike Generation in Neurons of the Ventral Nucleus of the Lateral Lemniscus

Linda Fischer; Michael Rebhan; Nikolaos Kladisios; Christian Leibold; Felix Felmy

PS 804

Synaptic activity at the MNTB is disrupted in a mouse model with enhanced efferent olivocochlear system

Mariano N. Di Guilmi; Luis E. Boero; Valeria C. Castagna; Adrián Rodríguez-Contreras; Carolina Wedemeyer; M. Eugenia Gómez-Casati; A. Belén Elgoyhen

PS 805

Arrangement of Contact Sites from Single Excitatory Fibers on Medial Superior Olive Dendrites

Alexander R. Callan; Martin Heß; Christian Leibold; Felix Felmy

PS 806

Cochlear protection after noise exposure requires 5-HT_{3A} receptor via efferent feedback system

Kazuya Ohata; Makoto Kondo; Yukiko Hanada; Yoshiyuki Ozono; Takashi Sato; Hidenori Inohara; Shoichi Shimada

Auditory Brainstem: Functional Measurements

PS 807

Toward Improved Methods for Bone Conduction Auditory Brainstem Response Measurement

Andrew D. Brown; Aoi A. Hunsaker; Nathaniel T. Greene

PS 808**Effects of Aging and Language Background in Pitch Processing at the Brainstem Level**

Jiong Hu; Jennifer Henderson Sabes; Shuo Wang; Dongxin Liu

PS 809**A Proposal for Objective Measurement of Gap Detection Threshold by Auditory Steady-State Response**

Takashi Morimoto; Toshimasa Ebina; Yoh-ichi Fujisaka; Takashi Nonaka; Hidehiko Okamoto

PS 810**Sex Differences in Auditory Brainstem Response Audiograms from Vasopressin-Deficient and Wild-type Long-Evans Rats**

Payton E. Charlton; Kelcie C. Schatz; Kali Burke; Matthew J. Paul; Micheal L. Dent

PS 811**Broadband and Frequency-Specific Auditory Brainstem Responses to Ongoing Naturalistic Speech**

Melissa J. Polonenko; Ross K. Maddox

PS 812**Modeling Place Specificity in the Parallel Auditory Brainstem Response**

Thomas J. Stoll; Ross K. Maddox

PS 813**Sub-cortical Responses to Continuous Musical Pieces and Selective Auditory Attention**

Octave Etard; Rémy Ben Messaoud; Gabriel Gaugain; Tobias Reichenbach

PS 814**Subcortical Synchrony Drives Speech-in-noise Perception: Evidence from Multiple Cases of Auditory Neuropathy**

Travis White-Schwoch; Samira Anderson; Jennifer Krizman; Silvia Bonacina; Trent Nicol; Nina Kraus

PS 815**Human Discrimination of Binaural Cues in High-Frequency Complex Sounds Simulated with a Two-Channel Count Comparison Model.**

Jonas Klug; Jörg Encke; Go Ashida; Mathias Dietz

PS 816**Non-neural Artifact and Electrode Impedance Minimally Influence FFR Components**

Jennifer Krizman; Silvia Bonacina; Travis White-Schwoch; Trent Nicol; Nina Kraus

PS 817**Auditory brainstem response estimates of hearing in deer mice (genus *Peromyscus*)**

Laurel A. Screven; Madison M. Weinberg; Amanda M. Lauer

PS 818**Effect of Anesthetic Type and Concentration on Auditory Brainstem Response Parameters**

Noor-E-Seher Ali; Anthony Ricci

**Auditory Brainstem:
Molecules & Function**

PS 819**Comparison of Cochlear and Brainstem/Cortical Following Responses Evoked by Amplitude-modulated Tones in Normal-hearing Adults**

Jessica Chen; Skyler G. Jennings

PS 820**Molecular Characterization of the Olivocochlear Efferent System**

Michelle Frank; Austen Sitko; Lisa Goodrich

PS 821**A model with efferent gain control explains the time-varying responses of inferior colliculus neurons to amplitude-modulated stimuli**

Afagh Farhadi; Skyler G. Jennings; Elizabeth A. Strickland; Laurel H. Carney

PS 822**Low-Level Noise Increases Auditory Loudness and Temporal Processing**

Lin Shi; Katie Palmer; Yuying Liu; Haolin Wang; Wei Sun

PS 823**Evidence for Two Octopus Cell Subtypes: an in vivo Single-Cell Recording and Labeling Study**

Hsin-Wei Lu; Philip Smith; Philip Joris

PS 824**Investigating Potential Mechanisms for Enhancement of Synchronization in Bushy Cells of the Ventral Cochlear Nucleus**

Melih Yayli; Ian C. Bruce

PS 825

Bushy Neurons of the Anteroventral Cochlear Nucleus in Mice Show Different Response Types In Vitro to Auditory Nerve Stimulation

Meijian Wang; Ruili Xie

PS 826

Temporary Treatment With a Colony Stimulating Factor 1 Receptor Inhibitor Early in Development Affects Auditory Brainstem Response in Young Adult Mice

Giedre Milinkeviciute; Sima M. Chokr; Jasmine T. Lu; Aaron Gudmundson; Karina S. Cramer

**Auditory Cortex:
Neural Mechanisms**

PS 827

Functional Connectivity of Interneuron Subtypes in Layer 1 of the Mouse Primary Auditory Cortex

Lucas G. Vattino; Carolyn G. Sweeney; Ana C. Castro; Benjamin M. Glickman; Anne E. Takesian

PS 828

Noise-Induced Neuroinflammation Contributes to Central Auditory Processing Disorder

Weihua Wang; Samer Masri; Nakayla Chan; Tyler Marsh; David Schaub; Li Zhang; Jinsheng Zhang; Shaowen Bao

PS 829

Synaptic Zinc Shapes the Sound-Evoked Responses of Corticocollicular Neurons in the Auditory Cortex

Mason McCollum; Philip Bender; Charles T. Anderson

PS 830

Long-Range Projecting Inhibitory Neurons in Primary Auditory Cortex

Christine Junhui Liu; Benjamin M. Glickman; Lucas G. Vattino; Ana C. Castro; Anne E. Takesian

PS 832

Cellular and synaptic signaling mechanisms underlying increased cortical gain after noise-induced hearing loss in mice

Manoj Kumar; Thanos Tzounopoulos

PS 833

Histological Cortical Depth Profiles for Microstructural Analysis of Feline Auditory Cortex

Kwame S. Kutten; Lea Sollmann; Peter Hubka; Jenny Trieu; Daniel J. Tward; Laurent Younes; Andrej Kral; J. Tilak Ratnanather

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Mice Like It Rough

*Olivier Postal; Typhaine Dupont; **Warren M. Bakay**; Noémi Dominique; Christine Petit; Nicolas Michalski; Boris Gourévitch*

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Coding of Azimuthal Sound Position Across Primary and Secondary Regions of Ferret Auditory Cortex

Jonatan Nordmark; Agnes Landemard; Celian Bimbard; Yves Boubenec; Shihab Shamma

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Encoding of Acoustical and Behavioural Information by Auditory Cortical Neurons

*Amy Hammond-Kenny; Victoria M Bajo; Andrew J King; **Fernando R Nodal***

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Context-dependent Encoding of Sounds in Primary Auditory Cortex

*Rémi Proville; Mehdi Rousset; Chris Rodgers; **Yves Boubenec***

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Non-invasive Measures of Temporal Pitch Processing in an Animal Model using the Acoustic Change Complex (ACC) and Frequency Following Response (FFR)

Matthew L Richardson; Francois Guerit; Andrew J. Harland; Robin Gransier; Jan Wouters; Robert P. Carlyon; John C. Middlebrooks

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Multisensory Responses in Primary Auditory Cortex of the Cat

Catherine Boucher; Xiaohan Bao; Yaser Merrikhi; M. Alex Meredith; Stephen G. Lomber

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Tones Masked by Noise Bands in an Animal Model: Psychophysics and EEG

John C. Middlebrooks; Matthew L Richardson; Francois Guerit; Robert P. Carlyon

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Comparisons of Responses to Broadband Noise Sounds Between the Core and Parabelt Regions in Macaques

John Orczyk; Troy A. Hackett; Charles E. Schroeder; Yoshinao Kajikawa

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Selective Spatial Tuning of Neurons in Auditory Cortex during a Freely Moving Sound Source Localization Task

Diana Amaro; Michael Pecka

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Spatiotemporal Activation Patterns of the Auditory Cortex of the Free-Tailed Bat Provide a Mechanism for Ensemble Coding of Vocal Repertoire.

Silvio Macias; Kushal Bakshi; Michael Smotherman

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The Sound of Silence: Responses to Omitted Tones in the Auditory System.

Ana B. Lao-Rodríguez; David Pérez-González; Gloria G. Parras; Manuel S. Malmierca

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Spectrotemporal Response Properties of Primary Auditory Cortex in the Free-tailed Bat, *Tadarida brasiliensis*.

Silvio Macias; Kushal Bakshi; Todd Troyer; Michael Smotherman

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Cortical Consequences of Cochlear Implant Insertion: an Electrophysiological Study in The Primary Auditory Cortex of Guinea Pig.

Elie Partouche; Victor Adenis; Dan Gnansia; Pierre Stahl; Jean-Marc Edeline

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Responses of Auditory and Frontal Cortices during Sound Source Segregation

Neha H. Joshi; Daniel Duque; Jonathan B. Fritz; Andrew J. Oxenham; Shihab A. Shamma

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Effects of Arousal on Population Coding of Natural Sounds in Primary Auditory Cortex

Charles Heller; Daniela Saderi; Zachary Schwartz; Stephen V. David

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A Distributed Network of Noise-Resistant Neurons in the Central Auditory System

Samira Souffi; Chloé Huetz; Christian Lorenzi; Jean-Marc Edeline

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M. Torben Pastore; William Yost

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Leslie R. Bernstein; Constantine Trahiotis

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Audiovisual Training Rapidly Improves Sound Localization With Earplugs

David J. Audet; William O. Gray; Andrew D. Brown

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Lindsey Ryan-Warden; Eva Ng; Peter Keating

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Andrea Lingner; Michael Pecka; Benedikt Grothe

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Roland Fergner; Miguel Vivar; José L. Peña

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Monica L. Folkerts; G. Christopher Stecker

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Modeling “Straightness” Versus “Briefness:” Do Adapting Neural Models Account for Temporal Weighting and Bandwidth Effects on Binaural Sensitivity?

G Christopher Stecker

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Going Beyond ILD-Vector (Interaural Level Difference) Processing For Localization To Also Solve Multiple Source Separation And Source Streaming; The Needed Biology

Mark S. Riggle

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Deep Neural Networks as Models of Real-World Human Sound Localization

Andrew Francis; Martha Gahl; Josh H. McDermott

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Eye Movement Decoded from Eardrum Motion: The Decipherable EMREO

David Murphy; Cynthia King; Rachel Landrum; Stephanie Schlebusch; Christopher Shera; Jennifer Groh

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Cindy King; David Murphy; Stephanie Schlebusch; Rachel Landrum; David Kaylie; Christopher A. Shera; Jennifer Groh

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Colton Clayton; Yi Zhou

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Stimulus-Specific Information on Sound Azimuth Conveyed by Gerbil Collicular Neurons

Shigeto Furukawa; Katuhiro Maki

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The role of group II mGluRs in spontaneous and sound-evoked firing modulation in the mouse IC

Inga Kristaponyte; Nichole L. Beebe; Jesse Young; Brett R. Schofield; Alexander V. Galazyuk

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Sound Processing by VIP Neurons in the Mouse Inferior Colliculus

David Goyer; Marina A. Silveira; Alexander P. George; Nichole L. Beebe; Brett R. Schofield; Michael T. Roberts

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The Role of the Auditory Cortico-collicular Pathway in Deviance Detection in the Inferior Colliculus of Awake Mice

Alexandria Lesicko; Maria Geffen

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Syed Anam Asim; Sarah Tran; Pamela Stark; Huiming Zhang

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Gamma Oscillations Across the Barn Owl's Midbrain Auditory Space Map

Andrea J. Bae; Keanu Shadron; Roland Ferger; José L. Peña

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Cholinergic Signaling Modulates the Excitability of VIP Neurons in the Mouse Inferior Colliculus via Nicotinic Acetylcholine Receptor-Dependent Mechanisms

Luis M. Rivera-Perez; Kevin O. Cruz-Colon; Michael T. Roberts

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Responses to Tones Masked by Gaussian or Low-Noise Noise in the Inferior Colliculus of Awake Rabbits

Langchen Fan; Kenneth S. Henry; Laurel H. Carney

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NPY neurons and NPY signaling in the mouse inferior colliculus

Marina A. Silveira; Justin Anair; Nichole L. Beebe; Brett R. Schofield; Michael T. Roberts

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Baher A. Ibrahim; Yoshitaka Shinagawa; Alexander R. Asilador; Daniel A. Llano

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Neural Coding of Pitch Cues in the Auditory Midbrain of Unanesthetized Rabbits

Yaqing Su; Bertrand Delgutte

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PS 883**Dopamine Gates Prediction Errors in the Auditory Midbrain***Guillermo V. Carbajal; Catalina Valdés-Baizabal; David Pérez-González; Manuel S. Malmierca***PS 884****Temporal coding deficits of AM tones in IC neurons of mice lacking the $\alpha 2\delta 3$ Ca²⁺ channel subunit***Katrin Hegmann; Gerhard Bracic; Jutta Engel; Simone Kurt***Development II****PS 885****Growth and cellular patterning during fetal human inner ear development studied by a correlative imaging approach***Lejo Johnson Chacko; David Wertjanz; Consolato Sergi; Jozsef Dudas; Natalie Fischer; Theresa Eberharter; Romed Hoermann; Rudolf Glueckert; Helga Fritsch; Helge Rask-Andersen; Anneliese Schrott-Fischer; Stephan Handschuh***PS 886****Early appearance of key transcription factors influence the spatio-temporal development of the human inner ear***Lejo Johnson Chacko; Consolato Sergi; Theresa Eberharter; Jozsef Dudas; Helge Rask-Andersen; Romed Hoermann; Helga Fritsch; Natalie Fischer; Rudolf Glueckert; Anneliese Schrott-Fischer***PS 887****Identifying Parallels in the Mechanisms of Hearing and Deafness Between the Fruit Fly, *Drosophila melanogaster*, and Humans***Daniel Sutton; Jonathan Andrews; Shinya Yamamoto; Andrew K. Groves***PS 888****Cochlear development of a Non-Human primate model animal, Common Marmoset***Makoto Hosoya; Masato Fujioka; Kaoru Ogawa***PS 889****The gEAR Portal – Inner Ear scRNA-seq & Epigenetic Data Made Accessible***Joshua Orvis; Brian Gottfried; Jayaram Kancherla; Kevin Rose; Yang Song; Amiel A. Dror; Beatrice Milon; Hector C. Bravo; Anup A. Mahurkar; Ronna Hertzano*

PS 890**In silico Analysis of the Otocyst Development using Published Single Cell RNA-sequencing Data***Ryosuke Yamamoto; Hiroe Ohnishi; Takayuki Nakagawa; Koichi Omori; Norio Yamamoto***PS 891****Comprehensive Single Cell RNAseq Analysis of the Neonatal Murine Utricle***Taha Jan; Yasmin Eltawil; Daniel Ellwanger; Stefan Heller; Alan Cheng***PS 892****Optimized Clustering and Dichotomous Testing of scRNA-Seq Data for Analysis of Human Inner Ear Organoids***Daniel R. Romano; Takashi Nakamura; Eri Hashino***PS 893****Sensory Cells of Amniote Cochleas are susceptible to Zika Virus Infection***Vidhya Munnamalai; Nabilah Sammudin; Caryl Young; Ankita Thawani; Richard Kuhn; Donna Fekete***PS 894****Caspase-3 Cleaves Extracellular Vesicle Proteins During Auditory Brainstem Development***Forrest Weghorst; Yeva Mirzakhanyan; Kian Samimi; Mehron Dhillon; Melanie Barzik; Lisa L. Cunningham; Paul D. Gershon; Karina S. Cramer***PS 895****Roles of Tubby in the Formation of Stereociliary Links and Hearing Function***Jeong-Oh Shin; Woongsu Han; Ji-Hyun Ma; Hye Hyun Min; Jinsei Jung; Jinu Lee; Un-Kyung Kim; Jae Young Choi; Seok Jun Moon; Dae Won Moon; Chul Hoon Kim; Jinwoong Bok***PS 896****ADF and Cofilin Link Mechanotransduction to Actin Remodeling in Developing Stereocilia***Jamis McGrath; Chun-Yu Tung; Inna A. Belyantseva; Pallabi Roy; Melanie Barzik; Bo Zhao; Thomas B. Friedman; Benjamin Perrin***PS 897****Stereociliary Bundle Reorientation in the Absence of PCP Signaling and Proper Tectorial Membrane Development***Justin Nemelka; Sungjin Park; Michael Deans*

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Short Stature Homeobox 2 Contributes to a Subpopulation of Zebrafish Statoacoustic Ganglion
Alejandra Laureano; Kathleen Flaherty; Anna-Maria Hinman; Kelvin Y. Kwan

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CAMSAP3 is Required for Mucus Clearance in the Middle Ear
Jing Zheng; Alan Robinson; Yingjie Zhou; Mary Ann Cheatham

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Extracellular ATP Promotes Embryonic Spiral Ganglion Neuron Branch Dynamics via P2X3 Receptors
Zhirong Wang; Travis Babola; Johnny Jung; Katherine Rangoussis; Talya Inbar; Christian Faaborg-Andersen; Dwight E. Bergles; Thomas Coate

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Molecular and Physiological Profiles of Spiking Oligodendrocytes in the Developing Auditory Brainstem
Elizabeth Gould; Jun Hee Kim

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Microglia and Fractalkine Signaling in Multimodal Midbrain Circuit Assembly
Cooper A. Brett; Mark L. Gabriele

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FMRP expression in the auditory ganglion regulates the development of auditory nerve projections within the cochlear nucleus
Xiaoyu Wang; Diego Zorio; Yuan Wang

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Role of GABA Co-transmission in the Developmental Refinement of the MNTB-LSO Pathway
Jongwon Lee; Brian Brockway; Karl Kandler

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Anatomical Characterization of Developing Olivocochlear Efferent Neurons
Austen Sitko; Michelle Frank; Lisa Goodrich

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Robust Development of Auditory Brainstem Responses in Pups from Different Maternal Backgrounds Suggest Intrinsic Developmental Programs Control Hearing Onset in Wistar Rats.
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Spiral Ganglion Neurons with Distinct Preferred Frequency Response Employ Different Strategies to Innervate the Cochlear Nucleus
Chloe Borcean; Samiha Mohammed; Annie Parnig; Hyun-Ju Yoon; Jennifer Scheffel; Darwin Gutierrez; Wei-Ming Yu

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Complement Receptor Expression with Respect to Emerging Modular-Extramodular Framework of the Lateral Cortex of the Inferior Colliculus
Julianne B. Carroll; Jacob M. Weakly; Mark L. Gabriele

Hair Cell Synaptic Transmission

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Using Spike-Triggered Average to Investigate the Response of Afferent Neurons in the Lateral Line System of Zebrafish
James C. Liao; Otar Akanyeti

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Modified Cochlear Surface Preparation in the Adult Mouse
Qiaojun Fang; Shan Xu; Fan Wu; Su-Hua Sha

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John Lee; Carl Nist-Lund; Gwenaelle S. Geleoc; Jeffrey R. Holt

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In Vestibular Type I Hair Cells, Permeation Through the Basolateral Potassium Conductance, GK(LV), is Regulated by Interactions Between the Selectivity Filter and External Monovalent and Divalent Ions
Donatella Contini; Gay R. Holstein; Jonathan Art

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Donatella Contini; Gay R. Holstein; Jonathan Art

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Aravind Chenrayan Govindaraju; Imran Quraishi; Anna Lysakowski; Ruth Anne Eatock; Robert M. Raphael

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STORM Imaging Reveals Calcium Nanodomains in Proximity to BK Channels in Hair Cells of the Mouse and Chick

Na Xue; Omolara Lawal; Junping Bai; Joseph Santos-Sacchi; Dhasakumar Navaratnam

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Cell-specific Quantification of Ion Channel Transcription upon Cochlea-Specific Ablation of Cav1.3 Calcium Channels

Stephanie Eckrich; Friederike Stephani; Jutta Engel

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High Extracellular K⁺ Causes Ribbon Synapse Degeneration in the Inner Hair Cells

Hong-Bo Zhao; Yan Zhu; Li-Man Liu

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Age-Related Structural and Functional Changes at Auditory Hair Cell Ribbon Synapses

Thibault Peineau; Séverin BELLEUDY; Yohan Bouleau; Didier Dulon

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Effects of Acoustic Trauma on Neurotransmitter Release by Inner Hair Cells

Luis E. Boero; Shelby Payne; Eugenia Gómez-Casati; Mark Rutherford; Juan Goutman

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Characterization Of HA-Tagged $\hat{I}\pm 9$ And $\hat{I}\pm 10$ nAChRs In The Mouse Cochlea

Pankhuri Vyas; Adam Goldring; Megan B. Wood; Yuan-Yuan Zhang; Paul Fuchs; Hakim Hiel

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Deletion of Mtu1 (Trmu) in zebrafish revealed the essential role of tRNA modification in mitochondrial biogenesis and hearing function.

Qinghai Zhang; Min-Xin Guan

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SBF-SEM Reveals a Unique, Networked Mitochondrial Phenotype in Hair Cells of the Zebrafish Lateral Line

Andrea L. McQuate; David W. Raible

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Using Zebrafish to Understand the Role and Subcellular Localization of Gap Junctions In Vivo

Alisha Beirl; Katie Kindt

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Aziz El-Amraoui; Lucy A DUNBAR; Pranav Patni; Sedigheh Delmaghani; Carlos Aguilar; Sandrine VITRY; Andrew Parker; Maureen WENTLING; Sylvie Nouaille; Andrea Lelli; Christine Petit; Sally Dawson; Walter Marcotti; Steve Brown; Michael Bowl*

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Isolation of USH1F Protein Complexes from Purified Hair Cell Stereocilia

Clive P. Morgan; Jocelyn F. Krey; Peter G. Barr-Gillespie

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USH2A and ADGRV1 Expression in Mammalian Cells and Their in vitro Interaction

Dongmei Yu; Jun Yang

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Characterizing the Role of the Mouse Deafness Gene Baiap2l2 in Hair Bundle Development

Julia Halford; Paroma Chatterjee; Sherri M. Jones; Matthew R. Avenarius; Peter G. Barr-Gillespie

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Transcription Co-Factor LBH Is Necessary for Maintenance of Stereocilia Bundles and Survival of Cochlear Hair Cells

Yi Li; Kimberlee Giffen; Huizhan Liu; Grati M'Hamed; Xuezhong Liu; Karoline Briegel; David Z. He

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GIPC3 is Essential For Normal Development of Hair Bundles and Cuticular Plates of Cochlear Hair Cell Stereocilia

Paroma Chatterjee; Connor Benson; Clive P. Morgan; Peter G. Barr-Gillespie

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Dynamin 3 Is Necessary for Maintaining the Dynamic Structure and Mechanics of Stereocilia Bundles of Cochlear Outer Hair Cells

Huizhan Liu; David Z. He

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Constitutive activation of Dia1 induces hair cell vulnerability via attenuated integrity of apical junctional complexes and stereocilia

Yuzuru Ninoyu; Hirofumi Sakaguchi; Chen Lin; Hiroaki Mohri; Naoaki Saito; Takehiko Ueyama

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Molecular Predictions for a CNGA3/CNGB1a Channel and its Membrane Guanylyl Cyclase Pathway Targeting Rhodopsin in Hair Cells

Marian J. Drescher; Neeliyath A. Ramakrishnan; Dennis G. Drescher

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Effects of Chloroquine on Hair Cells: Implications for Ototoxicity Monitoring

Samantha N. Davis; Patricia Wu; Esra D. Camci; Edwin W. Rubel; David W. Raible

Inner Ear Therapeutics II

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Morphologic changes of stem cells transplanted into scala media induced by photobiomodulation

So-Young Chang; Nathaniel Carpena; Jae Yun Jung; Hosup Shim; Ji Eun Choi; Phil-Sang Chung; Min Young Lee

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Cool Otoprotective Outer ear Lavage (COOL) Therapy for Cisplatin Induced Hearing Loss

James Stanford; Drew Morgan; Nicholas Bosworth; Punam Thapa; Tianwen Chen; Georgio Proctor; Bradley J. Walters; Douglas E. Vetter; Robert Black; Lesco Rogers; Christopher Spankovich

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Transient Application of a Potent and Specific KCNQ2/3 Activator, RL_81, Protects Against Noise-Induced Hearing Loss, but Not Against Age-Related Hearing Loss (AHL)

Laura Marinos; Bryce Hambach; Thanos Tzounopoulos

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Development of Dual-Action Topical Therapeutics for Cytomegalovirus-Induced Hearing Loss

Elizabeth Arrigali; Monica Serban

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Protective properties of Pre- and Post-treatment of Dexamethasone Against Kanamycin Induced Ototoxicity in the mouse: ex vivo model.

Jeong Eun Park; Young Joon Seo; Sung Kyun Kim

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Chemokine Receptors, CXCR1/2, Serve as Novel Targets for Treating Cisplatin Ototoxicity

Raheem Al Aameri; Asmita Dhukhwa; Sandeep Sheth; Debashree Mukherjea; Leonard Rybak; Vickram Ramkumar

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The Combinatorial Otoprotective Approach to Cisplatin Ototoxicity

Nicole Febles; Robert D. Frisina; Bo Ding; Nathan D. Gallant

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Harnessing the Power of Exosomes to Mediate Sensory Hair Cell Protection in the Inner Ear

Melanie Barzik; Andrew M Breglio; Lindsey A. May; Nora C. Welsh; Shimon P. Francis; Tucker Q Costain; Lizhen Wang; D. Eric Anderson; Ronald S. Petralia; Ya-Xian Wang; Thomas B. Friedman; Matthew JA Wood; Lisa L. Cunningham

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High-Throughput in silico Screening Identified JAK Inhibitors in Preventing Gentamicin Induced Hearing Loss

Zhuo Li; Hao Feng; Marisa Zallocchi; Kan Lin; Jonathan Fleegel; Jian Zuo

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Evaluation of the Otoprotective Properties of Dexamethasone and Sodium Thiosulfate in Response to Cisplatin Treatment of Lateral-Line Neuromasts in Larval Zebrafish

Angela Schrader; Allison Saettele; Mark Warchol; Lavinia Sheets

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Small Molecule B-Raf inhibitors Protect Cochlear Hair Cells from Cisplatin Toxicity

Lauryl E. Caster; Matthew A. Ingersoll; Eva M. Holland; Emma A. Malloy; Duane Currier; Jaeki Min; Taosheng Chen; Jian Zuo; Tal Teitz

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Effect of L-N-acetylcysteine and Dexamethasone in an in vitro Model of Inner Ear Trauma

Rahul Mittal; David Shahal; Viraj Shah; Dibyanshi Mishra; Camron Davies; Rahul Sinha; Carolyn Garnham; Jeenu Mittal; Adrien A. Eshraghi

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Does Overexpression of the Transcription Factor Pou4f3 Protect Against Noise-induced Hearing Loss?

Jarnail Singh; Michelle R. Randle; Chantz A. Pinder; Luyi Zhou; Brandon C. Cox

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Quinoxaline, its Derivatives, and Application in Otoprotection

Sonia Rocha-Sanchez; Umesh Pyakurel; Shikha Tarang; Santanu Hati; Hazel Taylor; David Z. He; Huizhan Liu; Jian Zuo; Marisa Zallocchi

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Ebselen Attenuates Amikacin-Induced Ototoxicity in Mice

Rende Gu; Ryan Longenecker; Jennifer Homan; Jonathan Kil

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Histological, Physiological, and Behavioral Evidence of Ebselen Mediated Otoprotection in a Mouse Model of Noise-Induced Hearing Loss

Ryan Longenecker; Jennifer Homan; Rende Gu; Jonathan Kil

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Absence of Endolymphatic Sac Ion Transport Proteins in Large Vestibular Aqueduct Syndrome

Andreas H. Eckhard; David Bächinger; MengYu Zhu; Jennifer T. O'Malley; Diane Jones; Barbara J. Burgess; Joseph B. Nadol

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Identification of Proteins that Interact with Slc26a4 in Endolymphatic Sac Epithelium

Hyun Jae Lee; Juleh Eide; Cristina Fenollar-Ferrer; Andrew Griffith; Isabelle Roux

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Pericytes are vital for mature vascular stability and hearing

*Jinhui Zhang; Xiaohan Wang; Zhiqiang Hou; Lingling Neng; Han Jiang; George W. Burwood; Junha Song; Manfred Auer; **Xiaorui Shi***

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Acoustic trauma causes strial vascular degeneration and regional pericyte transition: exogenous pericyte transplantation attenuates the vascular decline

*Zhiqiang Hou; Lingling Neng; Jinhui Zhang; Jing Cai; Xiaohan Wang; Ivan Lopez; **Xiaorui Shi***

PS 954

Hearing Loss in Congenital CMV Infection: Endocochlear Potential and Lateral Wall Function are Preserved Despite Rampant Inflammation

Keiko Hirose; Song-Zhe Li; Jared J. Hartsock

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Suppression of connexin 43 leads to strial vascular hyper-permeability, endocochlear potential drop, and hearing loss

*Jinhui Zhang; Xiaohan Wang; Zhiqiang Hou; Lingling Neng; Jing Cai; Han Jiang; **Xiaorui Shi***

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In-depth Proteome of Perilymph in Guinea Pig Model

Yu-Jung Hwang; Jung-Hun Lee; Hye Lee; Dohyun Han; Myung-Whan Suh; Seung-Ha Oh

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Time Course of Blood-Labyrinth Barrier Compromise Following Cochlear Implantation

Alec N. Salt; Daniel Smyth; Jared J. Hartsock

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Comprehensive analysis of N-glycan in the epithelial-like tissue of the mammalian cochlea

Yoriko Nonomura

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The organization of the vasculature in the normal and pathological inner ear: Healthy vasculature is important for a healthy hearing

Ivan A. Lopez; Gail P. Ishiyama; Dora Acuna; Xiaorui Shi; Akira Ishiyama

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Further Application of Light Sheet Microscopy of the Gerbil Cochlea

Kendall A. Hutson; Stephen H. Pulver; Douglas C. Fitzpatrick

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In vivo live image of mouse cochlear using two photon microscopy

Seong Hoon Bae; Sang Hyun Kwak; Jinsei Jung

PS 962

A Novel 3D-Printed Head Holder for Guinea Pig Ear Surgery

Chris Valentini; Young Jae Ryu; Betsy Szeto; Michelle Yu; Jeffrey W. Kysar; Anil K. Lalwani

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Biophysical Model of ATP Dependency of Ion Transport by Marginal and Vestibular Dark Cells

Julia Lasater; Robert M. Raphael

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Novel 3D-Printed Hollow Microneedles Can Facilitate Safe and Reliable Aspiration of Perilymph for Proteomic Analysis

Betsy Szeto; Chris Valentini; Aykut Aksit; Michelle Yu; Emily G. Werth; Lewis M. Brown; Elizabeth Olson; Jeffrey W. Kysar; Anil K. Lalwani

Inner Ear: Synapses & Auditory Nerve

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Probing the Role of Neuroligins 1 and 3 among the Cochlear Synapses

Miguel A. Ramirez; Jeffrey N. Savas

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The Role of CaBP1 and 2 in Hair Cell Synaptic Function

David Oestreicher; Vladan Ranković; Tina Pangršič

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Hearing function and ribbon synapses in mice lacking Slack channels after mild to moderate noise trauma

Pauline Schepsky; Kerstin Blum; katharina Sorg; Dietmar Hecker; Robert Lukowski; Bernhard Schick; Peter Ruth; Simone Kurt; Jutta Engel

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Na⁺ Accumulation in Dendritic Projections Occur in the Absence of Na⁺- Activated K⁺ Channels and Reduce Action Potential Conduction Velocity

Seojin Park; Maria Cristina Perez-Flores; Jeong Han Lee; Mincheol Kang; Xiao-Dong Zhang; Hannah A Ledford; Nipavan Chiamvimonvat; Victor Matveev; Ebenezer N. Yamoah

PS 969**The Differential Firing Pattern of Type II Spiral Ganglion Neurons**

Maria Cristina Perez-Flores; Jeong Han Lee; Seojin Park; Mincheol Kang; Yingying Chen; Ebenezer N. Yamoah

PS 970**Distribution of Inner Hair Cell Efferent Synapses in the Murine Cochlea Across the Life Span**

Anna Dondzillo; Hiroki Takeda; Samuel P. Gubbels

PS 971**Neurotrophin 3 (NT3) Expression by Cochlear Supporting Cells Modulates Gap Detection and Neuronal Activity in the Dorsal Cochlear Nucleus**

Lingchao Ji; Calvin Wu; David T. Martel; M. Charles Liberman; Susan Shore; Gabriel Corfas

PS 972**Position Dependence of Synaptic Volume in the Organ of Corti under Different Conditions**

Jay A. Gantz; Jason Carlquist; Babak V-Ghaffari; Mark Rutherford

PS 973**Three-dimensional electron microscopy of inner hair cell synapse and afferent morphology from hearing onset to maturation**

Shelby Payne; Natalie Skigen; Jason Carlquist; Sonali Gattani; Guhan Iyer; Bethany Davis; Honey Patel; Allison Schwed; Heather Chung; Matt Nester; Atri Bhattacharyya; Mark Rutherford

PS 974**Electrophysiological Markers of Cochlear Nerve Function Correlate with Hearing-In-Noise Performance among Audiometrically Normal Subjects.**

Kelsie J. Grant; Anita M. Mepani; Kenneth E. Hancock; M. Charles Liberman; Stéphane F. Maison

PS 975**Speech Evoked Electrocochleography- Preliminary Findings in Humans**

William J. Riggs; Meghan M. Hiss; Varun Varadarajan; Jameson K. Mattingly; Edward Dodson; Aaron C. Moberly; Oliver F. Adunka

PS 976**Probable Cochlear Synaptopathy in Cochlear Implant Subjects**

Douglas C. Fitzpatrick

Ototoxicity II

PS 977

TLR4 and MyD88 Activation of TRPV1 Modulates Cellular Uptake of Aminoglycosides

Farshid Taghizadeh; Meiyang Jiang; William B. Meier; Peter S. Steyger

PS 978

Using Zebrafish to Correlate Hair-Cell Presynaptic Activity and Ototoxin Resistance

Daria Lukasz; Katie Kindt

PS 979

Studying Cisplatin Toxicity Using a Fluorescently Tagged Platinum Compound in Zebrafish and Mouse Hair Cells

Patricia Wu; Esra D. Camci; Roberto Ogelman; Matthew Hall; Lisa L. Cunningham; Julian A. Simon; Edwin W. Rubel; David W. Raible

PS 980

The interaction of TRL7 with TRPA1 drives hyperexcitability cell death modulated by miRNA let-7b in auditory cells

Ken Hayashi; Yuna Suzuki; Akihiro Kishino; Fumiyuki Goto; Kaoru Ogawa

PS 981

Cisplatin-Induced Loss of Hair Cells in Zebrafish Neuromasts is Accompanied by Nitration and Degradation of LMO4

Monazza Shahab; Rita Rosati; Samson Jamesdaniel

PS 982

The Response of Cochlear Microglia-Like Cells to Ototoxic Challenge in Different Strains of Wildtype Mice

Liana Sargsyan; Alisa Hetrick; Yongchuan Chai; Hongzhe Li

PS 983

Reformulating Gentamicin to Reduce Ototoxicity and Maintain Antimicrobial Activity

Mary E. O'Sullivan; Randy Lin; Robert Greenhouse; Alan Cheng; Anthony Ricci

PS 984

Identification of a Cyclodextrin Effective for Treating Niemann-Pick type C Disease Without the Ototoxicity of Currently Used 2-Hydroxypropyl-beta-cyclodextrin.

Anna M. Taylor; Karen S. Pawlowski; Joyce J. Repa

PS 985

Major differences in 2-hydroxypropyl-beta-cyclodextrin ototoxicity in adult and postnatal rats
Dalian Ding; Senthilvelan Manohar; Haiyan Jiang; Richard Salvi

PS 986

Ototoxicity Profile of Platinum-based Chemotherapy Drugs in Mice

Benjamin K. Gersten; Katharine Fernandez; Tracy S. Fitzgerald; Lisa L. Cunningham

PS 987

Deletion of LMO4 in Mouse Inner Ear Enhances Susceptibility to Cisplatin-Induced Ototoxicity

Rita Rosati; Monazza Shahab; Samson Jamesdaniel

PS 988

Correlating Growth Inhibitory Effects of Sisomicin Analogs to their Uptake into Gram-Negative Bacteria

Randy Lin; Mary E. O'Sullivan; Hasan DeMirci; Alan Cheng; Anthony Ricci

Outer Hair Cells

PS 989

Vesicle Traffic in Outer Hair Cells

Csaba Harasztosi; Entcho Klenske; Anthony W. Gummer

PS 990

Oncomodulin Alters the Time Course of Transient Calcium Signaling in Cochlear Outer Hair Cells

Yang Yang; Kaitlin Murtha; Leslie Climer; Dwayne D. Simmons

PS 991

Macro-Patch Studies on Outer Hair Cell Nonlinear Capacitance

Joseph Santos-Sacchi; Winston Tan

PS 992

Synaptic Calcium Signals in Cochlear Outer Hair Cells

Marcelo J. Moglie; Ana Belén Elgoyhen; Juan Goutman

PS 993

Microtubule-Associated Protein 1S (MAP1S) is Required for Normal OHC Electromotility and Hearing

Winston Tan; Jun-Ping Bai; Alexei Surguchev; Joseph Santos-Sacchi; Dhasakumar Navaratnam

PS 994**Nonlinear Capacitance in Voltage-Clamp and Temperature-Clamp***Richard D. Rabbitt***PS 995****Kv7.4 Channel Exhibits Electromechanical Properties in Cochlear Outer Hair Cells***Maria Cristina Perez-Flores; Jeong Han Lee; Seojin Park; Mincheol Kang; Xiao-Dong Zhang; Choong-Ryoul Sihm; Hannah A Ledford; Wenyang Wang; Nipavan Chiamvimonvat; Richard D Rabbitt; Ebenezer N. Yamoah***PS 996****Local electrostatics control electromotile conformational transitions of Prestin/SLC26A5***Dominik Lenz; Julia Hartmann; Dominik Oliver***PS 997****Frequency dependence of prestin: intrinsic transition rates and viscoelastic relaxation***Kuni H. Iwasa***PS 998****A mouse model for studying regulation of cochlear amplification by chloride***Vijay Renigunta; Dominik Lenz; Julia Hartmann; Michael G. Leitner; Dominik Oliver***PS 999****Progress in SLC26A6 (A6) Structural Studies by Cryo-EM***Alexei Surguchev; Alberto Rivetta; Jun-Ping Bai; Frederick Sigworth; Dhasakumar Navaratnam; Joseph Santos-Sacchi*

Plasticity After Hearing Loss or Restoration

PS 1000**Four Historical Pediatric Case Reports Which Resulted in Major Advances in the Understanding and Care of Communication Disorders***Robert J. Ruben***PS 1001****Central Gain in the Human Auditory System: Investigations in "Normal Hearing" and in Tinnitus***Kelsey Dougherty; Alexandra Mai; Anna Hagedorn; Hari Bharadwaj*

PS 1002

Auditory Processing Remains Vulnerable to Prolonged Developmental Hearing Loss After the Critical Period

Kelsey L. Anbuhi; Todd M. Mowery; Dan H. Sanes

PS 1003

Neural Mechanisms underlying Speech Level Processing in Hearing Loss

Chengjie G. Huang; Nicholas A. Lesica

PS 1004

Accelerated Hippocampal Neurodegeneration in a Mice Model of Noise-induced Hearing Loss is Associated with Microglial Alterations

Hong Zhuang; Jing Yang; Zhihuil Huang; Hongyu Zhang; Haiqing Liu; Xiaobo Li; Jian Wang; Richard Salvi; Gaojun Teng; Lijie Liu

PS 1005

Characterization of Alterations in Nociceptive Sensitivity Following Noise Exposure in Mice

Lorraine Horwitz; Susan E. Shore; Bo Duan

PS 1006

Mice Exposed to Unilateral Acoustic Trauma Respond to Negatively Valenced Social Vocalizations

Kayleigh Hood; Laurel Screven; Madison M. Weinberg; Amanda M. Lauer; Laura M. Hurley

PS 1007

Cortical Neural Synchrony Predicts Stimulus-Level-Dependent Increases in Auditory Evoked Potentials in Younger and Older Adults

Carolyn M. McClaskey; James W. Dias; Kelly C. Harris

PS 1008

Deep Neural Network Model of Speech Intelligibility for a Digit in Noise Task

Stephanie Haro; Gregory Ciccarelli; Thomas Quatieri; Christopher Smalt

Speech Psychophysics

PS 1009

Asymmetrical Forward and Backward Auditory Context Effects in Listeners with Normal Hearing and with Cochlear Implants

Matthew B. Winn

PS 1010

Perceptual Weighting of Voice Onset Time and Fundamental Frequency Cues in Noise

Mishaela DiNino; Yunan Charles Wu; Lillian Behm; Timothy P. Nolan; Barbara G. Shinn-Cunningham; Lori L. Holt

PS 1011

The Role of Fundamental Frequency in Competing-Talker Scenarios

Paolo A. Mesiano; Johannes Zaar; Lars Bramsløw; Niels H. Pontoppidan; Torsten Dau

PS 1012

Neural Correlates of Speech Categorization in Auditory and Visual Modalities

Gwyneth Lewis; Claire Pearson; Ashleigh Harrison; Gavin Bidelman

PS 1013

Musicians Show Improved Speech Segregation In A Competitive, Multitalker Cocktail Party Scenario

Gavin Bidelman; Jessica Yoo

PS 1014

Performance Intensity Function of Speech in Noise—the Effects of Linguistic Redundancy and Hearing Loss

Indira CP; Sandeep M

PS 1015

Individual Differences in Frontal-Occipital Fasciculus Microstructure Predict Visual Enhancement of Auditory Speech Identification

James W. Dias; Carolyn M. McClaskey; Kelly C. Harris

PS 1016

Talker Variability and Audiovisual Speech Augments Word Learning in Adult CI Listeners

Jasenia Hartman; Jenny Saffran; Ruth Y. Litovsky

PS 1017

Predicting Masked Sentence Recognition in Children with and without Hearing Loss: Noise and Two-Talker Maskers

Kaylah Lalonde; Ryan McCreery; Elizabeth Walker

PS 1018

The Relationship Between Response Time and Presentation Level in Infant Speech Discrimination: A Methodological Study

Kristin Uhler; Nathaniel T. Greene; Kerry Walker; Melinda Anderson

PS 1019**Development of the Binaural Intelligibility Level Difference (BILD) in a Two-Talker Masker**

Lori Leibold; Jenna Browning; Emily Buss

PS 1020**Speech Recognition in Quiet and Noise in Patients with Conductive, Mixed, and Sensorineural Hearing Losses**

Michael Smith; Z. Jason Qian; Emma Tran; Nikolas Blevins; Matthew B. Fitzgerald

PS 1021**Effects of age and hearing loss on speech understanding in quiet and noise in clinical populations.**

Matthew B. Fitzgerald; Michael Smith; Nikolas Blevins; Z. Jason Qian

PS 1022**Objective and Behavioral Markers of Low- and High-Frequency Processing and their Contribution to Speech Intelligibility in Healthy and Impaired Ears**

Markus Garrett; Viacheslav Vasilkov; Manfred Mauermann; Sarah Verhulst

PS 1023**Effects of Low Frequency Acoustic Hearing on Spectral Resolution and Speech Perception**

Emily R. Spitzer; David M. Landsberger; David R. Friedmann

PS 1024**Extended High Frequencies Provide both Spectral and Temporal Information to Improve Speech-in-Speech Listening**

Allison Trine; Brian B. Monson

Therapeutics for the Prevention of Age-Related Hearing Loss

PS 1025**Reduced Cochlear Connexin26 Caused by Oxidative Stress is Involved in Age-Related Hearing Loss**

Kai Xu; Sen Chen; Xiaozhou Liu; Xue Bai; Le Xie; Yuan Jin; Yu Sun; Weijia Kong

PS 1026**Overexpression and Knockdown of Claudin 9 Levels Induce Hearing Loss**

Yingying Chen; Jeong Han Lee; Seojin Park; Maria Cristina Perez-Flores; Braulio Peguero; Bruce Tempel; Ebenezer N. Yamoah

PS 1027**Presbycusis is Associated with Age-related Autophagy Flux Blocking in CBA/CaJ Mice**

Bo Ding; Lauren Paganella; Xiaoxia Zhu; McKenzie Watson; Robert D. Frisina

PS 1028**Autophagy Flux Modulation Induced by Estrogen Inhibition Affects Hearing in Female Mice**

Xiaoxia Zhu; Bo Ding; McKenzie Watson; Tanika T. Williamson; Tian Liu; Jung-A A. Woo; David E. Kang; Robert D. Frisina

PS 1029**Deregulation of mitophagy plays an important role in the process of age-related hearing loss**

Yeon Ju Kim; Oak Sung Choo; Jin-Sol Lee; Hantai Kim; Jeong Hun Jang; Yun-Hoon Choung

PS 1030**Senescent miR34a inhibited DRP-1-dependent mitophagy and exacerbated AHL**

Hanqing Lin; Hao Xiong; Zhongwu Su; Jiaqi Pang; Yiqing Zheng

PS 1031**Comparison of Cochlear Mitochondrial Function in Adult and Aged C57BL/6J Mice**

Min Jung Park; Ah-Ra Lyu; Tae-Hwan Kim; Sun-Ae Shin; Seong-Hun Jeong; Yong-Ho Park

PS 1032**Long Non-coding RNA EPHB1 Promotes Mimetic Aging Hair Cell Survival through Activation of Autophagy Pathway**

Xia Wu; Weijia Kong

PS 1033**Age-Related Hearing Loss due to Apoptosis of Spiral Ganglion Neurons in Atherosclerosis: In Vivo and Population-Based Study**

YooYeon Kim; Janet Ren Chao; Chulho Kim; Harry Jung; Boyoung Kim; Phuong Nguyen Thi Thanh; Junghwa Bahng; Jiwon Chang; Jun Gyo Suh; Jun Ho Lee

PS 1034**Establishment of oxidative-induced premature senescence model in auditory cells**

Yuna Suzuki; Ken Hayashi; Takeshi Oshima; Makoto Makishima

PS 1035

Long-lasting Functional and Structural Damages on the Inner Ear Cells Induced by P-type Ca²⁺-ATPase Mutations

Osamu Minowa; Takashi Daiho; Kazuo Yamasaki; Hiroshi Suzuki; Toshihiko Shiroishi; Atsushi Yoshiki; Tetsuo Noda; Nagomi Kurebayashi; Takashi Murayama; Kazusaku Kamiya; Yasushi Okazaki; Katsuhisa Ikeda

PS 1036

Impact of Mitochondria Function on Endbulb of Held Synaptic Transmission during Age-related Hearing Loss

Yong Wang; Ruili Xie

PS 1037

nAChR Modulation of Auditory Cortical Signaling: Aging

Madan Ghimire; Rui Cai; Troy Hackett; Lynne Ling; Donald Caspary

PS 1038

Age-associated decline in Nrf2 signaling and associated mtDNA damage may be involved in the degeneration of the auditory cortex: Implications for central presbycusis

Yongqin Li; Baoai Han; Haiying Sun

Coffee Break

1:30 PM – 2:30 PM

Grand Ballroom Foyer

Auditory Prostheses: Factors and Mechanisms Shaping Outcomes

Moderators: Emily Spitzer & Shuman He

2:00 PM – 4:00 PM

Grand Ballroom 220C

2:00 PM | PD 105

Novel Variants in Syndromic Hearing Impairment Genes and Associations with Audiometric Thresholds in a Multi-ethnic Cohort of US Patients with Cochlear Implants

Angelo Augusto M. Sumalde; Patricia J. Yoon; Dylan C. Ray; Stephen Newton; Stephen P. Cass; Kenny H. Chan; Regie Lyn P. Santos-Cortez

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2:15 PM | **PD 106**

Effects of Pulse Phase Duration on the Electrically-Evoked Compound Action Potential in Children with Cochlear Nerve Deficiency and Children with Normal-Sized Cochlear Nerves

Shuman He; Jeffrey Skidmore; Lei Xu; William J. Riggs; Chloe Vaughan; Xiuhua Chao; Michelle Shannon; Cynthia Warner

2:30 PM | **PD 107**

Enhancement of Interaural Level Differences and Binaural Band Selection Improves Sound Localization in Bilateral Cochlear Implant Users

Tom Gajęcki; Waldo Nogueira

2:45 PM | **PD 108**

An objective measure of binaural sensitivity in cochlear implant recipients with bilateral acoustic hearing

René Gifford; Virginia Richards; Chris Stecker; Linsey Sunderhaus; Spencer Smith

3:00 PM | **PD 109**

Melodic Interval Perception by Unilaterally Deaf Cochlear Implant Listeners

Emily R. Spitzer; John J. Galvin; David R. Friedmann; David M. Landsberger

3:15 PM | **PD 110**

Free-Field Simultaneous Speech Recognition Reveals Asymmetric Hearing Only in Hard-Listening Conditions

Milagros J. Fumero; Maria Romo-Castillo; Almudena Eustaquio-Martin; Enrique A. Lopez-Poveda

3:30 PM | **PD 111**

Evaluating the Effect of Increased Spread of Excitation on Speech-in-Noise Perception by Cochlear Implant Listeners

Tobias Goehring; Julie G. Arenberg; Robert P. Carlyon

3:45 PM | **PD 112**

Vowel Confusions and Threshold Profiles of Bilaterally Implanted Children

Kevin Franck; Kelly Jahn; **Julie G. Arenberg**

Clinical Otolaryngology and Pathology

Moderators: Athanasia Warnecke & Chen-Chi Wu

2:00 PM – 4:00 PM

Grand Ballroom 220B

2:00 PM | **PD 113**

Rapid Detection of Circulating Inner Ear Biomarkers using an Electrochemical Immuno-biosensor.

Sahar Sadat Mahshid; Alain Dabdoub

2:15 PM | **PD 114**

Connexin 26 targeted assay on a miniaturized microarray for assessment of hemichannel function

Athanasia Warnecke; Hongling Wang; Frank Stahl; Steffens Melanie; Carsten Zeilinger

2:30 PM | **PD 115**

Revisiting the etiologies and hearing features of pediatric auditory neuropathy: an integrative approach

Chen-Chi Wu; Pei-Hsuan Lin; Chuan-Jen Hsu; Tien-Chen Liu

2:45 PM | **PD 116**

Phase 2b Randomized Double Blind Placebo-Controlled Trial of SPI-1005 for Meniere's Disease

Jonathan Kil; Shaun A. Nguyen; E. Emily Harruff; Thomas Willcox; Michael Hoa; Hinrich Staecker; Sujana Chandrasekhar; Jeffrey D. Sharon; J. Walter Kutz; Michael Hoffer; May Huang; Gordon McMurry; Paul R. Lambert

3:00 PM | **PD 117**

Audiovestibular Dysfunction in Infratentorial (Classical) Superficial Siderosis: Retrospective Cross-Sectional Study

Natallia Kharytaniuk; Duncan Wilson; Gargi Banerjee; Simon F. Farmer; Peter Cowley; David J. Werring; Doris E. Bamiou

3:15 PM | **PD 118**

High Risk of Sudden Sensorineural Hearing Loss in Several Autoimmune Diseases According to a Population-Based National Sample Cohort Study

Junhui Jeong; Hyunsun Lim; Kyuin Lee; Chang Eui Hong; Hyun Seung Choi

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3:30 PM | **PD 119**

Pericyte Activation is at the Root of Alport Disease Initiation in both the Renal Glomerulus and the Stria Vascularis of the Inner Ear.

Dominic Cosgrove; Brianna Dufek; Daniel Meehan; Duane Delimont; Gina Samuelson; Xiaorui Shi; Zhiqiang Hou; Grady Phillips; Michael Anne Gratton

3:45 PM | **PD 120**

Healing and Hearing Outcomes of Chinchilla Tympanoplasty Procedures with Novel Biodegradable, Biomimetic 3D-Printed Tympanic Membrane Grafts

Nicole Black; Dhrumi Gandhi; Jennifer S. Zhu; Marta Pawluczuk; Elliott D. Kozin; Jeffrey Cheng; Jennifer Lewis; Aaron K. Remenschneider

Generally Genetics

Moderators: Karen Steel & Hannie Kremer

2:00 PM – 4:00 PM

Grand Ballroom 220A

2:00 PM | **PD 121**

Cx26 (GJB2) Mutation Heterozygous Carriers are Vulnerable to Noise

Shu Fang; Yang Liu; Li-Man Liu; Yan Zhu; Hong-Bo Zhao

2:15 PM | **PD 122**

Drug Screening and AAV Gene Therapy for GJB2 Related Hearing Loss with iPS cells

Kazusaku Kamiya; Ichiro Fukunaga; Osamu Minowa; Katsuhisa Ikeda

2:30 PM | **PD 123**

Burden of Rare Missense Variants in OTOG Gene in Familial Meniere's Disease

Pablo Roman-Naranjo; Alvaro Gallego-Martinez; Jose Antonio Lopez Escamez

2:45 PM | **PD 124**

Protective Genetic Variants for Usher I Syndrome and Hearing Loss

Qingyin Zheng; Zehua Sun; Aizhen Zhang; Fuyi Xu; Weinan Du; Robert Williams; Lu Lu

3:00 PM | **PD 125**

Mutations of MAP1B, encoding the microtubule-associated phosphoprotein, cause sensorineural hearing loss

Limei Cui; Min-Xin Guan; Ye Chen

3:15 PM | **PD 126**

Acsl4 mutation leads to early and fast progressive hearing loss affecting the inflammatory response within the inner ear.

Elisa Martelletti; Neil Ingham; Romain Colas; Jesmond Dalli; Karen Steel

3:30 PM | **PD 127**

An In-Frame Deletion in RIPOR2 is an Important Cause of Adult-Onset Hearing Impairment

Suzanne E. de Bruijn; Jeroen J. Smits; Chang Liu; Cornelis P. Lanting; Andy J. Beynon; Joëlle Blankevoort; Jaap Oostrik; Wouter Koole; Erik de Vrieze; Cor W.R.J. Cremers; Frans P.M. Cremers; Susanne Roosing; Helger G. Yntema; Henricus P.M. Kunst; Bo Zhao; Ronald J.E. Pennings; Hannie Kremer

3:45 PM | **PD 128**

Treatment of Monogenic and Digenic Dominant Mutations by CRISPR/Cas9 Ribonucleoprotein Delivery In Vivo

Veronica Lamas; Yong Tao; Yiran Li; Xue Gao; Corena Loeb; Mingqian Huang; Yujuan Hu; Weijia Kong; Xuezhong Liu; David Liu; Zheng-Yi Chen

gEAR Workshop

4:00 PM – 5:00 PM

Room 212AB

spARO Steering Committee Dinner

6:30 PM

Elyse Restaurant

151 S 2nd St, San Jose, CA

Hair Ball

8:00 PM – 11:59 PM

Grand Ballroom 220B

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Registration

7:00 AM – 12:00 PM

Executive Ballroom Foyer

Speaker Ready Room

7:00 AM – 11:00 AM

Room 213

Auditory Nerve Function

Moderators: Kelly Harris & Daniel Rasetshwane

8:00 AM – 10:00 AM

Grand Ballroom 220B

8:00 AM | **PD 129**

Degradation of Speech-In-Noise Coding in Auditory-Nerve Fibers Following Cochlear Hearing Loss: Insights from Spectro-Temporal and Information-Theoretic Approaches

Satyabrata Parida; Michael G. Heinz

8:15 AM | **PD 130**

Signal Processing for Remediation of Threshold-Independent Hearing Disorder

Daniel Rasetshwane; Aryn Kamerer; Judy G. Kopun; Sara E. Fultz; Stephen Neely

8:30 AM | **PD 131**

Neural Presbycusis: Age-Related Deficits in Auditory-Nerve Function and Differential Effects on Functional Abilities

Kelly C. Harris; Carolyn M. McClaskey; James W. Dias; Jayne B. Ahlstrom; Judy R. Dubno

8:45 AM | **PD 132**

A Gaussian Model of the Auditory Brainstem Response: Proof of Concept and Validity

Aryn Kamerer; Stephen Neely; Daniel Rasetshwane

9:00 AM | **PD 133**

Assessing Auditory Nerve Integrity with Acoustic Reflex Growth Functions

Joseph Pinkl; Lamiia Abdelrehim; Brian Earl

9:15 AM | **PD 134**

Simulating the Effects of KLT, HCN and M-current Channels in Auditory Nerve Fibers

Ian C. Bruce; Daniel Shields; Laura Green; Babak V-Ghaffari; Mark Rutherford

9:30 AM | **PD 135**

Characterizing Auditory Nerve Function in Mice Using A Multi-Metric Approach That Quantifies Neural Synchrony in the Auditory Brainstem Response

Carolyn M. McClaskey; Clarisse H. Panganiban; Kenyaria V. Noble; Hainan Lang; Kelly C. Harris

9:45 AM | **PD 136**

Behavioral Discrimination of Masked Vowel-Like Sounds in an Avian Animal Model of Auditory-Nerve Loss

Kenneth S. Henry; Kristina Abrams

Brain Imaging of Auditory Function - Human Studies

Moderators: Benjamin Skerritt-Davis & Maria Chait

8:00 AM – 10:00 AM

Grand Ballroom 220A

8:00 AM | **PD 137**

The Neural Processing of Sound at 3 Months

Bonnie K. Lau; Samu Taulu; Patricia K. Kuhl; Adrian KC Lee

8:15 AM | **PD 138**

Dissociating Spectral Envelope and Fundamental Frequency in Tonotopic Representations within Human Auditory Cortex

Emily J. Allen; Juraj Mesik; Kendrick N. Kay; Andrew J. Oxenham

8:30 AM | **PD 139**

Auditory Cortex Tracks Acoustic Onsets of Ignored Speech: A Potential Mechanism in Stream Segregation

Christian Brodbeck; L Elliot Hong; Jonathan Z. Simon

8:45 AM | **PD 140**

Plasticity in Auditory Categorization Is Supported by Differential Engagement of The Auditory-Linguistic Network

Gavin Bidelman; Breyah Walker

9:00 AM | **PD 141**

Neural Responses to Statistical Change across Multiple Acoustic Dimensions

Benjamin Skerritt-Davis; Mounya Elhilali

9:15 AM | **PD 142**

Tone-Sequence Awareness under Informational Masking Probed with Pre- and Post-Stimulus Cues: A Magnetoencephalography Study in Human Listeners
Kai Gärtner; Alexander Gutschalk

9:30 AM | **PD 143**

Oscillatory Correlates of Auditory Working Memory in Human Intracranial EEG
Joel Berger; Phillip Gander; Sukhbinder Kumar; Kirill Nourski; Matthew Banks; Hiroyuki Oya; Hiroto Kawasaki; Matthew Howard; Timothy Griffiths

9:45 AM | **PD 144**

Neural Alpha and Beta Oscillations are Differentially Modulated in a Challenging Visual Compared to Auditory Task
Vanessa C. Irsik; Ingrid Johnsrude; Björn Herrmann

Inner Ear Therapeutics

Moderators: Lisa Cunningham & Matthew Ingersoll

8:00 AM – 10:00 AM

Grand Ballroom 220C

8:00 AM | **PD 145**

Statins reduce cisplatin-induced hearing loss in humans
Katharine Fernandez; Paul Allen; Maura Campbell; Thomas Townes; Brandi Page; Chuan-Ming Li; Jaylon Harkness; Marcia Mulquin; Anna Clements; Candice Ortiz; Carmen Brewer; Nicole Schmitt; Shawn Newlands; Lisa L. Cunningham

8:15 AM | **PD 146**

Repurposing an FDA approved Drug Dabrafenib for Protection from Noise- and Cisplatin- Induced Hearing Loss
Matthew A. Ingersoll; Lauryn E. Caster; Eva M. Holland; Emma A. Malloy; Zhenhang Xu; Hao Feng; Duane Currier; Jaeki Min; Taosheng Chen; Jian Zuo; Tal Teitz

8:30 AM | **PD 147**

Extracellular Vesicles derived from Mesenchymal Stromal Cells as New Cell-free but Cell-based Therapeutic for the Inner Ear
Jennifer Schulze; Mario Gimona; Eva Rohde; Hinrich Staecker; Thomas Lenarz; Athanasia Warnecke

8:45 AM | **PD 148**

Attenuating the Pathophysiologies of Noise Induced Hearing Loss by pre-Treatment with Near-Infrared-Light

Moritz Gröschel; Ira Strübing; Dan Jiang; Patrick Boyle; Arne Ernst; Dietmar Basta

9:00 AM | **PD 149**

SENS-401 Significantly Reduces Lasting Hearing Loss from Chronic Noise Exposure in a Rat Model

Mathieu Petremann; Charlotte Romanet; Christophe Tran Van Ba; Viviana Delgado-Betancourt; Vincent Descossy; Pauline Liaudet; Jonas Dyhrfeld-Johnsen

9:15 AM | **PD 150**

Modulation of NAD⁺ Biosynthesis Improves Mitochondrial Function and Resist Cisplatin-induced Ototoxicity

Ting Zhan; Hao Xiong; Jiaqi Pang; Hanqing Lin; Haidi Yang

9:30 AM | **PD 151**

Insulin-like Growth Factor 1 Protects Cochlear Outer Hair Cells against Cisplatin

Norio Yamamoto; Kohei Yamahara; Takayuki Nakagawa; Koichi Omori; Juichi Ito

9:45 AM | **PD 152**

Long-term Efficacy and Safety of Non-invasive Therapeutic Hypothermia Treatment in a Preclinical Noise-Induced Hearing Loss Model

Samantha Rincon Sabatino; Rachele Sangaletti; Andrea Rivero; Curtis King; Suhurd M. Rajguru

Auditory Circuits for Sound Processing and Perception

Moderators: Stephen David & Anne Takesian

10:30 AM – 12:30 PM

Grand Ballroom 220A

10:30 AM | **PD 153**

A Non-canonical Cortico-Amygdala Inhibitory Loop.

Hector Zurita; Paul LC Feyen; Alice Bertero; Alfonso Junior Apicella

10:45 AM | **PD 154**

Auditory Representation in Cortex During Perceptual Learning

Robert C. Froemke; Kathleen A. Martin

11:00 AM | **PD 155**

Midbrain and Cortical Responses to Natural Sound Textures

Fei Peng; Ambika Mishra; Nicol Harper; Jan Schnupp

11:15 AM | **PD 156**

Sensory Responses in Mouse Auditory Cortex are Influenced by Behavior and Expectation

Nicholas Audette; David M. Schneider

11:30 AM | **PD 157**

Functional Connectivity Between Cortical and Subcortical Auditory Regions During Rest and Movie Viewing

Chad Buckland; Mark O'Reilly; Ingrid Johnsrude

11:45 AM | **PD 158**

Convergence of Top-down and Bottom-up Inputs to Marmoset Auditory Cortex during Vocalization

Joji Tsunada; Steven J. Eliades

12:00 PM | **PD 159**

An Auditory Long-Range Inhibitory Projection onto Striatal Cholinergic Neurons

Alice Bertero; Alfonso Junior Apicella

12:15 PM | **PD 160**

Neuromodulatory- and Prefrontal- Sensory Cortical Interactions Underlying Motivated Shifts in Attentional (Listening) Effort

Jan Willem de Gee; Zakir Mridha; Yan Chen Shi; Anton Banta; Wenhan Zhang; Matthew J. McGinley

Development: Molecular Foundations

Moderators: Angelika Doetzlhoefer & Martin Basch

10:30 AM – 12:30 PM

Grand Ballroom 220B

10:30 AM | **PD 161**

Neural Specific Roles for the Chromatin Remodeler CHD7 in the Developing Cochlear Epithelium

Vinodh Balendran; Jennifer M. Skidmore; Lisa A. Beyer; Jelka Cimerman; Elizabeth A. Hurd; Yehoash Raphael; Donna M. Martin

10:45 AM | **PD 162**

A Single-Cell Atlas of Ear Development Reveals Molecular Foundations of Sensory Patches, Semicircular Canals, and the Endolymphatic Duct and Sac

Ian Swinburne; Sean Megason

11:00 AM | **PD 163**

Single Cell Chromatin Accessibility Delineates Cellular Identities of the Neonatal Organ of Corti
Shuze Wang; Mary Lee; Jie Liu; Joerg Waldhaus

11:15 AM | **PD 164**

Single-cell Proteomics Reveals Downregulation of TMSB4X to Drive Actin Release for Stereocilia Assembly

Mirko Scheibinger; Ying Zhu; Daniel C. Ellwanger; Jocelyn F. Krey; Dongseok Choi; Ryan Kelly; Stefan Heller; Peter G. Barr-Gillespie

11:30 AM | **PD 165**

SoxC Transcription Factors are Crucial Regulators of Sensory Progenitor Differentiation in the Organ of Corti

Xizi Wang; Ksenia Gnedeva; Litao Tao; Juan Llamas; Haoze Yu; Talon Trecek; Welly Makmura; Neil Segil

11:45 AM | **PD 166**

Molecular Regulation of Sensory Epithelial Cell Patterning in the Mammalian Inner Ear

Chandrakala Puligilla; Atul Pandey; Daisy Haque; Kristen Phlegar; Bradley Schulte; Vilhelm Bohr

12:00 PM | **PD 167**

Dynamic changes in cis-regulatory occupancy by Six1 drive progressive differentiation to establish cell identity and hair-cell-bundle polarity in auditory sensory epithelium

Jun Li; Ting Zhang; Aarthi Ramakrishnan; Bernd Fritzsich; Jinshu Xu; Li Shen; Pin-Xian Xu

12:15 PM | **PD 168**

Brg1-Eya1/Six1-dependent regulation of the Sox2 transcriptional landscape establishes proneurosensory lineage in the mouse inner ear

Jinshu Xu; Jun Li; Aarthi Ramakrishnan; Huihui Jiang; Ting Zhang; Bernd Fritzsich; Li Shen; Pin-Xian Xu

Inner Ear Structure & Function

Moderators: Gary Housley & Catalina Velez-Ortega

10:30 AM – 12:30 PM

Grand Ballroom 220C

10:30 AM | **PD 169**

Evaluating Estrogen's Multi-Modal Modulatory Potential: A Framework for Understanding Protection from Noise-Induced Hearing Loss

Benjamin Shuster; Ryan Casserly; Shaun Viechweg; Erika Lipford; Kanisa Davidson; Rafal Olszewski; Jennifer Enoch; Mark McMurray; Beatrice Milon; Mark Rutherford; Kevin Ohlemiller; Michael Hoa; Didier Depireux; Jessica Mong; Ronna Hertzano

10:45 AM | **PD 170**

Preservation of Pre-Hearing Spontaneous Activity in a Mouse Model of Gjb2-Mediated Deafness

Calvin J. Kersbergen; Travis Babola; Dwight E. Bergles

11:00 AM | **PD 171**

Tac1-expressing Type II Afferent Neurons in the Cochlea Respond to ATP after Acute Damage

Megan B. Wood; Nathaniel J. Nowak; Paul Fuchs

11:15 AM | **PD 172**

The role of the calcium-sensing receptor in regulating intracellular calcium dynamics in the mammalian cochlea

Snezana Levic; Ebenezer N. Yamoah

11:30 AM | **PD 173**

In-Vivo and Postmortem Gerbil Organ of Corti Fluid Space Morphology Using 3D Volume Optical Coherence Tomography (OCT)

NamHyun Cho; Haobing Wang; Mike E. Ravicz; Sunil Puria

11:45 AM | **PD 174**

A Novel Microneedle Device for Controlled and Reliable Liquid Biopsy of the Human Inner Ear

Samuel Early; In Seok Moon; Krishna Bommakanti; Ian Hunter; Konstantina M. Stankovic

12:00 PM | **PD 175**

Electrically-Evoked Olivocochlear Efferent Suppression in the Peripherin Knockout Mouse Supports Outer Hair Cell - Based Control of the Cochlear Amplifier

Jennie M. Cederholm; Chamini Perera; Georg von Jonquieres; Jeremy L. Pinyon; Kristina E. Parley; Jean-Pierre Julien; Allen Ryan; Gary D. Housley

12:15 PM | **PD 176**

Descending Modulation of Afferent Activity by Hindbrain Efferent Neurons in the Zebrafish Lateral Line System

Elias Lunsford; Dimitri Skandalis; James C. Liao

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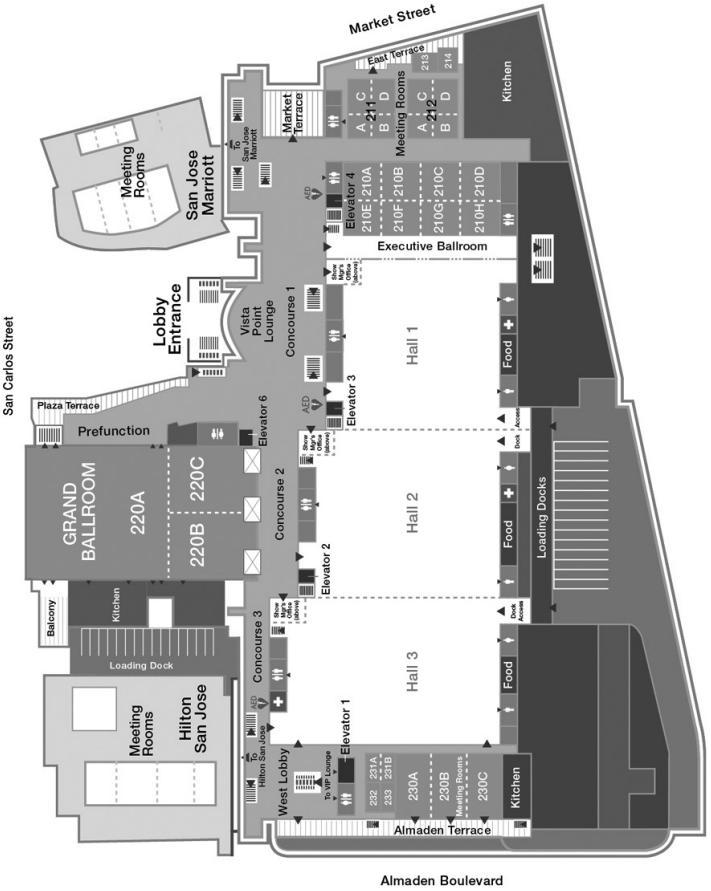
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