



43RD ANNUAL
MidWinter Meeting

January 25 - 29, 2020



San Jose McEnery Convention Center

San Jose

CALIFORNIA

ARO OFFICERS FOR 2019-2020

PRESIDENT:	Keiko Hirose, MD (19-20) Department of Otolaryngology Washington University School of Medicine 660 S Euclid Ave. St. Louis, MO 63110
PRESIDENT ELECT:	Ruth Litovsky, PhD (19-20) University of Wisconsin Waisman Center 521 1500 Highland Avenue Madison, WI 53705 USA
PAST PRESIDENT:	Karen P. Steel, PhD (19-20) Kings College London Wolfson Centre for Age Related Diseases London, United Kingdom SE1 1UL
SECRETARY/ TREASURER:	Gabriel Corfas, PhD (17-20) The University of Michigan, Kresge Hearing Research Institute 1150 West Medical Center. Drive Medical Sciences 1 Bldg; RM 5424A Ann Arbor, MI 48109
COMMUNICATIONS OFFICER:	Donna M. Fekete, PhD (18-21) Purdue University 829 Lagrange Street West Lafayette, IN 47906
COUNCIL MEMBERS AT LARGE:	Lisa Cunningham, PhD (19-22) National Institutes of Health Porter Neuroscience Research Center 35A Convent Drive, Room 1D971 Bethesda, MD 20814
	Gwenaelle S. Geleoc, PhD (17-20) Boston Children's Hospital 3 Balckfan Circle Boston, MA 02115
	Mark Warchol, PhD (18-21) Washington University of School of Medicine Department of Otolaryngology, Box 8115 660 South Euclid Ave St. Louis, MO 63110
ARO Executive Director:	Haley J. Brust 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 Prostheses I Auditory Prostheses 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	Poster Session 2 Open 24 hours Age-Related Hearing Loss: Behavioral & Physiological Assessments Auditory Cortex - Human Studies I Auditory Cortex: Processing and Perception Auditory Prostheses III Auditory Prostheses 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	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	Poster Session 3 Open 24 hours Auditory Cortex - Human Studies II Auditory Learning Auditory Prostheses V Auditory Prostheses VI Auditory Prostheses 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	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	Poster Session 4 Open 24 hours 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	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
Room 212 AB

12:15 PM-1:30 PM

Special Guest Speaker:

Wade Chien

Associate Professor

Division of Otology & 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
Room 211A

6:00 PM-7:30 PM

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
Room 211B

6:00 PM-7:30 PM

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

Room 212AB

4:00 PM – 5:00 PM

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 - 2:00 PM	Hearing Research Board Mtg	Hilton San Jose
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

Chair:

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

Scientific Program Co-Chairs:

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Christopher Shera, PhD (3/17 - 2/20)

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Monita Chatterjee, PhD (3/17 - 2/20)

Brandon Cox, PhD (3/19 - 2/22)

Robert Froemke, PhD (3/18 - 2/21)

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Nandini Iyer, PhD (3/17 - 2/20)

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Teresa Nicolson, PhD (3/18 - 2/21)

Kevin Ohlemiller, PhD (3/18 - 2/21)

Sunil Puria, PhD (3/19 - 2/22)

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)

Council Liaison: Ruth Y. Litovsky, PhD (3/17 - 2/20)

spARO Representative: Grace Soon Kim (3/19 - 2/22)

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Long Range Planning Committee Chair

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

Mentoring – spARO Committee Chair

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

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Bernd Fritzsche, PhD (3/17 - 2/20)

Matthew McGinley (3/19 - 2/22)

Chris Plack, PhD (3/18 - 2/21)

Amy Poremba, PhD, NIDCD Rep.

Yilai Shu, MD, PhD (3/18 - 2/21)

Aleta Steevens, (3/18 - 2/21)

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

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

Past Chair: Steven Green, PhD (3/17 - 2/20)

Council Liaison: President-Elect: Ruth Litovsky, PhD
(3/19 - 2/20)

Chair, International Committee: Isabel Varela-Nieto, PhD:
Spain (3/18 - 2/21)

spARO Representative: Kirupa Suthakar

NOMINATING

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Ronna Herzano, MD, PhD (3/19 - 2/20)

Jose Antonio Lopez-Escamez, MD, PhD (3/19 - 2/20)

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

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Elisabeth Glowatzki, PhD, (3/19 - 2/22)

Phil Joris (3/18 - 2/21)

Matt Kelley, PhD (3/18 - 2/21)

Anna Lysakowski, PhD (3/17 - 2/20)

Richard Rabbitt, PhD, (3/19 - 2/22)

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Council Liaison: Past-President Karen Steel, PhD (3/19 - 2/20)

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Avril Holt, PhD, (3/19 - 2/22)

Tejbeer Kaur, PhD (3/19 - 2/22)

Anil Lalwani, MD (3/19 - 2/22)

Yi Zhou, PhD (3/18 - 2/21)

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spARO Representative: Karen Barrett

EXTERNAL RELATIONS

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Allison Coffin, PhD (3/18 - 2/21)

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J. Chris Holt, PhD (3/19 - 2/22)

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Becky Lewis (3/19 - 2/22)

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Lavinia Sheets, PhD (3/18 - 2/21)

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

Council Liaison: Mark Worchol, PhD (3/18 - 2/21)

spARO Representative: Benjamin Shuster

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Michael Roberts, PhD (3/19 - 2/22)

Anna Lysakowski, PhD (3/18 - 2/21)

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

Ex-officio: Secretary-Treasurer Gabriel Corfas, 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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Hela Azaiez, PhD (3/17 - 2/20)

Melanie Barzik (3/19 - 2/22)

Jonathan Bird, PhD (3/17 - 2/20)

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)

Maria Rubio, MD, PhD (3/18 - 2/21)

Ruben Stepanyan (3/19 - 2/22)

Yuri Agrawal (3/17 - 2/20)

Council Liaison: Keiko Hirose, MD (3/19 - 2/20)

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	Room 212ABCD
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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	Room 220B
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Sunday | 5:00 pm – 6:00 pm

Mentorship Program Social	Room 211AB
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Monday | 12:15 pm – 1:30 pm

Young Investigators Luncheon	Room 212ABCD
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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	212AB
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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
Muñoz

Chase Mackey

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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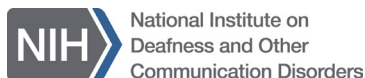
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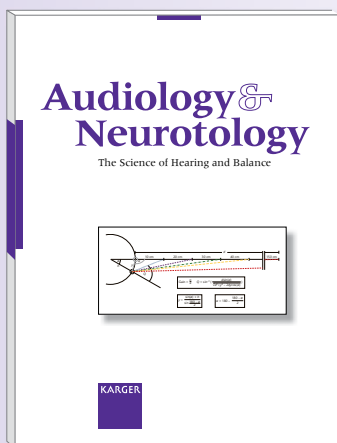
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Notes

[illegible]

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

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

Short-term overstimulation elevates eCap- and eABR-thresholds in a different time frame

Dietmar Basta; Susanne Schwitzer; Moritz Gröschel; Horst Hessel; Arne Ernst

PS 90

Identifying Neural Dead Regions — A Preclinical Validation Study

James Fallon; Ella Trang; Wolfram F. Dueck; Andrew Wise

PS 91

Effects of Advanced Age and Duration of Deafness on Neural Responsiveness of the Electrically-Stimulated Cochlear Nerve in Adult Cochlear Implant Users

Shuman He; William J. Riggs; Jeffrey Skidmore; Chloe Vaughan

PS 92

Simultaneous Intra- and Extracochlear ECoChG Recordings during Cochlear Implantation

*Leanne Sijgers; Julian Grosse; Adrian Dalbert; Christof Rösli; Dorothe Veraguth; Alexander Huber; **Flurin Pfiffner***

PS 93

Electrophysiological Characteristics in Children with Auditory Neuropathy Spectrum Disorder

William J. Riggs; Oliver F. Adunka; Shuman He

PS 94

Simulated nerve responses to cochlear implant stimulation based on three-dimensional micro-CT reconstruction of an human auditory nerve

*Thomas Potrusil; Amirreza Heshmat; Sogand Sajedi; Cornelia Wenger; **Lejo Johnson Chacko**; Rudolf Glueckert; Anneliese Schrott-Fischer; Frank Rattay*

PS 95

Electrophysiological Measures of Temporal Envelope Processing in Cochlear Implant Users

Robin Gransier; Robert P. Carlyon; Jan Wouters

PS 96**Modulation of Auditory Cortex Responses by The Pulse Asymmetry and Pulse Polarity in an Animal Model of Cochlear Implant**

Victor Adenis; Elie Partouche; Dan Gnansia; Pierre Stahl; Jean-Marc Edeline

PS 97**Using the Alternating-Auditory Change Complex to Understand Changes to Modulation Sensitivity and Phase Locking with Age**

Wiebke Lamping; Jaime Undurraga; Ben Williges; Marina Salorio-Corbetto; David McAlpine; Deborah Vickers

PS 98**Evaluating and Comparing Behavioural and Electrophysiological Estimates of Neural Survival**

Tim Brochier; John M. Deeks; Charlotte Garcia; Manohar Bance; Robert P. Carlyon

PS 99**Using the electrically-evoked compound action potential for site-selection in cochlear implant listeners**

Kara C. Schwartz-Leyzac; Teresa A. Zwolan; Bryan E. Pfingst

PS 100**An Evaluation on the Influence of Artifact-Reduction Paradigm on ECAP-Based Effects of Cochlear Health**

Marko Takanen; Stefan Strahl; Konrad Schwarz; Dyan Ramekers

PS 101**Estimating Neural Survival Using a New Version of the Panoramic ECAP Method**

Charlotte Garcia; Tobias Goehring; Stefano Cosentino; Richard E. Turner; John M. Deeks; Tim Brochier; Taren Rughooputh; Manohar Bance; Robert P. Carlyon

PS 102**Estimating Neural Function in Cochlear Implant Users with Stimulation Level Changes when Decreasing the Interphase Gap of a Biphasic Pulse**

Jeffrey Skidmore; William J. Riggs; Chloe Vaughan; Shuman He

PS 103**Polarity Effects in Late Electrical Compound Action Potentials as Measure of Neural Health**

Wiebke S. Konerding; Julie G. Arenberg; Andrej Kral; Peter Baumhoff

PS 104**Auditory and visual cortical activity and relationship to functional speech outcomes in post-lingual cochlear implant users: A functional near-infrared spectroscopy (fNIRS) study**

Amanda Fullerton; Catherine McMahon; Deborah Vickers; Robert Luke; Heivet Hernandez-Perez; Jessica Monaghan

PS 105**Neurophysiological Measures of Amplitude Modulation Rate Discrimination in adults with Cochlear Implants**

Ben Williges; Deborah Vickers; Wiebke Lamping; Marina Salorio-Corbetto; David McAlpine; Jaime Undurraga

PS 106**Duration of Deafness and Adaptation of the Auditory Nerve in Cochlear Implant Subjects**

William J. Riggs; Jeffrey Skidmore; Chloe Vaughan; Shuman He

PS 107**The Effect of Pulse Polarity on Neural Response of the Electrically-stimulated Auditory Nerve in Children with Cochlear Nerve Deficiency and Children with Normal-sized Cochlear Nerves**

Chloe Vaughan; Lei Xu; Jeffrey Skidmore; Jianfen Luo; Xiuhua Chao; Rujie Wang; Haibo Wang; Shuman He

PS 108**Residual Hair Cell Function in Electric-Acoustic Stimulation Cochlear Implant Users with Complete Loss of Acoustic Hearing Post-Implant**

Viral Tejani; Jeong-Seo Kim; Paul Abbas; Carolyn Brown; Marlan R. Hansen

Blast and Head Trauma

PS 109**Acute Hearing Threshold Shifts Following Head Impact in Mixed Martial Arts Fighters**

Rory J. Lubner; Michael K. Boyajian; Renata M. Knoll; Steven D. Rauch; Jacob R. Brodsky; Aaron K. Remenschneider; Elliott D. Kozin

PS 110

Osmotic Challenge Alters Endolymphatic Volume in TectaC1509G/C1509G Mice

Patricia M. Quiñones; Juemei Wang; Frank D. Macías-Escrivá; Wihan Kim; Brian E. Applegate; John S. Oghalai

PS 111

Cochlear HPA-like CRFR1 Signaling is Critical for Protection Against Elevated ABR Thresholds Following Noise Exposure and Traumatic Brain Injury
Charles C. Barnes; Kathleen T. Yee; Douglas E. Vetter

PS 112

Concussion-like Mild Head Impacts Cause Deficits in Hearing Function
Graham Casey; Mark Lewis; Bradley J. Walters

PS 113

Experimental and Computational Approaches for Studying Excessive Impact-Induced Hearing Damage in Contact Sports
Shinji Hamanishi; Jongwoo Lim; Namkeun Kim

PS 114

Examining Disparity-Driven Vergence in Chronic Symptomatic Mild Traumatic Brain Injury (mTBI)
Erin Williams; Alyssa Whinna; Neil Nayak; Alex Kiderman; Michael Hoffer; Carey Balaban

PS 115

The different blast-induced cochlear damage by the different properties of the shock wave.
Eiko Kimura; Kunio Mizutari; Yasushi Satoh; Satoko Kawauchi; Shunichi Sato; Akihiro Shiotani

Cochlear Mechanics I

PS 116

Effects of Furosemide on Organ of Corti Vibrations
C. Elliott Strimbu; Yi Wang; Elizabeth S. Olson

PS 117

Organ Of Corti Mechanical Filtering In The Guinea Pig Apex Measured By OCT: Implications For Phase Locking Auditory Receptors
Alfred L. Nuttall; George W. Burwood; Anders Fridberger

PS 118

Reticular lamina and basilar membrane motion suppression in a two degrees of freedom transmission line nonlinear cochlear model
Renata Sisto; Arturo Moleti

PS 119**A Numerical Study of the Basilar Membrane and Organ of Corti Nonlinear Compression***Aritra Sasmal; Joshua Hajicek; Karl Grosh***PS 120****Cochlear Nonlinearity and Amplification in The Guinea Pig***Elika Fallah; C. Elliott Strimbu; Elizabeth Olson***PS 121****Organ of Corti Vibrations in Awake Mice***Christopher G. Lui; James B. Dewey; Ido Badash; Frank D. Macías-Escrivá; Wihan Kim; Matthew J. McGinley; Brian E. Applegate; John S. Oghalai***PS 122****Measuring Cochlear Impulse Responses Using Frequency Sweeps***Karolina K. Charaziak; Alessandro A. Altoé; John S. Oghalai; Christopher A. Shera***PS 123****Interplay between the active process and wave propagation in the mammalian cochlea***Amir Nankali; Frank D. Macías-Escrivá; Brian Applegate; John S. Oghalai***PS 124****Why is the Cochlea an Ear Horn?***Alessandro Altoé; Christopher A. Shera***PS 125****Organ of Corti Cross-sectional Area Change due to Electromotility of the Outer Hair Cells***Mohammad Shokrian Amiri; Jong-Hoon Nam***PS 126****Wave propagation on isolated tectorial membranes: radial to longitudinal mode conversion***Haiqi Wen; Jonathan Sellon; Amer Mansour; Roozbeh Ghaffari; Dennis Freeman; Julien Meaud***PS 127****Probing Force Relay in Drosophila Hearing***Thomas Effertz; Philip Hehlert; Dirk Beutner; Martin C. Göpfert***PS 128****Mechanical Contributions of the Supporting Cells in the Organ of Corti***Wenxiao Zhou; Jong-Hoon Nam*

PS 129**Relationship between Promontory Velocity and Basilar Membrane Velocity in Bone-Conducted Hearing: Finite Element Analysis***Seongho Mo; Jongwoo Lim; Soyi Jung; Namkeun Kim***PS 130****Bone conduction in simulation and experimental evaluation***Ivo Dobrev; Tahmine Faramandi; Namkeun Kim; Alexander Huber; Christof Rösli*

Collicular/Midbrain Circuitry

PS 131**Characterization of Layer-Specific Bilateral Projections in The Mouse Corticocollicular System.***Nathiya Chandrasekaran; Daniel A. Llano***PS 132****The Distribution and Projections of Cells in the Mouse Inferior Colliculus that Express Neuropeptide Y (NPY)***Pooyan Mirjalili; Nichole L. Beebe; Marina A. Silveira; Michael T. Roberts; Brett R. Schofield***PS 133****Cholinergic Axons Contact Inferior Collicular Neurons that Project to Cochlear Nucleus***William A. Noftz; Nichole L. Beebe; Brett R. Schofield***PS 134****Cholinergic Innervation of the Mouse Auditory Midbrain, Lower Brainstem and Thalamus***Brett R. Schofield; Pooyan Mirjalili; Nichole L. Beebe***PS 135****Cholinergic Inputs Contact Four Subtypes of GABAergic Cells in the Mouse Inferior Colliculus***Nichole L. Beebe; Brett R. Schofield***PS 136****Generation of a ChAT-Cre Mouse Line Without the Early Hearing Loss Typical of the C57BL/6 Mouse***Nichole L. Beebe; Colleen S. Sowick; Inga Kristaponyte; Alexander V. Galazyuk; Brett R. Schofield***PS 137****Perineuronal Nets Increase with Age on Ascending and Descending Pathways of the Inferior Colliculus in Fischer Brown Norway Rats***Lindsay N. Hofer; Amir Mafi; Matthew Russ; Jeffrey G. Mellott*

PS 138

Age-related loss of GABAergic Synapses is not Uniform between the Central and Lateral Nuclei of the Inferior Colliculus in Fischer Brown Norway Rats
Amir Mafi; Jeffrey G. Mellott

PS 139

Subdivisions of the Inferior Colliculus Undergo Age-Related GABAergic Changes at Varying Degrees in Fischer Brown Norway Rats
Jeffrey G. Mellott; Lindsay N. Hofer; Amir Mafi

Genetics: General

PS 140

Etiology of late-onset progressive hearing loss using comprehensive genetic testing: Toward future gene therapy

Hidekane Yoshimura; Shin-ya Nishio; Shin-ichi Usami

PS 141

Rare genetic cases of non-syndromic hearing impairment in Southern Europe

Ralf Birkenhäger; Maren Trabandt; Carolyn Büsching; Luminita Radulescu

PS 142

Molecular Epidemiology of Chinese Han Deaf Patients with Bi-allelic and Mono-allelic GJB2 Mutations

Xiaoyu Yu; Tao Yang; Hao Wu

PS 143

Multivariate Polygenic Risk Scores Identify Individuals At-Risk for and Protected from Hearing Loss

C. Scott Gallagher; Nicholas G. Crawford; Adam T. Palermo

PS 144

Functional Characterization of Grhl2a/b in Zebrafish
Sheng-Jia Lin; Cassidy Petree; Gaurav Varshney

PS 145

Erlong (erl) mutation in the cdh23 gene causes delayed age-related hearing loss in CBA/CAJ mice

Fangfang Zhao; Tong Zhao; peng ma; Bo Li; Tihua Zheng; Renhua Xu; Qingyin Zheng

PS 146

A Synonymous Mutation in the COL4A6 Gene Causes Congenital Hearing Loss Due to Exon Skipping

Yixi Wang; Kevin T. Booth; Carla J. Nishimura; Kathy L. Frees; Amanda O. Taylor; Yuzhou Zhang; Gabriella Pitcher; Nicole Meyer; Hela Azaiez; Richard J.H. Smith

PS 147

Frame-shift mutations in OSBPL2 leads to progressive nonsyndromic hearing loss.

Young IK Koh; Jinsei Jung; Byunghwa Noh; Sun Young Joo; Choi Hye ji; Kyung Seok Oh; Jae Young Choi; Heon Yung Gee

PS 148

Association of Polymorphisms in Grainyhead-like-2 Gene with the Susceptibility to Age-related Hearing Loss: A Systematic Review and Meta-analysis

Baoai Han; **Haiying Sun**

PS 149

Spontaneous otitis media in mouse with Ptpn6 mutation

Lu Ying Liu; **YuKe Zheng**; **JiangPing Zhang**; **Christopher Mccarty**; **HePing Yu**; **Qingyin Zheng**

PS 150

Generation and genetic correction of USH2A point mutations in human iPSCs

Zaohua Huang; Nicholas Gosstola; Derek Dykxhoorn; Dykxhoorn; Justin Lillywhite; Colin Maguire; Jun Yang; Zheng-Yi Chen; Xue Liu

PS 151

Variants in MYH1 are associated with Autosomal Recessive Syndromic Hearing Loss.

Ju Sun Yung; Jinsei Jung; Ji-Hyun Ma; Kim Byoung Chul; Choi Hye ji; Jinwoong Bok; Jae Young Choi; Heon Yung Gee

PS 152

Hearing loss and cochlear sensory outer hair cell patterning defect in mice carrying a human mutation in Thra gene

Corentin Affortit; Frédéric Flamant; Jamal Nasr; Carolanne Coyat; Jean-Luc Puel; Jing Wang

PS 153 WITHDRAWN

Molecular genetic Analysis of Genes Involved in the Homeostasis of the Inner Ear in Patients Suffering from M. Menière

Nicolas Gurtler; Karl Heinemann

PS 154

Elucidation of Genetic Background and Phenotypic Features in Patients with Hereditary Hearing Loss to Improve Diagnosis and Care

Tatsuo Matsunaga; Hideki Mutai; Kiyomitsu Nara; Koichiro Wasano; Shujiro Minami; Kimitaka Kaga

PS 155

The Hearing Loss Phenotype Associated with P2RX2 Gene Is Dependent on The Mutation Type

Xiaoya Chen; Clemer Abad; Abhiraami Kannan Sundhari; Juan I. Young; Katherina Walz; Xuezhong Liu

PS 156

Genetic heterogeneity of autosomal dominant hearing loss in pediatric patients

Dominika Oziębło; Marcin Leja; Anna Sarosiak; Henryk Skarżyński; Monika Ołdak

PS 157

Genetic Counselors are Critical in Providing Comprehensive and Tailored Care for Individuals with Hearing Loss and Their Families

Amanda M. Schaefer; Amanda O. Taylor; Carla J. Nishimura; Kathy L. Frees; Diana L. Kolbe; Kevin T. Booth; Robert J. Marini; Donghong Wang; Amy E. Weaver; Jori E. Hendon; Colleen A. Campbell; Hela Azaiez; Richard J.H. Smith

PS 158

A recurrent mutation in KCNQ4 in Korean families with nonsyndromic hearing loss and rescue of the channel activity by KCNQ activators

Jinsei Jung; Chan Il Song; Dong Hoon Shin; Young IK Koh; Seung Ho Shin; Young Kyun Hur; Jae Young Choi; Heon Yung Gee

PS 159

A Genome-First Approach to EYA4-related SNHL

Shadi Ahmadmehrabi; Joseph Park; Douglas Epstein; Jason Brant; Dan Rader

PS 160

Genome Wide Association Study of Tinnitus in the United Kingdom Biobank Indicates Significant Genetic Heritability, Multiple Significant Loci, and Correlation with Psychiatric Traits

Royce E. Clifford; Adam E. Maihofer; Allen Ryan; Caroline E. Nievergelt

PS 161**Genomic Analysis of Hearing Loss and Cochlear Implant Outcomes**

Ryan J. Carlson; David L. Horn; Mary-Claire King; Jay T. Rubinstein

PS 162**A Genetic Study for Sensorineural Tinnitus Based on Genome-wide Association & Endophenotype Study: Development of Genetic Diagnostic Kit for Precision Medicine**

Jae Sang Han; Minhoo Lee; Yeun-Jun Chung; Jung Mee Park; Hamzah Alshaikh; Shi Nae Park

PS 163**Identification of a Potential Founder Effect of a Novel PDZD7 Variant Involved in Moderate-to-Severe Sensorineural Hearing Loss in Koreans**
*Sang-Yeon Lee; Byung Yoon Choi; Bong Jik Kim; Seungmin Lee; Doo-Yi Oh***PS 164****Towards a Non-Invasive Differential Diagnostic Test to determine the underlying Pathology of Hearing Loss.**

Neil Ingham; Karen Steel

PS 165**COL11A1 causes autosomal dominant non-syndromic hearing loss in the DFNA37 locus – confirmation of a novel splicing variant**

Thore Schade-Mann; Barbara Vona; Anke Tropitzsch; Fritz Schneider; Marcus Müller; Hubert Löwenheim

PS 166**Clinical next-generation sequencing database of deafness: unified management tool of clinical and genetic information.**

Shin-ya Nishio; Shin-ichi Usami

PS 167**Clinical Features of Deafness Caused by a Novel CLDN14 Variant**

Tomohiro Kitano; Shin-ichiro Kitajiri; Shin-ya Nishio; Shin-ichi Usami

PS 168**Copy Number Variation Detection is Essential in the Diagnosis of Hearing Loss**

Paige L. Harlan; Amanda O. Taylor; Carla J. Nishimura; Kathy L. Frees; Diana L. Kolbe; Kevin T. Booth; Robert J. Marini; Donghong Wang; Amanda M. Schaefer; Amy E. Weaver; Jori E. Hendon; Richard J.H. Smith; Hela Azaiez

PS 169

Contribution of mitochondrial tyrosyl-tRNA synthetase p.191Gly>Val mutation to the phenotypic manifestation of the deafness-associated mitochondrial tRNA^{Ser}(UCN) 7511A>G mutation
Wenlu Fan; Min-Xin Guan

PS 170

Integrating Phenotypic and Genotypic Data to Enhance Diagnosis and Clinical Care of Persons with Hearing Loss

Amanda O. Taylor; Carla J. Nishimura; Kathy L. Frees; Diana L. Kolbe; Kevin T. Booth; Robert J. Marini; Donghong Wang; Amanda M. Schaefer; Paige L. Harlan; Amy E. Weaver; Jori E. Hendon; Hela Azaiez; Richard J.H. Smith

PS 171

TJP2 and Hearing Loss: Identification of a Novel Disease-Mechanism

Erika M. Renkes; Kevin T. Booth; Kimia Kahrizi; Luke T. Hovey; Hossein Najmabadi; Richard J.H. Smith; Hela Azaiez

PS 172

In Vivo Base Editing Rescues Hearing in a Mouse Model of Recessive Deafness

Wei-Hsi Yeh; Olga Shubina-Oleinik; Jonathan Levy; Bifeng Pan; Gregory Newby; Michael Wornow; Rachel Burt; Jeffrey R. Holt; David Liu

Inner Ear: Anatomy & Physiology

PS 173

Distribution of Glucocorticoid Receptors in Human Cochlea and Endolymphatic Sac - An Immunohistochemistry Study

Wei Liu; Charlotta Nordström; Niklas Danckwardt-Lillieström; Helge Rask-Andersen

PS 174

Analyses of hearing impairment in GNE V572L point-mutant mice

Akiyoshi Yasumoto; Ippei Kishimoto; Kazushi Sugihara; Toru Yoshihara; Masahide Asano; Koichi Omori; Norio Yamamoto

PS 175

Knockout of Mice Cochlear Connexin26 in Dose-Dependent Modes Induce Different Kinds of Hearing Loss and Pillar Cells Development Arrest Pattern.

Sen Chen; Le Xie; Kai Xu; Yue Qiu; Huimin Zhang; Xiaohui Wang; Yu Sun; Weijia Kong

PS 176**Expression of Chemokine CXCL1 and its Receptor DARC in the Murine Inner Ear**

Sasa Vasilijic; Lukas D. Landegger; Richard Seist; Konstantina M. Stankovic

PS 177**Hearing Loss Associated with Diabetes: Changes of Cochlear Function in a Mouse Model of Diabetes**

Ah-Ra Lyu; Tae-Hwan Kim; Seong-Hun Jeong; Sun-Ae Shin; Min Jung Park; Yong-Ho Park

PS 178**Re-evaluating the Histopathology of Presbycusis: Hair Cell Loss explains Audiometric Shifts in all four types**

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

PS 179**Neuro-immune Consequences of Noise-induced and Age-related Hearing Loss in the Mouse Cochlea**

Benjamin Seicol; Ruili Xie

PS 180**GATA3 Expression in Cochlear Tissues is Conserved across Mice, Rats, Macaques, and Humans.**

Sumana Ghosh; Robert Wineski; Michael Pittman; Bradley J. Walters

PS 181**Long-term Histological Outcomes of Low Dose Carboplatin Administration in the Chinchilla Cochlea**

Karen S. Pawlowski; Celia D. Escabi; Patricia R. Moody; Edward Lobarinas

PS 182**Elucidating the Localization of Estrogen and Estrogen-related Receptors in the Inner Ear**

Erika Lipford; Benjamin Shuster; Beatrice Milon; Mark McMurray; Jessica Mong; Ronna Hertzano

PS 183**Mitochondrial Calcium Uniporter in Cochlear Hair Cells is Dispensable for Hearing in Mice**

Manikandan Mayakannan; Carlos Antonio Padilla; Aditi Deshmukh; Sriya Donthi; Ruben Stepanyan

PS 184**Natural History and Disease Progression in Two Rodent Models of Monogenic Hearing Loss**

Xichun Zhang; Xudong Wu; Shu-Lin Liu; Lars Becker; Arun Senapati; Nancy Paz; Bifeng Pan; Emma Alterman; Lillian Smith; Elizabeth Amaro Gonzalez; Yong Ren; Kathryn Ellis; Inmaculada Silos-Santiago; Fuxin Shi; Joseph C. Burns; Ning Pan; Adam T. Palermo; Jonathon Whitton; Martin Schwander

PS 185**Activating Muscarinic Acetylcholine Receptors Shapes Firing patterns By Simultaneously Closing KCNQ Channels and Activating HCN Channels in Vestibular Ganglion Neurons**

Daniel Bronson; Christopher Ventura; Radha Kalluri

PS 186**Combined behavioral assays for more specifically evaluating auditory/vestibular and visual function of zebrafish larvae**

Sun Peng; Zhuo Liu; Fangyi Chen

PS 187**Large Animal Models for Auditory Research: a Guide to the Perplexed**

Suchi Raghunathan; Randolph Abutin; Amanda McSweeney; Misty J. Williams-Fritze; Rami Tzafriri; Cyrille Sage

Middle Ear

PS 188**Elephant Middle Ear Anatomy and Bone Conduction Physiology**

Caitlin O'Connell-Rodwell; Anbuselvan Dharmarajan; Rachel Chen; Sunil Puria

PS 189**Skull surface motion in bone conduction stimulation depends on stimulation position and coupling**

Tahmine Faramandi; Ivo Dobrev; Alexander Huber; Christof Röösli

PS 190**A Lumped-Element Model of the Human Middle Ear for Bone Conduction**

Xiying Guan; Sunil Puria; John Rosowski; Hideko H. Nakajima

PS 191**Middle-ear Muscle Contraction Measurements Reveal No Anticipatory Activation Prior to Live Rifle Fire**

Heath G. Jones; Ellis R. Akins; Lana S. Milam; Stephen M. Tasko; Madeline V. Smith; William J. Murphy; Gregory A. Flamme; Kristy K. Deiters; William A. Ahroon

PS 192**Tympanic Membrane Mechanics after Repeated Exposure to Loud Sound**

Haimi Tang; Pavel Psota; John Rosowski; Cosme Furlong; Jeffrey Cheng

PS 193**Finite-Element Modelling Based on Optical Coherence Tomography and Corresponding X-ray MicroCT Data for Two Human Middle Ears**

Marzieh Golabbakhsh; Xuan Wang; Dan MacDougall; Josh Farrell; Thomas Landry; robert funnell; Robert Adamson

PS 194**Forward and Reverse Middle Ear Transmission in Gerbil with a Spontaneously Healed Tympanic Membrane**

Xiaohui Lin; Sebastiaan Meenderink; Eric Duong; Timothy Jung; Wei Dong

PS 195**Functional Role of Ligaments in the Gerbil Middle Ear**

Eileen Brister; Claus-Peter Richter; Mackenzie Mills; Stephen Hoff; Yi Shen; Robert Withnell

PS 196**Causally-Constrained Measurements of Aural Acoustic Reflectance and Reflection Functions**
*Douglas H. Keefe***PS 197****Controlled Comparison of Methods for Measuring Ear-Canal Reflectance**

Kren Monrad Nørgaard; Karolina K. Charaziak; Christopher A. Shera

PS 198**Quantification of Ear-Canal Cross-Sectional Area to Improve Absorbance Measurements**

Katherine Fairbank; Nicholas J. Horton; Susan E. Voss

PS 199**High-speed Holographic Shape and Vibration Measurement of Semi-transparent Tympanic Membrane**

Haimi Tang; Pavel Psota; John Rosowski; Cosme Furlong; Jeffrey Cheng

PS 200**Estimating Young's Modulus of Thin Elastic Structures Using Holographic Measurements of Harmonic Vibration with an Application to Tympanic Membrane Characterization**

Arash Ebrahimian; Haimi Tang; Jeffrey Cheng; Nima Maftoon

PS 201**Optimizing Umbo Microphone for Fully Implantable Assistive Hearing Devices via Analytical and Numerical Modeling, and Electrical Shielding**

Benjamin G. Cary; Nicolas Verhaert; Tasher Losenegger; Elizabeth S. Olson; Jeffrey H. Lang; Hideko H. Nakajima

PS 202**Mechanics of Total Drum Replacement Tympanoplasty Measured with Wideband Acoustic Immittance**

Kristine Elisabeth Eberhard; Salwa F. Masud; Hamza Khalid; Aaron K. Remenschneider; Hideko H. Nakajima

PS 203**Holographic Measurement of Semi-transparent Tympanic Membrane Shape by a Multiple Angle Illumination Technique**

Haimi Tang; Pavel Psota; John Rosowski; Cosme Furlong; Jeffrey Cheng

PS 204**Characterization of Quasi-Static 3-DOF-Stiffness and 3D-Morphometry of the Human Stapedial Annular Ligament**

Merlin Schär; Raoul Hopf; Ivo Dobrev; Alexander Huber; Jae Hoon Sim

PS 205**Dual-Laser Measurement of Stapes Footplate Movement in Human Ears with and without Hearing Protection Device (HPD) under Blast Exposure**

Rong Z. Gan; Shangyuan Jiang; Kyle Smith; Chenkai Dai

PS 206**A Comparative Study of Avian Middle Ear Morphology and Mechanics**

John Peacock; Garth Spellman; Nathaniel T. Greene; Daniel J. Tollin

PS 207**Assessment of Sound Transmission Efficiency of Middle Ear Based on Direct Excitation of Ossicles by Vibration Probe**

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

PS 208**Eustachian stent placement and tubography in Fresh-frozen Human Cadavers**

Byung Chul Kang; Kun Yung Kim; Ho-Young Song; Jung-Hoon Park; Hong Ju Park; Woo Seok Kang

Noise Injury

PS 209**Susceptibility to Noise Exposure in Mice Expressing Channelrhodopsin-2**

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

PS 210**Stress receptors in frontal brain regions impact on auditory nerve function and auditory brainstem responses**

Philine Marchetta; Philipp Eckert; Lukas Rüttiger; Wibke Singer; Marlies Knipper

PS 211**Noise-Induced Hearing Loss and Cochlear Injury Vary Dramatically with Impulsiveness of the Exposure**

Mo Chen; Wei Qiu; Sharon G. Kujawa

PS 212**Reliability of Personal Noise Dosimetry**

Ashley Parker; Jennifer Tufts; Erika Skoe

PS 213 - WITHDRAWN**PS 214****Stress-induced Expression of Galectin-3 in Cochlear Immune Cells and Supporting Cells in the Mouse Cochlea**

Henry Adler; Richard Salvi; Qingyin Zheng; Celia Zhang; Gail Seigel; Bo Hua Hu

PS 215**Repair of Noise-Induced Damage in Stereocilia F-actin Cores**

Elizabeth Wagner; Maura I. Nakahata; Terrence Imbery; Jung-Bum Shin

PS 216**All Shook Up: Modeling Noise-Induced Damage and Repair in the Zebrafish Lateral Line**

Melanie Holmgren; Mike E. Ravicz; Kenneth E. Hancock; Mark Warchol; Lavinia Sheets

PS 217**The Weaker Sex: Male Rats Sustain Greater Hearing Loss and Hair Cell Loss from Gaussian and Non-Gaussian Noise Exposure**

Guang-Di Chen; Mo Chen; Xiaopeng Liu; Senthilvelan Manohar; Li Li; Wei Qiu; Sharon G. Kujawa; Richard Salvi

PS 218**The Effects of Circadian Disruption on Threshold Shifts After Noise Exposure**

Chao-Hui Yang; Chung-Feng Hwang; Ming-Yu Yang; Jiin-Haur Chuang

PS 219**Prolonged Low-Level Noise Exposure Reduces Cochlear Temporal Resolutions**

Xiaopeng Liu; Li Li; Guang-Di Chen; Richard Salvi

PS 220**Changes in microRNA expression in the cochlear nucleus and inferior colliculus after acute noise-induced hearing loss**

Dong-Han Lee; Sohyun Park; Myung-Whan Suh; Jun Ho Lee; Seung-Ha Oh; Moo Kyun Park

PS 221**Acoustic Trauma Modulates the Cochlear Blood Flow and Vasoactive Factors in a Rodent Model of Noise-induced Hearing Loss**

Sun-Ae Shin; Ah-Ra Lyu; Min Jung Park; Yong-Ho Park

PS 222**Treatment with FK506 Promotes Noise Induced-Hearing Loss through Inhibition of Calcineurin and Activation of Autophagy**

Zuhong He; Shan Xu; Qiaojun Fang; Su-Hua Sha

PS 223**Noise-induced Loss of Sensory Hair Cells is Triggered by ROS/p-AMPK α Pathway**

Fan Wu; Su-Hua Sha

PS 224

LCCL activates innate immunity in the cochlea by bacterial infection or noise stimulation

Jinsei Jung; Jee Eun Yoo; Byunghwa Noh; Kyu Min Kim; Gina Na; Seung Ho Shin; Dong Chul Cha; Haiyue Lin; Min Jin Kang; Young Kyun Hur; Jae Young Choi

PS 225

Synergistic interaction between TRPV1 and TNF- α in mediating noise-induced hearing loss

Asmita Dhukhwa; Sandeep Sheth; Chaitanya Mamillapalli; Vickram Ramkumar; Debashree Mukherjee

Sensorineural Hearing Loss and Audiology

PS 226

Ototoxicity in Cystic Fibrosis Patients Following a Single Course of Intravenous Tobramycin in a Prospective Cohort Study

Angela Garinis; Malcolm Gleser; Alexis Johns; Erik Larsen; Jay Vachhani

PS 227

Ototoxicity in Cancer Survivors with Chemotherapy-Induced Peripheral Neuropathy

Jennifer Henderson Sabes; Christine Miaskowski; Judy Mastick; Grace Mausisa

PS 228

Hearing Loss Characterization in Younger and Older Adults: Insights from the Hearing Examinations of Southern Denmark Database

Manuella Lech Cantuaria; Ellen Raben Pedersen; Mette Sørensen; Frans Boch Waldorff; Jesper Hvass Schmidt

PS 229

Reduced diameter of nervus cochlearis in long term deaf patients quantified with semiautomatic MRI ZOOMIT sequence.

Katrin Reimann; Ulrike Eherenpfordt; Ulrich Kloose; Maximilian Schulze

PS 230

Correlation of ECAP and Anamnestic Parameters in Cochlear Implant Patients - Identification of Predictors for Neuronal Health Status

Verena Scheper; Katharina Klötzer; Thomas Lenarz; Lutz Gärtner

PS 231

Anatomy of vestibular aqueduct in the patients who had the edolymphatic sac surgery and its usefulness for surgery.

Takashi Sato; Takao Imai; Yumi Ohta; Kazuo Oshima; Hidenori Inohara

PS 232

Cytokine Expression in Cyst Fluid and Tumor Associated Macrophages in Cystic Vestibular Schwannomas

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; Kourosh 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

4:30 PM – 6:30 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 WITHDRAWN**

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; Svenn 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

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

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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. Saldate; 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 Descossy; 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 Koeppel

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 Koeppel

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

PS 289

Neural Processing and Perception of Speech in Children with Mild to Moderate Sensorineural Hearing Loss

Axelle Calcus; Stuart Rosen; Lorna Halliday

PS 290

Fast Click Rate Evoked Auditory Brainstem Response in Children with Autism

chun liang; Jierong Chen; Binbin Sun; Yalin Liu; Chengyun Zou; Guobin Wan

PS 291

Acoustic Change Complex and the Auditory Steady State Response with Amplitude Modulated Noise in Children with Listening Difficulties

Chelsea Blankenship; Lauren Petley; Thu Nguyen; Noah Campagna; Audrey Perdew; Nathan Clevenger; Erin Cash; Andrew Dimitrijevic; David R. Moore

PS 292

A Brain Network of Temporo-Frontal and Hippocampal Areas Support Pattern Detection in Rapid Sound Sequences

Roberta Bianco; Pavan Chaggar; Rosemary Southwell; Sven Bestmann; Gareth Barnes; Maria Chait

PS 293

The Developing Creative Brain: a Functional Magnetic Resonance Imaging (fMRI) Investigation of Musical Creativity in School-Aged Children

Karen C. Barrett; Patpong Jiradejvong; Lauren Jacobs; Charles J. Limb

PS 294

Application of an Auditory Steady State Response Paradigm to Cortical Evoked Potentials

Linda J. Hood; Rafael E. Delgado; John D. Durrant

PS 295

A pilot study to evaluate spectral resolution with Acoustic Change Complex using Ear Electroencephalography

Soojin Kang; Hye Yoon H. Seol; Sung Hwa Hong; Il Joon Moon

PS 296

Physiology and Connectivity of the Human Superior Temporal Sulcus as Revealed by Intracortical Recordings

Mitchell Steinschneider; Kirill Nourski; Ariane Rhone; Christopher Kovach; Hiroto Kawasaki; Matthew Banks

PS 297

Informational and Energetic Masking Effects on the Acoustic Change Complex

Jared Carter; Barbara Cone

PS 298

Extracting neural representations of auditory attentional processes from fMRI using multivariate pattern analysis

winko An; Abigail Noyce; Alexander Pei; Barbara Shinn-Cunningham

PS 299

Transcranial Current Stimulation with the Speech Envelope Filtered in the Theta- but not in the Delta Band Modulates the Comprehension of Speech in Noise

Mahmoud Keshavarzi; Mikolaj Kegler; Shabnam Kadir; Tobias Reichenbach

PS 300

Low Frequency Cortical and Cochlear Oscillations during Selective Attention to Visual and Auditory Stimuli in Tinnitus

Rodrigo Donoso; Alexis Leiva; Constantino Dragicevic; Paul Delano

PS 301

Representation of Timbre variations in Human Auditory Cortex

Prachi Patel; Jose Herrero; Ashesh Mehta; Shihab Shamma; Nima Mesgarani

Auditory Cortex: Processing and Perception

PS 302

Cocktail Party Training Improves the use of Level Cues for Speech Intelligibility. Behavioral and fNIRS evidence.

Cosima Lanzilotti; Guillaume Andeol; Sebastien Scannella

PS 303

Comparison of Two-Tone Forward Suppression in the Auditory Thalamus and Cortex

Colin Xiong; Xiuping Liu; JUN YAN

PS 304

Signal-to-Noise Ratio Shapes Dip Listening in Auditory Cortex

Nima Alamatsaz; Antje Ihlefeld

PS 305

Characterizing Cortical Auditory Evoked Potentials in Mice

Warren M. Bakay; Olivier Postal; Typhaine Dupont; Christine Petit; Nicolas Michalski; Boris Gourévitch

PS 306

Physiological Correlates of Masking Release

Hyojin Kim; Bastian Epp

PS 307

Dynamic encoding of sensory features, perceptual category and behavioural choice in ferret A1

Rupesh K. Chillale; Shihab Shamma; Srdjan Ostojic; Yves Boubenec

PS 308**Functional and Structural Analysis of Cortical Profiles in Feline Primary Auditory Cortex – Effect of Auditory Deprivation**

Peter Hubka; Lea Sollmann; Kwame S. Kutten; J. Tilak Ratnanather; Andrej Kral

PS 309**Temporal Integration of Sequences in Secondary Auditory Region of the Zebra Finch Forebrain**

Adam R. Fishbein; Kai Lu; Wanyi Liu; William J. Idsardi; Jonathan B. Fritz; Shihab A. Shamma; Robert J. Dooling

PS 310**Differential Neural Representation of Identical Acoustic Stimuli in the Context of Different Behavioral Paradigms in Frontal Cortex of the Ferret**

Wanyi Liu; Kai Lu; Pingbo Yin; Shihab A. Shamma; Jonathan B. Fritz; Stephen V. David

PS 311**Auditory Learning Improves a Natural Social Behavior in Mice**

Cristina Besosa; Alex G. Dunlap; Brenda Belwood; Dorottya Kacsoh; Robert C. Liu

PS 312**Functional UltraSound imaging of Ferret Auditory Cortex Reveals a Unique Neural Signature of Human Speech and Music Perception**

Agnes Landemard; Celian Bimbard; Sam Norman-Haigneré; Yves Boubenec

PS 313**Representation of Perceptual Integration Time Downstream of Auditory Cortex**

Justin D. Yao; Justin Gimoto; Dan H. Sanes

PS 1039 (Late Addition)**Spectral Combination-sensitivity and FM Direction Preference Contribute Equally to Maximizing Responses of Cortical Neurons: A Possible Mechanism for Binding Acoustic Features**

Stuart D. Washington; Georgios A. Keliris; Jagmeet S. Kanwal

Auditory Prostheses III

PS 314**The Effect of Tactile Stimulation on Pitch Perception in Normal Hearing and Cochlear Implant Users**

Susan R. Bissmeyer; Juri Hwang; Raymond L. Goldsworthy

PS 315

Understanding the Causes and Effects of Temporal Pitch Distortion in Cochlear Implant Users.

Barry D. Jacobson

PS 316

Pulse Symmetry and Channel Interactions in Cochlear Implants

Gunnar L. Quass; Peter Baumhoff; Dan Gnansia;

Pierre Stahl; Andrej Kral

PS 317

Exploring Polyphonic Pitch Perception in Cochlear Implant Users

Andres Camarena; Raymond L. Goldsworthy

PS 318

A Coding Strategy to Remove Temporally Masked Pulses and its Effect on Speech Perception by Cochlear Implant Listeners

Wiebke Lamping; Tobias Goehring; Jeremy Marozeau;

Robert P. Carlyon

PS 319

Evaluating the Effect of Focussed Stimulation on Excitation Patterns in Humans and Cats: Linking Psychophysics and EEG Measurements

Francois Guerit; Andrew J. Harland; John C.

Middlebrooks; Robin Gransier; Matthew L Richardson;

Jan Wouters; Robert P. Carlyon

PS 320

How Temporal is Temporal Modulation Detection? The Relationship between Modulation Sensitivity and Spectral Resolution in Cochlear Implant Users

Ning Zhou; Lixue Dong; Susannah Dixon; Baylee Engelhardt

PS 321

Rapid Simultaneous-Masked Spatial Tuning Curves in Cochlear-Implant Users

Jordan A. Beim; Heather A. Kreft; Julie G. Arenberg;

Andrew J. Oxenham

PS 322

Revisiting Loudness Growth with Increasing Pulse Amplitude or Phase Duration in Cochlear Implant Users

Ning Zhou; Lixue Dong; John Galvin III

PS 323

Effects of Instrument Timbre on Musical Emotion Recognition by Cochlear Implant Users

Brendon Warner; Xin Luo

PS 324

Impact of Flat Panel CT-Based Cochlear Implant Fittings on Speech, Timbre, and Pitch Perception

Melanie L. Gilbert; Nicole T. Jiam; Patpong Jiradejvong; Daniel L. Cooke; Charles J. Limb

Auditory Prostheses IV

PS 325

Decoding Selective Attention in Cochlear Implant Users and its Relation to Speech Performance

Waldo Nogueira; Hanna Dolhopiatenko; Irina Schierholz

PS 326

F0 Discrimination, Speech recognition, and Emotion Recognition in Younger and Elderly Adults Listening to Noise-Vocoded Harmonic Complexes

Lendra M. Friesen; Robert Morse

PS 327

Cochlear Implants Users have Larger Visual Evoked Potentials and Delayed Alpha Oscillations in a Visual Working Memory Task

Priyanka Yogarajah; Brandon T. Paul; Andrew Dimitrijevic

PS 328

The Effects of Reverberation on Speech Understanding in MED-EL Cochlear Implant Recipients

Sandra Prentiss

PS 329

Contribution of the Functional Status of the Cochlear Nerve to Speech Recognition Outcomes in Adult Cochlear Implant Users

Jeffrey Skidmore; William J. Riggs; Chloe Vaughan; Shuman He

PS 330

Improved Neural Responses in Cochlear Implants Using a Physiologically Based Stimulation Strategy: Preliminary Results

Andres F. Llco; Thomas M. Talavage

PS 331

Evaluating a mixed-rate cochlear implant strategy on speech understanding in noise

Tanvi Thakkar; Thibaud Leclerc; Alan Kan; Ruth Y. Litovsky

PS 332

Age-related Temporal Processing Deficits for Word Segments in Adult Cochlear-Implant Users: Perceptual and Electrophysiological Evidence

Zilong Xie; Samira Anderson; Sandra Gordon-Salant; Matthew Goupell

PS 333

Compared to Normally Hearing Listeners, Cochlear Implant Users Rely More on Lexical-Semantic Cues than on Prosodic Cues for Speech Emotion Identification

Margaret Richter; Monita Chatterjee

PS 334

The Role of Semantic Context and Talker Variability in Speech Perception for Cochlear-Implant Users and Normal-Hearing Listeners under Voded Conditions

Erin R. O'Neill; Heather A. Krefit; Andrew J. Oxenham

PS 335

Age at Cochlear Implantation and Frequency-to-Place Mismatch Influence Early Speech Recognition Outcomes

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

PS 336

Behavioral Assessment of Selective Attention with Competing Speech Stimuli in Hearing Aid Users

Sébastien Santurette; Martha Larsen; Lu Xia; Jens-Christian Britze Kijne; Josefine Juul Jensen

Binaural Hearing and Speech Perception

PS 337

Effects of Binaural Fusion on Benefits from Voice Pitch Differences and Spatial Separation in a 'Cocktail Party' Environment

Yonghee Oh; Curtis Hartling; Nirmal Kumar Srinivasan; Morgan Eddolls; Anna Diedesch; Frederick J. Gallun; Lina Reiss

PS 338**Binaural-Temporal Integration of Speech
Reflections in Hearing-Impaired Listeners**

Jan Rennie; Anna Warzybok; Thomas Brand; Birger Kollmeier

PS 339**The Effect of Asymmetric Dynamic Range on Speech
Intelligibility and Binaural Unmasking in Normal
Hearing Individuals Listening to Vcoded Speech**

*Emily A. Burg; Tanvi Thakkar; Sean R. Anderson;
Matthew B. Winn; Ruth Y. Litovsky*

PS 340**Spectro-Temporal Weighting of Interaural Time
Differences in Speech**

Lucas Baltzell; Jayaganesh Swaminathan; Virginia Best

PS 341**The Effect of different Head-Related Transfer
Functions on the Spatial Release from Masking in
Children with Auditory Processing Disorder**

Katharina Zenke; Stuart Rosen

PS 342**Central Auditory Mechanisms Revealed by Dichotic
Listening in Noise**

*Carrie Clancy; Jillian Bushor; Maggie Schefer; Alyssa
Everett; Barrett St. George; Frank Musiek*

PS 343**On the Relation Between Binaural Temporal
Processing and Speech Understanding in Noise.**

Jaime A. Undurraga; Jeremie Lienart; David McAlpine

**Binaural Hearing: Cochlear Implants,
Bone Conduction, and Hearing Aids**

PS 344 WITHDRAWN**Binaural Hearing Benefits of Bone Conduction
Devices in Individuals with Conductive Hearing Loss**

*Hillary Snapp; Brianna Kuzbyt; Alyssa Whinna;
Seba Ausili*

PS 345**Horizontal Sound Localization of Bonebridge
Implant in Patients with Single-Sided Deafness**

Chunli Zhao; Jinsong Yang; Yujie Liu; Shouqin Zhao

PS 346

Sound Localization in Patients with a Unilateral Hearing Aid: Discordance Between Right and Left Ear

Hun Yi Park; Hantai Kim

PS 347

Cochlear Implant for Congenitally Deaf Children with Single-sided Deafness

Susan Arndt; Hassepass Frederike; Antje Aschendorff; Thomas Wesarg; Iva Speck; Rainer Beck

PS 348

Objective and Subjective Long-term CI Usage Evaluation of Patients with Single-sided Deafness and Asymmetric Hearing Loss

Susan Arndt; Pascal Challier; Hassepass Frederike; Ann-Kathrin Rauch; Thomas Wesarg; Iva Speck

PS 349

Lateralization of Competing Interaural Envelope Cues Measured with the CCI-Mobile Research Platform

Stephen R. Dennison; Alan Kan; Tanvi Thakkar; Ruth Y. Litovsky

PS 350

Aiding the Fitting of Bilateral Cochlear Implants Using a Tool for Loudness Balancing

Marina Salorio-Corbetto; Deborah Vickers; Lorenzo Picinali

PS 351

Robust Spatial Unmasking of Speech in Children with Bilateral Cochlear Implants by Harnessing Interaural Time and Level Cues with Large Angular Separation between Target and Maskers

Z. Ellen Peng; Ruth Y. Litovsky

PS 352

Onset Weighting of Temporal Spatial Cues with Cochlear Implant Stimulation in Early Onset Deafness

Alexa Buck; Nicole Rosskoth-Kuhl; Lakshay Khurana; Stella Mayer; Kongyan Li; Jan W. Schnupp

PS 353

Spatial Hearing with Two CIs: Pulse Rate and Envelope Shape Affect Interaural Time Difference Sensitivity of Hearing Inexperienced Rats

Nicole Rosskoth-Kuhl; Alexa N. Buck; Stella Mayer; Lakshay Khurana; Jan W. Schnupp

PS 354**Impact of Synchronized Automatic Gain Controls on Perception of Stereo Spatialization in Bilateral Cochlear Implant Users**

Stephanie B. Purnell; Charles J. Limb; Patpong Jiradejvong; Karen C. Barrett

PS 355**Binaural Hearing Benefits in Aging Bilateral Cochlear Implant Recipients**

Sandra Prentiss; Hillary Snapp

Clinical Vestibular Disorders

PS 356**Human Schwann Cells are Less Susceptible to Radiation Injury than Merlin-Deficient Schwann Cells through Expression of RAD51 DNA Repair**

Stefanie Peña; Erin Cohen; Stefania Goncalves; Olena Bracho; Brian Marples; Nagy Elsayyad; Michael Ivan; Paul Monje; Cristina Fernandez-Valle; Fred Telischi; Xuezhong Liu; Christine Dinh

PS 357**Vibration-induced nystagmus in patients with vestibular schwannoma: Characteristics and clinical implications**

Jeon Mi Lee; Hyun Jin Lee; Sung Huhn Kim

PS 358**Identification of A Genetic Mutation Underlying Familial Cases of Recurrent Benign Paroxysmal Positional Vertigo**

Yinfang Xu; Yan Zhang; Ivan Lopez; Shelley Smith; Akira Ishiyama; Xuezhong Liu; Yesha (Yunxia) Lundberg

PS 359**Improvement in Postural Control and Quality of Life after Stapedotomy**

Andrea Viziano; Alessandro Micarelli; Marco Alessandrini

PS 360**Noisy Galvanic Vestibular Stimulation Has a Greater Ameliorating Effect on Postural Stability in Unstable Subjects.**

Chisato Fujimoto; Makoto Kinoshita; Teru Kamogashira; Tatsuya Yamasoba; Shinichi Iwasaki

PS 361**Vestibular Implantation and the Feasibility of Fluoroscopy-guided Electrode Insertion**

Raymond Van de Berg; Joost Stultiens; Herman Kingma; AA Postma; Nils Guinand; Angélica Perez-Fornos

PS 362**Multimodality Electrode Interactions in a Combined Vestibular and Cochlear Implant.**

James Phillips; Leo Ling; Amy Nowack; Jay T. Rubinstein

PS 363**Prevalence of Vestibular and Balance Disorders in Asymptomatic Controls and HIV+ Adults**

Helen S. Cohen; Michael W. Plankey; Susan P. Willilams; Haleh Sangi-Haghpeykar

PS 364**Bilateral vestibulopathy, age and walking speed increase drop-out rate when testing Dynamic Visual Acuity during walking**

Raymond Van de Berg; Herman Kingma; Floor Lucieer; Marlou Snelders; Dmitrii Starkov; Maksim Pleshkov; Vincent Van Rompaey; Nils Guinand; Angélica Perez-Fornos

PS 365**Understanding Extremely Elevated Dizziness Handicap Inventory Scores: An Analysis of Predictive Factors**

Emily C. Wong; Whitney Chiao; Katrina Luong; Lauren Pasquesi; Jeffrey D. Sharon

Development I

PS 366**The Notch Ligand Jagged1 is Required for Normal Cochlear Function and Inner Hair Cell Stereocilia Integrity in the Postnatal Organ of Corti**

Felicia A. Gilels; Jun Wang; Anwen Bullen; Patricia M. White; Amy E. Kiernan

PS 367**Wnt Signaling Impacts Central Pathfinding of Spiral Ganglion Neurons**

Zach A. Stoner; Elizabeth Ketchum; Karen Elliott; Jeremy S. Duncan

PS 368

A Novel Wnt/G-Protein/PI3K Signaling Pathway Regulates Planar Polarity In The Cochlea

Andre Lanin Malt; Arielle K. Hogan; Connor D. Smith; Maxwell Madani; Xiaowei Lu

PS 369

Deficient and Excessive Retinoic Acid Signaling Inhibits Morphogenesis of Stem Cell-Derived Otic Vesicles into Inner Ear Organoids

Liqian Liu; R. Keith Duncan

PS 370

Defining the Role of Gata3 During Cellular Differentiation

Paige Blinkiewicz; Jeremy S. Duncan

PS 371

Endothelin Expression Suggests Multiple Roles in Inner Ear Development

Justine M. Renauld; William Davis; Martin L. Basch

PS 372

Retinoic Acid Synthesis via Retinol Dehydrogenase 10 and Aldehyde Dehydrogenase 1a3 Enzymes Mediate Formation of Peripheral versus Central Region of Vestibular Sensory Organs

Kazuya Ono; Doris Wu

PS 373

GATA3 and NEUROD1 Regulate the Projection of Spiral Ganglion Neurons from the Cochlea to the Cochlear Nucleus

Elizabeth Ketchum; Jeremy S. Duncan

PS 374

Multiple Roles of the Notch Ligand Jagged1 during Sensory Development of the Cochlea

Courtney Kellogg; Amy E. Kiernan

PS 375

Insulin-Like Growth Factor-1 Controls Autophagic Flux in Differentiating Otic Cells

Sara Pulido; Angela Garcia-Mato; Lourdes Rodriguez de la Rosa; Marta Magariños; Isabel Varela-Nieto

PS 376

Signaling by Ndp through its Receptor Fzd4 in Cochlear Hair Cells is Critical for Hair Cell Function and is Disrupted in Norrie Disease

Yushi Hayashi; Artur Indzhykulyan; Albert Edge

PS 377**Development of Ossification in the Neonatal Gerbil Middle Ear***Eileen Brister; Christoph Rau; Robert Withnell; Yi Shen; Stephen Hoff; Claus-Peter Richter***PS 378****FGF8 expression specifically marks differentiating type I vestibular hair cells shortly after mitosis***Evan Ratzan; Michael Deans***PS 379****Expression of Semaphorins and Their Receptors in Developing Chicken Auditory Ganglion and Cochlear Nucleus***Xiaoyu Wang; M. Katie Scott; Donna Fekete; Yuan Wang***PS 380****Absence of Integrin Alpha8 Apical Expression Results in Abnormal Hair Cell Morphology and Hearing Loss***Marisa Zallocchi; Jian Zuo; Huizhan Liu; Duane Delimont; Linda Goodman; David Z. He***PS 381****Canonical Wnt signaling modulation using CHIR vs non-canonical signaling with photobiomodulation on the development of inner ear organoids***Nathaniel Carpena; So-Young Chang; Jae Yun Jung; Phil-Sang Chung; Min Young Lee***PS 382****Differentiation of Inner Ear Progenitors with Defective CHD7 in Chimeric Human Inner Ear Organoids***Yoshitomo Ueda; Jing Nie; Eri Hashino***PS 383****Patterning the Radial Axis of the Cochlea: Exploring the Role of Fgfs downstream of Wnt Signaling***Elizabeth R. Wehren; M. Katie Scott; Rachel M. Maibach; Donna Fekete***PS 384****Slc26a9P2ACre, a New Pan-Otic Cre Driver for Conditional Manipulation of Inner Ear Gene Expression***Lisa Urness; Xiaofen Wang; Chaoying Li; Rolen Quadros; Channabasavaiah Gurumurthy; Suzanne Mansour*

PS 385

Generation and Characterization of PAX2-CreERT2 Reporter Cell Lines for Lineage Tracing in Human Inner Ear Organoids

Takashi Nakamura; Jing Nie; Eri Hashino

PS 386

Evaluating the Role of the Basic Helix-Loop-Helix Family Member E40 (Bhlhe40) Transcription factor in Inner Ear Development and Function.

Braulio Peguero; Sarah Allen; Talah Wafa; Rafal Olszewski; Michael Hoa; Tracy S. Fitzgerald; Matthew W. Kelley

PS 387

Live Imaging of Cochlear Organotypic Explants – a Tool for Studying Development, Pathology, and Regeneration

Shahar Taiber; Shiran Wolland; Roie Cohen; Liat Amir-Zilberstein; Olga Lonza; Karen B. Avraham; David Sprinzak

PS 388

Early determinants of cell fate in 3D inner ear organoids

Pei-Ciao Tang; Emily R. Verbrugge; Rick F. Nelson

Endolymph & Ménière's Disease

PS 389

The Modulation of the Sensitivity of the Mammalian Utricle by Low Frequency Hydrostatic Bias.

C Pastras; S Stefani; Ian S. Curthoys; Camp A; Daniel Brown

PS 390

Effect of Intratympanic Vasopressin on Inner Ear in Mouse

Minbum Kim; So Yeon Yoon

PS 391

Rat Model of Acute Attack of Ménière's Disease: Direction-changing Spontaneous Nystagmus and Hearing Fluctuations Induced by Intratympanic Injection of Potassium Chloride

Takefumi Kamakura; Tadashi Kitahara; Makoto Kondo; Arata Horii; Yukiko Hanada; Yasumitsu Takimoto; Yusuke Ishida; Yukiko Nakamura; Takao Imai; Hidenori Inohara; Shoichi Shimada

PS 392**Roles of Macrophages/Microglia in Endolymphatic Sac Pathologies Associated with Meniere's Disease***David Bächinger; Joseph B. Nadol; Joe C. Adams; Andreas H. Eckhard***PS 393****Quantitative 3D Volume Measurement of Endolymphatic Hydrops is Different from the Conventional 2D Area Measurement in Meniere's Disease***Tae-Soo Noh; In Chan Song; Ji Hoon Kim; Doo Hee Kim; Moo Kyun Park; Jun Ho Lee; Seung-Ha Oh; Myung-Whan Suh***PS 394****Vestibulo-ocular Reflex Gain of the Video Head Impulse Test (vHIT) with Re-fixation Saccades on Patients with Meniere's Disease***Shreyas Bharadwaj; Michelle Petrak; Cammy Bahner; Laurin Moodie; Sara Claycomb; Akihiro Matsuoka*

Gene Expression and Regulation

PS 395**Comparison of Different Sample Preparation Methods for sNuc-RNASeq of the Adult Stria Vascularis***Shoujun Gu; Rafal Olszewski; Ian Taukulis; Madeline Pyle; Zheng Wei; Daniel Martin Izquierdo; Robert Morell; Michael Hoa***PS 396****The ATP-Dependent Chromatin Remodeler CHD7 is Critical for Neuronal Lineage Differentiation by Changing Chromatin Accessibility and Nascent RNA***D Ford Hannum; Hui Yao; Sophie F. Hill; Ricardo D. Albanus; Wenjia Lou; Jennifer M. Skidmore; Gilson J. Sanchez; Alina R. Saiakhova; Stephanie L. Bielas; Peter C. Scacheri; Mats Ljungman; Stephen CJ Parker; Donna M. Martin***PS 397****«Passenger Gene» Problem in Transgenic C57BL/6 Mice Used in Hearing Research***Jun Suzuki; Hitoshi Inada; Chul Han; Mi-Jung Kim; Ryuichi Kimura; Yusuke Takata; Yohei Honkura; Yuji Owada; Tetsuaki Kawase; Yukio Katori; Shinichi Someya; Noriko Osumi*

PS 398**Characterisation of Fibroblasts Derived From an Usher Syndrome Patient with USH2A Gene Mutations and the Subsequent Generation of Induced Pluripotent Stem Cell Lines**

Abbie Francis; Sam McLenachan; Sharon Redmond; Fred Chan; Marcus Atlas; Rodney Dilley; Elaine Y.M. Wong

PS 399**Generation and Correction of P2RX2 c.178G>T mutation in Human and Mouse iPSCs**

Aida Nourbakhsh; Zheng-Yi Chen; Zaohua Huang; Nicholas Gosstola; Derek Dykxhoorn Dykxhoorn; Xuezhong Liu

PS 400**Conditional Deletion of the RNA-Binding Protein Caprin-1 Leads to Progressive Hearing Loss in Mice.**

Lisa S. Nolan; Jing Chen; Ana Cláudia Gonçalves; Emily Towers; Naila Haq; Karen Steel; Jonathan Gale; Sally Dawson**

PS 401**Genomic Analysis of Enhancer Identity and Function in Hair Cell Regeneration**

Erin Jimenez; Claire Slevin; Shawn Burgess

PS 402**The expression of human TMPRSS3 gene in zebrafish**

Shunsuke Tarumoto; Youichi Asaoka; Kazuma Sugahara; Yoshinobu Hirose; Makoto Hashimoto; Makoto Seiki; Hiroshi Yamashita

PS 403**The Expression of GDPD3 and its Response to Noise in the Cochlea**

Holly J. Beaulac; Patricia M. White

PS 404**Connexin 26 in Mature Ears Influences Survival of Hair Cells and Neurons**

Xiaobo Ma; Jennifer M. Skidmore; Jelka Cimerman; Lisa A. Beyer; Donald L. Swiderski; Lisa Kabara; David F. Dolan; Donna M. Martin; Yehoash Raphael

PS 405**Screened AAV Variants Permit Efficient Transduction Access to Inner Ear Cells for Gene therapy**

Yilai Shu; Jinghan Wang; Xinde Hu; Yuanyuan Xue; Hui Yang; Huawei Li

PS 406

DYNC1LI1 is required for auditory hair cell development in mice

Yuan Zhang; Renjie Chai

PS 407

The Genetics of Variation of The Wave 1 Amplitude of The Mouse Auditory Brainstem Response

Ely Cheikh Boussaty; Danielle Gillard; Joel Lavinsky; Pezhman Salehi; Juemei Wang; Amanda L Crow; Aline Mendonça; Hooman Allayee; Uri Manor; Rick A Friedman

PS 408

Investigating the effects of exonic and intronic variants of NF2 on pre-mRNA splicing

Masaru Noguchi; Masato Fujioka; Naoki Oishi; Hideki Mutai; Kiyomitsu Nara; Tatsuo Matsunaga; Kaoru Ogawa; Koichiro Wasano

PS 409

Serum activity of MMP9 and functional polymorphism of MMP9 and BDNF as potential biomarkers of neuroplasticity in prelingual deafness treatment with cochlear implantation

Monika Matusiak; Anita Obrycka; Emilia Rejmak-Kozicka; Leszek Kaczmarek; Henryk Skarzynski

PS 410

Investigating the effects of exonic single nucleotide variants of SLC26A4 on pre-mRNA splicing

Koichiro Wasano; Takashi Kojima; Satoe Takahashi; Hideki Mutai; Tatsuo Matsunaga; Kazuaki Homma

PS 411

Constructing and Exploring Regulatory Networks of miR-96 in the Inner Ear

Morag Lewis; Maria Lachgar; Miguel Angel Moreno Pelayo; Karen Steel

PS 412

CACHD1-Deficient Mice Exhibit Hearing and Balance Deficits Associated with a Disruption of Calcium Homeostasis in the Inner Ear

Cong Tian; Jaclynn M. Lett; Robert Voss; Alec N. Salt; Jared J. Hartsock; Kevin Ohlemiller; Kenneth R. Johnson

PS 413

The Shared Genetic Program of the Peripheral and Central Auditory Systems Using Transcriptomics

Mor Bordeynik-Cohen; Constanze Krohs; Naama Messika Gold; Ran Elkon; Hans Gerd Nothwang; Karen B. Avraham

PS 414**Characterization of a Prestin Mouse Model
Carrying the p.R130S Missense Variant**

Satoe Takahashi; Yingjie Zhou; Mary Ann Cheatham;
Kazuaki Homma

PS 415**KCNQ4 variants lacking the C-terminal cytosolic
domain are cytotoxic**

Takashi Kojima; Koichiro Wasano; Satoe Takahashi;
Kazuaki Homma

PS 416**The Genetic Background of Mice Plays a Role in the
Severity ofTECTA-Related Hearing Loss**

A. Monique Weaver; Kevin T. Booth; Hela Azaiez;
Richard J.H. Smith

PS 417**Single Nucleus Sequencing of the Mouse Cochlea
with Cisplatin Treatment**

Erica C. Sadler; Soumya Korrapati; Ian Taukulis;
Madeline Pyle; Rafal Olszewski; Katharine Fernandez;
Zheng Wei; Erich Boger; Robert Morell; Michael Hoa;
Lisa L. Cunningham

PS 418**Partial Vestibular Deficit after Cx26 Deletion in Mice**

Xiaobo Ma; Jennifer M. Skidmore; Donald L. Swiderski;
Donna M. Martin; **Yehoash Raphael**

PS 419**Long-Term Expression Stability of Anc80L65-
Containing Virus Infected Hair Cells in the USH1C
Mouse Model**

Weinan Du; Gwenaelle S. Geleoc; Aizhen Zhang;
Tianwen Chen; Jun Huang; Hong Zhu; Wu Zhou;
Qingyin Zheng

PS 420**Differential Effects of Immune Modulation
on Cochlear Responses to Acute and Chronic
Degeneration in of Cdh23-erl/erl Mice**

Qingyin Zheng; Aizhen Zhang; Weinan Du; Bo Hua
Hu; Fangfang Zhao

PS 421**Investigating the Role of the Epigenetic Reader
Brd4 in Hearing and Development of the Inner Ear**

Abhiraami Kannan Sundhari; Clemer Abad; Marie
Maloof; Nagi Ayad; Juan Young; Susan Blanton;
Katherina Walz; Xuezhong Liu

PS 422**Characterizing a Mouse Model of Non-Syndromic Deafness Caused by Tmprss3 Mutation**

Ksenia A. Aaron; Ina A. Lee; Katja Pekrun; Elvis Huarcaya Najarro; Yasmin Eltawil; Wuxing Dong; Mark A. Kay; Alan Cheng

PS 423**Overexpression of mitochondrial histidyl-tRNA synthetase restored mitochondrial dysfunction caused by a deafness-associated tRNA^{His} mutation**
*Shasha Gong; Min-Xin Guan***PS 424****DFNA5 ablation augments noise induced hearing loss by inhibition synapse regeneration**
*Yong Tao; Zhuoer Sun; Xingle Zhao; Hao Wu***PS 425****HOMER2 is Involved in Actin Dynamics in Hair-Cell Stereocilia**

Heather Widmayer; Kevin T. Booth; Ana Sierra; Hela Azaiez; Richard J.H. Smith

PS 426**Big Data to Therapy: Precision Medicine for the Deaf in the Diverse Jewish Population**

Zippora Brownstein; Shahar Taiber; Mor Bordeynick-Cohen; Hana Bibi; Daniella Beller; Gabriel Chodick; Varda Shalev; Karen B. Avraham

Hair Cells to Vestibular Nuclei

PS 427**Cellular Origins and Response to Atoh1 Overexpression in the Vestibular Flat Epithelium of Mice**

Lu He; Jing-Ying Guo; Teng-Fei Qu; Wei Wei; Ke Liu; Zhe Peng; Guo-Peng Wang; Shu-Sheng Gong

PS 428**The Role of Pou4f3 in Vestibular Hair Cell Survival and Function**

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; Joe Hassin 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
Dysmorphic 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 Moleti; 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; Senthilvelan 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 Buckey; 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*

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 OT0-413, 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 Prostheses: 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 Prostheses

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 Fritsch; 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 Francis; 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

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***

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: Gwenaëlle 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; Gwenaëlle 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-
Ollrik 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. Klanseck; 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 Rebustini; 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

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 Buckey; 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 Röösl; 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 Prostheses

Nicholas Nolte; 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 Ferger; 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 Skeritt-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 Salience: 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

Rodrigo Pavão; Elyse S. Sussman; Brian Fischer; José L. Peña

PS 631

Functional NIRS Investigation of ITD Processing in the Human Cortex

Robert Luke; David McAlpine

PS 632

Effects of Age on the Neural Coding and Perception of Binaural Cues

Tess K. Koerner; Ramesh Kumar Muralimanohar; Frederick J. Gallun; Curtis J. Billings

PS 633

Design of a Chirp Stimulus to Maximize the Binaural Interaction Component (BIC) of the Auditory Brainstem Response (ABR)

Zoe Owrutsky; Daniel J. Tollin

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PS 634

Influence of Arousal State and Asymmetries on Objective Neural Measures of ITD Processing in Normal Hearing Adults

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

PS 635

A Comparison of Two Objective Measures of Binaural Hearing

Won So; Spencer Smith

Hair Cell Regeneration

PS 636

Effects of Dexamethasone—an Enhancer of Hair-Cell Regeneration—on Lateral-Line Innervation and Synapse Formation

Allison L. Saettele; Joseph Kwengwa; Lavinia Sheets

PS 637

Single-Cell Transcriptomics of Chick Basilar Papillae in the Process of Hair Cell Regeneration Using an Explant Culture Model

Takayuki Nakagawa; Mami Matsunaga; Tomoko Kita; Hiroe Ohnishi; Norio Yamamoto; Ryosuke Yamamoto; Koichi Omori; Satoko Sakamoto; Akira Watanabe

PS 638

Early Regenerative Signaling Pathways in the Chicken Basilar Papilla

Nesrine Benkafadar; Amanda Janesick; Mirko Scheibinger; Stefan Heller

PS 639

Bulk Transcriptome Analysis for the Initial Process of Hair Cell Regeneration in Chick Basilar Papilla Explant Cultures

Mami Matsunaga; Tomoko Kita; Hiroe Ohnishi; Norio Yamamoto; Koichi Omori; Takayuki Nakagawa

PS 640

Single-cell RNA-seq Uncovers Molecular Homology between the Chick and Mammalian Cochlea

Amanda Janesick; Mirko Scheibinger; Daniel C. Ellwanger; Stefan Heller

PS 641**Identification of Analogous Sub-types of Hair Cells and Support Cells Across Mammalian and Non-mammalian Species**

Brian Herb; Gurmanna Kalra; 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

PS 642**YAP Signals During Direct Transdifferentiation of Supporting Cells in Cochlear Explant Culture of Chicken and Mouse**

Tomoko Kita; Mami Matsunaga; Tomomi Miyatake; Li Gao; Ryosuke Nakamura; Norio Yamamoto; Takayuki Nakagawa; Koichi Omori

PS 643**YAP-Activating Small Molecules for Inner Ear Regeneration and Beyond**

Nathaniel Kastan; Ksenia Gnedeva; AJ Hudspeth

PS 644**Dynamic Changes of Surviving Hair Cells of the Damaged Mouse Utricle**

Grace Kim; Tian Wang; Zahra N. Sayyid; Alan Cheng

PS 645**Transcriptomic and Epigenetic Regulation of Hair Cell Regeneration in The Mouse Utricle and Its Potentiation by Atoh1**

Hsin-I Jen; Matthew Hill; Litao Tao; Kuanwei Sheng; Wenjian Cao; Hongyuan Zhang; Haoze Yu; Juan Llamas; Chenghang Zong; James Martin; Neil Segil; Andrew K. Groves

PS 646**Sox2 is Required for Regeneration of Vestibular Hair Cells in Adult Mice**

Amanda Ciani; Brandon C. Cox; Jennifer Stone

PS 647**Atoh1 Enhances Proliferation and Hair Cell Regeneration in the Adult Mouse Utricle**

Zahra N. Sayyid; Tian Wang; Leon J. Chen; Sherri M. Jones; Alan Cheng

PS 648**Viral Expression of Hair Cell-Specific Transcription Factors in Supporting Cells of the Adult Mouse Utricle**

Tara Balasubramanian; **Beatrice Mao**; Matthew W. Kelley

PS 649

Hippo Signaling Regulates Inner Ear Sensory Organ Growth and Restricts Regenerative Responses Through the Yap/Tead complex.

Ksenia Gnedeva; Xizi Wang; Melissa McGovern; Matthew Barton; Juan Llamas; Nathaniel Kastan; Litao Tao; Talon Trecek; Tanner Monroe; Haoze Yu; Welly Makmura; James Martin; A. James Hudspeth; Andrew K. Groves; Mark Warchol; Neil Segil

PS 650

Downstream Targets of Atoh1 during Mammalian Cochlear Hair Cell Differentiation

Dunia Abdul-Aziz; Nicolai Hathiramani; Lauren Phung; Albert Edge

PS 652

Comparison of the Proliferative Capacity of Neonatal Supporting Cell Subtypes

Marie Kubota; Mirko Scheibinger; Stefan Heller

PS 653

Comparison of Single Versus Combinatorial Strategies for Hair Cell Regeneration in Cochlear Explants

Phillip Uribe; Anne Harrop-Jones; Pranav D. Mathur; Fabrice Piu; Alan C. Foster; Bonnie E. Jacques

PS 654

Characterization of Stem Cell Traits amongst Nestin Expressing Cells in the Mammalian Organ of Corti

Hiroki Takeda; Anna Dondzillo; Samuel P. Gubbels

PS 655

ERBB2 Signaling Promoted Hearing Recovery After Noise in Vivo

Jingyuan Zhang; Daxiang Na; Kenneth S. Henry; Patricia M. White

PS 656

Restoration of Cochlear Hair Cell Populations and Hearing Function in Noise-Deafened Guinea Pigs through Administration of Therapeutic siHes1 Nanoparticles

Richard D. Kopke; Matthew B. West; Xiaoping Du; Wei Li; Qunfeng Cai; Ibrahima Youm; Xiangping Huang; Jianzhong Lu; Weihua Cheng; Don Nakmali; Don Ewert; Richard Gammans

Human Auditory Development

PS 657

Development of Binaural Pitch Fusion and Discrimination in Children with Normal Hearing, Hearing Aids, and Cochlear Implants

Morgan Eddolls; Curtis Hartling; Jennifer Fowler; Germaine Stark; Bess Glickman; Yonghee Oh; Alicia Johnson; Holden Sanders; Lina Reiss

PS 658

Developmental Delays Account for Some, but Not All, Aspects of Auditory Processing Impairments in Children with Language-based Learning Problems

Silvia Bonacina; Travis White-Schwoch; Jennifer Krizman; Trent Nicol; Nina Kraus

PS 659

The ability to process soft speech and speech in noise is related to language outcomes in children with hearing loss

Monika-Maria Oster; Yoko Ishii; Nicholas Tan; Ashley Moore; Son A Chang

PS 660

Average Daily Speech Exposure for Fetuses and Preterm Infants

Brian B. Monson

PS 661

Relationship between Stimulus Frequency Ratios and Area of OHCs Contributing Generation of DPOAEs: Simulation using Finite-Element Model of Human Cochlea

Sinyoung Lee; Takuji Koike

PS 662

Investigation of Chronological Changes in Dynamic Characteristics of Neonatal Ears Using Sweep Frequency Impedance (SFI) Technique

Nattikan Kanka; Michio Murakoshi; Shinji Hamanishi; Hiroshi Wada

PS 663

Neural Habituation of the Mismatch Response Predicts Pattern Detection and Speech Discrimination in Infants

Kristin Uhler; Phillip Gilley; Sharon Hunter

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PS 664

Relationships Between Newborn Frequency-Following Responses and Follow-up Measures of Language and Cognition in Neonates with Hyperbilirubinemia.

Gabriella Musacchia; Jiong Hu; Qin Hong; Mei-ling Tong; Nikolas Blevins; Natalie Sienko; Matthew B. Fitzgerald

Inner Ear: Drug Delivery

PS 665

L-type Voltage-Gated Calcium Channel Agonists Improve Hearing Loss and Modify Ribbon Synapse Morphology in the Zebrafish Model of Usher Syndrome Type 1

Alaa Koleilat; Joseph Dugdale; Trace Chirstensen; Jeffrey Bellah; Aaron Lambert; Mark Masino; Stephen Ekker; Lisa Schimmenti

PS 666

Drug Delivery into the Cochlea is Influenced by Proximity of the Cochlea Aqueduct to Injection Site

Sara Talaei; Michael Schnee; Ksenia A. Aaron; Anthony Ricci

PS 667

Alginate as Dexamethasone Eluting System for Treatment of the Inner Ear

Jana Schwieger; Thomas Lenarz; Verena Scheper

PS 668

Mass Spectrometry Imaging shows drug distribution in the cochlea after round window application

Barbara Pinheiro; Monika Kwiatkowska; Marcus Müller; Hubert Löwenheim; Michael Bös

PS 669

Rapid Method for Alzet Pump Implantation for Chronic Drug Delivery into Mouse Cochlea

Frederic Depreux; Claus-Peter Richter; Donna S. Whitlon

PS 670

Gel-Mediated Electrospray Assembly of Silica Supraparticles for Sustained Drug Delivery to the Inner Ear

Yutian Ma; Andrew Wise; Mattias Björnmalm; Christina Cortez-Jugo; Frank Caruso

PS 671

Cochlear Pharmacokinetics – Impact of 3D Segmentation using Convolutional Neural Networks
Sanketh S. Moudgalya; Xiaoxia Zhu; Mikalai M. Budzevich; Joseph P. Walton; Nathan D. Cahill; Robert D. Frisina; David A. Borkholder

PS 672

Verification of Therapeutic and Adverse effect of SU02 for Intratympanic Drug Delivery.
Hye Lee; Yu-Jung Hwang; Tae-Soo Noh; Moo Kyun Park; Jun Ho Lee; Seung-Ha Oh; Myung-Whan Suh

PS 673

In Vitro Biocompatibility of Engineered Magnetic Nanoparticles in Mouse Organ of Corti Explant Cultures
Nancy J. Zhou; Mukund M. Goyal; Philippe Vincent; Charles C. Della Santina; Elisabeth Glowatzki; Chao Wang; Daniel Q. Sun

PS 674

PLGA based implants for intracochlear drug delivery for isolated use or the use in combination with a cochlear implant carrier
Arne Liebau; Eric Lehner; Daniel Gündel; Stefan Plontke; Karsten Mäder

PS 675

Blood-Inner Ear Barrier and Cisplatin-Induced Ototoxicity
Rui Ma; Kevin Ig-Izevbekhai; Jianqi Cui; Eunsoo Yoo; Daqing Li

PS 676

In Vivo Assessment of Dexamethasone (DXM) Infused and Coated Poly(lactic-co-glycolic acid) (PLGA) Microneedles as an Improved Drug Delivery System for Intracochlear Biodegradable Devices
Devon C. Pawley; Stefania Goncalves; Esperanza Bas; Emre Dikici; Sapna Deo; Sylvia Daunert; Fred Telischi

PS 677

An Implantable, Refillable, And Scalable Microsystem For Chronic Murine Inner Ear Drug Delivery
Farzad Forouzandeh; Xiaoxia Zhu; Nuzhet N. Ahamed; Joseph P. Walton; Robert D. Frisina; David A. Borkholder

PS 678

Novel Ionic Liquid Solution for Transtympanic Drug Delivery for Idiopathic Sudden Sensorineural Hearing Loss

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

PS 679

analysis of the therapeutic utility of pluronic F127 based nanoparticles in acute hearing loss

Dong-Kee Kim; Keum-Jin Yang; So-Young Jung; Jihye Yoo; Heebeom Koo

Inner Ear: Gene Therapy

PS 680

The Adeno-associated Viral Anc80 Vector Efficiently Transduces Inner Ear Cells in Olive Baboons (*Papio anubis*)

Yuan Gao; Shimon P. Francis; Michael J. McKenna; Robert Ng; Enping Qu; Elizabeth Clemmons; Cathy Sung; Yukako Asai; William Sewell; Emmanuel J. Simons; Michelle D. Valero

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; Gwenaëlle S. Geleoc

PS 682

Small Molecule Based Temporal Control of Protein Expression After AAVAnc80 Mediated Delivery

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

PS 683

Genetic manipulation of inner ear cells through local delivery of adeno-associated viral vectors

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

PS 692

Tailored AAV-based Transgene Expression in the Inner Ear with Cell Type-Specific Promoters

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

PS 693

Viral-Mediated Gene Delivery to Deafened DTR Mouse Cochlea

Sungsu Lee; Lisa A. Beyer; Diane M. Prieskorn; Xiaobo Ma; Hsin-I Jen; Andrew K. Groves; Yehoash Raphael

Mechanotransduction

PS 694

Prolonged Depolarization Affects the “Stopping Point” of Adaptation in the Mechanotransducer of Mammalian Auditory Hair Cells

Abigail Dragich; Isabel Aristizábal-Ramírez; Gregory Frolenkov

PS 695

Calcium and Integrin Binding Protein 2 (CIB2) Is Involved in Fast Adaptation of Mechanotransducer Current in Cochlear Outer Hair Cells

Isabel Aristizábal-Ramírez; Abigail Dragich; Mary Freeman; Arnaud Giese; Zubair Ahmed; Gregory Frolenkov

PS 696

A Novel Method to Visualize Myosin Motor Proteins in Unfixed Cochleae

Itallia Pacentine; Peter G. Barr-Gillespie

PS 697

The Dynamic Strength of the Hair-Cell Tip-Link Connection

Eric Mulhall; Andrew Ward; Darren Yang; Mounir Koussa; David P. Corey; Wesley Wong

PS 698

Discerning multiple novel ER retention signals in TMC1 using an AQP3-GFP based reporter

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

PS 699

The contribution of TMC1 to hair cell transduction.

Maryline Beurg; Amanda Barlow; **Robert Fettiplace**

PS 700

Physical and Functional Interactions of TMC1 and LHFPL5 in Cochlear Hair Cells

Xiaojie Yu; Qirui Zhao; Xiaofen Li; Wei Xiong; Pingbo Huang

PS 701

Dissection of LHFPL5 Function in Hair Cell Mechanotransduction

Xufeng Qiu; Christopher L. Cunningham; Xiaoping Liang; Guihong Peng; Ulrich Mueller

PS 702

Disruption of tmc1/2a/2b Genes in Danio rerio Reveals Hair Cell Subtypes and Partial Overlap of tmc Function in Sensory Patches of the Inner Ear

Eliot Smith; Itallia Pacentine; Anna Shipman; Matthew Hill; Teresa Nicolson

PS 703

Entry Rate of Aminoglycoside Antibiotics Varies with Position Along the Neonatal Mouse Cochlea

Virginia N. Mahieu; Peter S. Steyger; Corne J. Kros

Otoacoustic Emissions II

PS 704

High-Frequency Tuning in the Peripheral Auditory System of two Anuran Amphibians

Ariadna Cobo-Cuan; Ulmar Grafe; Fang Zhang; Albert Feng; Peter M. Narins

PS 705

Speech-DPOAEs for Probing Speech Processing in the Inner Ear

Marina Saiz-Alia; Peter Miller; Tobias Reichenbach

PS 706

Phase characteristics of Otoacoustic Emissions Evoked by Amplitude-Modulated Low-Frequency Tone

Toshimasa Ebina; Sho Otsuka; Shigeto Furukawa; Yasuhide Okamoto; Seiji Nakagawa; Takashi Morimoto; Yoh-ichi Fujisaka; Takashi Nonaka; Sho Kanzaki

PS 707

Medial Olivocochlear Reflexes of Musicians with Various Specialities

Minoru Tsuzaki; Yumi Matsuura; Sho Otsuka; Shigeto Furukawa; Erika Yamamoto

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PS 708

Temporal Expectation Modulates Medial Olivocochlear Bundle Reflex

Sho Otsuka; Seiji Nakagawa; Shigeto Furukawa

PS 709

Effect of Temporal Regularity of Preceding Sound Sequences on Medial Olivocochlear Reflex

Yuki Ishizaka; Sho Otsuka; Seiji Nakagawa

PS 710

Distortion Product Otoacoustic Emissions Change with Short Lasting Adaption State of Outer Hair Cells

Lukas Rüttiger

PS 711

Understanding the Aging Ear: Distortion and Reflection Otoacoustic Emissions (OAEs) in Younger and Older Ears with Normal Behavioral Thresholds

Courtney S. Glavin; Uzma S. Wilson; Samantha M. Stiepan; Andrea I. Martin; Rachel S. North; Jonathan H. Siegel; Sumitrajit Dhar

PS 712

Does Aging Effect Cochlear Gain and Tuning?: An Investigation using Stimulus Frequency Otoacoustic Emissions (SFOAEs)

Uzma S. Wilson; Sumitrajit Dhar

PS 713

Dependence of the Nonlinear-Distortion and Coherent-Reflection Components of Cubic Distortion Product Otoacoustic Emissions on Level and Frequency Ratio: Experiment and Model

Vaclav Vencovsky; Ales Vetesnik; Ondrej Klimes; Anthony W. Gummer

Ototoxicity I

PS 714

Characterization of an Acute and Cyclic Cisplatin-Induced Hearing Loss in Male Fischer-344 Rats

Trang Nguyen; Lillian Smith; Changsuk Moon; Raja Poda; Jessica Wang; Ning Pan; Lars Becker; Ed Rubel; Inmaculada Silos-Santiago

PS 715

Consumption of betel quid is associated with sensorineural hearing loss

Yen-Fu Cheng; Yen-Hui Chan; Chin-Ju Hu; Ying-Chang Lu; Chuan-Jen Hsu; Chen-Chi Wu

PS 716**Effect of Salicylate on Cochlear Temporal Resolution***Li Li; Xiaopeng Liu; Guang-Di Chen; Richard Salvi***PS 717****Mechanotransduction Activity Facilitates Hair Cell Toxicity Caused by the Heavy Metal Cadmium***Tamara Stawicki; Isabella Alampi; Caleigh Schmid; Kelly Tarcza; Jay Briggs***PS 718****Rapid Macrophage Response to Ototoxic Injury of Zebrafish Lateral Line Neuromasts***Mark Warchol; Angela Schrader; Lavinia Sheets***PS 719****YAP1 Signaling is Involved in The Death of Cochlear Hair Cells***Vikrant Borse; Mark Warchol***PS 720****Functional Validation of a Mouse Model for Otovestibular Loss Induced by Allylnitrile***Dorien Verdoodt; Sander Eens; Krystyna Szewczyk; Isabel Pintelon; Debby Van Dam; Peter Ponsaerts; Vincent Van Rompaey***PS 721****Neomycin inhibits mitophagy and increases auditory hair cell damage***Yuhua Zhang; Renjie Chai***PS 722****Intratympanic Lipopolysaccharide Induces Inflammatory Response and Elevates Systemic Gentamicin Uptake in the Cochlea***Yongchuan Chai; Alisa Hetrick; Liana Sargsyan; Hao Wu; Hongzhe Li***PS 723****Cisplatin-induced Early Ototoxicity Appears in Spiral Ganglion Neurons***Yingying Chen; Eric C. Bielefeld; Jeffrey G. Mellott; Weijie Wang; Amir Mafi; Grace Szatkowsk; Ebenezer N. Yamoah; Jianxin Bao***PS 724****Unfolded Protein Response Activation Correlates with Non-Linear Cisplatin Ototoxicity***Stephanie Rouse; Jiang Li; Ian Matthews; Elliott Sherr; Dylan Chan*

PS 725**Histologic and Genetic Characterization of the Flat Cochlear Epithelium***Sydney Sheltz-Kempf; Jeremy S. Duncan***Physiology and Attention in Speech Perception****PS 726****Electroencephalography-based Optimization of Noise Reduction in Hearing Aids***Subong Kim; Yu-Hsiang Wu; Inyong Choi***PS 727****Effects of Age and Childhood Hearing Loss on Selective Attention in the Auditory and Visual Domains***Kristina M. Ward; Tina M. Grieco-Calub***PS 728****Pilot: Mapping Emotional Prosody Processing in Normal hearing Listeners with fNIRS***Ryssa Moffat; David McAlpine; Deniz Baskent; Robert Luke; Lindsey N. Van Yper***PS 729****Decoding of Selective Attention to Continuous Speech from the Human Auditory Brainstem Response***Mikolaj Kegler; Octave Etard; Antonio Forte; Tobias Reichenbach***PS 730****Attentional Modulation of the Neural Representation of Speech: Spectral Profile and Individual Differences***Vibha Viswanathan; Hari Bharadwaj; Barbara Shinn-Cunningham***PS 731****The Effect of Selective Attention Training on Effort during Speech-in-noise Perception***Amy Sarow; Subong Kim; Jason Geller; Inyong Choi***PS 732****Switching Attention and Integration of Binaural Information: Effects of Speech Material and Masker Types on Perception of Alternated and Interrupted Speech in Children***Shiran Koifman; Stuart Rosen*

PS 733

The Effect of Phoneme-Based Auditory Training on Speech Intelligibility and Listening Effort in Hearing-Aid Users

Aleksandra Koprowska; Jeremy Marozeau; Torsten Dau; Dorothea Wendt; Maja Serman

PS 734

A Dual-Task Paradigm Sensitive to Listening Effort in a Realistic Scenario

Joaquin T. Valderrama-Valenzuela; Paul Jevelle; Kelly Miles; Elizabeth F. Beach

PS 735

Pupil Size Tracks Semantic Ambiguity and Noise

Mason Kadem; Björn Herrmann; Ingrid Johnsrude

PS 736

Pupillometry Reveals the Cognitive Cost of Recovering from Errors in Speech Perception

Matthew B. Winn; Katherine H. Teece

PS 737

Autonomic Nervous System Correlates of Speech Categorization Revealed Through Pupillometry

Gwyneth Lewis; Gavin Bidelman

PS 738

Subcortical Coding of Neuro-acoustic and Neuro-categorical Information in Speech

Erika Skoe; Emily Myers

Plasticity in the Central Auditory Pathway

PS 739

Practice Makes Transfer Imperfect – Evidence from Auditory Learning

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

PS 740

The Role of Correlations and Rate Codes for Natural Sound Texture Recognition and Discrimination

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

PS 741

Experience Based Changes to Auditory Corticostriatal E/I Receptor Function Gates LTP and Permits Auditory Associative Learning

Nihaad Paraouty; Jessica Sharan; Todd M. Mowery

PS 742

A New Type of Activity Dependent Plasticity in the Inferior Colliculus

Alice L. Burghard; Chris M. Lee; Douglas L. Oliver

PS 743

Vivarium Noise and Ultrasonic Noise as a “Silent” Confounding Variable in Auditory (and Non-Auditory) Research Using Animal Models

Jeremy Turner

PS 744

Vagal Nerve Afferents Influence Animal Behavior: A Gut-Brain Connection.

Diana C. Peterson

PS 745

Brain-derived neurotrophic factor (BDNF) in the auditory periphery controls central learning mechanisms and social behavior

Philipp Eckert; Philine Marchetta; Marie Manthey; Michael H. Walter; Wibke Singer; Michele Jacob; Lukas Rüttiger; Thomas Schimmang; Peter K. Pilz; Marlies Knipper

PS 746

Graded control of neuromodulatory brain state using parametric stimulation of the Vagus Nerve

*Zakir Mridha; Jan Willem de Gee; Yanchen Shi; Rayan Alkashgari; Justin Williams; Aaron Suminski; Matt Ward; Wenhan Zhang; **Matthew J. McGinley***

Speech Perception Methodology

PS 747

The McGurk illusion effect is not attributed to audiovisual fusion

Mariel Gonzales; Kristina Backer; Brenna Mandujano; Antoine Shahin

PS 748

How Representative of Everyday Speech Signals are Clinical Speech Test Materials?

Timothy Beechey; Jorg Buchholz; Peggy Nelson

PS 749

Speech Error-Detection Thresholds in Cochlear Implant and Normal Hearing Listeners

Sarah Bakst; Caroline A. Niziolek; Ruth Y. Litovsky

PS 750**A Cautionary Note on the Effects of Gender and Speaker Variability in a Two-Talker Separation Task**

Lorenza Zaira Curetti; Rebecca Millman; Patrick Gaydecki; Michael Stone

PS 751**A Non-intrusive Measure of Speech Quality using the Bispectral Features of an Auditory Neurogram and Support Vector Regression**

Md E. Hossain; Muhammad S. Zilany

PS 752**Assessing the Reliability and Validity of the Iowa Test of Consonant Confusion**

Ann Holmes; Jason Geller; Adam Schwalje; Inyong Choi; Bob McMurray

PS 753**Statistical learning in rooms under transcranial magnetic stimulation**

Heivet Hernandez-Perez; David McAlpine; Jessica Monaghan

PS 754**Emotional Vocalizations in Mice Evoke Distinct Patterns of Dopamine and Acetylcholine Release in the Amygdala after Brief Mating and Restraint Experiences**

Zahra Ghasemahmad; Rishitha Panditi; Bhavya Sharma; Drishna Karthric Perumal; Jeffrey J. Wenstrup

PS 755**Cochlear-Implant Users Benefit from Voice-Feature Continuity at the Cocktail Party**

Jens Kreitewolf; Daniela Hollfelder; Martin Orf; Julia Erb; Samuel R. Mathias; Karl-Ludwig Bruchhage; Barbara Wollenberg; Jonas Obleser

PS 756**Identifying Listeners Whose Speech Intelligibility Depends on an Extra Moment to Repair Perceptual Mistakes**

Steven P. Gianakas; Matthew B. Fitzgerald; Matthew B. Winn

PS 757**Neural Correlates of Context-Dependent Lexical Bias (Ganong effect) on Categorical Speech Perception**

Gwyneth Lewis; Claire Pearson; Ashleigh Harrison; Gavin Bidelman

PS 758

Can Auditory-Nerve and Inferior Colliculus Models Explain Perceptual Confusions for Fricatives?

Yasmeen Hamza; Afagh Farhadi; Douglas Schwarz; Joyce McDonough; Laurel H. Carney

Stem Cells

PS 759

Matrigel Coated Mammalian Embryonic Stem Cells Survival in Artificial Endolymph

Irem Gul Sancak; Karunya Kandimalla; Daihyun Song; Rafael da Costa Monsanto; Mio Uchiyama; Grace Park; Michael, Mauro Paparella; Sebahattin Cureoglu

PS 760

Translatome Analysis of Damage-Activated Hidden Progenitor Cells in the Mouse Cochlea

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

PS 761

Mouse Embryonic Stem Cells Survive After Transplantation into Scala Media

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

PS 762

Generation of Multi-ciliated Airway Cell Sheet Derived from Pluripotent Stem Cells for Middle Ear Regeneration on Temperature-responsive Polymer

Takeshi Tada; Hiroe Ohnishi; Fumihiko Kuwata; Koichi Omori; Tsunetaro Morino; Yoshiyuki Kasai; Hiromi Kojima; Norio Yamamoto

PS 763

Optimizing the Differentiation Efficacy of Multiple Human-induced Pluripotent Stem Cell Lines into Multi-ciliated Airway Cells

Yasuyuki Hayashi; Hiroe Ohnishi; Hideaki Okuyama; Yo Kishimoto; Masayoshi Yoshimatsu; Fumihiko Kuwata; Ryosuke Nakamura; Tatsuo Nakamura; Shimpei Gotoh; Toshiaki Takezawa; Koichi Omori

PS 764

Examination of high expression conditions of Connexin 26 in 3D culture of ES cells for generation of inner ear cells

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

PS 765

Selective and super-selective induction of cochlear hair cells from human iPS cells

Tsubasa Saeki; Makoto Hosoya; Masato Fujioka; Kaoru Ogawa; Hideyuki Okano

PS 766

Identification of Mouse Auditory Cortex-Derived Neural Stem Cells

Zhengqing Hu; Li Tao

Tinnitus

PS 767

Safety and Efficacy of Combined Sound and Trigeminal Nerve (Tongue) Stimulation to Treat Tinnitus: Effects of Different Stimulation Settings over Time

Hubert H. Lim; Caroline Hamilton; Stephen Hughes; Emma Meade; Martin Schecklmann; Thavakumar Subramaniam; Sven Vanneste; Deborah Hall; Berthold Langguth; Brendan Conlon

PS 768

Context-Dependent Auditory Processing in Individuals with Tinnitus

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; Régis 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

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

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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 Cochleae

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

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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-Scheinpflug

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-Scheinpflug

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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

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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

PS 834

Inactivating Parvalbumin Interneurons in Auditory Cortex Alters Cortical Oscillation Patterns

Mawaheb Kassir

PS 835

Auditory Hypersensitivity and Circuit Disruptions in a Rat Model of Fragile X Syndrome

Benjamin D. Auerbach; Kelly Radziwon; Olivia Kozody; Richard Salvi

PS 836

Comparing the Superficial Vasculature of the Central Nervous System and temporal bone in Six Laboratory Animals

YooYeon Kim; Janet Ren Chao; Chulho Kim; tae-cheon kang; Jun Gyo Suh; Jun Ho Lee

PS 837

Noise Exposure Induced Cortical Auditory Receptive Field Plasticity and Improved Signal-in-Noise Performance Dependent on the Sound Statistics

Natsumi Homma; Craig Atencio; Patrick Hullett; Christoph Schreiner

PS 838

Two-Photon Activity Imaging of Corticocollicular Neurons in Layer 5 of the Auditory Cortex

Tatjana T. Schmitt; Simon L. Wadle; Jan J. Hirtz

PS 839

Effects of Noise-Induced Hearing Loss on Matrix Metalloproteinase-9 and Auditory Cortex Activity

Jamiela Kokash; Iryna M. Ethell; Khaleel A. Razak

PS 840

Synaptic Zinc Contributes to Contrast Adaptation in Mouse Auditory Cortex

Patrick A. Cody; Thanos Tzounopoulos

PS 841

Optimization of structural imaging in auditory pathway on Chinchilla Lanigera as a pre-clinical model of Blast TBI.

Vijaya Prakash Krishnan Muthaiah; Kathiravan Kaliyappan; Ferdinand Schweser; Marilena Preda

Auditory Cortex: Neural Responses

PS 842

Mice Like It Rough

*Olivier Postal; Typhaine Dupont; **Warren M. Bakay**; Noémi Dominique; Christine Petit; Nicolas Michalski; Boris Gourévitch*

PS 843

Coding of Azimuthal Sound Position Across Primary and Secondary Regions of Ferret Auditory Cortex

***Jonatan Nordmark**; Agnes Landemard; Celian Bimbard; Yves Boubenec; Shihab Shamma*

PS 844

Encoding of Acoustical and Behavioural Information by Auditory Cortical Neurons

*Amy Hammond-Kenny; Victoria M Bajo; Andrew J King; **Fernando R Nodal***

PS 845

Context-dependent Encoding of Sounds in Primary Auditory Cortex

*Rémi Proville; Mehdi Rousset; Chris Rodgers; **Yves Boubenec***

PS 846

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*

PS 847

Multisensory Responses in Primary Auditory Cortex of the Cat

***Catherine Boucher**; Xiaohan Bao; Yaser Merrikhi; M. Alex Meredith; Stephen G. Lomber*

PS 848

Tones Masked by Noise Bands in an Animal Model: Psychophysics and EEG

***John C. Middlebrooks**; Matthew L Richardson; Francois Guerit; Robert P. Carlyon*

PS 849

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*

T
U
E

P
O
S
T
E
R

PS 850

Selective Spatial Tuning of Neurons in Auditory Cortex during a Freely Moving Sound Source Localization Task

Diana Amaro; Michael Pecka

PS 851

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

PS 852

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

PS 853

Spectrotemporal Response Properties of Primary Auditory Cortex in the Free-tailed Bat, *Tadarida brasiliensis*.

Silvio Macias; Kushal Bakshi; Todd Troyer; Michael Smotherman

PS 854

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

PS 855

Responses of Auditory and Frontal Cortices during Sound Source Segregation

Neha H. Joshi; Daniel Duque; Jonathan B. Fritz; Andrew J. Oxenham; Shihab A. Shamma

PS 856

Effects of Arousal on Population Coding of Natural Sounds in Primary Auditory Cortex

Charles Heller; Daniela Saderi; Zachary Schwartz; Stephen V. David

PS 857

A Distributed Network of Noise-Resistant Neurons in the Central Auditory System

Samira Souffi; Chloé Huetz; Christian Lorenzi; Jean-Marc Edeline

**T
U
E**

**P
O
S
T
E
R**

Binaural Hearing: Psychoacoustics, Modeling, and Multisensory

PS 858

Resolving Front-Back Reversals in Sound-Source Localization

M. Torben Pastore; William Yost

PS 859

Listeners Exhibiting “Slight” Hearing Loss and Binaural Deficits Also Exhibit Higher Levels of Stimulus-Independent Internal Noise

Leslie R. Bernstein; Constantine Trahiotis

PS 860

Audiovisual Training Rapidly Improves Sound Localization With Earplugs

David J. Audet; William O. Gray; Andrew D. Brown

PS 861

The perceived lateralization of binaural beats: Estimating Onset Dominance and the Perceptual Weighting of Interaural Time Difference Cues

Nicholas Haywood; David McAlpine

PS 862

Using Background Noise to Improve Sound Localization Following Simulated Unilateral Hearing Loss

Lindsey Ryan-Warden; Eva Ng; Peter Keating

PS 863

Time Course of Stimulus-History Dependent Adaptation and its Effect on Spatial Resolution

Andrea Lingner; Michael Pecka; Benedikt Grothe

PS 864

A Virtual Reality Approach to test Biases in Human Sound Localization

Roland Ferger; Miguel Vivar; José L. Peña

PS 865

Spectral Weighting for Sound Localization in the Free Field: Effects of Spectral Intensity Profile

Monica L. Folkerts; G. Christopher Stecker

PS 866

Modeling “Straightness” Versus “Briefness:” Do Adapting Neural Models Account for Temporal Weighting and Bandwidth Effects on Binaural Sensitivity?

G Christopher Stecker

**T
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**P
O
S
T
E
R**

PS 867

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

PS 868

Deep Neural Networks as Models of Real-World Human Sound Localization

Andrew Francis; Martha Gahl; Josh H. McDermott

PS 869

Eye Movement Decoded from Eardrum Motion: The Decipherable EMREO

David Murphy; Cynthia King; Rachel Landrum; Stephanie Schlebusch; Christopher Shera; Jennifer Groh

PS 870

Relationship Between Saccade-related Eardrum Oscillations and Hearing Loss

Cindy King; David Murphy; Stephanie Schlebusch; Rachel Landrum; David Kaylie; Christopher A. Shera; Jennifer Groh

PS 871

Reaction Times in Multisensory Spatial Localization in Front and Rear Space

Colton Clayton; Yi Zhou

Collicular/Midbrain Function

PS 872

Stimulus-Specific Information on Sound Azimuth Conveyed by Gerbil Collicular Neurons

Shigeto Furukawa; Katuhiro Maki

PS 873

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

PS 874

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

PS 875

The Role of the Auditory Cortico-collicular Pathway in Deviance Detection in the Inferior Colliculus of Awake Mice

Alexandria Lesicko; Maria Geffen

PS 876

A Leading Sound Affects the Local-Field Potential Elicited by a Trailing Sound in the Rat's Inferior Colliculus in a Direction-Dependent Manner

Syed Anam Asim; Sarah Tran; Pamela Stark; Huiming Zhang

PS 877

Gamma Oscillations Across the Barn Owl's Midbrain Auditory Space Map

Andrea J. Bae; Keanu Shadron; Roland Ferger; José L. Peña

PS 878

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

PS 879

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

PS 880

NPY neurons and NPY signaling in the mouse inferior colliculus

Marina A. Silveira; Justin Anair; Nichole L. Beebe; Brett R. Schofield; Michael T. Roberts

PS 881

Characterization of The Lateral Cortex of The Mouse Inferior Colliculus Using A Combination of Optogenetic Circuit Mapping and In Vivo Two-Photon Imaging

Baher A. Ibrahim; Yoshitaka Shinagawa; Alexander R. Asilador; Daniel A. Llano

PS 882

Neural Coding of Pitch Cues in the Auditory Midbrain of Unanesthetized Rabbits

Yaqing Su; Bertrand Delgutte

**T
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R**

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 $\alpha 2\delta 3$ Ca^{2+} 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

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R**

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; Hyehyun 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**

PS 898

Short Stature Homeobox 2 Contributes to a Subpopulation of Zebrafish Statoacoustic Ganglion
Alejandra Laureano; Kathleen Flaherty; Anna-Maria Hinman; Kelvin Y. Kwan

PS 899

CAMSAP3 is Required for Mucus Clearance in the Middle Ear
Jing Zheng; Alan Robinson; Yingjie Zhou; Mary Ann Cheatham

PS 900

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

PS 901

Molecular and Physiological Profiles of Spiking Oligodendrocytes in the Developing Auditory Brainstem
Elizabeth Gould; Jun Hee Kim

PS 902

Microglia and Fractalkine Signaling in Multimodal Midbrain Circuit Assembly
Cooper A. Brett; Mark L. Gabriele

PS 903

FMRP expression in the auditory ganglion regulates the development of auditory nerve projections within the cochlear nucleus
Xiaoyu Wang; Diego Zorio; Yuan Wang

PS 904

Role of GABA Co-transmission in the Developmental Refinement of the MNTB-LSO Pathway
Jongwon Lee; Brian Brockway; Karl Kandler

PS 905

Anatomical Characterization of Developing Olivocochlear Efferent Neurons
Austen Sitko; Michelle Frank; Lisa Goodrich

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PS 906

Robust Development of Auditory Brainstem Responses in Pups from Different Maternal Backgrounds Suggest Intrinsic Developmental Programs Control Hearing Onset in Wistar Rats.
Preethi Singh; Jingyun Qiu; Geng Pan; Annalisa De Paolis; Frances Champagne; Jia Liu; Luis Cardoso; Adrián Rodríguez-Contreras

PS 907

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

PS 908

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

PS 909

Using Spike-Triggered Average to Investigate the Response of Afferent Neurons in the Lateral Line System of Zebrafish
James C. Liao; Otar Akanyeti

PS 910

Modified Cochlear Surface Preparation in the Adult Mouse
Qiaojun Fang; Shan Xu; Fan Wu; Su-Hua Sha

PS 911

Restoration of Hearing and Synapses in Tmc Mutant Mice Using Virally Mediated Gene Therapy
John Lee; Carl Nist-Lund; Gwenaëlle S. Geleoc; Jeffrey R. Holt

PS 912

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

T
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O
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R

PS 913

Synaptic Transmission Between Type I Hair Cells and Calyx Afferents is Multiplexed on Three Time Scales by Ion Accumulation, Quanta, and Resistive Coupling

Donatella Contini; Gay R. Holstein; Jonathan Art

PS 914

Modeling Non-Quantal Transmission at the Calyceal Synapse Between Type I Hair Cells and Vestibular Afferents

Aravind Chenrayan Govindaraju; Imran Quraishi; Anna Lysakowski; Ruth Anne Eatock; Robert M. Raphael

PS 915

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

PS 916

Cell-specific Quantification of Ion Channel Transcription upon Cochlea-Specific Ablation of Cav1.3 Calcium Channels

Stephanie Eckrich; Friederike Stephani; Jutta Engel

PS 917

High Extracellular K⁺ Causes Ribbon Synapse Degeneration in the Inner Hair Cells

Hong-Bo Zhao; Yan Zhu; Li-Man Liu

PS 918

Age-Related Structural and Functional Changes at Auditory Hair Cell Ribbon Synapses

Thibault Peineau; Séverin BELLEUDY; Yohan Bouleau; Didier Dulon

PS 919

Effects of Acoustic Trauma on Neurotransmitter Release by Inner Hair Cells

Luis E. Boero; Shelby Payne; Eugenia Gómez-Casati; Mark Rutherford; Juan Goutman

PS 920

Characterization Of HA-Tagged $\hat{1}\pm 9$ And $\hat{1}\pm 10$ nAChRs In The Mouse Cochlea

Pankhuri Vyas; Adam Goldring; Megan B. Wood; Yuan-Yuan Zhang; Paul Fuchs; Hakim Hiel

**T
U
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O
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T
E
R**

Hair Cells

PS 921

Deletion of Mtu1 (Trmu) in zebrafish revealed the essential role of tRNA modification in mitochondrial biogenesis and hearing function.
Qinghai Zhang; Min-Xin Guan

PS 922

SBF-SEM Reveals a Unique, Networked Mitochondrial Phenotype in Hair Cells of the Zebrafish Lateral Line
Andrea L. McQuate; David W. Raible

PS 923

Using Zebrafish to Understand the Role and Subcellular Localization of Gap Junctions In Vivo
Alisha Beirl; Katie Kindt

PS 924

Characterization & gene therapy of the hearing impairment for 2 clarin genes variably affecting the auditory hair cells
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*

PS 925

Isolation of USH1F Protein Complexes from Purified Hair Cell Stereocilia
Clive P. Morgan; Jocelyn F. Krey; Peter G. Barr-Gillespie

PS 926

USH2A and ADGRV1 Expression in Mammalian Cells and Their in vitro Interaction
Dongmei Yu; Jun Yang

PS 927

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

PS 928

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

PS 929

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

PS 930

Dynamin 3 Is Necessary for Maintaining the Dynamic Structure and Mechanics of Stereocilia Bundles of Cochlear Outer Hair Cells

Huizhan Liu; **David Z. He**

PS 931

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

PS 932

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

PS 933

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

PS 934

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

PS 935

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

PS 936

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

PS 937

Development of Dual-Action Topical Therapeutics for Cytomegalovirus-Induced Hearing Loss

Elizabeth Arrigali; Monica Serban

PS 938

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

PS 939

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

PS 940

The Combinatorial Otoprotective Approach to Cisplatin Ototoxicity

Nicole Febles; Robert D. Frisina; Bo Ding; Nathan D. Gallant

PS 941

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

PS 942

High-Throughput in silico Screening Identified JAK Inhibitors in Preventing Gentamicin Induced Hearing Loss

Zhuo Li; Hao Feng; Marisa Zallocchi; Kan Lin; Jonathan Fleege; Jian Zuo

PS 943

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

PS 944

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*

PS 945

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*

PS 946

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*

PS 947

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*

PS 948

Ebselen Attenuates Amikacin-Induced Ototoxicity in Mice

***Rende Gu**; Ryan Longenecker; Jennifer Homan; Jonathan Kil*

PS 949

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*

Inner Ear: Fluids & Vasculature

PS 950

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*

PS 951

Identification of Proteins that Interact with Slc26a4 in Endolymphatic Sac Epithelium

***Hyun Jae Lee**; Juleh Eide; Cristina Fenollar-Ferrer; Andrew Griffith; Isabelle Roux*

PS 952

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***

PS 953

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

PS 955

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***

PS 956

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

PS 957

Time Course of Blood-Labyrinth Barrier Compromise Following Cochlear Implantation

Alec N. Salt; Daniel Smyth; Jared J. Hartsock

PS 958

Comprehensive analysis of N-glycan in the epithelial-like tissue of the mammalian cochlea

Yoriko Nonomura

PS 959

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

PS 960

Further Application of Light Sheet Microscopy of the Gerbil Cochlea

Kendall A. Hutson; Stephen H. Pulver; Douglas C. Fitzpatrick

PS 961

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

PS 963

Biophysical Model of ATP Dependency of Ion Transport by Marginal and Vestibular Dark Cells

Julia Lasater; Robert M. Raphael

PS 964

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

PS 965

Probing the Role of Neuroligins 1 and 3 among the Cochlear Synapses

Miguel A. Ramirez; Jeffrey N. Savas

PS 966

The Role of CaBP1 and 2 in Hair Cell Synaptic Function

David Oestreicher; Vladan Ranković; Tina Pangršič

PS 967

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

PS 968

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

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Ototoxicity II

PS 977

TLR4 and MyD88 Activation of TRPV1 Modulates Cellular Uptake of Aminoglycosides

Farshid Taghizadeh; Meiyan 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 Sihn; Hannah A Ledford; Wenying 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

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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 Cicccarelli; 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

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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; Gorden 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; Dhruvi 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

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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 Kameron; 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 Kameron; Stephen Neely; Daniel Rasetshwane

9:00 AM | **PD 133**

Assessing Auditory Nerve Integrity with Acoustic Reflex Growth Functions

Joseph Pinski; 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; Breyia 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** **WITHDRAWN**

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; Yanchen Shi; Anton Banta; Wenhan Zhang; Matthew J. McGinley

Development: Molecular Foundations

Moderators: Angelika Doetzelhoefer & 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 Frittsch; 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 Frittsch; 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** **WITHDRAWN**

Descending Modulation of Afferent Activity by Hindbrain Efferent Neurons in the Zebrafish Lateral Line System

Elias Lunsford; Dimitri Skandalis; James C. Liao

Author Index

Name	Abstract No.	Page No.
Aaron, Ksenia A.	PS 75, PS 422, PS 666	12, 68, 110
Abad, Clemer	PS 155, PS 421	22, 67
Abbas, Leila	PS 433	69
Abbas, Paul	PS 108, PS 553	16, 96
Abdala, Carolina	PS 493	77
Abdelrehim, Lamiia	PD 133	172
Abdul-Aziz, Dunia	PS 650	108
Abe, Takaya	PD 66	91
Abrams, Kristina	PS 55, PD 136	9, 173
Abutin, Randolph	PS 187	26
A, Camp	PS 6, PS 389, PS 439	3, 63, 70
Acuna, Dora	PS 959	157
Adams, Joe C.	PS 392	64
Adams, Meredith	PS 581	99
Adamson, Robert	PS 193, PS 473	27, 74
Adenis, Victor	PS 96, PS 854	15, 144
Adler, Henry	PS 214	29
Adonis Bekale, Laurent	PS 12, PS 16	4, 4
Adunka, Oliver F.	PS 93, PS 975	14, 159
Aedo-Sánchez, Cristian	PS 548	95
Affortit, Corentin	PS 152, PS 683	21, 112
Agarwal, Aditi	PS 209, PS 461	29, 72
Agrawal, Sumit	PS 80	12
Agrawal, Yuri	PS 776, PS 781	124, 125
Aguilar, Carlos	PS 924	153
Ahamed, Nuzhet N.	PS 677	111
Ahituv, Nadav	SYMP 50	86
Ahlstrom, Jayne B.	PD 131	172
Ahmadi, Navid	PS 85	13
Ahmadmehrabi, Shadi	PS 159	22
Ahmed, Zubair	PS 695	114
Ahroon, William A.	PS 191	27
Ajami, Bahareh	PRES SYMP 3	1
Akanyeti, Otari	PS 909	151
Akeroyd, Michael	PS 251, PS 769	34, 123
Akin, Faith W.	PS 261	35
Akins, Ellis R.	PS 191	27
Aksit, Aykut	PD 32, PS 964	46, 158
Akturk, Anil	SYMP 57	87
Al Aameri, Raheem	PS 939	155
Alagramam, Kumar	PD 72	92
Alain, Claude	PS 532	93
Alamatsaz, Nima	PS 304	52
Alampi, Isabella	PS 717	117
Albanus, Ricardo D.	PS 396	64
Albert, Joerg T.	PD 33	46
Alessandrini, Marco	PS 359	59
Alexandru, Mihaela	PD 104	135

Author Index

Name	Abstract No.	Page No.
Alhussaini, Mohamed	PD 90	131
Ali, Fatima	PD 55	88
Ali, Noor-E-Seher	PD 82, PS 818, SYMP 64	130, 140, 88
Al-Jerdi, Laila A.	PS 558	96
Alkashgari, Rayan	PS 746	120
Allayee, Hooman	PS 407	66
Allen, Emily J.	PD 138	173
Allen, Paul	PD 145	174
Allen, Sarah	PS 386	63
Allison, Jerome	PS 255	35
Alper, Cuneyt	SYMP 82	126
Alrutz, Daniel	PS 560	96
Alshaikh, Hamzah	PS 162, PS 613	23, 103
Alterman, Emma	PS 184	26
Altoè, Alessandro A.	PD 14, PS 122, PS 124, PS 595	43, 18, 18, 101
Altschuler, Richard A.	PS 260	35
Alvarez, Victor E.	PS 447	71
Alverson, Jeremy	PS 471	74
Amador, Carolina	PS 469	74
Amaro Gonzalez, Elizabeth	PS 184	26
Amaro, Diana	PS 586, PS 850	100, 144
Ament, Seth	PD 99, PS 641	134, 107
Amir-Zilberstein, Liat	PD 19, PS 387	43, 63
Anair, Justin	PS 880	147
Anbuhl, Kelsey L.	PS 1002	163
Andeol, Guillaume	PS 302	52
Anderson, Carly	SYMP 7	37
Anderson, Charles T.	PS 829	141
Anderson, D. Eric	PS 456, PS 941	72, 155
Anderson, Melinda	PS 587, PS 1018	100, 164
Anderson, Ryan	PS 512	79
Anderson, Samira	PD 42, PS 281, PS 287, PS 332, PS 814	84, 49, 50, 56, 139
Anderson, Sean R.	PS 339, PS 554	57, 96
Andrews, Jonathan	PS 887	148
An, Winko	PS 298	51
Applegate, Brian E.	PS 110, PS 121	17, 18
Applegate, Brian	PS 123	18
Applegate, Brian E.	PS 521, PS 595	80, 101
Araya-Secchi, Raul	PD 68	91
Arenberg, Julie G.	PD 111, PD 112, PS 103, PS 321	168, 168, 16, 54
Argo, Theodore	PD 90	131
Ari-Even Roth, PhD, Daphne	PS 739	119
Aristizábal-Ramírez, Isabel	PS 694, PS 695	114, 114

Author Index

Name	Abstract No.	Page No.
Arndt, Susan	PS 236, PS 244, PS 245, PS 249, PS 250, PS 253, PS 345, PS 386, PS 873, SYMP 62, SYMP 64	32, 33, 33, 34, 34, 34, 57, 63, 146, 87, 88
Arnoldner, Christoph	PS 85	13
Arrigali, Elizabeth	PS 937	155
Arsenault, Brendan	PS 463	73
Art, Jonathan	PS 912, PS 913	151, 152
Asai, Yukako	PS 680, PS 681, PS 691	112, 112, 113
Asano, Masahide	PS 174	24
Asaoka, Youichi	PS 402	65
Aschendorff, Antje	PS 347, PS 538	58, 94
Ashida, Go	PS 39, PS 282, PS 815, SYMP 26	7, 49, 139, 41
Ash-Rafzadeh, Angela	PS 534	93
Asilador, Alexander R.	PS 881	147
Asim, Syed Anam	PS 876	147
Atencio, Craig	PS 837	142
Atkinson, Carl	PD 75	127
Atkinson, Patrick	PD 101, PS 760	134, 122
Atlas, Marcus	PS 398	65
Attia, Sarah	PS 511	79
Audet, David J.	PS 860	145
Audette, Nicholas	PD 156	176
Auerbach, Benjamin D.	PS 835	142
Auer, Manfred	PS 952	157
Auld, Douglas	PS 689	113
Ausili, Seba	PS 344	57
Ausili, Sebastian	SYMP 28	41
Avenarius, Matthew R.	PS 927	153
Avila, Jeshua K.	PS 603	102
Ayad, Nagi	PS 421	67
Ayzenshtat, Thomas	PS 40	7
Azadpour, Mahan	SYMP 42	83
Azaiez, Hela	PS 146, PS 157, PS 168, PS 170, PS 171, PS 416, PS 425	21, 22, 23, 24, 24, 67, 68
B. Avraham, Karen	PD 19, PS 387, PS 413, PS 426	43, 63, 66, 68
Bächinger, David	PS 392, PS 950	64, 156
Böhnke, Frank	PS 86	13
Bös, Michael	PS 668	110
Büsching, Carolyn	PS 141	20
Babb, Charles	PS 500	78
Babola, Travis	PD 170, PS 900	178, 150
Baby, Deepak	PS 67	11
Backer, Kristina C.	PS 273, PS 747	48, 120
Badash, Ido	PS 121, PS 521	18, 80
Bae, Andrea J.	PS 591, PS 877	100, 147
Bae, Jun-Sang	PS 528	81

Author Index

Name	Abstract No.	Page No.
Baek, Sungmin	PD 97	134
Bae, Seong Hoon	PS 961	158
Baeza Loya, Selina	PS 3	3
Bahti, Sepand	PS 68	11
Baguley, David	PD 48	84
Bahia, Parmvir	PS 786	136
Bahmer, Andreas	SYMP 41	82
Bahner, Cammy	PS 394	64
Bahng, Junghwa	PS 1033	166
Bai, Fengwei	PS 17	4
Bai, Junping	PS 915	152
Bai, Jun-Ping	PS 993, PS 999	161, 162
Bain, Matthew T.	PD 8	39
Bai, Siwei	PS 86	13
Bai, Xue	PS 1025	165
Bajo, Victoria	SYMP 96	132
Bajo, Victoria M	PS 844	143
Bakaletz, Lauren	SYMP 80	126
Bakar, Dara	PS 776	124
Bakay, Warren M.	PS 305, PS 842	52, 143
Bakshi, Kushal	PS 851, PS 853	144, 144
Bakst, Sarah	PS 749	120
Balaban, Carey	PS 114	17
Balachandran, Rupa	PD 88	131
Balasubramanian, Tara	PS 648	107
Balendran, Vinodh	PS 46	8
Balendran, Vinodh	PD 161	176
Ballesteros, Angela	PD 70	92
Balmer, Timothy	PS 33	6
Baltzell, Lucas	PS 340	57
Bamiou, Doris E.	PD 55, PD 117	88, 169
Banai, Karen	PD 3, PS 547	38, 95
Bance, Manohar	PS 81, PS 98, PS 101, PS 254	13, 15, 15, 34
Banerjee, Gargi	PD 117	169
Banks, Matthew	PD 143, PS 296, PS 544	174, 51, 94
Bankstahl, Jens P.	PS 275	49
Banno, Hideki	PS 622	104
Banta, Anton	PD 160	176
Bao, Jianxin	PS 723	117
Bao, Shaowen	PS 247, PS 248, PS 828	34, 34, 141
Bao, Xiaohan	PS 847	143
Barber, Samuel R.	SYMP 40	82
Barden, Jeremy	PS 524	81
Barlow, Amanda	PS 699	114
Barnes, Charles C.	PS 111	17
Barnes, Gareth	PS 292	51
Barrett, Karen C.	PS 293, PS 354	51, 59

Author Index

Name	Abstract No.	Page No.
Barr-Gillespie, Peter G.	PD 67, PD 99, PD 164, PS 641, PS 696, PS 925, PS 927, PS 929	91, 134, 177, 107, 114, 153, 153, 154
Barr-Gillespie, Peter G.	SYMP 61	87
Barth, Jeremy	PD 75	127
Bartlett, Edward	PS 283	50
Bartolome, Christopher	PS 690	113
Barton, Matthew	PS 649	108
Barzel, Adi	SYMP 8	37
Barzik, Melanie	PS 456, PS 894, PS 896, PS 941	72, 149, 149, 155
Basch, Martín L.	PS 371	61
Bas, Esperanza	PS 232, PS 676	32, 111
Basile, John	PS 575, PS 585	98, 100
Baskent, Deniz	PS 728	118
Basta, Dietmar	PS 89, PD 148	14, 175
Basura, Gregory	PS 534	93
Bateschell, Michael	PD 67	91
Batra, Ranjan	SYMP 17	39
Baudoux, Veronique	PS 246	33
Bauer, David S.	PS 260	35
Bauer, Mark A.	PS 788, PS 789	136, 136
Baumhoff, Peter	PS 103, PS 316	16, 54
Bazard, Parveen	PS 786	136
Bazin, Arnaud	PS 61	10
Beach, Elizabeth F.	PS 734	119
Beaulac, Holly J.	PS 403	65
Becker, Lars	PD 60, PS 60, PS 184, PS 714	90, 10, 26, 116
Beck, Rainer	PS 347	58
Beebe, Nichole L.	PS 132, PS 133, PS 134, PS 135, PS 136, PS 588, PS 873, PS 874, PS 880	19, 19, 19, 19, 19, 100, 146, 146, 147
Beechey, Timothy	PS 748	120
Behm, Lillian	PD 1, PS 1010	38, 164
Behrens, Thomas	PS 572	98
Beiderbeck, Barbara	SYMP 31	42
Beim, Jordan A.	PD 91, PS 321	131, 54
Beirl, Alisha	PS 923	153
Bellah, Jeffrey	PS 665	110
Beller, Daniella	PS 426	68
Belleudy, Séverin	PS 918	152
Belliveau, Lucile	PS 586	100
Bellocq, Thomas	PD 104	135
Belwood, Brenda	PS 311	53
Belyantseva, Inna A.	PD 66, PS 896	91, 149
Bemelmens, Alexis-Pierre	PS 683	112
Ben Messaoud, Rémy	PS 813	139
Bender, Philip	PS 829	141
Bengel, Frank M.	PS 275	49

Author Index

Name	Abstract No.	Page No.
Benkafadar, Nesrine	PD 98, PD 99, PS 638, PS 641	134, 134, 106, 107
Bennett, Jean	PS 687	113
Benson, Connor	PS 929	154
Benson, Monica	PS 56	9
Berding, Georg	PS 275	49
Berents, Merle	PS 555	96
Berger, Joel	PD 143	174
Bergles, Dwight E.	PD 170, PS 900	178, 150
Bergmann, Svenn	PD 19	43
Bermúdez-Muñoz, Jose M.	PD 78	127
Bermingham-McDonogh, Olivia	PS 429	68
Bernstein, Leslie R.	PS 859	145
Berry, Rachel	PS 475	74
Bertero, Alice	PD 153, PD 159	175, 176
Besosa, Cristina	PS 311	53
Bestmann, Sven	PS 292	51
Best, Virginia	PD 88, PS 340, PS 503	131, 57, 78
Beurg, Maryline	PS 699	114
Beutelmann, Rainer	PS 277, PS 282	49, 49
Beutner, Dirk	PS 127	18
Beyer, Lisa A.	PD 161, PS 404, PS 693, PS 761	176, 65, 114, 122
Beyman, Max	PD 60	90
Beynon, Andy J.	PD 127	171
Bharadwaj, Hari	PS 280, PS 515, PS 730, PS 1001	49, 79, 118, 162
Bharadwaj, Shreyas	PS 394, PS 470	64, 74
Bhattacharyya, Atri	PS 973	159
Bhojani, Namita	SYMP 5	37
Bianco, Roberta	PS 292	51
Bibi, Hana	PS 426	68
Bidelman, Gavin	PD 140, PS 269, PS 546, PS 550, PS 737, PS 757, PS 1012, PS 1013	173, 48, 95, 95, 119, 121, 164, 164
Bidone, Tamara C.	PD 10	42
Bieber, Rebecca	PS 281	49
Biederbeck, Barbara	PS 592	101
Bielas, Stephanie L.	PS 396	64
Bielefeld, Eric C.	PS 723	117
Billig, Alexander	PS 543	94
Billings, Curtis J.	PS 535, PS 632	93, 105
Bimbard, Celian	PS 312, PS 843	53, 143
Bimber, Benjamin N.	PS 487	76
Bird, Jonathan E.	SYMP 59, SYMP 61	87, 87
Birkenhäger, Ralf	PS 141	20
Bissmeyer, Susan R.	PS 314	53
Biswas, Roshni	PS 769	123
Bittinger, Lindsey	PS 494	77

Author Index

Name	Abstract No.	Page No.
Björn, Erik	PS 523	80
Björnmalm, Mattias	PS 670	110
Black, Nicole	PD 93, PD 120, PS 441, PS 678	131, 170, 70, 112
Black, Robert	PS 935	154
Blanc, Fabian	PS 683	112
Blankenship, Chelsea	PS 291, PS 494	51, 77
Blankevoort, Joëlle	PD 127	171
Blanton, Susan	PS 421	67
Blazhenets, Ganna	PS 538	94
Bleckmann, Katja	PS 498	77
Blevins, Nikolas	PD 81, PS 75, PS 664, PS 1020, PS 1021	130, 12, 110, 165, 165
Blinkiewicz, Paige	PS 370	61
Blough, Bruce	PS 458	72
Blume, Cornelia	PS 583	99
Blume, Holger	PS 583	99
Blum, Kerstin	PS 967	158
Boch Waldorff, Frans	PS 228	31
Boero, Luis E.	PS 783, PS 804, PS 919	135, 138, 152
Boger, Erich	PS 417	67
Bohorquez, Jorge	PS 83	13
Bohr, Vilhelm	PD 166	177
Bok, Jinwoong	PS 151, PS 895	21, 149
Bommakanti, Krishna	PD 174	178
Bonacina, Silvia	PS 658, PS 814, PS 816	109, 139, 140
Booth, Kevin T.	PS 146, PS 157, PS 168, PS 170, PS 171, PS 416, PS 425	21, 22, 23, 24, 24, 67, 68
Bootpetch Roberts, BS, Tori C.	PD 64	91
Borcean, Chloe	PS 907	151
Bordeynick-Cohen, Mor	PS 413, PS 426	66, 68
Borges, Beatriz C.	PS 65	11
Borkholder, David A.	PS 671, PS 677	111, 111
Borse, Vikrant	PS 719	117
Bosworth, Nicholas	PS 935	154
Boubenec, Yves	PS 307, PS 312, PS 843, PS 845	52, 53, 143, 143
Boucher, Catherine	PS 847	143
Bouleau, Yohan	PS 918	152
Bourien, Jérôme	PS 61, PS 63, PS 66, SYMP 76	10, 10, 11, 126
Boussaty, Ely Cheikh	PS 407	66
Boutet de Monvel, Jacques	PS 684	112
Bovee, Sonny	PS 272, PS 277	48, 49
Bowling, Thomas	PD 16	43
Bowl, Michael	PS 924, SYMP 55	153, 86
Boyajian, Michael K.	PS 109	16
Boyer, Marissa	PS 603	102

Author Index

Name	Abstract No.	Page No.
Boyle, Patrick	PD 148	175
Bracho, Olena	PS 232, PS 356	32, 59
Bracic, Gerhard	PS 884	148
Bramhall, Naomi F.	PS 530	81
Bramsløw, Lars	PS 1011	164
Brand, Thomas	PS 338	57
Brant, Jason	PS 159	22
Bravo, Hector C.	PS 889	148
Breen, P	PS 439	70
Breglio, Andrew M.	PS 456	72
Breglio, Andrew M	PS 941	155
Brett, Cooper A.	PS 902	150
Brewer, Carmen	PD 145	174
Brichta, Alan	PS 5, SYMP 70	3, 89
Briegel, Karoline	PS 928	153
Brigande, John V.	PS 487	76
Briggs, Jay	PS 717	117
Briggs, Rob	PS 571	98
Brister, Eileen	PS 195, PS 377	27, 62
Britze Kijne, Jens-Christian	PS 336	56
Brochier, Tim	PS 98, PS 101	15, 15
Brockway, Brian	PS 904	150
Brodbeck, Christian	PD 139, PS 287	173, 50
Brodsky, Jacob R.	PS 109	16
Broncheau, Mariette S.	PS 501	78
Bronson, Daniel	PS 185	26
Brown, Andrew D.	PS 628, PS 807, PS 860	105, 138, 145
Brown, Carolyn	PS 108, PS 553	16, 96
Brown, Christian	PS 579	99
Brown, Daniel	PS 6, PS 389	3, 63
Browning, Jenna	PS 1019	165
Brown, Kevin D.	PS 335, PS 561	56, 97
Brown, LaShardai	PD 75	127
Brown, Lewis M.	PS 964	158
Brown, M. Christian	SYMP 39, SYMP 40	82, 82
Brown, Marcus	PS 69	11
Brownstein, Zippora	PS 426	68
Brown, Steve	PS 924, SYMP 84	153, 126
Bruce, Ian C.	PD 134, PS 824	172, 140
Bruchhage, Karl-Ludwig	PS 755	121
Brughera, Andrew	PD 83	130
Brunnell, Dimitri	PS 274	48
Buchholz, Jorg	PS 748	120
Buck, Alexa N.	PS 352, PS 353	58, 58
Buckey, Jay	PS 497, PS 533	77, 93
Buckland, Chad	PD 157	176
Budak, Metin	PS 602	102
Budzevich, Mikalai M.	PS 671	111

Author Index

Name	Abstract No.	Page No.
Buehler, Markus J.	PS 564	97
Bullen, Anwen	PS 366	60
Bulut, Erdogan	PS 82, PS 83, PS 602	13, 13, 102
Bureš, Zbyněk	PS 284	50
Burg, Emily A.	PS 339	57
Burger, Michael	PS 44, PS 588	8, 100
Burgess, Ann M.	PS 5	3
Burgess, Barbara J.	PS 950	156
Burgess, Shawn	PS 401	65
Burghard, Alice L.	PS 742	120
Burke, Kali	PS 495, PS 810	77, 139
Burns, Austin	PS 41	7
Burns, Joseph C.	PD 35, PS 58, PS 184, PS 692	46, 10, 26, 114
Burt, Rachel	PS 172	24
Burwood, George W.	PS 117, PS 952	17, 157
Bushor, Jillian	PS 342	57
Buss, Emily	PS 335, PS 561, PS 1019	56, 97, 165
Byoung Chul, Kim	PD 42, PD 45, PS 97, PS 109, PS 567, PS 695, PS 707, PS 709, PS 710	84, 84, 15, 16, 97, 114, 115, 116, 116
Byrnes, Lauren	PD 57	90
Byun, Hayoung	PS 234, PS 478	32, 75
Cabrera, Laurianne	PD 49	88
Cabrera, Laurianne	PS 505	78
Cacace, Anthony T.	PS 261	35
Cahill, Nathan D.	PS 671	111
Cai, Eva	PS 678	112
Cai, Huaizhen	PS 508	78
Cai, Jing	PS 953, PS 955	157, 157
Cai, Qunfeng	PS 656	108
Cai, Rui	PS 283, PS 1037	50, 167
Calcus, Axelle	PS 289	50
Callan, Alexander R.	PS 805	138
Calvet, Charlotte	PS 684	112
Camarena, Andres	PS 317	54
Camci, Esra D.	PS 933, PS 979	154, 160
Campagna, Noah	PS 291	51
Campbell, Christina	PS 19, PS 519	5, 80
Campbell, Colleen A.	PS 157	22
Campbell, Maura	PD 145	174
Cancelarich, Sarah	PD 60, PS 692	90, 114
Canfarotta, Michael W.	PS 335, PS 561	56, 97
Canlon, Barbara	PS 252, PS 253, PS 523, PRES SYMP 6	34, 34, 80, 2
Cantz, Tobias	PS 583	99
Cao, Wenjian	PS 645	107
Cao, Xiao-Jie	PS 43	8

Author Index

Name	Abstract No.	Page No.
Cao, Zhixin	PS 16	4
Caprara, Guisy	PD 69	92
Carbajal, Guillermo V.	PS 883	148
Carcagno, Samuele	PD 54	88
Cardon, Emilie	PS 772	124
Cardoso, Luis	PS 906	151
Cardoso, Maida	PS 246	33
Carlquist, Jason	PS 972, PS 973	159, 159
Carlson, Ryan J.	PS 161	23
Carlyon, Robert P.	PS 95, PS 98, PD 111, PS 101, PS 318, PS 319, PS 846, PS 848	14, 15, 168, 15, 54, 54, 143, 143
Carney, Laurel H.	PS 758, PS 821, PS 879	122, 140, 147
Carney, Laurel H.	SYMP 22	40
Carpena, Nathaniel	PS 26, PS 381, PS 431, PS 528, PS 934	6, 62, 69, 81, 154
Carroll, Julianne B.	PS 908	151
Carstensen, Josephine V.	PS 564	97
Cartagena-Rivera, Alexander X.	PD 66	91
Carter, Jared	PS 297, PS 546	51, 95
Caruso, Frank	PD 29, PS 670	45, 110
Cary, Benjamin G.	PS 201	28
Casey, Graham	PS 112	17
Cash, Erin	PS 291	51
Caspary, Don M.	SYMP 97	132
Caspary, Donald	PS 283, PS 1037	50, 167
Casserly, Ryan	PD 169	178
Cassinotti, Luis R.	PS 58, PS 65	10, 11
Cass, Stephen P.	PD 105	167
Castagna, Valeria C.	PS 783, PS 804	135, 138
Caster, Lauryn E.	PD 146, PS 944	174, 156
Castillo-Bustamante, Melissa	PD 94	132
Castro, Ana C.	PS 827, PS 830	141, 141
Caylor, Jordan	PS 494	77
Cazals, Yves	PS 246	33
Ceccato, Jean Charles	PS 77	12
Cederholm, Jennie M.	PD 175	178
Cederroth, Christopher	PS 252, PS 253, PS 523	34, 34, 80
Celaya, Adelaida M.	PD 78	127
Cerroni, Rocco	PS 490	76
Cha, Dong Chul	PS 224	31
Chaggar, Pavan	PS 292	51
Chai, Renjie	PD 59, PS 406, PS 468, PS 721	90, 66, 73, 117
Chait, Maria	PS 292, PS 543, PS 608	51, 94, 102
Chai, Yongchuan	PS 722, PS 982	117, 160
Cha, Justin	PD 88, PS 618	131, 104
Challier, Pascal	PS 348	58

Author Index

Name	Abstract No.	Page No.
Chamberlain, Jamison	PS 78	12
Champagne, Frances	PS 906	151
Chan, MD, Kenny H.	PD 64	91
Chandrasekaran, Bharath	PD 6, PS 768	38, 123
Chandrasekaran, Nathiya	PS 131	19
Chandrasekhar, Sujana	PD 116	169
Chan, Dylan	PS 520, PS 724	80, 117
Chan, Emmanuel	PS 540	94
Chan, Fred	PS 406, PS 664, PS 685, PS 687, PS 705, PS 1053, PS 1056	66, 110, 113, 113, 115
Chang, Jiwon	PS 1033	166
Chang, Son A	PS 659	109
Chang, So-Young	PS 26, PS 381, PS 431, PS 528, PS 934	6, 62, 69, 81, 154
Chang, Weise	PS 44	8
Chan, Kenny H.	PD 105	167
Chan, Nakayla	PS 828	141
Chan, Yen-Hui	PS 715	116
Chao, Janet Ren	PS 836, PS 1033	142, 166
Chao, Xiuhua	PD 106, PS 107	168, 16
Charaziak, Karolina K.	PS 122, PS 197	18, 27
Charbonneau, Joey A.	PS 549	95
Charlton, Payton E.	PS 810	139
Chatterjee, Monita	PS 333	56
Chatterjee, Paroma	PS 927, PS 929, SYMP 61	153, 154, 87
Chatzimichalis, Michail	PS 601	102
Chays, André	PS 61	10
Cheatham, Mary Ann	PS 414, PS 485, PS 899	67, 76, 150
Chen, Betty Y.	PS 428	68
Chen, Cheng	PS 764	122
Chen, Conghui	PD 68	91
Chen, Fangyi	PS 186, PS 432	26, 69
Cheng, Alan	PD 21, PD 101, PS 422, PS 644, PS 647, PS 760, PS 891, PS 983, PS 988	43, 134, 68, 107, 107, 122, 149, 160, 161
Cheng, Jeffrey	PD 93, PD 120, PS 192, PS 199, PS 200, PS 203, PS 477	131, 170, 27, 28, 28, 28, 75
Chen, Guang-Di	PS 217, PS 219, PS 716	30, 30, 117
Chen, Guochao	PS 533	93
Cheng, Weihua	PS 656	108
Cheng, Yen-Fu	PS 715	116
Cheng, Yu-Shu	PS 472	74
Chen, Jessica	PS 819	140
Chen, Jierong	PS 290	50
Chen, Jing	PS 400	65
Chen, Joseph	PD 28	45
Chen, Leon J.	PS 647	107

Author Index

Name	Abstract No.	Page No.
Chen, Mo	PS 211, PS 217	29, 30
Chen, Rachel	PS 188	26
Chen, Sen	PS 175, PS 1025	24, 165
Chen, Taosheng	PD 146, PS 944	174, 156
Chen, Tianwen	PS 255, PS 419, PS 428, PS 935	35, 67, 68, 154
Chen, Xiaohua	PS 16	4
Chen, Xiaoya	PS 155	22
Chen, Ye	PD 125	170
Chen, Yingying	PS 723, PS 969, PS 1026	117, 159, 165
Chen, Yuming	PS 688	113
Chen, Zheng-Yi	PD 128, PS 150, PS 399	171, 21, 65
Chepurwar, Shashank	PS 48	8
Chiamvimonvat, Nipavan	PS 968, PS 995	158, 162
Chiao, Jonathan	PS 263	36
Chiao, Whitney	PS 365	60
Chien, Wade	PS 681, PS 686, PS 687	112, 113, 113
Chi, Fang-Lu	PS 472	74
Chillale, Rupesh K.	PS 307	52
Chirstensen, Trace	PS 665	110
Chitsazan, Alex D.	PS 429	68
Chi, Zhang-Cai	PS 472	74
Chodick, Gabriel	PS 426	68
Choi, Byung Yoon	PS 163	23
Choi, Dongseok	PD 164, SYMP 61	177, 87
Choi, Hyun Seung	PD 118	169
Choi, Inyong	PS 553, PS 726, PS 731, PS 752	96, 118, 118, 121
Choi, Jae Young	PD 37, PS 147, PS 151, PS 158, PS 224, PS 430, PS 895	46, 21, 21, 22, 31, 69, 149
Choi, Janet S.	PS 774	124
Choi, Ji Eun	PS 26, PS 431, PS 528, PS 934	6, 69, 81, 154
Chokr, Sima M.	PS 826	141
Cho, NamHyun	PD 173	178
Choo, Oak Sung	PS 1029	166
Choudhary, Deepanshu	PD 68	91
Choudhary, Deepanshu	PS 603	102
Choung, Yun-Hoon	PS 1029	166
Chuang, Jiin-Haur	PS 218	30
Chung, Heather	PS 973	159
Chung, Jae Ho	PS 234, PS 478	32, 75
Chung, Phil-Sang	PS 381, PS 431, PS 528, PS 934	62, 69, 81, 154
Chung, Yeun-Jun	PS 162	23
Ciani, Amanda	PS 646	107
Ciccarelli, Gregory	PS 1008	163
Cimerman, Jelka	PD 161, PS 404	176, 65

Author Index

Name	Abstract No.	Page No.
Cirilo, Joseph A.	SYMP 58	87
Clancy, Carrie	PD 157, PS 520, PS 523, PS 600, PS 954, PS 956, SYMP 84	176, 80, 80, 101, 157, 157, 126
Clark, Thomas T.	PS 786	136
Claussen, Alexander D.	PS 88, PS 444	14, 70
Clavier, Odile	PS 533	93
Claycomb, Sara	PS 394	64
Clayman, Anna C.	PS 527	81
Clayton, Colton	PS 871	146
Clements, Anna	PD 145	174
Clemmons, Elizabeth	PS 680	112
Clevenger, Nathan	PS 291	51
Clifford, Royce E.	PS 160	22
Climer, Leslie	PS 990	161
Coate, Thomas	PS 46, PS 900	8, 150
Coate, Thomas	SYMP 43	83
Cobo-Cuan, Ariadna	PS 489, PS 704	76, 115
Cody, Patrick A.	PS 840	142
Coffin, Allison	PS 458, PS 787	72, 136
Cohen, Bernard	PS 782	125
Cohen, Erin	PS 356	59
Cohen, Helen S.	PS 363	60
Cohen, Roie	PD 19, PS 387	43, 63
Cohen, Shira	PD 46	84
Cohn, Withaker	PD 31	45
Colas, Romain	PD 126	171
Colesa, Deborah J.	PS 84, PS 558	13, 96
Cone, Barbara	PS 297, PS 629	51, 105
Conlon, Brendan	PS 767	123
Connelly, Bo	PS 581	99
Conroy, Christopher	PS 502	78
Contini, Donatella	PS 912, PS 913	151, 152
Cooke, Daniel L.	PS 324	55
Cook, Rebecca	PD 36	46
Cooper, Chad	PS 626	105
Cooperman, Shayna	PS 75	12
Cooper, Matthew	PD 89	131
Cooper, Nigel P.	PD 12, PS 594	42, 101
Coots, Kyle	PS 470	74
Cordero, Joehassin	PS 449	71
Corey, David P.	PD 26, PS 697	45, 114
Corfas, Gabriel	PS 58, PS 65, PS 971	10, 11, 0159
Cortez-Jugo, Christina	PS 670	110
Corwin, Jeffrey T.	PD 100	134
Cosentino, Stefano	PS 101	15
Cosgrove, Dominic	PD 76, PS 24, PD 119	127, 5, 170
Costa, Alberto	PS 476	75

Author Index

Name	Abstract No.	Page No.
Costain, Tucker Q.	PS 456	72
Costain, Tucker Q	PS 941	155
Cowley, Peter	PD 117	169
Cox, Brandon C.	PD 34, PS 428, PS 646, PS 651, PS 946	46, 68, 107, 108, 156
Cox, Christopher	PS 497	77
Coyat, Carolanne	PS 152	21
CP, Indira	PS 1014	164
Cramer, Karina S.	PS 826, PS 894	141, 149
Crane, Benjamin T.	PS 779	124
Crawford, Nicholas G.	PS 143	20
Cremers, Cor W.R.J.	PD 127	171
Cremers, Frans P.M.	PD 127	171
Cripe, Timothy P.	PS 14	4
Cristofaro, Glauco	PS 70	11
Crooks, Sarah	PD 42, PS 469, PS 538, PS 567, PS 709, PS 968, PS 1000	84, 74, 94, 97, 116, 158, 162
Crow, Amanda L	PS 407	66
Cruz-Colon, Kevin O.	PS 878	147
Cui, Jianqi	PS 21, PS 675	5, 111
Cui, Limei	PD 125	170
Cui, Runjia	PD 69	92
Culver, Joseph P.	PS 539	94
Cunnane, Mary E.	SYMP 40	82
Cunningham, Christopher L.	PD 71, PS 701	92, 115
Cunningham, Lisa L.	PD 145, PS 417, PS 456, PS 894, PS 941, PS 979, PS 986	174, 67, 72, 149, 155, 160, 161
Cuny, Pascale	PS 570	98
Curato, Julia R.	PD 51	88
Cureoglu, Sebahattin	PS 759	122
Curetti, Lorenza Zaira	PS 750	121
Curran, Andrew	PS 555, PS 556	96, 96
Currier, Duane	PD 146, PS 944	174, 156
Currier, Mark	PS 14	4
Curthoys, Ian S.	PS 5, PS 6, PS 389, SYMP 70	3, 3, 63, 89
Dabdoub, Alain	PD 113	169
Dabestani, Parinaz	PS 455	72
Dagostin, Andre	PS 798	137
Dai, Chenkai	PS 205, PS 258, PS 474	28, 35, 74
Daiho, Takashi	PS 1035	167
Dai, Pu	SYMP 104	133
Dalbert, Adrian	PS 92, PS 601	14, 102
Dalli, Jesmond	PD 126	171
Dallos, Peter	PS 485	76
Danckwardt-Lillieström, Niklas	PD 93, PS 91, PS 92, PS 93, PS 393, PS 397, PS 1039, PS 1041, PS 1087	131, 14, 14, 14, 64, 64

Author Index

Name	Abstract No.	Page No.
Dang, Natalie B.	PS 9, PS 10	3, 3
Dani, Adish	PS 201, PS 202, PS 674, PS 690, PS 981, PS 1020, PS 1027	28, 28, 111, 113, 160, 165, 166
Daniel, Sam J.	PD 96	132
Danti, Serena	PS 564	97
Darcy, Yuanzhao	PS 691	113
Daudet, Nicolas	PD 24	44
Daunert, Sylvia	PS 676	111
Dau, Torsten	PS 504, PS 513, PS 563, PS 572, PS 733, PS 1011	78, 79, 97, 98, 119, 164
Davidson, Kanisa	PD 169	178
David, Stephen V.	PS 310, PS 856	53, 144
Davies, Camron	PS 945	156
Davis, Bethany	PS 973	159
Davis, Samantha N.	PS 933	154
Davis, William	PS 371	61
Dawson*, Sally	PS 400, PS 924	65, 153
Day, Mitchell L.	PS 590	100
Day, Timothy F.	PS 605	102
de Bruijn, Suzanne E.	PD 127	171
de Cheveigné, Alain	PS 620	104
de Gee, Jan Willem	PD 160, PS 625, PS 746	176, 104, 120
de Hoz, Livia	PD 56	89
de la Cruz, Jan	PS 618	104
De Paolis, Annalisa	PS 906	151
de Rijk, Simone R.	PS 81, PS 254	13, 34
de Vrieze, Erik	PD 127	171
Deans, Michael	PS 378, PS 897, SYMP 46	62, 149, 83
Deeks, John M.	PS 98, PS 101	15, 15
Deiters, Kristy K.	PS 191	27
Dejean, Camille	PS 246	33
Delano, Paul	PS 300, PS 783	52, 135
De-la-Torre, Pedro	PD 68, PS 603	91, 102
Delgado-Betancourt, Viviana	PD 149, PS 270, PS 518	175, 48, 80
Delgado, Rafael E.	PS 294	51
Delgutte, Bertrand	PS 882	147
Delimont, Duane	PS 24, PD 119, PS 380	5, 170, 62
Della Santina, Charles C.	PS 673	111
Delmaghani, Sedigheh	PS 924	153
DeMirici, Hasan	PS 988	161
Dennison, Stephen R.	PS 349	58
Dent, Micheal L.	PS 495, PS 810	77, 139
Deo, Sapna	PS 676	111
Depireux, Didier	PD 169	178
Depreux, Frederic	PS 669	110
DeRan, Michael	PD 35	46

Author Index

Name	Abstract No.	Page No.
Desai, Aditi S.	PS 58, PS 65	10, 11
Descossy, Vincent	PD 149, PS 270, PS 518	175, 48, 80
Deshmukh, Aditi	PS 183	25
Desmadryl, Gilles	PS 63	10
Devare, Jenna	PS 84	13
Devine, Maya K.	PD 26	45
Dewey, James B.	PS 121, PS 595	18, 101
Dharmarajan, Anbuselvan	PS 188, PS 440	26, 70
Dhar, Sumitrajit	PS 492, PS 711, PS 712	76, 116, 116
Dhillon, Mehron	PS 894	149
Dhukhwa, Asmita	PS 225, PS 939	31, 155
Di Battista Miani, Daniela	PD 60	90
Di Guilmi, Mariano N.	PS 804	138
Dias, James W.	PD 80, PD 131, PS 1007, PS 1015	128, 172, 163, 164
Diaz, Daniel	PD 97	134
Diaz, Giovanni	PD 61	90
Diedesch, Anna	PS 337	56
Diehl, Gretchen	PRES SYMP 2	1
Dietrich, W. Dalton	PS 59	10
Dietz, Mathias	PS 815, SYMP 26	139, 41
DiGuseppi, Joseph	PS 455	72
Dikici, Emre	PS 676	111
Dilley, Rodney	PS 398	65
Dillon, Margaret T.	PS 335, PS 561	56, 97
Dimitrijevic, Andrew	PD 28, PD 41, PS 291, PS 327, PS 540	45, 84, 51, 55, 94
Ding, Bo	PS 785, PS 786, PS 788, PS 789, PS 940, PS 1027, PS 1028	136, 136, 136, 136, 155, 166, 166
Ding, Dalian	PS 457, PS 985	72, 161
Ding, Xu	PD 85	130
Dinh, Christine	PS 232, PS 356, PS 606	32, 59, 102
DiNino, Mishacla	PD 1, PS 1010	38, 164
Dirckx, Joris J. J.	PS 564	97
Dirks, Coral	SYMP 29	42
Diuba, Artem	PS 63	10
Dixon, Susannah	PS 320	54
Dlouhy, Brian	PS 288	50
Dobbels, Bieke	PS 777	124
Dobrev, Ivo	PD 95, PS 130, PS 189, PS 204, PS 570	132, 19, 26, 28, 98
Dockstader, Karen	PS 2	3
Dodson, Edward	PS 975	159
Doetzelhofer, Angelika	PD 20, PD 103	43, 134
Doherty, Joni K.	PS 774	124
Doi, Koichiro	PS 565, PS 567	97, 97
Dolan, David F.	PS 404	65
Dolhopiatenko, Hanna	PS 325	55

Author Index

Name	Abstract No.	Page No.
Dominique, Noémi	PS 842	143
Dondzillo, Anna	PS 654, PS 970	108, 159
Dong, Lixue	PS 320, PS 322	54, 54
Dong, Wei	PS 194, PS 488	27, 76
Dong, Wuxing	PS 422	68
Donner, Tobias	PS 625	104
Donoso, Rodrigo	PS 300	52
Donthi, Sriya	PS 183	25
Dooling, Robert J.	PS 309	53
Dorkoski, Ryan	PS 590	100
Dougherty, Kelsey	PS 280, PS 1001	49, 162
Dragicevic, Constantino	PS 300	52
Dragich, Abigail	PS 694, PS 695	114, 114
Drakopoulos, Fotios	PS 67	11
Drescher, Dennis G.	PS 932	154
Drescher, Marian J.	PS 932	154
Dror, Amiel A.	PS 889	148
Drummond, Meghan C.	PD 60, PS 692	90, 114
Duan, Bo	PS 1005	163
Dubernard, Xavier	PS 460, PS 826, PS 828, PS 833, PS 838, PS 840, PS 841	72, 141, 141, 141, 142, 142, 142
Dubno, Judy R.	PD 131	172
Dudas, Jozsef	PS 885, PS 886	148, 148
Dueck, Wolfram F.	PS 90	14
Dufek, Brianna	PD 76, PS 24, PD 119	127, 5, 170
Dugan, Elizabeth	PS 59	10
Dugdale, Joseph	PS 665	110
Dulon, Didier	PS 918	152
Dumont, Rachel A.	PD 67, SYMP 61	91, 87
Dunbar, Lucy A	PS 924	153
Duncan, Jeremy S.	PS 367, PS 370, PS 373, PS 725	60, 61, 61, 118
Duncan, R. Keith	PS 369, PS 761	61, 122
Dunlap, Alex G.	PS 311	53
Duong, Eric	PS 194	27
Dupont, Typhaine	PS 305, PS 842	52, 143
Duque, Daniel	PS 548, PS 855	95, 144
Duro, Marlon	PS 469	74
Durrant, John D.	PS 294	51
Du, Tingting	PD 69	92
Du, Weinan	PD 124, PS 419, PS 420	170, 67, 67
Du, Xiaoping	PS 656	108
Dwyer, Noel	PS 539	94
Dyballa, Karl-Heinz	PS 581	99
Dyballa, Karl-Heinz	SYMP 36	82
Dyhrfeld-Johnsen, Jonas	PD 149, PS 270, PS 518	175, 48, 80
Dykhhoorn, Derek	PS 150, PS 399, PS 606	21, 65, 102
Eager, Michael	SYMP 5	37

Author Index

Name	Abstract No.	Page No.
Earl, Brian R.	PS 14	4
Earl, Brian	PD 133	172
Early, Samuel	PD 174	178
Easter, James	PD 90	131
Easwaran1, Meena	PS 11	4
Eatoock, Ruth Anne	PS 3, PS 914, SYMP 65	3, 152, 89
Eberhard, Kristine Elisabeth	PS 202	28
Eberharter, Theresa	PS 885, PS 886	148, 148
Ebina, Toshimasa	PS 706, PS 809	115, 139
Ebrahimian, Arash	PS 200	28
Eckert, Philipp	PS 210, PS 745	29, 120
Eckhard, Andreas H.	PS 392, PS 950	64, 156
Eckrich, Stephanie	PS 916	152
Eddolls, Morgan	PS 337, PS 552, PS 657	56, 95, 109
Edeline, Jean-Marc	PS 96, PS 854	15, 144
Edge, Albert	PD 104, PS 376, PS 650, SYMP 90	135, 61, 108, 129
Edvall, Niklas	PS 252	34
Edvardsson-rasmussen, Jesper	PS 445	71
Eens, Sander	PS 720	117
Effertz, Thomas	PS 127	18
Eggebrecht, Adam T.	PS 539	94
Eggermont, Jos	SYMP 100	133
Egra-Dagan, Dana	SYMP 40	82
Eherenpfordt, Ulrike	PS 229	31
Eide, Juleh	PS 951	156
Eiriksdottir, Gudny	PS 271	48
Ekker, Stephen	PS 665	110
El Hidek, Nour	PS 249	34
El Mestikawy, Salah	SYMP 76	126
El-Amraoui, Aziz	PS 924	153
Elgoyhen, A. Belén	PS 783, PS 804	135, 138
Elgoyhen, Ana Belén	PS 992	161
Elhilali, Mounya	PD 141, PS 532, PS 610, PS 611, PS 620	173, 93, 103, 103, 104
Eliades, Steven J.	PD 158	176
Elkon, Ran	PS 413	66
Elliott Thompson, Karen	SYMP 45	83
Elliott, Karen	PS 367	60
Ellis, Kathryn	PD 60, PS 184, PS 692	90, 26, 114
Ellwanger, Daniel C.	PD 61, PD 164, PS 640, PS 891	90, 177, 106, 149
Elsayyad, Nagy	PS 356	59
Eltawil, Yasmin	PS 422, PS 891	68, 149
Encina-Llamas, Gerard	PS 50	9
Encke, Jörg	PS 86, PS 815, SYMP 26	13, 139, 41
Engelhardt, Baylee	PS 320	54

Author Index

Name	Abstract No.	Page No.
Engel, James H.	PS 802	138
Engel, Jutta	PS 884, PS 916, PS 967	148, 152, 158
Enoch, Jennifer	PD 169	178
Enrin, Masanori	PS 584	99
Epp, Bastian	PS 50, PS 306	9, 52
Epstein, Douglas	PS 159	22
Erb, Julia	PD 09, PD 27, PD 41, PD 72, PS 59, PD 172, PS 648, PS 1035, PS 1060, PS 1061	45, 84, 92, 10, 178, 107, 167
Erickson, Timothy	PS 434, PS 435	69, 69
Eriksson, Per-Olof	PS 445	71
Ernst, Arne	PS 89, PD 148	14, 175
Escabi, Celia D.	PS 19, PS 181, PS 517, PS 519	5, 25, 80, 80
Escabi, Monty	PS 740	119
Eshraghi, Adrien A.	PS 82, PS 83, PS 602, PS 945	13, 13, 102, 156
Etard, Octave	PS 729, PS 813	118, 139
Ethell, Iryna M.	PS 839	142
Eustaquio-Martin, Almudena	PD 110, PS 496	168, 77
Everett, Alyssa	PS 342	57
Ewert, Don	PS 656	108
Ezeilo, Nnenna	PS 428	68
Faaborg-Andersen, Christian	PS 900	150
Faúndez, Juan Pablo	PS 634, SYMP 25	106, 41
Fairbank, Katherine	PS 198	27
Fallah, Elika	PS 120	18
Fallon, James	PS 90, PS 578	14, 99
Fang, Qiaojun	PS 222, PS 910	30, 151
Fang, Shu	PD 74, PD 77, PD 121	127, 127, 170
Fan, Langchen	PS 879	147
Fan, Liqiang	PS 529	81
Fan, Wenlu	PS 169	24
Faramandi, Tahmine	PS 130, PS 189	19, 26
Farhadi, Afagh	PS 758, PS 821	122, 140
Farmer, Simon F.	PD 117	169
Farrell, Josh	PS 193, PS 473	27, 74
Farrell, Matthew	PS 473	74
Farr, Matthew	PS 433	69
Faucher, Stefanie	PS 436, PS 437	69, 69
Faull, Kym	PD 31	45
Fawcett, Timothy	PS 626, PS 784	105, 135
Feather, Jenelle	PD 44	84
Febles, Nicole	PS 940	155
Feeney, Patrick	PS 491, PS 494	76, 77
Fekete, Donna	PS 379, PS 383, PS 893	62, 62, 149
Fellows, Abigail	PS 497, PS 533	77, 93

Author Index

Name	Abstract No.	Page No.
Felmy, Felix	PS 803, PS 805	138, 138
Feng, Albert	PS 704	115
Feng, Hao	PD 146, PS 689, PS 942	174, 113, 155
Feng, Lei	PS 542	94
Feng, Ruiben	PS 463	73
Fenollar-Ferrer, Cristina	PD 66, PS 951	91, 156
Fereczkowski, Michal	PS 563	97
Ferger, Roland	PS 591, PS 864, PS 877	100, 145, 147
Ferguson, Betsy	PS 487	76
Fernandez, Claudia	PS 459, PS 524	72, 81
Fernandez-Grande, Efren	PD 92	131
Fernandez, Jose	PS 470	74
Fernandez, Josephine	PS 14	4
Fernandez, Katharine	PD 145, PS 417, PS 986	174, 67, 161
Fernandez, Rayne	PS 459, PS 524	72, 81
Fernandez-Valle, Cristina	PS 232, PS 356, PS 606	32, 59, 102
Ferrario, Andrea	PS 607	102
Ferreiro, Dardo N.	PS 586	100
Fettpiace, Robert	PS 699	114
Fink, Stefan	PS 466	73
Firestone, Ethan	PS 248	34
Firestone, Gabrielle	PS 536	93
Firszt, Jill B.	PS 539	94
Fischer, Brian J.	PS 591, PS 630	100, 105
Fischer, Linda	PS 803	138
Fischer, Natalie	PS 885, PS 886	148, 148
Fischl, Matthew	PS 795, PS 796	137, 137
Fishbein, Adam R.	PS 309	53
Fitzgerald, Matthew B.	PD 51, PD 81, PD 87, PS 75, PS 265, PS 664, PS 756, PS 1020, PS 1021	88, 130, 131, 12, 36, 110, 121, 165, 165
Fitzgerald, Tracy S.	PD 66, PS 386, PS 986	91, 63, 161
Fitzpatrick, Denis	PS 494	77
Fitzpatrick, Douglas C.	PS 551, PS 960, PS 976	95, 157, 159
Fitzpatrick, Douglas C.	SYMP 20	39
Flaherty, Kathleen	PS 898	150
Flamant, Frédéric	PS 152	21
Flamme, Gregory A.	PS 191	27
Fleegel, Jonathan	PS 942	155
Foggia, Megan J.	PS 76, PS 78, PS 79	12, 12, 12
Folkeard, Paula	SYMP 27	41
Folkerts, Monica L.	PS 865	145
Forouzandeh, Farzad	PS 677	111
Forsythe, Ian D.	PS 800	137
Forte, Antonio	PS 729	118
Foster, Alan C.	PS 464, PS 653, PS 690	73, 108, 113
Foulquier, Vivien	PS 63	10
Fowler, Jennifer	PS 657	109

Author Index

Name	Abstract No.	Page No.
François, Florence	PS 77, PS 683	12, 112
Franceschini, Maria A.	SYMP 1	36
Francis, Abbie	PS 398	65
Francis, Shimon P.	PS 680, PS 685, PS 691, PS 941	112, 113, 113, 155
Franck, Kevin	PD 112	168
Francl, Andrew	PD 44, PS 868	84, 146
Franco-Waite, Luis	PS 784	135
Frank, PhD, Daniel N.	PD 64	91
Frank, Joe R.	PS 689	113
Franklin, Rob	PS 581	99
Frank, Michelle	PS 820, PS 905	140, 150
Fransen, Erik	PS 777	124
Frederick, Melissa T.	PS 535	93
Frederike, Hassepas	PS 347, PS 348	58, 58
Freeman, Dennis	PS 126	18
Freeman, Mary	PS 695	114
Frees, Kathy L.	PS 146, PS 157, PS 168, PS 170	21, 22, 23, 24
Fridberger, Anders	PS 117	17
Friedman, MD, Norman R.	PD 64	91
Friedmann, David R.	PD 109, PS 1023	168, 165
Friedman, Rick A	PS 407	66
Friedman, Thomas B.	PD 66, PS 896, PS 941	91, 149, 155
Friesen, Lendra M.	PS 326	55
Frings, Lars	PS 538	94
Frisina, Robert D.	PS 671, PS 677, PS 785, PS 786, PS 788, PS 789, PS 940, PS 1027, PS 1028	111, 111, 136, 136, 136, 136, 155, 166, 166
Friston, Karl	PD 7, PS 286	38, 50
Fritsch, Helga	PS 885, PS 886	148, 148
Fritz, Jonathan B.	PS 309, PS 310, PS 855	53, 53, 144
Fritzsche, Bernd	PD 167, PD 168, SYMP 45	177, 177, 83
Froemke, Robert C.	PD 47, PD 154	84, 175
Frolenkov, Gregory I.	PD 66, PS 694, PS 695, SYMP 60	91, 114, 114, 87
Frumm, Stacey	PD 57	90
Fuchs, Paul	PD 171, PS 783, PS 920, SYMP 48	178, 135, 152, 83
Fujii, Hironori	PS 259	35
Fujimoto, Chisato	PS 360	59
Fujimoto, Shohei	PS 276	49
Fujioka, Masato	PS 408, PS 604, PS 765, PS 888	66, 102, 123, 148
Fujisaka, Yoh-ichi	PS 706, PS 809	115, 139
Fujishiro, Takaaki	PS 207, PS 442	29, 70
Fujita, Takeshi	PS 22	5
Fujiyama, Daiki	PS 238	32

Author Index

Name	Abstract No.	Page No.
Fukunaga, Ichiro	PD 122, PS 764	170, 122
Fullerton, Amanda	PS 104	16
Fultz, Sara E.	PD 130	172
Fumero, Milagros J.	PD 110	168
funnell, robert	PS 193	27
Funnell, W. Robert J.	PD 96	132
Fu, Qian-jie	PS 536, PS 562	93, 97
Furlong, Cosme	PS 192, PS 199, PS 203	27, 28, 28
Furukawa, Shigeto	PS 614, PS 623, PS 624, PS 706, PS 707, PS 708, PS 872	103, 104, 104, 115, 115, 116, 146
Furukawa, Tatsuya	PS 22	5
Furuta, Ichiro	PS 569	98
Gáborján, Anita	PS 460	72
Gärtner, Kai	PD 142	174
Gärtner, Lutz	PS 230	31
Göpfert, Martin C.	PS 127	18
Gündel, Daniel	PS 674	111
Gómez-Casati, M. Eugenia	PS 783, PS 804, PS 919	135, 138, 152
Gabriele, Mark L.	PS 902, PS 908	150, 151
Gagliuso, Amelia H.	PS 438	70
Gahl, Martha	PS 868	146
Gai, Yan	SYMP 21	40
Gajęcki, Tom	PD 107	168
Galazyuk, Alex	SYMP 99	133
Galazyuk, Alexander V.	PS 136, PS 873	19, 146
Gale*, Jonathan	PS 400	65
Gallagher, C. Scott	PS 143	20
Gallant, Nathan D.	PS 940	155
Gallego-Martinez, Alvaro	PD 123, SYMP 66	170, 89
Gallun, Frederick J.	PS 337, PS 535, PS 554, PS 632	56, 93, 96, 105
Gallus, Silvano	PS 769	123
Galvin III, John	PS 322	54
Galvin, John J.	PD 109	168
Gammans, Richard	PS 656	108
Gander, Phillip	PD 143, PS 543, PS 771	174, 94, 123
Gandhi, Dhrumi	PD 94, PD 120, PS 441	132, 170, 70
Gannon, Ariana	PD 32, PS 158, PS 159, PS 460, PS 714, PS 826, PS 828, PS 833, PS 838, PS 840, PS 841	46, 22, 22, 72, 116, 141, 141, 141, 142, 142, 142
Gan, Rong Z.	PS 69, PS 205, PS 258, PS 474	11, 28, 35, 74
Gansemer, Benjamin M.	PS 64, PS 71	10, 11
Gans, Jennifer	SYMP 34	44
Gantz, Jay A.	PS 972	159
Gao, Li	PS 522, PS 642	80, 107
Gao, Lucy	PD 31	45
Gao, Xue	PD 128	171

Author Index

Name	Abstract No.	Page No.
Gao, Yan	PS 434	69
Gao, Yuan	PS 680, PS 685, PS 691	112, 113, 113
Garasto, Elena	PS 490	76
Garcia-Añoveros, Jaime	SYMP 53	86
Garcia, Charlotte	PS 98, PS 101	15, 15
Garcia-Mato, Angela	PS 375	61
Garinis, Angela	PS 226, PS 491	31, 76
Garnham, Carolyn	PS 83, PS 945	13, 156
Garrett, Markus	PS 1022	165
Garrido, Aida	PS 52	9
Gattani, Sonali	PS 973	159
Gaugain, Gabriel	PS 813	139
Gausterer, Julia Clara	PS 85	13
Gaydecki, Patrick	PS 750	121
Gee, Heon Yung	PS 147, PS 151, PS 158	21, 21, 22
Geffen, Maria	PS 875	147
Geleoc, Gwenaelle S.	PS 419, PS 681, PS 911, SYMP 68	67, 112, 151, 89
Geller, Jason	PS 731, PS 752	118, 121
Geng, Ruishuang	PS 247	34
Genitsaridi, Eleni	PS 250	34
George, Alexander P.	PS 874	146
George, Shefin	SYMP 63, SYMP 64	87, 88
Gershon, Paul D.	PS 894	149
Gersten, Benjamin K.	PS 986	161
Ghaffari, Roozbeh	PS 126	18
Ghasemahmad, Zahra	PS 754	121
Ghelich, Pejman	PS 582	99
Ghimire, Madan	PS 1037	167
Ghoncheh, Mohammad	PD 15, PS 600	43, 101
Ghose, Geoffrey	PS 581	99
Ghosh, Sumana	PS 180	25
Gianakas, Steven P.	PS 756	121
Gibson, Robin M.	PS 42	7
Giersch, Anne	SYMP 106	133
Giese, Arnaud	PS 695	114
Giffen, Kimberlee	PS 23, PS 462, PS 928	5, 73, 153
Gifford, René	PD 108	168
Gilbert, Melanie L.	PS 324	55
Gilels, Felicia A.	PS 366	60
Gillard, Danielle	PS 407	66
Gilles, Annick	PS 772, PS 777	124, 124
Gillet, Charlène	PS 37	7
Gilley, Phillip	PS 663	109
Gill, Ruth	PD 76, PS 24	127, 5
Gimona, Mario	PD 147, SYMP 14	174, 38
Gimoto, Justin	PS 313	53
Gius, David	PS 461	72

Author Index

Name	Abstract No.	Page No.
Glang, Pia	PS 87	13
Glavin, Courtney S.	PS 711	116
Glennon, Erin G.	PD 47	84
Gleser, Malcolm	PS 226	31
Glickman, Benjamin M.	PS 827, PS 830	141, 141
Glickman, Bess	PS 657	109
Glista, Danielle	SYMP 27	41
Glowatzki, Elisabeth	PS 673, SYMP 69	111, 89
Glueckert, Rudolf	PS 94, PS 466, PS 885, PS 886	14, 73, 148, 148
Gnansia, Dan	PS 96, PS 316, PS 854	15, 54, 144
Gnedeva, Ksenia	PD 165, PS 643, PS 649	177, 107, 108
Goblet, Madeleine	PS 574	98
Godballe, Christian	PS 236	32
Goehring, Tobias	PD 111, PS 101, PS 318	168, 15, 54
Golabbakhsh, Marzieh	PS 193	27
Goldberg, David	PS 74	12
Goldberg, Hannah	PS 681	112
Goldring, Adam	PS 920	152
Goldsworthy, Raymond L.	PS 314, PS 317	53, 54
Gonçalves, Ana Cláudia	PS 400	65
Goncalves, Stefania	PS 356, PS 676	59, 111
Gong, Shasha	PS 423	68
Gong, Shusheng	PD 58	90
Gong, Shu-Sheng	PS 427	68
Gonzales, Mariel	PS 747	120
Gonzalez, Ray	PD 44	84
Goodman, Linda	PS 380	62
Goodman, Shawn	PS 49	8
Goodman, Steven	SYMP 80	126
Goodrich, Lisa	PD 18, PS 820, PS 905, SYMP 44, SYMP 88	43, 140, 150, 83, 129
Gopal, Suhasini	PD 72	92
Gopen, Quinton	PS 562	97
Gordon, Karen A.	SYMP 30	42
Gordon-Salant, Sandra	PS 332	56
Gorostiza, Pau	PS 52	9
Gosstola, Nicholas	PS 150, PS 399, PS 606	21, 65, 102
Goto, Fumiyuki	PS 980	160
Gotoh, Shimpei	PS 763	122
Gottfried, Brian	PS 889	148
Gould, Elizabeth	PS 901	150
Goupell, Matthew	PS 332	56
Gourévitch, Boris	PS 305, PS 842	52, 143
Goutman, Juan	PS 48, PS 919, PS 992	8, 152, 161
Govindaraju, Aravind Chenrayan	PS 914	152
Goyal, Mukund M.	PS 673	111
Goyer, David	PS 874	146

Author Index

Name	Abstract No.	Page No.
Goze-Bac, Christophe	PS 246	33
Gröschel, Moritz	PS 89, PD 148	14, 175
Graber, Emily	PS 540	94
Grabow, Niels	PS 479	75
Grace, River	PS 621	104
Grafe, Ulmar	PS 704	115
Gransier, Robin	PS 95, PS 319, PS 846	14, 54, 143
Grant, J. Wally	SYMP 70	89
Grant, Kelsie J.	PS 974	159
Grant, Wally	PS 5	3
Gratton, Michael Anne	PD 73, PD 76, PS 24, PD 119	127, 127, 5, 170
Graves, Kaley A.	PS 428, PS 651	68, 108
Gray, William O.	PS 860	145
Greene, Nathaniel T.	PD 90, PS 56, PS 206, PS 587, PS 628, PS 807, PS 1018	131, 9, 29, 100, 105, 138, 164
Greenhouse, Robert	PS 983	160
Green, Laura	PD 134	172
Green, Steven H.	PS 64, PS 68, PS 71, PS 526	10, 11, 11, 81
Grieco-Calub, Tina M.	PS 727	118
Grierson, Kiera E.	PS 279	49
Griffith, Andrew	PS 951, PRES SYMP 5	156, 2
Griffiths, Timothy	PD 143, PS 286, PS 543, PS 771	174, 50, 94, 123
Grillet, Nicolas	PD 21, SYMP 64	43, 88
Groh, Jennifer	PD 89, PS 869, PS 870	131, 146, 146
Grosh, Karl	PS 119	18
Grosse, Julian	PS 92, PS 601	14, 102
Grothe, Benedikt	PS 863	145
Grothe, Benedikt	SYMP 31	42
Groves, Andrew K.	PS 239, PS 240, PS 249, PS 519, PS 531, PS 873, PS 889	33, 33, 34, 80, 81, 146, 148
Grutters, Janneke	PS 239	33
Guan, Min-Xin	PD 125, PS 169, PS 423, PS 921	170, 24, 68, 153
Guan, Xiying	PS 190	26
Gubbels, Samuel P.	PD 114, PS 249, PS 253, PS 386, PS 617, PS 623, PS 873, PS 889, SYMP 65	169, 34, 34, 63, 104, 104, 146, 148, 89
Gudmundson, Aaron	PS 826	141
Gudnason, Vilmundur	PS 271	48
Guerit, Francois	PS 319, PS 846, PS 848	54, 143, 143
Guest, Daniel R.	PS 507	78
Guillet, Marie	SYMP 76	126
Guinand, Nils	PS 361, PS 364, PS 780	60, 60, 125
Guinan, John	PS 49, PS 264	8, 36
Gu, JiaYi	PS 688	113

Author Index

Name	Abstract No.	Page No.
Gul Sancak, Irem	PS 759	122
Gulmez, Zuleyha Dilek	PS 602	102
Gummer, Anthony W.	PS 713, PS 989	116, 161
Gunewardene, Niliksha	PD 29	45
Gunewardene, Niliksha	PS 682	112
Gunther, Laura K.	SYMP 58	87
Guo, Jing-Ying	PS 427	68
Gu, Rende	PS 948, PS 949	156, 156
Gurindapalli, Nike Gnanateja	PD 19, PD 20, PS 79, PS 370, PS 634, PS 743, PS 779	43, 43, 12, 61, 106, 120, 124
Gurjar, Mansa	PS 46, SYMP 43	8, 83
Gurtler, Nicolas	PS 153	21
Gurumurthy, Channabasavaiah	PS 384	62
Gu, Shoujun	PS 395	64
Gutierrez, Darwin	PS 907	151
Gutschalk, Alexander	PD 142	174
Guymon, C. Allan	PS 76, PS 78, PS 79	12, 12, 12
Hülse, Manfred	PS 241	33
Hülse, Roland	PS 241	33
Hackett, Troy A.	PS 849, PS 1037	143, 167
Hagedorn, Anna	PS 280, PS 1001	49, 162
Hajicek, Joshua	PS 119	18
Halford, Julia	PD 67, PS 927	91, 153
Hall, Deborah A.	PS 250, PS 251, PS 767, PS 769	34, 34, 123, 123
Hall, Deborah A.	SYMP 32	44
Halliday, Lorna	PS 289, PS 505	50, 78
Hall, Matthew	PS 979	160
Halverson, Destinee	PD 5	38
Hamanishi, Shinji	PS 113, PS 662	17, 109
Hambach, Bryce	PS 936	155
Hamilton, Caroline	PS 767	123
Hammershøi, Dorte	PS 236	32
Hammond-Kenny, Amy	PS 844	143
Hamza, Yasmeen	PS 758	122
Han Lee, Jeong	PD 73, PS 267, PS 968, PS 969, PS 995, PS 1026	127, 48, 158, 159, 162, 165
Hanada, Yukiko	PS 391, PS 806	63, 138
Han, Baoai	PD 79, PS 148, PS 1038	128, 21, 167
Han, Chul	PS 397	64
Hancock, Kenneth E.	PS 216, PS 974	30, 159
Han, Dohyun	PS 956	157
Handschuh, Stephan	PS 885	148
Han, Gyu Cheol	PD 37, PS 430	46, 69
Han, Jae Sang	PS 162, PS 613	23, 103
Hanlon, Killian S.	PD 26	45
Han, Martin	PS 582	99

Author Index

Name	Abstract No.	Page No.
Hannum, D Ford	PS 396	64
Hansen, Marlan R.	PS 76, PS 78, PS 79, PS 88, PS 108, PS 444	12, 12, 12, 14, 16, 70
Han, Woongsu	PS 895	149
Haq, Naila	PS 400	65
Haque, Daisy	PD 166	177
Harada, Tatsuhiko	PS 604	102
Haragopal, Hariprakash	PS 590	100
Harasztosi, Csaba	PS 989	161
Harkness, Jaylon	PD 145	174
Harland, Andrew J.	PS 319, PS 846	54, 143
Harlan, Paige L.	PS 168, PS 170	23, 24
Haro, Stephanie	PS 1008	163
Harper, Nicol	PD 155	176
Harris, Kelly C.	PD 80, PS 51, PD 131, PD 135, PS 1007, PS 1015	128, 9, 172, 173, 163, 164
Harrison, Ashleigh	PS 757, PS 1012	121, 164
Harrop-Jones, Anne	PS 464, PS 653, PS 690	73, 108, 113
Harruff, E. Emily	PD 116	169
Hartiling, Curtis	PS 337	56
Hartley, Douglas	SYMP 4, SYMP 7	36, 37
Hartling, Curtis	PS 657	109
Hartman, Jasenia	PS 1016	164
Hartmann, Julia	PS 996, PS 998	162, 162
Hartsock, Jared J.	PD 76, PS 24, PS 412, PS 954, PS 957	127, 5, 66, 157, 157
Hart, William	PS 578	99
Hashimoto, Ken	PS 525	81
Hashimoto, Makoto	PS 27, PS 259, PS 402, PS 454	6, 35, 65, 72
Hashino, Eri	PS 382, PS 385, PS 892	62, 63, 149
Hassanpour, Mahlega S.	PS 539	94
Hathiramani, Nicolai	PS 650	108
Hati, Santanu	PS 451, PS 689, PS 947	71, 113, 156
Hauser, Catherine	PS 436, PS 437	69, 69
Hayashi, Ken	PS 980, PS 1034	160, 166
Hayashi, Masaaki	PS 207, PS 442	29, 70
Hayashi, Yasuyuki	PS 763	122
Hayashi, Yushi	PS 376	61
Haywood, Nicholas	PS 861	145
Heß, Martin	PS 805	138
Hecker, Dietmar	PS 967	158
He, David Z.	PS 23, PD 102, PS 380, PS 928, PS 930, PS 947	5, 134, 62, 153, 154, 156
Heeringa, Amarins N.	PS 277, PS 282	49, 49
Hegmann, Katrin	PS 884	148
Hehlert, Philip	PS 127	18
Heiller, Abigail	PS 581	99
Heil, Peter	PS 47	8

Author Index

Name	Abstract No.	Page No.
Heinermann, Helen	SYMP 26	41
Heinimann, Karl	PS 153	21
Heinz, Michael G.	PD 129	172
Heisterkamp, Alexander	PS 583	99
Heller, Charles	PS 856	144
Heller, Stefan	PD 61, PD 98, PD 99, PD 164, PS 638, PS 640, PS 641, PS 652, PS 891	90, 134, 134, 177, 106, 106, 107, 108, 149
Helpard, Luke	PS 80	12
He, Lu	PD 58, PS 427	90, 68
Hemmert, Werner	PS 86	13
Henderson Sabes, Jennifer	PS 227, PS 808	31, 139
Hendon, Jori E.	PS 61, PS 66, PS 116, PS 374, PS 377, PS 611, PS 689	10, 11, 17, 61, 62, 103, 113
Henneck, Timo	SYMP 75	125
Henry, Kenneth S.	PS 55, PD 136, PS 500, PS 655, PS 879	9, 173, 78, 108, 147
He, Qiliang	PS 776, PS 781	124, 125
Herb, Brian	PD 99, PS 641	134, 107
Hernandez-Perez, Heivet	PS 54, PS 104, PS 753	9, 16, 0121
Herrero, Jose	PS 301, PS 541	52, 94
Herrmann, Barbara S.	PS 264, SYMP 40	36, 82
Herrmann, Björn	PD 8, PD 86, PD 144, PS 735	39, 130, 174, 119
Herrmann, Sven	SYMP 26	41
Hersch, Micha	PD 19	43
Hertzano, Ronna	PD 99, PD 101, PD 169, PS 182, PS 641, PS 760, PS 889, SYMP 54	134, 134, 178, 25, 107, 122, 148, 86
Heshmat, Amirreza	PS 94	14
He, Shuman	PS 91, PS 93, PD 106, PS 102, PS 106, PS 107, PS 329	14, 14, 168, 15, 16, 16, 55
Hessel, Horst	PS 89	14
Hetrick, Alisa	PS 722, PS 982	117, 160
Heuer, Rachel	PS 470	74
He, Wenxuan	PS 551, PS 593	95, 101
He, Zi-Yu	PS 472	74
He, Zuhong	PS 222	30
Hickman, Tyler T.	PS 525	81
Hickox, Ann E.	PS 60	10
Hicks, Jarrod M.	PS 609	103
Hiel, Hakim	PS 920	152
Higgins, Nathan C.	PS 532, PS 611	93, 103
Higgins, Timon	PS 79	12
Higo, Takenobu	PS 207, PS 442	29, 70
Hijazo-Pechero, Sara	PD 78	127
Hildebrandt, K. Jannis	PS 577	99
Hill, Matthew	PS 435	69
Hill, Matthew	PS 645	107

Author Index

Name	Abstract No.	Page No.
Hill, Matthew	PS 702	115
Hill, Sophie F.	PS 396	64
Hinman, Anna-Maria	PS 898	150
Hinrichs, Pauline	PS 770	123
Hintze, Anika	PS 32	6
Hirose, Keiko	PS 954	157
Hirose, Yoshinobu	PS 27, PS 259, PS 402, PS 454	6, 35, 65, 72
Hirsch, MD, Scott	PD 64	91
Hirtz, Jan J.	PS 838	142
Hiss, Meghan M.	PS 975	159
Hoa, Michael	PD 116, PD 169, PS 386, PS 395, PS 417	169, 178, 63, 64, 67
Hoare, Derek	PS 250	34
Hockley, Adam	PS 38, PS 242	7, 33
Hoermann, Romed	PS 885, PS 886	148, 148
Hofer, Lindsay N.	PS 137, PS 139	19, 20
Hoffer, Michael	PS 59, PD 116, PS 114	10, 169, 17
Hoffman, Howard J.	PS 271, PS 497	48, 77
Hoffman, Larry	PS 4, PS 8	3, 3
Hoffman, Larry F.	PD 38	46
Hoff, Stephen	PS 195, PS 377	27, 62
Hofmeier, Benedikt	PS 770	123
Hogan, Arielle K.	PS 368	61
Holland, Eva M.	PD 146, PS 944	174, 156
Hollfelder, Daniela	PS 755	121
Holman, Holly A.	PD 40	47
Holmes, Ann	PS 752	121
Holmes, Emma	PD 7, PS 286	38, 50
Holmgren, Melanie	PS 216	30
Holstein, Gay R.	PS 438, PS 912, PS 913	70, 151, 152
Holt, Jeffrey R.	SYMP 9	37
Holt, Jeffrey R.	PS 172, PS 911	24, 151
Holt, Joseph C.	PS 9, PS 10	3, 3
Holt, Lori L.	PD 1, PS 1010	38, 164
Homan, Jennifer	PS 948, PS 949	156, 156
Homma, Kazuaki	PS 410, PS 414, PS 415	66, 67, 67
Homma, Natsumi	PS 837	142
Honeder, Clemens	PS 85	13
Hong, Chang Eui	PD 118	169
Hong, Hansol	PD 37, PS 430	46, 69
Hong, L Elliot	PD 139	173
Hong, Qin	PD 87	131
Hong, Qin	PD 170, PS 115, PS 408, PS 674, PS 680, PS 697, PS 698, PS 700, PS 738	178, 17, 66, 111, 112, 114, 114, 115, 119
Hong, Sung Hwa	PS 295	51
Hong, Wenjia	PS 599	101
Honkura, Yohei	PS 397	64

Author Index

Name	Abstract No.	Page No.
Hood, Kayleigh	PS 1006	163
Hood, Linda J.	PS 294	51
Hope, Brianna	PS 449	71
Hopf, Raoul	PS 204	28
Horii, Arata	PS 391	63
Horii, Yasushi	PS 599	101
Horn, David L.	PS 161, PS 501	23, 78
Horne, Ryan	PS 76	12
Horstink, Yvette	PS 239	33
Horton, Nicholas J.	PS 198	27
Horwitz, Lorraine	PS 1005	163
Hoshina, Takunari	PS 238	32
Hosoi, Hiroshi	PS 566	97
Hosoya, Makoto	PS 604, PS 765, PS 888	102, 123, 148
Hossain, Md E.	PS 751	121
Hotehama, Takuya	PS 627	105
Hougaard, Dan Dupont	PS 236	32
Houmoeller, Sabina S.	PS 236	32
Housley, Gary D.	PD 175	178
Hou, Zhiqiang	PD 119, PS 952, PS 953, PS 955	170, 157, 157, 157
Hovey, Luke T.	PS 171	24
Howard, Matthew	PD 143, PS 543, PS 771	174, 94, 123
Hsu, Chuan-Jen	PD 115, PS 715	169, 116
Huang, Chengjie G.	PS 1003	163
Huang, Jennifer	PD 21	43
Huang, Jun	PS 255, PS 419, PS 428	35, 67, 68
Huang, May	PD 116	169
Huang, Mingqian	PD 128	171
Huang, Pingbo	PS 700	115
Huang, Wenyi	PD 63	91
Huang, Xiangping	PS 656	108
Huang, Yuying	PS 452	71
Huang, Zaohua	PS 150, PS 399, PS 606	21, 65, 102
HUANG, ZHIHUI	PS 1004	163
Huang, Zhiwu	PD 85, PS 235, PS 285	130, 32, 50
Huarcaya Najarro, Elvis	PD 85, PD 98, PD 99, PS 445, PS 487, PS 937, PS 1009	130, 134, 134, 71, 76, 155, 163
Hua, Yunfeng	PD 85	130
Huber, Alexander	PD 95, PS 92, PS 130, PS 189, PS 204, PS 570, PS 601	132, 14, 19, 26, 28, 98, 102
Hubka, Peter	PD 45	84
Hubka, Peter	PS 308, PS 833	53, 141
Hubley, Drew	PS 473	74
Hu, Bo Hua	PD 63, PS 214, PS 420	91, 29, 67
Hu, Chin-Ju	PS 715	116
Hudson, Alexandria	PS 458	72

Author Index

Name	Abstract No.	Page No.
Hudspeth, A. James	PS 649	108
Hudspeth, AJ	PD 13, PS 643	42, 107
Huet, Antoine	PS 52	9
Huet, Antoine	PS 52	9
Hughes, Stephen	PS 767	123
Hu, Jiong	PD 87, PS 664, PS 808	131, 110, 139
Hullett, Patrick	PS 837	142
Humli, Viktória	PS 460	72
Hu, Ning	PS 68, PS 526	11, 81
Hunsaker, Aoi A.	PS 807	138
Hunter, Ian	PD 174	178
Hunter, Lisa	PS 494	77
Hunter, Sharon	PS 663	109
Hu, Qi-Ying	PS 60, PS 463	10, 73
Hurd, Elizabeth A.	PD 161	176
Hurley, Laura M.	PS 801, PS 1006	138, 163
Hur, Young Kyun	PS 158, PS 224	22, 31
Hutson, Kendall A.	PS 960	157
Hu, Xiao-Su	PS 534	93
Hu, Xinde	PS 405	65
Huyck, Julia J.	PS 506	78
Hu, Yajuan	PD 128	171
Hu, Zhengqing	PS 766	123
Hvass Schmidt, Jesper	PS 228, PS 236	31, 32
Hwang, Chung-Feng	PS 218	30
Hwang, Juri	PS 314	53
Hwang, Yu-Jung	PS 672, PS 956	111, 157
Hye ji, Choi	PS 147, PS 151	21, 21
Ibrahim, Baher A.	PS 881	147
Idrizbegovic, Esma	PS 252	34
Idsardi, William J.	PS 309	53
Ig-Izevbekhai, Kevin	PS 21, PS 675	5, 111
Iguchi, Fukuichiro	PS 569	98
Ihlefeld, Antje	PS 304, PS 545	52, 95
Ikeda, Katsuhisa	PD 122, PS 238, PS 764, PS 793, PS 1035	170, 32, 122, 137, 167
Ikeda, Takuo	PS 259	35
Ikegami, Hajime	PS 207, PS 442	29, 70
Ikeya, Makoto	PD 66	91
Imai, Takao	PS 231, PS 391	32, 63
Imbery, Terrence	PS 215	30
Imtiaz, Ayesha	PD 66	91
Inabinet, Devin	PS 618	104
Inada, Hitoshi	PS 397	64
Inagaki, Yozo	PS 761	122
Inbar, Talya	PS 900	150
Indzhukulian, Artur	PS 376	61
Ingersoll, Matthew A.	PD 146, PS 944	174, 156

Author Index

Name	Abstract No.	Page No.
Ingham, Neil	PD 126, PS 164	171, 23
Innes-Brown, Hamish	SYMP 2, SYMP 5	36, 37
Inohara, Hidenori	PS 231, PS 391, PS 806	32, 63, 138
Irie, Tomohiko	PS 35	7
Irie, Yuuka	PS 207, PS 442	29, 70
Irino, Toshio	PS 510, PS 622	79, 104
Irsik, Vanessa C.	PD 144	174
Isgrig, Kevin	PS 681, PS 686, PS 687	112, 113, 113
Ishibashi, Yasuko	PS 687	113
Ishida, Yusuke	PS 391	63
Ishii, Yoko	PS 659	109
Ishiyama, Akira	PS 358, PS 562, PS 959	59, 97, 157
Ishiyama, Gail P.	PS 959	157
Ishizaka, Yuki	PS 709	116
Islam, Mohammed	PS 534	93
Islam, Warid	PS 474	74
Ito, Juichi	PD 66, PD 151, PS 584	91, 175, 99
Ivanchenko, Maryna V.	PD 26	45
Ivan, Michael	PS 232, PS 356	32, 59
Iversen, Marta	PS 1	2
Iwasaki, Shinichi	PS 360	59
Iwasaki, Yoshihiro	PS 569	98
Iwasa, Kuni H.	PS 997	162
Iwasa, Yoh-ichiro	PD 25	45
Iyer, Guhan	PS 973	159
Jürgens, Tim	PS 559	96
Jackson, Douglas	PS 475	74
Jacob, Michele	PS 745	120
Jacobo, Adrian	PD 21	43
Jacobs, Lauren	PS 293	51
Jacobson, Barry D.	PS 315	54
Jacquemin, Laure	PS 772	124
Jacques, Bonnie E.	PS 459, PS 464, PS 524, PS 653, PS 690, PS 787	72, 73, 81, 108, 113, 136
Jadali, Azadeh	PS 467	73
Jahn, Kelly	PD 112	168
Jahns, Matthew	PS 473	74
Jaime, Lina Maria	SYMP 73	125
Jamesdaniel, Samson	PS 981, PS 987	160, 161
Janesick, Amanda	PD 61, PD 98, PD 99, PS 638, PS 640, PS 641	90, 134, 134, 106, 106, 107
Jang, Jeong Hun	PS 1029	166
Jan, Taha	PS 891	149
Jaramillo, David	PS 690	113
Jarman, Andrew	PD 33	46
Jarysta, Amandine	SYMP 57	87
Jasper, Coty	PS 787	136
Jeffries, Emily	SYMP 5	37

Author Index

Name	Abstract No.	Page No.
Jen, Hsin-I	PS 645, PS 693	107, 114
Jenkinson, Celia	PS 24	5
Jennings, Skyler G.	PS 819, PS 821	140, 140
Jeong, Gwangjin	PS 26	6
Jeong, Hee-Won	PS 26, PS 431, PS 528	6, 69, 81
Jeong, Junhui	PD 118	169
Jeong, Seong-Hun	PS 177, PS 1031	25, 166
Jeon, Jae Yong	PS 480, PS 484	75, 75
Jevelle, Paul	PS 734	119
Jiam, Nicole T.	PS 324	55
Jiang, Chen	PS 81, PS 254	13, 34
Jiang, Dan	PD 148	175
Jiang, Fang	PS 532	93
Jiang, Haiyan	PS 457, PS 985	72, 161
Jiang, Han	PS 952, PS 955	157, 157
Jiang, Huihui	PD 168	177
Jiang, Meiyan	PS 977	160
Jiang, Shangyuan	PS 69, PS 205	11, 28
Jiang, Weitao	PD 39	47
Jiang, Weitao	PS 432	69
Ji, Lingchao	PS 58, PS 971	10, 159
Jimenez, Erin	PS 401	65
Jin, Yuan	PS 1025	165
Jiradejvong, Patpong	PS 293, PS 324, PS 354	51, 55, 59
Johns, Alexis	PS 226	31
Johnson Chacko, Lejo	PS 94, PS 885, PS 886	14, 148, 148
Johnson, Alicia	PS 657	109
Johnson, Kenneth R.	PS 412	66
Johnson, Luke	PS 581	99
Johnsrude, Ingrid	PD 4, PD 8, PD 86, PD 144, PD 157, PS 543, PS 735	38, 39, 130, 174, 176, 94, 119
Jonczyk, Rebecca	PS 583	99
Jones, Bradley	PS 76	12
Jones, Diane	PS 950	156
Jones, Heath G.	PS 191	27
Jones, Johnathan D.	PS 25	5
Jones, Lashaka	PS 44	8
Jones, Sherri M.	PS 647, PS 927	107, 153
Jones, terrance	PS 784	135
Jongkamonwiwat, Nopporn	PS 531	81
Jonnala, Raajan	PS 436, PS 437	69, 69
Joo, Sun Young	PS 147	21
Joris, Philip	PS 823	140
Joséphine, Charlène	PS 683	112
Joseph, Karan	PS 244	33
Joshi, Neha H.	PS 855	144
Joshi, Yuvraj	SYMP 76	126

Author Index

Name	Abstract No.	Page No.
Julien, Jean-Pierre	PD 175	178
Jung, David H.	PS 447, PS 469	71, 74
Jung, Harry	PS 1033	166
Jung, Jae Yun	PS 26, PS 381, PS 431, PS 528, PS 934	6, 62, 69, 81, 154
Jung, Jinsei	PD 37, PS 147, PS 151, PS 158, PS 224, PS 568, PS 895, PS 961	46, 21, 21, 22, 31, 98, 149, 158
Jung, Johnny	PS 46, PS 900	8, 150
Jung, Soyi	PS 129	19
Jung, So-Young	PS 679	112
Jung, Timothy	PS 194	27
junior Apicella, Alfonso	PD 153, PD 159, PS 589	175, 176, 100
Juul Jensen, Josefine	PS 336	56
K. Pilz, Peter	PS 745	120
Köppel, Christine	PS 272	48
Kabara, Lisa	PS 404	65
Kachar, Bechara	PD 69	92
Kacsoh, Dorottya	PS 311	53
Kaczmarek, Leszek	PS 409	66
Kadem, Mason	PS 735	119
Kadir, Shabnam	PS 299	52
Kafi, Homeira	PS 280	49
Kaga, Kimitaka	PS 154	22
Kahrizi, Kimia	PS 171	24
Kajikawa, Yoshinao	PS 849	143
Kakigi, Akinobu	PS 22	5
Kalinec, Federico	PD 31	45
Kalinec, Gilda M.	PD 31	45
Kaliyappan, Kathiravan	PS 841	142
Kalluri, Radha	PS 185	26
Kalra, Gurmarnat	PD 99, PS 641	134, 107
Kamakura, Takefumi	PS 391	63
Kamerer, Aryn	PD 130, PD 132	172, 172
Kamiya, Kazusaku	PD 122, PS 764, PS 793, PS 1035	170, 122, 137, 167
Kamogashira, Teru	PS 360	59
Kampel, Sean D.	PS 530	81
Kan, Alan	PS 331, PS 349	56, 58
Kanayama, Keiko	PS 764	122
Kancherla, Jayaram	PS 889	148
Kandimalla, Karunya	PS 759	122
Kandler, Karl	PS 904	150
Kane, Catherine	PS 64	10
Kaneshiro, Blair	PD 81	130
Kang, Byung Chul	PS 208	29
Kang, David E.	PS 1028	166
Kang, Jun Min	PS 481	75

Author Index

Name	Abstract No.	Page No.
Kang, Min Jin	PS 05, PS 47, PS 71, PS 295, PS 831, PS 837, SYMP 55	8, 11, 51, 141, 142, 86
Kang, Mincheol	PD 73, PS 267, PS 968, PS 969, PS 995	127, 48, 158, 159, 162
Kang, Soojin	PS 295	51
kang, tae-cheon	PS 836	142
Kang, Woo Seok	PS 208, PS 480, PS 481, PS 484	29, 75, 75, 75
Kanicki, Ariane C.	PS 260	35
Kanka, Nattikan	PS 662	109
Kannan Sundhari, Abhiraami	PS 155, PS 421	22, 67
Kanumuri, Vivek V.	SYMP 39	82
Kanwal, Jagmeet S.	PS 1039	
Kanzaki, Sho	PS 207, PS 442, PS 706	29, 70, 115
Karawani, Hanin	PD 42	84
Karni, MD, Avi	PS 739	119
Kasai, Yoshiyuki	PS 762	122
Kashemirov, Boris	PS 469	74
Kassir, Mawaheb	PS 834	142
Kastan, Nathaniel	PS 643, PS 649	107, 108
Kasten, Michael	PS 28, PS 45	6, 8
Katori, Yukio	PS 397	64
Kato, Yumiko O.	PS 778	124
Katsuno, Tatsuya	PD 66, PS 522	91, 80
Kaufmann, Christopher	PS 444	70
Kaur, Tejbeer	PS 42, PS 527, PS 799	7, 81, 137
Kawahara, Jun I.	PS 612	103
Kawano, Satoyuki	PS 584	99
Kawasaki, Hiroto	PD 143, PS 296, PS 543, PS 544, PS 771	174, 51, 94, 94, 123
Kawase, Tetsuaki	PS 397	64
Kawata, Shuichi	PS 569	98
Kawauchi, Satoko	PS 115	17
Kay, Kendrick N.	PD 138	173
Kaylie, David	PD 89, PS 870	131, 146
Kay, Mark A.	PS 422	68
Keating, Peter	PS 862	145
Keder, Alyona	PD 33	46
Keefe, Douglas H.	PS 196, PS 491, PS 494	27, 76, 77
Kegler, Mikolaj	PS 299, PS 729	52, 118
Keliris, Georgios A.	PS 1039	
Kelley, Matthew W.	PD 17, PS 44, PS 386, PS 648, SYMP 56	43, 8, 63, 107, 87
Kellogg, Courtney	PS 374	61
Kelly, Ryan	PD 164	177
Kempfle, Judith	PS 469	74
Kempton, J. Beth	PS 487	76

Author Index

Name	Abstract No.	Page No.
Kerber, James	PS 585	100
Kersbergen, Calvin J.	PD 170	178
Kersigo, Jennifer	SYMP 45	83
Keshavarzi, Mahmoud	PS 299	52
Kessler, Mariella	PS 275	49
Ketchum, Elizabeth	PS 367, PS 373	60, 61
Khalid, Hamza	PS 202	28
Kharytaniuk, Natallia	PD 117	169
Khatami, Fatemeh	PS 740	119
Khomtchouk, Kelly M.	PS 12, PS 13	4, 4
Khurana, Lakshay	PS 352, PS 353	58, 58
Kidani, Shunsuke	PS 499	77
Kidd, Gerald	PS 502	78
Kiderman, Alex	PS 114	17
Kiernan, Amy E.	PS 366, PS 374, SYMP 87	60, 61, 129
Kihara, Ken	PS 612	103
Kileny, Paul	PS 261	35
Kil, Jonathan	PD 116, PS 948, PS 949	169, 156, 156
Kim, Ana H.	PS 20	5
Kim, Bong Jik	PS 163	23
Kim, Boyoung	PS 1033	166
Kim, Chul Hoon	PS 895	149
Kim, Chulho	PS 836, PS 1033	142, 166
Kim, Chul-Ho	PS 448	71
Kim, Dong Young	PD 10, PD 140, PS 104, PS 109, PS 112, PS 182, PS 655, PS 658, PS 677, PS 731, SYMP 44	42, 173, 16, 16, 17, 25, 108, 109, 111, 118, 83
Kim, Dong-Kee	PS 679	112
Kim, Doo Hee	PS 393	64
Kim, Duck O.	SYMP 22, SYMP 23	40, 40
Kim, Grace	PS 644	107
Kim, Hangsoo	PS 21	5
Kim, Hantai	PS 346, PS 1029	58, 166
Kim, Hyeongbeom	PS 431	69
Kim, Hyojin	PS 306	52
Kim, Hyun Jun	PS 448	71
Kim, Jeewoo	PD 69	92
Kim, Jeong-Seo	PS 108, PS 553	16, 96
Kim, Jessica	PS 534	93
Kim, Ji Hoon	PS 393	64
Kim, Jinkyung	SYMP 78	126
Kim, Jun Hee	PS 794, PS 901	137, 150
Kim, Kun Yung	PS 208, PS 480	29, 75
Kim, Kyu Min	PS 224	31
Kim, Mi-Jung	PS 397	64
Kim, Min Jung	PS 15	4
Kim, Min-A	PS 450	71

Author Index

Name	Abstract No.	Page No.
Kim, Minbum	PS 390	63
Kim, Namkeun	PS 113, PS 129, PS 130	17, 19, 19
Kim, Sehwan	PS 26	6
Kim, Subong	PS 726, PS 731	118, 118
Kim, Sung Huhn	PD 37, PS 357, PS 430	46, 59, 69
Kim, Sung Kyun	PS 938	155
Kim, Tae-Hwan	PS 177, PS 465, PS 1031	25, 73, 166
Kim, Un-Kyung	PS 450, PS 895	71, 149
Kimura, Eiko	PS 115	17
Kimura, Ryuichi	PS 397	64
Kim, Wihan	PS 110, PS 121	17, 18
Kim, Yehree	PS 480, PS 481, PS 484	75, 75, 75
Kim, Ye-Hyun	PD 71, PS 802	92, 138
Kim, Yeon Hoon	PS 478	75
Kim, Yeon Ju	PS 1029	166
Kim, Ye-Ri	PS 450	71
Kim, YooYeon	PS 836, PS 1033	142, 166
Kindt, Katie	PD 22, PS 923, PS 978, SYMP 74	44, 153, 160, 125
King, Andrew	PS 511	79
King, Andrew J	PS 844	143
King, Cindy	PS 870	146
King, Curtis	PS 59, PD 152	10, 175
King, Cynthia	PD 89, PS 869	131, 146
Kingma, Herman	PS 361, PS 364, PS 780	60, 60, 125
King, Mary-Claire	PS 161	23
King, W Michael	PS 260	35
Kinoshita, Makoto	PS 360	59
Kirk, Jonathon R.	PS 88, PS 551	14, 95
Kishimoto, Ippei	PD 23, PS 174	44, 24
Kishimoto, Yo	PS 763	122
Kishino, Akihiro	PS 980	160
Kishon-Rabin, Liat	PD 46, PS 739	84, 119
Kitahara, Tadashi	PS 391, PS 566	63, 97
Kitajiri, Shin-ichiro	PD 66	91
Kitajiri, Shin-ichiro	PS 167, PS 605	23, 102
Kitamura, Toshiaki	PS 599	101
Kitano, Tomohiro	PS 167	23
Kita, Tomoko	PS 522, PS 637, PS 639, PS 642	80, 106, 106, 107
Kiyonari, Hiroshi	PD 66	91
Klötzer, Katharina	PS 230	31
Kladisios, Nikolaos	PS 803	138
Klanseck, Carissa F.	PD 68	91
Kleiber, Jean-Charles	PS 61	10
Kleijung, Tobias	PS 601	102
Klenske, Entcho	PS 989	161
Klimes, Ondrej	PS 713	116

Author Index

Name	Abstract No.	Page No.
Klis, Sjaak F.	PS 57	9
Kloose, Ulrich	PS 229	31
Klose, Uwe	PS 770	123
Klug, Achim	PS 587	100
Klug, Jonas	PS 815, SYMP 26	139, 41
Klump, Georg M.	PS 272	48
Klump, Georg M.	PS 275, PS 277, PS 498	49, 49, 77
Knipper, Marlies	PD 48, PS 210, PS 745, PS 770	84, 29, 120, 123
Knoll, Renata M.	PS 109, PS 447	16, 71
Knox, Sarah	PD 57	90
Koen, Nicholas	PS 447	71
Koepl, Christine	PS 277, PS 282	49, 49
Koerner, Tess K.	PS 632	105
Koert, Elisabeth	PS 36	7
Kohrman, David	PS 65	11
Koh, Young IK	PS 147, PS 158	21, 22
Koifman, Shiran	PS 732	118
Koike, Takuji	PS 207, PS 238, PS 442, PS 661	29, 32, 70, 109
Koizuka, Izumi	PS 262, PS 778	35, 124
Kojima, Hiromi	PS 762	122
Kojima, Takashi	PS 410, PS 415	66, 67
Kokash, Jamiela	PS 839	142
Kolbe, Diana L.	PS 157, PS 168, PS 170	22, 23, 24
Koleilat, Alaa	PS 665	110
Kollmeier, Birger	PS 338	57
Komers, Radko	PS 24	5
Kommajosyula, Srinivasa Prasad	PS 283	50
Kondo, Hirohito M.	PS 612	103
Kondo, Makoto	PS 391, PS 806	63, 138
Konerding, Wiebke S.	PS 103	16
Kong, Weijia	PD 128, PS 175, PS 1025, PS 1032	171, 24, 165, 166
Konrad-Martin, Dawn	PS 491	76
Koo, Heebeom	PS 679	112
Koole, Wouter	PD 127	171
Kopke, Richard D.	PS 656	108
Kopp-Scheinflug, Conny	PS 799, PS 800	137, 137
Koprowska, Aleksandra	PS 733	119
Kopun, Judy G.	PD 130	172
Korrapati, Soumya	PS 417	67
Kose, Orhun	PD 96	132
Kotera, Hidetoshi	PS 584	99
Kothinti, Sandeep Reddy	PS 610, PS 620	103, 104
Kouhi, Ali	PS 13	4
Koumura, Takuya	PS 614	103
Koussa, Mounir	PS 697	114

Author Index

Name	Abstract No.	Page No.
Kovach, Christopher	PS 288, PS 296, PS 543, PS 771	50, 51, 94, 123
Kovelman, Ioulia	PS 534	93
Kozin, Elliott D.	PD 93, PD 94, PD 120, PS 109, PS 447, PS 477, PS 678	131, 132, 170, 16, 71, 75, 112
Kozlowski, Mikolaj M.	PD 100	134
Kozody, Olivia	PS 835	142
Kral, Andrej	PD 45, PS 103, PS 308, PS 316, PS 833	84, 16, 53, 54, 141
Kraus, Nina	PS 658, PS 814, PS 816	109, 139, 140
Krebs, Kristi	PS 253	34
Kreft, Heather A.	PS 249, PS 321, PS 334	34, 54, 56
Kreitewolf, Jens	PS 755	121
Kremer, Hannie	PD 127	171
Kretzberg, Jutta	PS 39	7
Krey, Jocelyn F.	PD 67, PD 164, PS 925, SYMP 61	91, 177, 153, 87
Krishnan Muthaiah, Vijaya Prakash	PS 841	142
Kristaponyte, Inga	PS 136, PS 873	19, 146
Krizman, Jennifer	PS 658, PS 814, PS 816	109, 139, 140
Krohs, Constanze	PS 413	66
Kros, Corne J.	PS 703	115
Krueger, Philipp	PS 479	75
Kubesh, Molly	PS 462	73
Kubota, Marie	PS 652	108
Kuchinsky, Stefanie E.	PS 287	50
Kuenzel, Thomas	PS 36, PS 37	7, 7
Kuhl, Patricia K.	PD 137	173
Kuhn, Richard	PS 893	149
Kujawa, Sharon G.	PS 63, PS 66, PS 211, PS 217	10, 11, 29, 30
Kulasingham, Joshua P.	PS 287	50
Kumar, Manoj	PS 832	141
Kumar, Nikita	PS 801	138
Kumar, Sukhbinder	PD 143, PS 771	174, 123
Kunst, Henricus P.M.	PD 127	171
Kurabi, Arwa	SYMP 79, SYMP 83	126, 126
Kurebayashi, Nagomi	PS 1035	167
Kurioka, Takaomi	PS 72	11
Kurt, Simone	PS 884, PS 967	148, 158
Kutten, Kwame S.	PS 308, PS 833	53, 141
Kutz, J. Walter	PD 116	169
Kuwata, Fumihiko	PS 762, PS 763	122, 122
Kuzbyt, Brianna	PS 344	57
Kwak, Sang Hyun	PS 430, PS 961	69, 158
Kwan, Kelvin Y.	PS 467, PS 898	73, 150

Author Index

Name	Abstract No.	Page No.
Kwengwa, Joseph	PS 17, PD 165, PS 212, PS 255, PS 256, PS 285, PS 1004, PS 1074, PS 1079	4, 177, 29, 35, 35, 50, 163
Kwiatkowska, Monika	PS 668	110
Kypraios, Theodore	PS 250	34
Kyratsous, Christos	PD 60	90
Kysar, Jeffrey W.	PD 32, PS 962, PS 964	46, 158, 158
Löwenheim, Hubert	PS 87, PS 165, PS 668	13, 23, 110
López-Porras, Ana I.	SYMP 60	87
Laback, Bernhard	PD 50	88
Laboulais, Amandine	PS 246	33
Lachgar, Maria	PS 411	66
Lacour, Stéphanie	PS 579, SYMP 39	99, 82
Ladak, Hanif	PS 80	12
Lahlou, Ghizlene	PS 684	112
Lalonde, Kaylah	PD 5, PS 1017	38, 164
Lalwani, Anil K.	PD 32, PS 962, PS 964	46, 158, 158
Lamas, Veronica	PD 128	171
Lambert, Aaron	PS 665	110
Lambert, Paul R.	PD 116	169
Lam, Patrick	PD 29	45
Lampen, Jennifer	PS 242, PS 244	33, 33
Lamping, Wiebke	PS 97, PS 105, PS 318	15, 16, 54
Landegger, Lukas D.	PS 176	25
Landemard, Agnes	PS 312, PS 843	53, 143
Landin Malt, Andre	PS 368	61
Landrum, Rachel	PS 869, PS 870	146, 146
Landry, Evie	PS 239	33
Landry, Thomas	PS 193	27
Landsberger, David M.	PD 109, PS 1023	168, 165
Langguth, Berthold	PS 767	123
Lang, Hainan	PD 75, PS 51, PD 135, SYMP 92	127, 9, 173, 130
Lang, Jeffrey H.	PS 201	28
Langley, Brett	PS 74	12
Lanting, Cornelis P.	PD 127	171
Lanzilotti, Cosima	PS 302	52
Lao-Rodríguez, Ana B.	PS 852	144
Larsen, Erik	PS 226	31
Larsen, Martha	PS 336	56
Lasater, Julia	PS 963	158
Lau, Bonnie K.	PD 137	173
Lauer, Amanda M.	PD 71, PS 495, PS 802, PS 817, PS 1006	92, 77, 138, 140, 163
Laugesen, Søren	PD 92, PS 572	131, 98
Laureano, Alejandra	PS 467, PS 898	73, 150
Laurell, Goran	PS 445	71
Lauschke, Volker	PS 253	34

Author Index

Name	Abstract No.	Page No.
Lauxmann, Michael	PD 95	132
Lavandier, Mathieu	PS 503	78
Lavie, Limor	PD 3, PS 547	38, 95
Lavinsky, Joel	PS 407	66
Lawal, Omolara	PS 915	152
Lawrence, Melissa	PS 551	95
Lawrence, Rachael	SYMP 7	37
Lazar, Andra	PS 252	34
LC Feyen, Paul	PD 153, PS 589	175, 100
Le Page, Eric L.	PD 11	42
Le Prell, Colleen	PS 19	5
Leake, Michael	PS 603	102
Leber, Moritz	PS 581	99
Lech Cantuaria, Manuella	PS 228	31
Leclere, Thibaud	PS 331	56
Ledford, Hannah A	PS 968, PS 995	158, 162
Lee, Adrian KC	PD 137	173
Lee, Choongheon	PS 9, PS 10, PS 49	3, 3, 2008
Lee, Chris M.	PS 742	120
Lee, Daniel J.	PS 579, SYMP 39, SYMP 40	99, 82, 82
Lee, Dong-Han	PS 220	30
Lee, Hye	PS 672, PS 956	111, 157
Lee, Hyun Jae	PS 951	156
Lee, Hyun Jin	PS 357, PS 568	59, 98
Lee, Ina A.	PS 422	68
Lee, Jae-Hun	PS 26, PS 431, PS 528	6, 69, 81
Lee, Jeon Mi	PS 357	59
Lee, Jin-Sol	PS 1029	166
Lee, Jinu	PS 895	149
Lee, John	PS 463, PS 911	73, 151
Lee, John	SYMP 68	89
Lee, Jongwon	PS 904	150
Lee, Jun Ho	PS 220, PS 393, PS 672, PS 836, PS 1033	30, 64, 111, 142, 166
Lee, Jung Jun	PS 448	71
Lee, Jung-Hun	PS 956	157
Lee, Katharine	PD 57	90
Lee, Kyuin	PD 118	169
Lee, Kyu-Yup	PS 450	71
Lee, Mary	PD 163	177
Lee, Min Young	PS 26, PS 381, PS 431, PS 528, PS 934	6, 62, 69, 81, 154
Lee, Minho	PS 162	23
Lee, Sang-Yeon	PS 163	23
Lee, Seungmin	PS 163	23
Lee, Sinyoung	PS 442, PS 661	70, 109
Lee, Sungsu	PS 693	114
Lee, Yunjae	PS 234, PS 478	32, 75

Author Index

Name	Abstract No.	Page No.
Lee, Yvonne	PD 72	92
Lefler, Shannon	PS 49	8
Lehner, Eric	PS 674	111
Leibold, Christian	PS 803, PS 805	138, 138
Leibold, Lori	PS 1019	165
Leitner, Michael G.	PS 998	162
Leiva, Alexis	PS 300	52
Leja, Marcin	PS 156	22
Lelli, Andrea	PS 924	153
Lenarz, Thomas	PD 147, PS 230, PS 479, PS 574, PS 581, PS 667, SYMP 14, SYMP 36, SYMP 38	174, 31, 75, 98, 99, 110, 38, 82, 82
Lenz, Danielle R.	PS 682	112
Lenz, Dominik	PS 996, PS 998	162, 162
Lesica, Nicholas A.	PS 1003	163
Lesicko, Alexandria	PS 875	147
Le, Trung	PD 28, PS 453	45, 71
Lett, Jaclynn M.	PS 412	66
Levic, Snezana	PD 172	178
Levy, Jonathan	PD 23, PS 17, PS 59, PS 285, PS 390, PS 894, PS 904	44, 4, 10, 50, 63, 149, 150
Lewis, Gwyneth	PS 737, PS 757, PS 1012	119, 121, 164
Lewis, Jennifer	PD 120	170
Lewis, Mark	PS 112	17
Lewis, Morag	PS 411	66
Liang, Benjamin	PS 436, PS 437	69, 69
liang, chun	PS 290	50
Liang, Junfeng	PS 69, PS 258, PS 474	11, 35, 74
Liang, Xiaoping	PS 701	115
Liang, Xiuyuan	PS 247	34
Liao, Hsin-I	PS 624	104
Liao, James C.	PD 176, PS 909	178, 151
Liao, Menghui	PS 468	73
Liaudet, Pauline	PD 149, PS 270, PS 518	175, 48, 80
Li, Bei	PD 85	130
Liberman, Leslie D.	PS 62, PS 178	10, 25
Liberman, M. Charles	PS 62, PS 73, PS 178, PS 525, PS 971, PS 974, SYMP 89	10, 12, 25, 81, 159, 159, 129
Li, Bo	PS 145, PS 792	20, 136
Li, Chaoying	PS 43, PS 105, PS 106, PS 203, PS 542, PS 810, PS 993	8, 16, 16, 28, 94, 139, 161
Lichtenhan, Jeffery	PS 49	8
Li, Chuan-Ming	PD 145, PS 271	174, 48
Li, Daqing	PS 21, PS 675	5, 111
Liebau, Arne	PS 674	111
Lienart, Jeremie	PS 343	57

Author Index

Name	Abstract No.	Page No.
Li, Gang	PD 75	127
Li, Gen	PS 790	136
Li, Hao	PS 80	12
Li, Hongzhe	PS 722, PS 982	117, 160
Li, Huawei	PS 405	65
Li, Jiang	PS 724	117
Li, Jie	PD 27	45
Li, Jun	PD 167, PD 168	177, 177
Li, Kongyan	PS 352	58
Li, Li	PS 217, PS 219, PS 716	30, 30, 117
Lillywhite, Justin	PS 150	21
Limb, Charles J.	PS 293, PS 324, PS 354	51, 55, 59
Lim, Hubert H.	PS 575, PS 581, PS 585, PS 767, SYMP 36, SYMP 38	98, 99, 100, 123, 82, 82
Lim, Hyunsun	PD 118	169
Lim, Jongwoo	PS 113, PS 129	17, 19
Lim, Rebecca	PS 5, SYMP 70	3, 89
Lin, Chen	PS 931	154
Lindahl, Jens C. Thuren	PS 50	9
Linden, Jennifer F.	PD 55	88
Ling, Leo	PS 362	60
Ling, Lynne	PS 1037	167
Lingner, Andrea	PS 863	145
Lin, Haiyue	PS 728, PS 885, PS 895, PS 898, PS 905, PS 906, PS 1013	118, 148, 149, 150, 150, 151, 164
Lin, Hanqing	PD 150, PS 791, PS 1030	175, 136, 166
Lin, Harrison W	PS 580	99
Lin, Kan	PS 942	155
Lin, Pei-Hsuan	PD 115	169
Lin, Randy	PS 983, PS 988	160, 161
Lin, Sheng-Jia	PS 144	20
Lin, Vincent	PD 28	45
Lin, Xiaohui	PS 194, PS 488	27, 76
Lipford, Erika	PD 169, PS 182	178, 25
Lipschitz, Noga	PS 14	4
Li, Sihan	PD 69	92
Li, Song-Zhe	PS 954	157
Litovsky, Ruth Y.	PS 331, PS 339, PS 349, PS 351, PS 554, PS 749, SYMP 3, PS 1016, SYMP 24	56, 57, 58, 58, 96, 120, 36, 164, 41
Little, David F.	PS 532, PS 611	93, 103
Liu, Bin	PS 247, PS 248	34, 34
Liu, Chang	PS 10, PS 238, PS 247, PS 537, PS 538, PS 845, PS 968, PRES SYMP 3	3, 32, 34, 94, 94, 143, 158, 1
Liu, Christine Junhui	PS 830	141
Liu, David	PD 128, PS 172	171, 24

Author Index

Name	Abstract No.	Page No.
Liu, Dongxin	PS 808	139
Liu, George S.	PD 82	130
Liu, Haiqing	PS 1004	163
Liu, Huizhan	PS 23, PD 102, PS 380, PS 928, PS 930, PS 947	5, 134, 62, 153, 154, 156
Liu, Jia	PS 906	151
Liu, Jie	PD 163	177
Liu, Ke	PD 58, PS 427	90, 68
Liu, Lian	PD 27	45
Liu, Lijie	PS 1004	163
Liu, Li-Man	PS 126, PS 406, PS 470, PS 647, PS 649, PS 705, PS 1031	18, 66, 74, 107, 108, 115, 166
Liu, Liqian	PS 369, PS 761	61, 122
Liu, Lu Ying	PS 149	21
Liu, Robert C.	PS 311	53
Liu, Shu-Lin	PS 184, PS 692	26, 114
Liu, Siran	PS 476	75
Liu, Tian	PS 1028	166
Liu, Tien-Chen	PD 115	169
Liu, Wanyi	PS 309, PS 310	53, 53
Liu, Wei	PS 173, PS 445	24, 71
Liu, Xiaopeng	PS 217, PS 219, PS 716	30, 30, 117
Liu, Xiaoqiu	PS 769	123
Liu, Xiaozhou	PS 1025	165
Liu, Xiuping	PS 303	52
Liu, Xiuzhen	PS 792	136
Liu, Xue	PS 150, PS 606	21, 102
Liu, Xuezhong	PD 128, PS 155, PS 232, PS 356, PS 358, PS 399, PS 421, PS 928	171, 22, 32, 59, 59, 65, 67, 153
Liu, Yalin	PS 290	50
Liu, Yang	PD 74, PD 77, PD 121	127, 127, 170
Liu, Yujie	PS 345	57
Liu, Yuying	PS 822	140
Liu, Zhuo	PS 186	26
Li, Wei	PS 656	108
Li, Xiaobo	PS 1004	163
Li, Xiaofen	PS 700	115
Li, Xiaojun	PD 103	134
Liyanage, Nuwan	PS 601	102
Li, Yi	PS 928	153
Li, Yi-Ke	PS 472	74
Li, Yiran	PD 128	171
Li, Yongqin	PS 1038	167
Li, Zhuo	PS 462, PS 942	73, 155
Ljungman, Mats	PS 396	64
Llamas, Juan	PD 165, PS 645, PS 649	177, 107, 108
Llano, Daniel A.	PS 131, PS 881	19, 147

Author Index

Name	Abstract No.	Page No.
Llico, Andres F.	PS 330	55
Lobarinas, Edward	PS 18, PS 19, PS 181, PS 517, PS 519	5, 5, 25, 80, 80
Lockard, Gavin	PS 458	72
Loeb, Corena	PD 128	171
Lomber, Stephen G.	PS 847	143
Longenecker, Ryan	PS 274, PS 626, PS 784	48, 105, 135
Longenecker, Ryan	PD 113, PS 385, PS 520, PS 590, PS 621, PS 631, PS 636, PS 797, PS 881, PS 949, SYMP 83	169, 63, 80, 100, 104, 105, 106, 137, 147, 156, 126
Lonza, Olga	PS 387	63
Lopez Escamez, Jose Antonio	PD 123	170
Lopez-Escamez, Jose Antonio	SYMP 66	89
Lopez, Ivan A.	PS 358, PS 953, PS 959	59, 157, 157
Lopez-Poveda, Enrique A.	PD 110, PS 496	168, 77
Loquet, Gérard	PS 236	32
Lorenzi, Christian	PD 49, PS 511	88, 79
Lorenzini, Irene	PD 49	88
Losenegger, Tasher	PS 201	28
Losorelli, Steven	PD 81	130
Lotthammer, Jeffrey M.	PD 68	91
Lou, Vivian	PD 81	130
Lou, Wenjia	PS 396	64
Lovelace, Jonathan W.	PS 278	49
Love, Rachal	PS 784	135
Lovett, Michael	PD 99, PS 641	134, 107
Low, Walter C.	SYMP 86, SYMP 91	129, 129
Lubner, Rory J.	PS 109, PS 447	16, 71
Lucas, Alexandra	PS 587	100
Lucieer, Floor	PS 364, PS 780	60, 125
Luebke, Anne E.	PS 436, PS 437	69, 69
Lugo, Alessandra	PS 769	123
Lu, Hao	PS 537	94
Lu, Hongzhou	PS 533	93
Lu, Hsin-Wei	PS 823	140
Lui, Christopher G.	PS 121	18
Lui, Christopher G.	PS 521	80
Lu, Jasmine T.	PS 826	141
Lu, Jianzhong	PS 656	108
Lukacevic, Mario	PS 275	49
Lu, Kai	PS 309	53
Lu, Kai	PS 310	53
Lukasz, Daria	PS 978	160
Luke, Robert	PS 104	16
Luke, Robert	PS 631, PS 728	105, 118
Lukowski, Robert	PS 967	158
Lu, Lu	PD 63, PD 124	91, 170

Author Index

Name	Abstract No.	Page No.
Lundberg, Yesha (Yunxia)	PS 358	59
Lunsford, Elias	PD 176	178
Luo, Hao	PS 247	34
Luo, Hao	PS 248	34
Luo, Jianfen	PS 107	16
Luong, Katrina	PS 365	60
Luong, Venus	PS 258	35
Luo, Ping	PS 493	77
Luo, Xin	PS 323	55
Lu, Xiaowei	PS 368	61
Lu, Ying-Chang	PS 715	116
Lysakowski, Anna	PS 914	152
Lyu, Ah-Ra	PS 177, PS 221, PS 1031	25, 30, 166
Mäder, Karsten	PS 674	111
Möbius, Wiebke	PS 32, SYMP 75	6, 125
Müller, Marcus	PS 87, PS 165, PS 466, PS 668	13, 23, 73, 110
Müller, Michaela	SYMP 31	42
Ma, Peng	PS 145	20
Ma, Rui	PS 21, PS 675	5, 111
Maas, Patrick	PD 15, PS 600	43, 101
Maass, Juan	PS 783	135
Macías-Escrivá, Frank D.	PS 110, PS 121, PS 123, PS 521	17, 18, 18, 80
MacDougall, Dan	PS 193, PS 473	27, 74
Macias, Silvio	PS 851, PS 853	144, 144
Mackey, Chase	PS 516	79
MacLeod, Katrina M.	PS 30	6
Madani, Maxwell	PS 368	61
Maddox, Ross K.	PD 84	130
Maddox, Ross K.	PS 811, PS 812	139, 139
Madsen, Sara M. K.	PS 504	78
Maeda, Yukihide	PS 276	49
Maegawa, Noriko	PS 622	104
Mafi, Amir	PS 137, PS 138, PS 139, PS 723	19, 20, 20, 117
Maftoon, Nima	PS 200	28
Magariños, Marta	PS 375	61
Maguire, Casey A.	PD 26	45
Maguire, Colin	PS 150	21
Mahieu, Virginia N.	PS 703	115
Mahshid, Sahar Sadat	PD 113	169
Mahurkar, Anup A.	PS 889	148
Mai, Alexandra	PS 280, PS 1001	49, 162
Maibach, Rachel M.	PS 383	62
Maier, Hannes	PD 15, PS 600	43, 101
Maihofer, Adam E.	PS 160	22
Maison, Stéphane F.	PS 974	159

Author Index

Name	Abstract No.	Page No.
Ma, Ji-Hyun	PS 151, PS 895	21, 149
Maki, Katuhiro	PS 872	146
Makishima, Makoto	PS 1034	166
Makishima, Tomoko	PD 36	46
Makita, Takako	PS 53	9
Makmura, Welly	PD 165	177
Makmura, Welly	PS 649	108
Malkovskiy, Andrey Victorovich	PS 11	4
Malloy, Emma A.	PD 146, PS 944	174, 156
Malmierca, Manuel S.	PS 548, PS 852, PS 883	95, 144, 148
Maloof, Marie	PS 421	67
Mamach, Martin	PS 275	49
Mamillapalli, Chaitanya	PS 225	31
Mandavia, Rishi	PS 239, PS 240	33, 33
Mandujano, Brenna	PS 747	120
Manis, Paul	PS 28, PS 45	6, 8
Mankel, Kelsey	PS 550	95
Manley, Geoffrey A.	PD 9	42
Mann, Zoe	PS 44	8
Manohar, Senthilvelan	PS 217, PS 495, PS 985	30, 77, 161
Manor, Uri	PS 407	66
Mansour, Amer	PS 126	18
Mansour, Suzanne	PS 384	62
Manthey, Marie	PS 745	120
Mao, Beatrice	PS 648	107
Marchetta, Philine	PS 210, PS 745	29, 120
Marcotti, Walter	PS 924	153
Marini, Robert J.	PS 157, PS 168, PS 170	22, 23, 24
Marinos, Laura	PS 936	155
Marozeau, Jeremy	PS 318, PS 733	54, 119
Marples, Brian	PS 356	59
Marrufo-Pérez, Miriam I.	PS 496	77
Marsh, Tyler	PS 828	141
Martel, David T.	PS 243, PS 971	33, 159
Martelletti, Elisa	PD 126	171
Martin Izquierdo, Daniel	PS 395	64
Martin, Andrea I.	PS 711	116
Martin, Donna M.	PS 418	67
Martin, Donna M.	PD 161, PS 396, PS 404	176, 64, 65
Martinelli, Giorgio P.	PS 438	70
Martinez, Andy	PS 583	99
Martin, James	PS 645, PS 649	107, 108
Martin, Kathleen A.	PD 154	175
Marwede, Hannah	PS 83	13
Masino, Mark	PS 665	110
Masri, Samer	PS 828	141
Mastick, Judy	PS 227	31

Author Index

Name	Abstract No.	Page No.
Masud, Salwa F.	PS 202	28
Matera, Carlo	PS 52	9
Matern, Maggie	SYMP 52	86
Mathias, Samuel R.	PS 755	121
Mathur, Pranav D.	PS 464, PS 653, PS 690	73, 108, 113
Matin, Farnaz	PS 574	98
Matsunaga, Mami	PS 637, PS 639, PS 642	106, 106, 107
Matsunaga, Tatsuo	PS 154, PS 408, PS 410	22, 66, 66
Matsuoka, Akihiro	PS 394, PS 470	64, 74
Matsuura, Yumi	PS 707	115
Matsuzaki, Fumio	PD 19	43
Matthews, Ian	PS 520, PS 724	80, 117
Mattingly, Jameson K.	PS 975	159
Matusiak, Monika	PS 409	66
Matveev, Victor	PS 968	158
Mauermann, Manfred	PS 1022	165
Mausisa, Grace	PS 227	31
Ma, Xiaobo	PS 404, PS 418, PS 693	65, 67, 114
Ma, Xiulan	PD 58	90
Mayakannan, Manikandan	PS 183, PS 698	25, 114
May, Carl	PS 239, PS 240	33, 33
Mayer, Stella	PS 352, PS 353	58, 58
May, Lindsey A.	PS 456, PS 941	72, 155
Ma, Yutian	PD 29	45
Ma, Yutian	PS 670	110
McAlpine, David	PD 83, PS 54, PS 97, PS 105, PS 343, PS 592, PS 631, PS 634, PS 728, PS 753, PS 861, SYMP 25	130, 9, 15, 16, 57, 101, 105, 106, 118, 121, 145, 41
McCarthy, Ryan	PD 35, PS 463	46, 73
Mccarty, Christopher	PD 63, PS 149	91, 21
McClaskey, Carolyn M.	PD 80, PS 51, PD 131, PD 135, PS 1007, PS 1015	128, 9, 172, 173, 163, 164
McCollum, Mason	PS 829	141
McCormick, David	PS 625	104
Mccormick, Thomas	PS 698	114
McCraw, Josh	PS 258	35
McCreery, Ryan	PS 1017	164
McCullagh, Elizabeth	PS 587	100
McDermott, Brian	PD 72	92
McDermott, Josh H.	PD 44, PS 509, PS 609, PS 621, PS 868	84, 79, 103, 104, 146
McDonough, Joyce	PS 758	122
McDougald, Devin	PS 687	113
McGinley, Matthew J.	PD 160, PS 121, PS 625, PS 746	176, 18, 104, 120
McGovern, Melissa	PS 649	108
McGrath, Jamis	PS 896, SYMP 62	149, 87
McGuire, Kelli	PS 536	93

Author Index

Name	Abstract No.	Page No.
McInturff, Stephen	PS 579	99
McKay, Colette	SYMP 5, SYMP 36	37, 82
McKenna, Charles	PS 469	74
McKenna, Michael J.	PS 680, PS 685, PS 691	112, 113, 113
McLenachan, Sam	PS 398	65
McMahon, Catherine	PS 104	16
McMillan, Garnett	PS 491	76
McMurray, Bob	PS 752	121
McMurray, Mark	PD 169, PS 182	178, 25
McMurry, Gordon	PD 116	169
McNamara, Timothy	PS 776, PS 781	124, 125
McPherson, Malinda	PS 621	104
McQuate, Andrea L.	PS 922	153
McSweeney, Amanda	PS 187	26
McWalter, Richard	PS 509	79
Meade, Emma	PS 767	123
Meaud, Julien	PD 16	43
Meaud, Julien	PS 126	18
Mecca, Andrew	PD 69	92
Medllo, Wilfredo	PS 74	12
Meehan, Daniel	PS 24, PD 119	5, 170
Meenderink, Sebastiaan	PS 194, PS 488	27, 76
Megason, Sean	PD 162	176
Mehraei, Golbarg	PS 252	34
Mehta, Anahita H.	PS 542	94
Mehta, Ashesh	PS 301, PS 541	52, 94
Meier, William B.	PS 977	160
Mei, Ling	PD 77	127
Mejia, Juliet	SYMP 43	83
Melanie, Steffens	PD 114	169
Mellot, Adam	SYMP 93	130
Mellott, Jeffrey G.	PS 137, PS 138, PS 139, PS 723	19, 20, 20, 117
Mendonça, Aline	PS 407	66
Mepani, Anita M.	PS 974	159
Meredith, Frances	PS 2	3
Meredith, M. Alex	PS 847	143
Merrikhi, Yaser	PS 847	143
Mertens, Griet	PS 772, PS 777	124, 124
Mesgarani, Nima	PS 301, PS 541	52, 94
Mesiano, Paolo A.	PS 513, PS 1011	79, 164
Mesik, Juraj	PD 2, PD 138	38, 173
Messika Gold, Naama	PS 413	66
Meyer, Nicole	PS 146	21
Meyer, Philipp T.	PS 538	94
M'Hamed, Grati	PS 928	153
Miaskowski, Christine	PS 227	31
Micarelli, Alessandro	PS 359	59

Author Index

Name	Abstract No.	Page No.
Michalski, Nicolas	PS 305, PS 842	52, 143
Michanski, Susann	SYMP 75	125
Michel, Vincent	PS 684	112
Middlebrooks, John C.	PS 319, PS 580, PS 846, PS 848	54, 99, 143, 143
Mikami, Koshi	PS 778	124
Mikiel-Hunter, Jason	PS 54, PS 592	9, 101
Milam, Lana S.	PS 191	27
Milani, Lili	PS 253	34
Milazzo, Mario	PS 564	97
Miles, Kelly	PS 734	119
Milinkeviciute, Giedre	PS 826	141
Milinski, Linus	PD 56	89
Miller, Katharine	SYMP 64	88
Miller, Lee M.	PS 273	48
Miller, Peter	PS 705	115
Millman, Rebecca	PS 750	121
Mills, Mackenzie	PS 195, PS 801	27, 138
Milne, Alice E.	PS 608	102
Milon, Beatrice	PD 57, PS 222, PS 228, PS 231, PS 233, PS 234, PS 583, PS 585, PS 591, PS 592, PS 595, PS 635	90, 30, 31, 32, 32, 32, 99, 100, 100, 101, 101, 106
Minami, Shujiro	PS 154	22
Min, Hyehyun	PS 895	149
Min, Jaeki	PD 146, PS 944	174, 156
Minowa, Osamu	PD 122, PS 1035	170, 167
Miot, Stéphanie	SYMP 76	126
Mirjalili, Pooyan	PS 132, PS 134	19, 19
Mirzakhanyan, Yeva	PS 894	149
Mishra, Ambika	PD 155	176
Mishra, Dibyanshi	PS 945	156
Mitragotri, Samir	PS 678	112
Mittal, Jeenu	PS 82, PS 83, PS 945	13, 13, 156
Mittal, Rahul	PS 82, PS 83, PS 602, PS 945	13, 13, 102, 156
Miyatake, Tomomi	PS 642	107
Mizutari, Kunio	PS 115	17
Moberly, Aaron C.	PS 975	159
Moffat, Ryssa	PS 728	118
Mogi, Sachiyo	PS 72	11
Moglie, Marcelo J.	PS 783, PS 992	135, 161
Mohammed, Samiha	PS 907	151
Mohri, Hiroaki	PS 931	154
Moleti, Arturo	PS 118, PS 490, PS 597	17, 76, 101
Monaghan, Jessica	PS 104, PS 753	16, 121
Monaghan, Jessica J. M.	PD 83, PS 54	130, 9
Mondain, Michel	PS 683	112
Mong, Jessica	PD 169	178

Author Index

Name	Abstract No.	Page No.
Mong, Jessica	PS 182	25
Monjaras, Ambar G.	PS 611	103
Monje, Paul	PS 356	59
Monroe, Tanner	PS 649	108
Monsanto, Rafael da Costa	PS 759	122
Monson, Brian B.	PS 660, PS 1024	109, 165
Moodie, Laurin	PS 394	64
Moody, Patricia R.	PS 181	25
Moon, Changsuk	PS 463, PS 714	73, 116
Moon, Dae Won	PS 895	149
Moon, Il Joon	PS 295	51
Moon, In Seok	PD 174	178
Moon, Seok Jun	PS 895	149
Moore, Ashley	PS 659	109
Moore, David R.	PS 291	51
Morado-Díaz, Camilo J.	PS 548	95
Morell, Robert	PS 395, PS 417	64, 67
Moreno Pelayo, Miguel Angel	PS 411	66
Moreno-Paublete, Rocio	PS 523	80
Morgan, Clive P.	PS 925, PS 929	153, 154
Morgan, Drew	PS 935	154
Morgan, Shae D.	PS 475	74
Morimoto, Chihiro	PS 566	97
Morimoto, Takashi	PS 706, PS 809	115, 139
Morino, Tsunetaro	PS 762	122
Morris, David	PS 473	74
Morrison, Christine	PS 473	74
Morse, Robert	PS 326	55
Mo, Seongho	PS 129	19
Moser, Tobias	SYMP 73	125
Mosqueda, Natalie	PD 22	44
Mostaert, Brian	PS 88, PS 444	14, 70
Motallebzadeh, Hamid	PS 486	76
Moteki, Hideaki	PS 605	102
Moudgalya, Sanketh S.	PS 671	111
Mowery, Todd M.	PS 741, PS 1002	119, 163
Mowry, Sarah	PS 476	75
Moyaert, Julie	PS 777	124
Mridha, Zakir	PD 160, PS 746	176, 120
M, Sandeep	PS 1014	164
Mucci, Viviana	PS 782	125
Mueller, Ulrich	PD 71, PS 701	92, 115
Mukherjea, Debashree	PD 170, PS 115, PS 674, PS 680, PS 697, PS 698, PS 700, PS 738	178, 17, 111, 112, 114, 114, 115, 119
Mukherjee, Subhendu	PD 28, PS 453	45, 71
Mulhall, Eric	PS 697	114
Mulquin, Marcia	PD 145	174

Author Index

Name	Abstract No.	Page No.
Munnamalai, Vidhya	PS 893	149
Murakoshi, Michio	PS 598, PS 662	101, 109
Muralimanohar, Ramesh Kumar	PS 632	105
Murayama, Takashi	PS 1035	167
Murphy, David	PD 89, PS 869, PS 870	131, 146, 146
Murphy, William J.	PS 191	27
Murtha, Kaitlin	PS 990	161
Musacchia, Gabriella	PD 81, PD 87, PD 88, PS 618, PS 664	130, 131, 131, 104, 110
Musiek, Frank	PS 342	57
Mutai, Hideki	PS 154, PS 408, PS 410	22, 66, 66
Muyshondt, Pieter G. G.	PS 564	97
Myers, Emily	PS 738	119
Myers, Ryan	PS 258	35
Mylanus, Emmanuel	PS 571	98
Nørgaard, Kren Monrad	PD 92, PS 197	131, 27
Naber, John	PS 475	74
Na, Daxiang	PS 655	108
Nadol, Joseph B.	PS 392, PS 446, PS 950	64, 71, 156
Naert, Gaelle	PS 246	33
Na, Gina	PS 224, PS 568	31, 98
Nair, Aditya G.	PS 620	104
Najmabadi, Hossein	PS 171	24
Nakagawa, Seiji	PS 565, PS 567, PS 615, PS 616, PS 617, PS 627, PS 706, PS 708, PS 709	97, 97, 103, 103, 104, 105, 115, 116, 116
Nakagawa, Takayuki	PD 151, PS 522	175, 80
Nakagawa, Takayuki	PS 584	99
Nakagawa, Takayuki	PS 637, PS 639	106, 106
Nakagawa, Takayuki	PS 642	107
Nakagawa, Takayuki	PS 890	149
Nakahata, Maura I.	PS 215	30
Nakajima, Hideko H.	PS 190, PS 201, PS 202	26, 28, 28
Nakamura, Ryosuke	PS 642, PS 763	107, 122
Nakamura, Takashi	PS 385, PS 892	63, 149
Nakamura, Tatsuo	PS 763	122
Nakamura, Yukiko	PS 391	63
Nakatera, Kazuya	PS 569	98
Nakmali, Don	PS 656	108
Namatsu, Tatsuya	PS 569	98
Nam, Han-Seung	PS 431	69
Nam, Jong-Hoon	PS 125, PS 128	18, 18
Nankali, Amir	PS 123	18
Nara, Kiyomitsu	PS 154, PS 408	22, 66
Narins, Peter M.	PS 489, PS 704	76, 115
Narne, Vijay	PS 236	32
Narui, Yoshie	PD 68	91
Nasr, Jamal	PS 152	21

Author Index

Name	Abstract No.	Page No.
Navaratnam, Dhasakumar	PS 915, PS 993, PS 999	152, 161, 162
Nave-Blodgett, Jessica E.	PS 611	103
Nayak, Neil	PS 114	17
Naylor, Graham	SYMP 4	36
Nechiporuk, Alex	PS 434	69
Nedelec, Martin	PS 63	10
Needham, Karina	PS 578	99
Neel, Brandon L.	PD 68	91
Neely, Stephen	PD 130, PD 132	172, 172
Negi, Soumya	PD 35	46
Neher, Tobias	PS 563	97
Nella, Kevin	PS 470	74
Nelson, Peggy	PS 748	120
Nelson, Peggy	SYMP 29	42
Nelson, Rick F.	PS 388	63
Nemelka, Justin	PS 897	149
Neng, Lingling	PS 952, PS 953, PS 955	157, 157, 157
Neri, Peter	PD 52	88
Nester, Matt	PS 973	159
Neupane, Biswas	PS 17	4
Nevoux, Jerome	PD 104	135
Newby, Gregory	PS 172	24
Newlands, Shawn	PD 145	174
Newton, Stephen	PD 105	167
Ng, Eva	PS 862	145
Ng, Kevin	PD 88, PS 618	131, 104
Ngodup, Tenzin	PS 34	7
Ng, Robert	PS 680, PS 682, PS 685, PS 691	112, 112, 113, 113
Nguyen Thi Thanh, Phuong	PS 1033	166
Nguyen, Cassidy	PD 102, PS 455	134, 72
Nguyen, Shaun A.	PD 116	169
Nguyen, Thu	PS 291	51
Nguyen, Tot B.	PD 34	46
Nguyen, Trang	PS 60, PS 714	10, 116
Nibu, Ken-ichi	PS 22	5
Nicolson, Teresa	PS 434, PS 435, PS 702	69, 69, 115
Nicol, Trent	PS 658, PS 814, PS 816	109, 139, 140
Nie, Jing	PS 382, PS 385	62, 63
Nievergelt, Caroline E.	PS 160	22
Ning, Ruijing	PD 51	88
Ninomiya, Hisakazu	PS 584	99
Ninoyu, Yuzuru	PS 931	154
Nisenbaum, Eric	PS 232, PS 606	32, 102
Nishigori, Chikako	PS 22	5
Nishimura, Carla J.	PS 146, PS 157, PS 168, PS 170	21, 22, 23, 24
Nishimura, Koji	PS 584	99

Author Index

Name	Abstract No.	Page No.
Nishimura, Tadashi	PS 566	97
Nishio, Shin-ya	PS 140, PS 166, PS 167, PS 605	20, 23, 23, 102
Nishitani, Satoshi	PS 279	49
Nishiyama, Takanori	PS 604	102
Nishizaki, Kazunori	PS 276	49
Nisler, Collin	PD 68	91
Nisler, Collin	PS 603	102
Nist-Lund, Carl	PD 71, PS 65, PS 111, PS 354, PS 662, PS 823, PS 1057	92, 11, 17, 59, 109, 140
Niziolek, Caroline A.	PS 749	120
Nizuka, Takeshi	PS 584	99
Noble, Anisha R.	PS 501	78
Noble, Kenyaria V.	PD 75, PS 51, PD 135	127, 9, 173
Nodal, Fernando R	PS 844	143
Noda, Tetsuo	PS 1035	167
Noftz, William A.	PS 133	19
Noguchi, Masaru	PS 408	66
Nogueira, Waldo	PD 107, PS 325, PS 560, PS 581, SYMP 36	168, 55, 96, 99, 82
Noh, Byunghwa	PS 147, PS 224	21, 31
Noh, Tae-Soo	PS 393, PS 672	64, 111
Noij, Kimberley	PS 264	36
Nolan, Lisa S.	PD 62, PS 400	90, 65
Nolan, Timothy P.	PS 1010	164
Nolta, Nicholas	PS 582	99
Noman, Ayesha	PD 28, PS 453	45, 71
Nonaka, Takashi	PS 706, PS 809	115, 139
Nonomura, Yoriko	PS 958	157
Nordmark, Jonatan	PS 843	143
Nordström, Charlotta	PS 173	24
Norena, Arnaud	PS 246	33
Norman-Haigneré, Sam	PS 312	53
North, Rachel S.	PS 711	116
Nothwang, Hans Gerd	PS 413	66
Nouaille, Sylvie	PS 924	153
Nourbakhsh, Aida	PS 399	65
Nourski, Kirill	PD 143	174
Nourski, Kirill	PS 288, PS 296, PS 544, PS 771	50, 51, 94, 123
Nouvian, Regis	SYMP 76	126
Nowack, Amy	PS 362	60
Nowak, Nathaniel J.	PD 171	178
Noyce, Abigail	PS 298	51
Nuttall, Alfred L.	PS 117	17
O Maoileidigh, Daibhid	PD 13, PD 65, PD 82	42, 91, 130
Ołdak, Monika	PS 156	22
O'Hagan, Robin	SYMP 27	41

Author Index

Name	Abstract No.	Page No.
O'Malley, Jennifer T.	PS 62, PS 178, PS 446, PS 950	10, 25, 71, 156
Obleser, Jonas	PS 755	121
Obrycka, Anita	PS 409	66
O'Connell, Brendan P.	PS 335, PS 561	56, 97
O'Connell-Rodwell, Caitlin	PS 188	26
O'Connor, Kevin N.	PS 440	70
Oertel, Donata	PS 43	8
Oestreicher, David	PS 966	158
Oetjen, Henning	PS 272, PS 277	48, 49
Oe, Yoko	PS 764	122
Ogawa, Kaoru	PS 408, PS 604, PS 765, PS 888, PS 980	66, 102, 123, 148, 160
Ogelman, Roberto	PS 979	160
Oghalai, John S.	PS 110, PS 121, PS 122, PS 123, PS 521, PS 595	17, 18, 18, 18, 80, 101
Ogino, Riki	PS 565, PS 567	97, 97
Ogita, Hideaki	PS 569, PS 584	98, 99
Ohata, Kazuya	PS 806	138
Oh, Doo-Yi	PS 163	23
Oh, Kyung Seok	PS 147	21
Ohlemiller, Kevin	PD 169, PS 412, PS 527	178, 66, 81
Ohnishi, Hiroe	PS 637, PS 639, PS 762, PS 763, PS 890	106, 106, 122, 122, 149
Ohoyama, Kenji	PS 207, PS 442	29, 70
Ohsawa, Chie	PS 622	104
Oh, Seung-Ha	PS 220, PS 393, PS 672, PS 956	30, 64, 111, 157
Ohta, Keisuke	PD 66	91
Ohta, Sayaka	PS 764	122
Ohta, Yumi	PS 231	32
Oh, Yonghee	PS 337, PS 557, PS 657	56, 96, 109
Oishi, Naoki	PS 408, PS 604	66, 102
Okamoto, Hidehiko	PS 809	139
Okamoto, Yasuhide	PS 706	115
Okano, Hideyuki	PS 765	123
Okano, Takayuki	PD 23, PS 569	44, 98
Oka, Shin-ichiro	PS 605	102
Okayasu, Tadao	PS 446, PS 566	71, 97
Okazaki, Yasushi	PS 1035	167
Okinaka, Yosuke	PS 259	35
Okuyama, Hideaki	PS 763	122
Oleksijew, Andy	PS 470	74
Olivares, Virginia	SYMP 5	37
Oliver, Dominik	PS 996, PS 998	162, 162
Oliver, Douglas L.	PS 742	120
Oliver, Douglas L.	SYMP 18	39
Olson, Elizabeth S.	PS 116, PS 120, PS 201, PS 964	17, 18, 28, 158

Author Index

Name	Abstract No.	Page No.
Olszewski, Rafal	PD 169, PS 386, PS 395, PS 417	178, 63, 64, 67
Omelchenko, Irina	PS 551	95
Omichi, Ryotaro	PD 25	45
Omori, Koichi	PD 23, PD 66, PD 151, PS 174, PS 522, PS 569, PS 637, PS 639, PS 642, PS 762, PS 763, PS 890	44, 91, 175, 24, 80, 98, 106, 106, 107, 122, 122, 149
O'Neill, Erin R.	PS 334	56
Ono, Kazuya	PD 66, PS 372	91, 61
Oostrik, Jaap	PD 127	171
Orczyk, John	PS 849	143
Ordiway, George	PS 31	6
O'Reilly, Mark	PD 157	176
Orf, Martin	PS 755	121
Ortiz, Candice	PD 145	174
Orvis, Joshua	PS 889	148
Oshima, Kazuo	PS 231	32
Oshima, Takeshi	PS 1034	166
Osses Vecchi, Alejandro	PS 514	79
Oster, Monika-Maria	PS 659	109
Ostojic, Srdjan	PS 307	52
O'Sullivan, Mary E.	PS 983, PS 988	160, 161
Osumi, Noriko	PS 397	64
Otero-Millan, Jorge	PS 256	35
Otsuka, Sho	PS 565, PS 567, PS 615, PS 616, PS 617, PS 706, PS 707, PS 708, PS 709	97, 97, 103, 103, 104, 115, 115, 116, 116
Ou, Yang	PS 255	35
Owada, Yuji	PS 397	64
Owrutsky, Zoe	PS 633	105
Oxenham, Andrew J.	PD 138, PS 321, PS 334, PS 504, PS 507, PS 537, PS 542, PS 581, PS 619, PS 855, SYMP 29	173, 54, 56, 78, 78, 94, 94, 99, 104, 144, 42
Oya, Hiroyuki	PD 143, PS 771	174, 123
Oziębło, Dominika	PS 156	22
Ozono, Yoshiyuki	PS 806	138
Pérez-González, David	PS 852, PS 883	144, 148
Paasche, Gerrit	PS 479, PS 574	75, 98
Pace, Edward	PS 247, PS 248	34, 34
Pacentine, Itallia	PS 434, PS 696, PS 702	69, 114, 115
Padilla, Carlos Antonio	PS 183	25
Paek, Hunki	PS 20	5
Paganella, Lauren	PS 1027	166
Page, Brandi	PD 145	174
Pagella, Sara	PS 800	137
Palermo, Adam T.	PD 35, PD 60, PS 58, PS 143, PS 184, PS 692	46, 90, 10, 20, 26, 114
Palmer, Katie	PS 822	140
Pan, Bifeng	PS 172, PS 184, PS 681	24, 26, 112

Author Index

Name	Abstract No.	Page No.
Pandey, Atul	PD 166	177
Panditi, Rishitha	PS 754	121
Pandya, Sangeeta	PS 30	6
Pang, Amy	PS 255	35
Panganiban, Clarisse H.	PS 51, PD 135	9, 173
Pan, Geng	PS 906	151
Pang, Jiaqi	PD 11, PD 71, PS 65, PS 99, PS 111, PS 353, PS 662, PS 823, PS 1057	42, 92, 11, 15, 17, 58, 109, 140
Pangršič Vilfan, Tina	SYMP 75	125
Pangršič, Tina	PS 966	158
Pan, Ning	PD 35, PD 60, PS 184, PS 692, PS 714	46, 90, 26, 114, 116
Paparella, Michael, Mauro	PS 759	122
Papesh, Melissa A.	PS 535	93
Paraouty, Nihaad	PS 549, PS 741	95, 119
Parham, Kourosh	PS 233	32
Parida, Satyabrata	PD 129	172
Park, Collin	PS 274	48
Park, Do-Yang	PS 448	71
Parker, Amber M.	PD 32	46
Parker, Andrew	PS 924	153
Parker, Ashley	PS 212, PS 233	29, 32
Parker, Jack	PS 64	10
Parker, Stephen CJ	PS 396	64
Park, Grace	PS 759	122
Park, Hong Ju	PS 208, PS 480, PS 481, PS 484	29, 75, 75, 75
Park, Hun Yi	PS 346, PS 448	58, 71
Park, Ilyong	PS 431	69
Park, Jason	PD 57	90
Park, Jeong Eun	PS 938	155
Park, Joseph	PS 159	22
Park, Jung Mee	PS 15, PS 162, PS 613	4, 23, 0103
Park, Jung-Hoon	PS 208, PS 480, PS 484	29, 75, 75
Park, Min Jung	PS 177, PS 221, PS 465, PS 1031	25, 30, 73, 166
Park, Moo Kyun	PS 220, PS 393, PS 672	30, 64, 111
Park, Seojin	PD 73, PS 267, PS 968, PS 969, PS 995, PS 1026	127, 48, 158, 159, 162, 165
Park, Shi Nae	PS 15, PS 162, PS 613	4, 23, 0103
Park, So Young	PS 15	4
Park, Sohyun	PS 220	30
Parks, Thomas	PS 786	136
Park, Sungjin	PS 897	149
Park, Yong-Ho	PS 177, PS 221, PS 465, PS 1031	25, 30, 73, 166
Parley, Kristina E.	PD 175	178
Parng, Annie	PS 907	151

Author Index

Name	Abstract No.	Page No.
Parras, Gloria G.	PS 852	144
Parr, Thomas	PD 7	38
Partouche, Elie	PS 96, PS 854	15, 144
Pasquesi, Lauren	PS 365	60
Pastore, M. Torben	PS 858	145
Pastras, C	PS 6, PS 389, PS 439	3, 63, 70
Patel, Honey	PS 973	159
Patel, Kishan	PS 467	73
Patel, Prachi	PS 301, PS 541	52, 94
Patni, Pranav	PD 42, PD 43, PD 45, PS 109, PS 567, PS 695, PS 710	84, 84, 84, 16, 97, 114, 116
Patro, Chhayakant	PD 91, PS 249	131, 34
Patterson, Roy D.	PS 510	79
Paul, Brandon T.	PD 28, PD 41, PS 327, PS 540, SYMP 98	45, 84, 55, 94, 132
Paulin, Michael G.	PS 4	3
Paul, Matthew J.	PS 810	139
Pavão, Rodrigo	PS 630	105
Pawley, Devon C.	PS 676	111
Pawlowski, Karen S.	PS 18, PS 19, PS 181, PS 517, PS 519, PS 984	5, 5, 25, 80, 80, 160
Pawluczuk, Marta	PD 93, PD 120	131, 170
Payne, Shelby	PS 48, PS 919, PS 973	8, 152, 159
Paz, Nancy	PS 184	26
Peña, José L.	PS 591, PS 630, PS 864, PS 877	100, 105, 145, 147
Peña, Stefanie	PS 232, PS 356	32, 59
Peacock, John	PS 56, PS 206, PS 587	9, 29, 0100
Pearson, Claire	PS 757, PS 1012	121, 164
Pecka, Michael	PS 586, PS 588, PS 592, PS 850, PS 863, SYMP 31	100, 100, 101, 144, 145, 42
Pedersen, Ellen Raben	PS 228	31
Peelle, Jonathan E.	SYMP 6	37
Peelle, Jonathan E.	PS 539	94
Peguero, Braulio	PS 386	63
Peguero, Braulio	PS 1026	165
Pei, Alexander	PS 298	51
Peineau, Thibault	PS 918	152
Pekrun, Katja	PS 422	68
Peng, Anthony	PD 69	92
Peng, Fei	PD 155	176
Peng, Guihong	PS 701	115
Peng, Sun	PS 186	26
Peng, Z. Ellen	PS 351	58
Peng, Zhe	PS 427	68
Pennings, Ronald J.E.	PD 127	171
Pennock, Steven	PS 690	113
Perdew, Audrey	PS 291	51

Author Index

Name	Abstract No.	Page No.
Perea Perez, Francisca	SYMP 4	36
Perera, Chamini	PD 175	178
Perez-Flores, Maria Cristina	PD 73, PS 968, PS 969, PS 995, PS 1026	127, 158, 159, 162, 165
Perez-Fornos, Angélica	PS 361, PS 364, PS 780	60, 60, 125
Perez, Ronen	PD 46	84
Perkins, Guy	PD 73	127
Perreau, Ann	SYMP 33	44
Perrin, Benjamin	PS 896, SYMP 62	149, 87
Perrine, Shane	PS 248	34
Perumal, Drishna Karthric	PS 754	121
Petersen, Hannes	PS 271	48
Peterson, Adam J.	PS 47	8
Peterson, Diana C.	PS 744	120
Peterson, Samuel M.	PS 487	76
Peters, Sajel	PS 470	74
Petit, Christine	PS 305, PS 684, PS 842, PS 924	52, 112, 143, 153
Petley, Lauren	PS 291	51
Petrak, Michelle	PS 394	64
Petralia, Ronald S.	PD 66, PS 941	91, 155
Petree, Cassidy	PS 144	20
Petremann, Mathieu	PD 149, PS 270, PS 518	175, 48, 80
Pfiffner, Flurin	PS 92, PS 570, PS 601	14, 98, 102
Pfingst, Bryan E.	PS 84, PS 99, PS 558	13, 15, 96
Phillips, James	PS 362	60
Phlegar, Kristen	PD 166	177
Phllips, Grady	PD 76, PS 24, PD 119	127, 5, 170
Phung, Lauren	PS 650	108
Picinali, Lorenzo	PS 350	58
Pierantozzi, Mariangela	PS 490	76
Pinder, Chantz A.	PS 946	156
Pineros, Jennifer	PS 785	136
Pinheiro, Barbara	PS 668	110
Pinkl, Joseph	PS 14, PD 133	4, 172
Pintelon, Isabel	PS 720	117
Pinyon, Jeremy L.	PD 175	178
Piotrowski, Tatjana	PD 97, PD 99, PS 641	134, 134, 107
Pitcher, Gabriella	PS 146	21
Pittman, Michael	PS 180	25
Piu, Fabrice	PS 459, PS 464, PS 524, PS 653, PS 690	72, 73, 81, 108, 113
Plack, Christopher J.	PD 54	88
Plagnol, Vincent	PD 24	44
Plankey, Michael W.	PS 363, PS 497	60, 77
Pleshkov, Maksim	PS 364, PS 780	60, 125
Plontke, Stefan	PS 674	111
Poda, Raja	PS 60, PS 714	10, 116
Pogson, Jacob M.	PS 256	35

Author Index

Name	Abstract No.	Page No.
Polanik, Marc	PD 94, PS 477	132, 75
Poleg, Shani	PS 587	100
Polonenko, Melissa J.	PS 811, SYMP 30	139, 42
Polony, Gábor	PS 460	72
Pongstaporn, Tan	PS 279	49
Ponsaerts, Peter	PS 720	117
Ponsot, Emmanuel	PD 52	88
Pontoppidan, Niels H.	PS 1011	164
Popovici-Muller, Janeta V.	PS 60, PS 463	10, 73
Porsov, Edward V.	PS 487	76
Postal, Olivier	PS 305, PS 842	52, 143
Postma, AA	PS 361	60
Potrusil, Thomas	PS 94	14
Prager, MBA, MD, Jeremy D.	PD 64	91
Prajapati-DiNubila, Meenakshi	PD 20	43
Preda, Marilena	PS 841	142
Pregernig, Gabriela	PD 35, PS 692	46, 114
Prentiss, Sandra	PS 328, PS 355	55, 59
Presacco, Alessandro	PS 287	50
Price, Caitlin	PS 269	48
Price, Cathy	PD 7	38
Prieskorn, Diane M.	PS 693, PS 761	114, 122
Priestley, Nigel	PS 471	74
Prochazka, Lukas	PS 601	102
Proctor, Georgio	PS 935	154
Prodanovic, Srdan	PS 443	70
Profant, Oliver	PS 266	47
Project, Hearing Restoration	PD 99, PS 641	134, 107
Proville, Rémi	PS 845	143
Prud'homme, Luna	PS 503	78
Psota, Pavel	PS 192, PS 199, PS 203	27, 28, 28
Pucheu, Sylvie	PS 246	33
Puel, Jean-Luc	PS 61, PS 63, PS 66, PS 77, PS 152, PS 683, SYMP 76	10, 10, 11, 12, 21, 112, 126
Pujol, Rémy	PD 34	46
Pulido, Sara	PS 375	61
Puligilla, Chandrakala	PD 166	177
Pulver, Stephen H.	PS 960	157
Purcell, David	PD 86	130
Puria, Sunil	PD 173, PS 188, PS 190, PS 440, PS 486	178, 26, 26, 70, 76
Purnell, Stephanie B.	PS 354	59
Pyakurel, Umesh	PS 451, PS 947	71, 156
Pyle, Madeline	PS 395, PS 417	64, 67
Pyott, Sonja J.	PS 498	77
Pysanenko, Kateryna	PS 284	50

Author Index

Name	Abstract No.	Page No.
Qian, Minfei	PS 285	50
Qian, Z. Jason	PD 43, PS 1020, PS 1021	84, 165, 165
Qin, Xiuyuan	PS 617	104
Qiu, Jingyun	PS 906	151
Qiu, Wei	PD 168, PS 155, PS 205, PS 261, PS 721, PS 1012, PS 1026	177, 22, 28, 35, 117, 164, 165
Qiu, Xufeng	PD 71, PS 701	92, 115
Qiu, Yue	PS 175	24
Quadros, Rolen	PS 384	62
Quass, Gunnar L.	PS 316	54
Quatieri, Thomas	PS 1008	163
Qu, Enping	PS 680, PS 685, PS 691	112, 113, 113
Quiñones, Patricia M.	PS 110, PS 521	17, 80
Quiroga-Martinez, David	PD 7	38
Quiruz, Lee	PD 21	43
Quraishi, Imran	PS 18, PS 24, PS 35, PD 125, PD 156, PS 270, PS 274, PS 306, PS 555, PS 1009	5, 5, 7, 170, 176, 48, 48, 52, 96, 163
Qu, Teng-Fei	PS 427	68
Röösli, Christof	PS 92, PS 130, PS 189, PS 570, PS 601	14, 19, 26, 98, 102
Rüttiger, Lukas	PD 48, PS 210, PS 710, PS 745, PS 770	84, 29, 116, 120, 123
Rabbitt, Richard D.	PS 1, PD 10, PD 40, PS 994	2, 42, 47, 162
Rabbitt, Richard D	PS 995	162
Raciti, Federica Maddalena	PD 39, PS 59	47, 10
Rader, Dan	PS 159	22
Radulescu, Luminita	PS 141	20
Radziwon, Kelly	PS 835	142
Raghunathan, Suchi	PS 187	26
Rahman, Muhammad Taifur	PS 64, PS 71	10, 11
Rahman, Shafaqat	PS 436, PS 437	69, 69
Rahman, Shaikh Emdadur	PS 452	71
Raible, David W.	PS 922, PS 933, PS 979	153, 154, 160
Raimundo, Nuno	PS 790	136
Rai, Vikrant	PS 689	113
Rajaram, Ezhilarasan	PS 799	137
Rajguru, Suhurd M.	PD 39, PS 59, PD 152	47, 10, 175
Ramachandran, Ramnarayan	PS 516	79
Ramakrishnan, Aarthi	PD 167, PD 168	177, 177
Ramakrishnan, Neeliyath A.	PS 932	154
Ramakrishna, Yugandhar	PS 7	3
Ramekers, Dyan	PS 57, PS 70, PS 100	9, 11, 15
Ramirez, Miguel A.	PS 531, PS 965	81, 158
Ramkumar, Vickram	PS 225, PS 939	31, 155
Randle, Michelle R.	PS 651, PS 946	108, 156

Author Index

Name	Abstract No.	Page No.
Rangoussis, Katherine	PS 900	150
Rankin, James	PS 607	102
Ranković, Vladan	PS 966	158
Ranum, Paul	PD 25	45
Raphael, Robert M.	PS 914, PS 963	152, 158
Raphael, Yehoash	PS 84, PD 161, PS 404, PS 418, PS 558, PS 693, PS 761	13, 176, 65, 67, 96, 114, 122
Rasetshwane, Daniel	PD 130, PD 132	172, 172
Rask-Andersen, Helge	PS 80, PS 173, PS 885, PS 886	12, 24, 148, 148
Ratnanather, J. Tilak	PS 308, PS 833	53, 141
Rattay, Frank	PS 94	14
Ratzan, Evan	PS 378	62
Rauch, Ann-Kathrin	PS 348	58
Rau, Christoph	PS 377	62
Rauch, Steven D.	PS 109, PS 264	16, 36
Rauschecker, Josef P.	SYMP 35	44
Ravicz, Mike E.	PD 173, PS 216, PS 440	178, 30, 70
Ray, Dylan C.	PD 105	167
Ray, Jaydip	PS 433	69
Ray, Lucia A.	PD 2	38
Razak, Khaleel A.	PS 278, PS 839	49, 142
Read, Heather	PS 740	119
Rebello, Elliott	PS 776, PS 781	124, 125
Rebhan, Michael	PS 803	138
Rebustini, Ivan	PD 69	92
Recanzone, Gregg H.	PS 273	48
Redila, Van A.	PS 42	7
Redmond, Sharon	PS 398	65
Refat, Fatma	PS 770	123
Regev, Jonathan	PS 513	79
Rehman, Atteeq	PD 66	91
Reichenbach, Tobias	PS 299, PS 705, PS 729, PS 813	52, 115, 118, 139
Reimann, Katrin	PS 215, PS 367, PS 759, PS 772, PS 1007, PS 1008, PS 1072	30, 60, 122, 124, 163, 163
Reiss, Lina	PS 337, PS 551, PS 552, PS 557, PS 657	56, 95, 95, 96, 109
Reiss, Michael	PS 551	95
Reith, Mary	PS 274	48
Rejmak-Kozicka, Emilia	PS 409	66
Remenschneider, Aaron K.	PD 93, PD 94, PD 120, PS 109, PS 202, PS 264, PS 441, PS 447, PS 477, PS 678	131, 132, 170, 16, 28, 36, 70, 71, 75, 112
Remington, Logan	PS 552	95
Renaud, Justine M.	PS 371	61
Renden, Robert	PS 267	48
Ren, Dongdong	PS 472	74

Author Index

Name	Abstract No.	Page No.
Renigunta, Vijay	PS 998	162
Renkes, Erika M.	PS 171	24
Rennie, Katherine	PS 2	3
Rennie, Katie	SYMP 67	89
Rennies, Jan	PS 338	57
Ren, Tianying	PD 90, PS 69, PS 89, PS 178, PS 463, PS 464, PS 491, PS 733	131, 11, 14, 25, 73, 73, 76, 119
Ren, Yong	PS 184, PS 463	26, 73
Repa, Joyce J.	PS 984	160
Requena Navarro, Teresa	PD 33	46
Requena, Teresa	SYMP 66	89
Resnick, Jesse M.	PS 501	78
Rhone, Ariane	PS 288, PS 296, PS 544	50, 51, 94
Ricci, Anthony	PD 43, PD 65, PS 666, PS 818, PS 983, PS 988, SYMP 63, SYMP 64, SYMP 78	84, 91, 110, 140, 160, 161, 87, 88, 126
Richardson, Matthew L	PS 319, PS 580, PS 773, PS 846, PS 848	54, 99, 124, 143, 143
Richardson, Rachael	PD 29, PS 578, PS 682	45, 99, 112
Richards, Virginia	PD 108	168
Richter, Claus-Peter	PS 195, PS 209, PS 377, PS 461, PS 576, PS 669	27, 29, 62, 72, 98, 110
Richter, Margaret	PS 333	56
Rieth, Loren	PS 581	99
Riggle, Mark S.	PS 867	146
Riggs, William J.	PS 91, PS 93, PD 106, PS 102, PS 106, PS 329, PS 975	14, 14, 168, 15, 16, 55, 159
Rincon Sabatino, Samantha	PD 152	175
Rivera-Perez, Luis M.	PS 203, PS 363, PS 369, PS 372, PS 414, PS 681, PS 725, PS 1067	28, 60, 61, 61, 67, 112, 118
Rivero, Andrea	PD 152	175
Rivetta, Alberto	PS 999	162
Rivolta, Marcelo N.	PS 433	69
Rizvi, Sabahet T.	PS 261	35
Rizzoli, Silvio	SYMP 77	126
Roberts, Dale C.	PS 256	35
Roberts, Michael T.	PS 132, PS 874, PS 878, PS 880	19, 146, 147, 147
Robinson, Alan	PS 209, PS 461, PS 899	29, 72, 150
Rocha-Sanchez, Sonia	PS 451, PS 947	71, 156
Rodgers, Chris	PS 845	143
Rodríguez-Contreras, Adrián	PS 804, PS 906	138, 151
Rodriguez de la Rosa, Lourdes	PS 375	61
Rodriguez, Amanda	PS 263	36
Rodriguez, Gerardo	PS 575, PS 585	98, 100
Rodriguez, Raul	PS 775, PS 779	124, 124

Author Index

Name	Abstract No.	Page No.
Rogalla, Meike	PS 577	99
Rogers, Lesco	PS 935	154
Rohde, Eva	PD 147, SYMP 14	174, 38
Rohrer, Baerbal	PD 75	127
Romanet, Charlotte	PD 149, PS 270, PS 518	175, 48, 80
Roman-Naranjo, Pablo	PD 123, SYMP 66	170, 89
Romano, Daniel R.	PS 892	149
Romero, Gabriel E.	PS 797	137
Romo-Castillo, Maria	PD 110	168
Roongthumskul, Yuttana	PD 13	42
Roosing, Susanne	PD 127	171
Ropp, Tessa-Jonne	PS 28, PS 45	6, 8
Roque, Christian	PS 470	74
Rosati, Rita	PS 981, PS 987	160, 161
Rose, Kevin	PD 99, PS 641, PS 889	134, 107, 148
Rosen, Stuart	PD 55, PS 289, PS 341, PS 732	88, 50, 57, 118
Rosowski, John	PD 165, PS 212, PS 255, PS 256, PS 1004, PS 1074, PS 1079	177, 29, 35, 35, 163
Rosskothén-Kuhl, Nicole	PS 352, PS 353	58, 58
Ross, Tobias L.	PS 275	49
Rotman, Tali	PS 547	95
Rouse, Stephanie	PS 520, PS 724	80, 117
Roussel, Thomas J.	PS 475	74
Rousset, Francis	PS 466	73
Rousset, Mehdi	PS 845	143
Roux, Isabelle	PS 951	156
Rovers, Maroeka	PS 239, PS 240	33, 33
Roy, Pallabi	PS 896	149
Rubel, Ed	PS 714	116
Rubel, Edwin W.	PS 42, PS 799, PS 933, PS 979	7, 137, 154, 160
Ruben, Robert J.	PS 1000	162
Rubinstein, Jay T.	PS 161, PS 362, PS 501	23, 60, 78
Rudolf, Mark A.	PD 100	134
Rughooputh, Taren	PS 101	15
Rumschlag, Jeffrey A.	PS 278	49
Russ, Matthew	PS 137	19
Rutherford, Mark	PS 48, PD 134, PD 169, PS 919, PS 972, PS 973, SYMP 72	8, 172, 178, 152, 159, 159, 125
Ruth, Peter	PS 967	158
Ryan, Allen	PD 175, PS 160, SYMP 79	178, 22, 126
Ryan-Warden, Lindsey	PS 862	145
Rybak, Leonard	PS 939	155
Ryugo, David	PD 74, PD 143, PS 175, PS 193, PS 197, PS 438, PS 439, PS 711, PS 1036	127, 174, 24, 27, 27, 70, 70, 116, 167

Author Index

Name	Abstract No.	Page No.
Ryu, Young Jae	PS 962	158
Sørensen, Mette	PS 228	31
Sabin, Leah	PD 60, PS 692	90, 114
Sackmann, Benjamin	PD 95	132
Saddler, Mark R.	PD 44	84
Sadeghi, Soroush	PS 7, SYMP 69	3, 89
Saderi, Daniela	PS 856	144
Sadler, Erica C.	PS 417	67
Saeki, Tsubasa	PS 765	123
Saettele, Allison L.	PS 636, PS 943	106, 155
Saffran, Jenny	PS 1016	164
Safieddine, Saaid	PS 684	112
Sage, Cyrille	PS 187	26
Saiakhova, Alina R.	PS 396	64
Saito, Naoaki	PS 931	154
Saito, Osamu	PS 566	97
Saiz-Alia, Marina	PS 705	115
Sajedi, Sogand	PS 94	14
Sajid, Noor	PD 7	38
Sakaguchi, Hirofumi	PS 931	154
Sakamoto, Satoko	PS 637	106
Sakamoto, Shuichi	PS 778	124
Saldate, Johnny J.	PS 8, PD 38	3, 46
Salehi, Pezhman	PS 407, PS 462	66, 73
Salloom, William B.	PS 515	79
Salorio-Corbetto, Marina	PS 97, PS 105, PS 254, PS 350	15, 16, 34, 58
Salt, Alec N.	PS 412, PS 957	66, 157
Salvi, Richard	PS 214, PS 217, PS 219, PS 457, PS 495, PS 716, PS 835, PS 985, PS 1004, SYMP 94	29, 30, 30, 72, 77, 117, 142, 161, 163, 132
Samii, Amir	PS 581	99
Samimi, Kian	PS 894	149
Sammeth, Carol A.	PS 628	105
Sammudin, Nabilah	PS 893	149
Samuelson, Gina	PD 119	170
Samy, Ravi N.	PS 14	4
San Juan, Juan	PS 534	93
Sanchez, Gilson J.	PS 396	64
Sanchez, Jason	PS 31	6
Sanchez-Lopez, Raul H.	PS 563	97
Sanders, Holden	PS 552, PS 657	95, 109
Sanders, Tessa R.	PD 17	43
Sandhu, Jasanvir	PS 603	102
Sandhu, Jashan	PD 10	42
Sanes, Dan H.	PS 313, PS 549, PS 1002	53, 95, 163
Sangaletti, Rachele	PS 59, PD 152	10, 175

Author Index

Name	Abstract No.	Page No.
Sangi-Haghpeykar, Haleh	PS 363	60
Santa Maria, Peter	PS 12, PS 13, PS 16	4, 4, 2004
Santi, Peter	SYMP 91	129
Santos-Cortez, Regie Lyn P.	PD 64, PD 105, SYMP 81	91, 167, 126
Santos-Sacchi, Joseph	PS 915, PS 991, PS 993, PS 999	152, 161, 161, 162
Santurette, Sébastien	PS 336, PS 563	56, 97
Sargsyan, Liana	PS 722, PS 982	117, 160
Sarlus, Heela	PS 523	80
Sarosiak, Anna	PS 156	22
Sarow, Amy	PS 731	118
Sasmal, Aritra	PS 119	18
Satoh, Yasushi	PS 115	17
Sato, Shunichi	PS 115	17
Sato, Takashi	PS 231, PS 806	32, 138
Savas, Jeffrey N.	PS 531, PS 965	81, 158
Savkovic, Boris	SYMP 5	37
Sayyid, Zahra N.	PS 644, PS 647	107, 107
Scacheri, Peter C.	PS 396	64
Scannella, Sebastien	PS 302	52
Schär, Merlin	PS 204, PS 570	28, 98
Schade-Mann, Thore	PS 87, PS 165	13, 23
Schaefer, Amanda M.	PS 157, PS 168, PS 170	22, 23, 24
Scharr, Alexandra L.	PD 65	91
Schatz, Kelcie C.	PS 810	139
Schaub, David	PS 828	141
Schecklmann, Martin	PS 767	123
Schefer, Maggie	PS 342	57
Scheffel, Jennifer	PS 907	151
Scheibinger, Mirko	PD 61, PD 98, PD 99, PD 101, PD 164, PS 638, PS 640, PS 641, PS 652	90, 134, 134, 134, 177, 106, 106, 107, 108
Schell, Angela	PS 241	33
Scheper, Verena	PS 230, PS 667	31, 110
Schepsky, Pauline	PS 967	158
Schick, Bernhard	PS 967	158
Schierholz, Irina	PS 325	55
Schilder, Anne G.	PS 239, PS 240, SYMP 10	33, 33, 37
Schimmang, Thomas	PS 745	120
Schimmenti, Lisa	PS 665	110
Schlebusch, Stephanie	PD 89, PS 869, PS 870	131, 146, 146
Schlee, Winfried	PS 769	123
Schloss, Alanna	PS 281	49
Schmidbauer, Dominik	PS 466	73
Schmid, Caleigh	PS 717	117
Schmitt, Nicole	PD 145	174
Schmitt, Tatjana T.	PS 838	142

Author Index

Name	Abstract No.	Page No.
Schmoker, Sarah	PS 263	36
Schmuck, Constanze	PD 92	131
Schnee, Michael	PS 666	110
Schneider, David M.	PD 156	176
Schneider, Fritz	PS 87, PS 165	13, 23
Schnupp, Jan	PD 155	176
Schnupp, Jan W.	PS 352, PS 353	58, 58
Schofield, Brett R.	PS 132, PS 133, PS 134, PS 135, PS 136, PS 588, PS 873, PS 874, PS 880	19, 19, 19, 19, 19, 100, 146, 146, 147
Scholes, MD, Melissa A.	PD 64	91
Scholte, Mirre	PS 239	33
Schrader, Angela	PS 718, PS 943	117, 155
Schreiner, Christoph	PS 837	142
Schroeder, Charles E.	PS 849	143
Schrott-Fischer, Anneliese	PS 94, PS 885, PS 886	14, 148, 148
Schubert, M	PS 439	70
Schuemann, Kerstin	PS 479	75
Schulte, Bradley	PD 166	177
Schulze, Jennifer	PD 147, SYMP 14	174, 38
Schulze, Maximilian	PS 229	31
Schuon, Robert	PS 479	75
Schvartz-Leyzac, Kara C.	PS 99	15
Schwalje, Adam	PS 752	121
Schwander, Martin	PD 60, PS 184, PS 692	90, 26, 114
Schwartz, Zachary	PS 856	144
Schwarz, Douglas	PS 758	122
Schwarz, Konrad	PS 100	15
Schwed, Allison	PS 973	159
Schweinzger, Ivy	PS 14	4
Schweizer, Felix E.	PS 8, PD 38	3, 46
Schweser, Ferdinand	PS 232, PS 816, PS 827, PS 830, PS 875, PS 879, PS 882, PS 970, SYMP 13	32, 140, 141, 141, 147, 147, 147, 159, 37
Schwieger, Jana	PS 667	110
Schwitzer, Susanne	PS 89	14
Scollie, Susan	SYMP 27	41
Scott, M. Katie	PS 379, PS 383	62, 62
Scotto Di Vetta, Mark	PS 802	138
Screven, Laurel A.	PS 495, PS 817, PS 1006	77, 140, 163
Scurry, Alexandra	PS 532	93
Seal, Rebecca	SYMP 47	83
Sedeghi, Mina	PS 740	119
Sedley, William	PS 771	123
Segawa, Kohei	PD 66	91
Segil, Neil	PD 99, PD 165	134, 177
Segil, Neil	PS 641, PS 645, PS 649	107, 107, 108
Segil, Neil	SYMP 51	86

Author Index

Name	Abstract No.	Page No.
Seibert, Adina	PS 577	99
Seicol, Benjamin	PS 179	25
Seigel, Gail	PS 214	29
Seiki, Makoto	PS 402	65
Seist, Richard	PS 176	25
Selesko, Michael	PS 242	33
Sellon, Jonathan	PS 126	18
Senapati, Arun	PS 60, PS 184	10, 26
Sendin, Gaston	SYMP 76	126
Senn, Pascal	PS 466	73
Seol, Hye Yoon H.	PS 295	51
Seo, Toru	PS 262	35
Seo, Young Joon	PS 938	155
Serban, Bogdan	PS 471	74
Serban, Monica	PS 471, PS 937	74, 155
Sergi, Consolato	PS 885, PS 886	148, 148
Serman, Maja	PS 733	119
Serrador, J	PS 439	70
Serrano, Manuel	PD 78	127
Servais, Jerome	PS 241	33
Setz, Cristian	SYMP 77	126
Sewell, William	PS 680, PS 685, PS 691	112, 113, 113
Sgodda, Malte	PS 583	99
Shabbir, Maryam	PS 251	34
Shadron, Keanu	PS 591, PS 877	100, 147
Shahab, Monazza	PS 981, PS 987	160, 161
Shahal, David	PS 82, PS 83, PS 945	13, 13, 156
Shahin, Antoine	PS 747	120
Shah, Viraj	PS 82, PS 83, PS 945	13, 13, 156
Shalev, Varda	PS 426	68
Shamma, Shihab A.	PS 301, PS 307, PS 309, PS 310	52, 52, 53, 53
Shamma, Shihab	PS 843	143
Shamma, Shihab A.	PS 855	144
Shanidze, Natela	PS 257	35
Shannon, Michelle	PD 106	168
Shannon, Robert V.	SYMP 37	82
Shan, Tong	PD 84	130
Shapiro, William H.	SYMP 42	83
Sharan, Jessica	PS 741	119
Sharma, Bhavya	PS 754	121
Sharon, Jeffrey D.	PD 116, PS 265, PS 365	169, 36, 60
Sha, Su-Hua	PS 222, PS 223, PS 910	30, 30, 151
Shearman, Mark	PS 690	113
Sheets, Lavinia	PS 216, PS 636, PS 718, PS 943	30, 106, 117, 155
Shehorn, James	PD 53	88
Sheltz-Kempf, Sydney	PS 725	118

Author Index

Name	Abstract No.	Page No.
Sheng, Kuanwei	PS 645	107
Shen, Jun	SYMP 103	133
Shen, Li	PD 167, PD 168	177, 177
Shen, Yi	PS 195, PS 377, PS 512	27, 62, 79
Shera, Christopher A.	PD 14, PD 89, PS 122, PS 124, PS 197, PS 493, PS 595, PS 869, PS 870	43, 131, 18, 18, 27, 77, 101, 146, 146
Sherafati, Arefeh	PS 539	94
Sherr, Elliott	PS 724	117
Sheth, Sandeep	PS 225, PS 939	31, 155
Shibata, Seiji	PD 25	45
Shichi, Shinsuke	PS 569	98
Shields, Daniel	PD 134	172
Shi, Fuxin	PS 184, PS 463, PS 692	26, 73, 114
Shi, Lin	PS 822	140
Shimada, Shoichi	PS 391, PS 806	63, 138
Shim, Hosup	PS 934	154
Shinagawa, Yoshitaka	PS 881	147
Shin, Dong Hoon	PS 158	22
Shin, Jeong-Oh	PS 895	149
Shin, Jung-Bum	PD 69, PS 215	92, 30
Shinn-Cunningham, Barbara G.	PD 1, PS 298, PS 730, PS 1010	38, 51, 118, 164
Shinobu, Taishi	PS 616	103
Shinomiya, Hitomi	PS 22	5
Shin, Seung Ho	PS 158, PS 224	22, 31
Shin, Sun-Ae	PS 177, PS 221, PS 1031	25, 30, 166
Shiotani, Akihiro	PS 115	17
Shipman, Anna	PS 435, PS 702	69, 115
Shiroishi, Toshihiko	PS 1035	167
Shi, Xi	PD 58	90
Shi, Xiaorui	PD 119, PS 952, PS 953, PS 955, PS 959	170, 157, 157, 157, 157
Shi, Yanchen	PD 160, PS 746	176, 120
Shi, Yuxin	PS 533	93
Shofner, William P.	PS 512	79
Shokrian Amiri, Mohammad	PS 125	18
Shoman, Nael	PS 473	74
Shore, Susan E.	PS 38, PS 242, PS 243, PS 244, PS 245, PS 971, PS 1005, SYMP 95	7, 33, 33, 33, 33, 159, 163, 132
Shrestha, Brikha	PD 18, SYMP 44	43, 83
Shubina-Oleinik, Olga	PS 172	24
Shuster, Benjamin	PD 169, PS 182	178, 25
Shu, Yilai	PS 405	65
Siegel, Jonathan H.	PS 596, PS 711	101, 116
Siegel, Sairey	PS 464	73
Sienko, Natalie	PS 664	110
Sierra, Ana	PS 425	68

Author Index

Name	Abstract No.	Page No.
Sigworth, Frederick	PS 999	162
Sihn, Choong-Ryoul	PS 995	162
Sijgers, Leanne	PS 92	14
Silerio, Oliver	PS 464	73
Silos-Santiago, Inmaculada	PS 60, PS 184, PS 463, PS 714	10, 26, 73, 116
Silva, Sebastian	PS 783	135
Silveira, Marina A.	PS 132, PS 874, PS 880	19, 146, 147
Sim, Angela	PS 619	104
Sim, Jae Hoon	PD 95, PS 204, PS 570	132, 28, 98
Simmons, Dwayne D.	PS 990	161
Simon, Jonathan Z.	PD 139, PS 287	173, 50
Simon, Julian A.	PS 979	160
Simons, Emmanuel J.	PS 680, PS 685, PS 691	112, 113, 113
Simonsen, Lisbeth	PS 572	98
Sinan, Moaz	PS 686	113
Sindelar, Brian	PS 19	5
Singer, Wibke	PS 210, PS 745	29, 120
Singh, Jarnail	PS 946	156
Singh, Preethi	PS 906	151
Singh, Surya	PS 11	4
Sinha, Anjali	PS 9, PS 10	3, 3
Sinha, Priyanka	PS 82	13
Sinha, Rahul	PS 945	156
Sisneros, Joseph	PS 787	136
Sisto, Renata	PS 118, PS 490, PS 597	17, 76, 101
Sitko, Austen	PS 820, PS 905	140, 150
Sivaramakrishnan, Shobhana	SYMP 19	39
Skandalis, Dimitri	PD 176	178
Skarżyński, Henryk	PS 156	22
Skarzynski, Henryk	PS 409	66
Skarzynski, Piotr	PS 571	98
Skerritt-Davis, Benjamin	PD 141, PS 620	173, 104
Skidmore, Jeffrey	PS 91, PD 106, PS 102, PS 106, PS 107, PS 329	14, 168, 15, 16, 16, 55
Skidmore, Jennifer M.	PD 161, PS 396, PS 404, PS 418	176, 64, 65, 67
Skigen, Natalie	SYMP 52, PS 171, PS 172, PS 174, PS 749, PS 780, PS 781	86, 24, 24, 24, 120, 125, 125
Škoch, Antonín	PS 266	47
Skoe, Erika	PS 212, PS 233, PS 738	29, 32, 119
Slevin, Claire	PS 401	65
Sloan, Andrew	PS 698	114
Smalt, Christopher	PS 1008	163
Smith, Connor D.	PS 368	61
Smith, Eliot	PS 434, PS 435, PS 702	69, 69, 115
Smith, Janell	PD 60	90
Smith, Kyle	PS 69, PS 205	11, 28

Author Index

Name	Abstract No.	Page No.
Smith, Lillian	PS 60, PS 184, PS 714	10, 26, 0116
Smith, Madeline V.	PS 191	27
Smith, Michael	PS 1020, PS 1021	165, 165
Smith, Philip	PS 823	140
Smith, Richard J.H.	PD 25, PS 146, PS 157, PS 168, PS 170, PS 171, PS 416, PS 425, SYMP 102	45, 21, 22, 23, 24, 24, 67, 68, 133
Smith, Shelley	PS 358	59
Smith, Spencer	PD 108, PS 635	168, 106
Smith, Victoria	PD 51	88
Smits, Jeroen J.	PD 127	171
Smotherman, Michael	PS 851, PS 853	144, 144
Smyth, Daniel	PS 957	157
Snapp, Hillary	PS 344, PS 355	57, 59
Sneddon, Julie	PD 57	90
Snelders, Marlou	PS 364	60
Snyder, Joel S.	PS 532, PS 611	93, 103
Soglia, John	PS 463	73
So, Kathy	PD 35, PS 692	46, 114
Soler, David	PS 698	114
Soli, Sigfrid	PS 533	93
Sollmann, Lea	PS 308, PS 833	53, 141
Solzbacher, Florian	PS 581	99
Someya, Shinichi	PS 397	64
Song, Chan Il	PS 158	22
Song, Daihyun	PS 759	122
Song, Fengxiang	PS 533	93
Song, Ho-Young	PS 208, PS 480, PS 481, PS 484	29, 75, 75, 75
Song, In Chan	PS 393	64
Song, Junha	PS 952	157
Song, Lei	PS 790	136
Song, Wenchao	PS 21	5
Song, Yang	PD 101, PS 760, PS 889	134, 122, 148
Song, Zhichao	PS 467	73
Sonntag, Kathrin	PS 570	98
Sorg, katharina	PS 967	158
Sotomayor, Marcos	PD 68	91
Sotomayor, Marcos	PS 603	102
Southwell, Rosemary	PS 292	51
Sowick, Colleen S.	PS 136	19
So, Won	PS 635	106
Spankovich, Christopher	PS 935	154
Speck, Iva	PS 347, PS 348, PS 538	58, 58, 94
Spellman, Garth	PS 206	29
Spence, Cody D.	PS 788	136
Spencer, Gallucci	PS 258	35
Spitzer, Emily R.	PD 109, PS 1023	168, 165

Author Index

Name	Abstract No.	Page No.
Springer, Gayle	PS 497	77
Sprinzak, David	PD 19, PS 387	43, 63
Srikanthanathan, Arunan	PD 41	84
Srinivasan, Nirmal Kumar	PS 337	56
St. George, Barrett	PS 342, PS 629	57, 105
Staab, Elizabeth	PS 46	8
Staecker, Hinrich	PD 116, PD 147, SYMP 13, SYMP 14, SYMP 93	169, 174, 37, 38, 130
Stahl, Frank	PD 114	169
Stahl, Pierre	PS 96, PS 316, PS 854	15, 54, 144
Stancu, Mihai	PS 799	137
Stanford, James	PS 935	154
Stanford, Terrence R.	SYMP 16	39
Stankovic, Konstantina M.	PD 174, PS 176	178, 25
Stansak, Kendra L.	PS 25	5
Stark, Germaine	PS 657	109
Starkov, Dmitrii	PS 364	60
Stark, Pamela	PS 876	147
Stawicki, Tamara	PS 717	117
Stebbins, Kendra E.	PS 268	48
Stecker, Chris	PD 108	168
Stecker, G. Christopher	PS 865, PS 866	145, 145
Steel, Charles	SYMP 63, SYMP 64	87, 88
Steel, Karen	PD 126, PS 164, PS 400, PS 411	171, 23, 65, 66
Steenerson, Kristen K.	PS 265	36
Steenken, Friederike	PS 272, PS 277, PS 282	48, 49, 49
Steevens, Aleta	SYMP 91	129
Stefani, Alessandro	PS 490	76
Stefani, S	PS 6, PS 389, PS 439	3, 63, 70
Steinschneider, Mitchell	PS 288, PS 296, PS 544	50, 51, 94
Stein, Tobias	PS 479	75
Stenfelt, Stefan	PD 15, PS 443, PS 600	43, 70, 101
Stepanyan, Ruben	PD 72, PS 183, PS 698	92, 25, 114
Stephani, Friederike	PS 916	152
Stevens, Kara	PS 619	104
Stevenson, Ian	PS 740	119
Stewart, Courtney E.	PS 260	35
Steyer, Anna	PS 32	6
Steyer, Anna Maria	SYMP 75	125
Steyger, Peter S.	PS 458, PS 703, PS 977	72, 115, 160
Stiepan, Samantha M.	PS 492, PS 711	76, 116
Stoddart, Paul	PS 578	99
Stoll, Thomas J.	PS 812	139
Stone, Jennifer S.	PD 34	46
Stone, Jennifer	PS 646	107
Stone, Michael	PS 750	121
Stoner, Zach A.	PS 367	60

Author Index

Name	Abstract No.	Page No.
Strübing, Ira	PD 148	175
Strahl, Stefan	PS 100	15
Strelcyk, Olaf	PD 53	88
Streubel, MD, Sven-Olrik	PD 64	91
Strickland, Elizabeth A.	PS 515, PS 821	79, 140
Strimbu, C. Elliott	PS 116, PS 120	17, 18
Stroud, Noelle C.	PS 590	100
Stultiens, Joost	PS 361	60
Sturla, Dora	PS 496	77
Subramaniam, Thavakumar	PS 767	123
Sudar, Joseph C.	PD 68	91
Sudar, Joseph	PS 603	102
Sudhoff, Holger	PS 482, PS 483	75, 75
Sugahara, Kazuma	PS 27, PS 259, PS 402, PS 454	6, 35, 65, 72
Sugihara, Kazushi	PS 174	24
Suh, Jun Gyo	PS 836, PS 1033	142, 166
Suh, Myung-Whan	PS 220, PS 393, PS 672, PS 956	30, 64, 111, 157
Sumalde, Angelo Augusto M.	PD 105	167
Suminski, Aaron	PS 746	120
Sun Yung, Ju	PS 151	21
Sun, Binbin	PS 290	50
Sun, Daniel Q.	PS 673	111
Sunderhaus, Linsey	PD 108	168
Sung, Cathy	PS 680, PS 691	112, 113
Sun, Haiying	PD 79, PS 148, PS 1038	128, 21, 167
Sun, Wei	PS 822	140
Sun, Yu	PS 175, PS 1025	24, 165
Sun, Zehua	PD 124, PS 792	170, 136
Sun, zhuoer	PS 424	68
Suresh, Chandan	PS 493	77
Surguchev, Alexei	PS 993, PS 999	161, 162
Sussman, Elyse S.	PS 630	105
Suthakar, Kirupa	PS 73	12
Sutton, Daniel	PS 887	148
Su, Yaqing	PS 882	147
Su, Zhongwu	PS 1030	166
Suzuki, Hiroshi	PS 1035	167
Suzuki, Jun	PS 397	64
Suzuki, Yuna	PS 980, PS 1034	160, 166
Sverrisdottir, Johanna E.	PS 271	48
Svirsky, Mario A.	PD 47, SYMP 42	84, 83
Svobodová, Veronika	PS 266	47
Swaminathan, Jayaganesh	PD 88	131
Swaminathan, Jayaganesh	PS 340	57
Swanson, Austin	PS 265	36
Swartz, Kenton J.	PD 70	92

Author Index

Name	Abstract No.	Page No.
Sweeney, Carolyn G.	PS 827	141
Swiderski, Donald L.	PS 84, PS 404, PS 418, PS 558	13, 65, 67, 96
Swinburne, Ian	PD 162	176
Syka, Josef	PS 266, PS 284	47, 50
Szatkowski, Grace	PS 723	117
Sze Keat, Chee	PS 207, PS 442	29, 70
Szepesy, Judit	PRES SYMP 1, PS 415, PS 417, PS 419, PS 421, PS 454	1, 67, 67, 67, 67, 72
Szeto, Betsy	PS 962, PS 964	158, 158
Szewczyk, Krystyna	PS 720	117
Szirmai, Ágnes	PS 460	72
Szobota, Stephanie	PS 464, PS 690	73, 113
Tabuchi, Hisaaki	PD 50	88
Tada, Takeshi	PS 762	122
Taghizadeh, Farshid	PS 977	160
Taiber, Shahar	PD 19, PS 387, PS 426	43, 63, 68
Tajima, Shori	PS 793	137
Takahashi, Satoe	PS 410, PS 414, PS 415	66, 67, 67
Takanen, Marko	PS 100	15
Takata, Yusuke	PS 397	64
Takeda, Hiroki	PS 654, PS 970	108, 159
Takesian, Anne E.	PS 827, PS 830	141, 141
Takezawa, Toshiaki	PS 763	122
Takimoto, Yasumitsu	PS 391	63
Talaei, Sara	PS 666	110
Talavage, Thomas M.	PS 330	55
Tamás, László	PS 460	72
Tamaki, Airi	PS 599	101
Tamilselvan, Elakkiya	PD 68	91
Tampakaki, Christina	PS 608	102
Tanaka, Manabu	PS 72	11
Tanaka-Ouyang, Lei	PD 104	135
Tang, Haimi	PS 192, PS 199, PS 200, PS 203	27, 28, 28, 28
Tang, Pei-Ciao	PS 388	63
Tang, Qinggong	PS 474	74
Tani, Kohsuke	PD 104	135
Tanner, Eden E.L.	PS 678	112
Tan, Nicholas	PS 659	109
Tan, Patricia	PS 618	104
Tan, Winston	PS 991, PS 993	161, 161
Tan, Xiaodong	PS 209, PS 461	29, 72
Tao, Li	PS 766	123
Tao, Litao	PD 165	177
Tao, Litao	PS 645, PS 649	107, 108
Tao, Yong	PD 128, PS 424	171, 68
Tarabichi, Osama	SYMP 39	82

Author Index

Name	Abstract No.	Page No.
Tarabillo, Alejandro	PS 516	79
Tarang, Shikha	PS 451, PS 947	71, 156
Tarchini, Basile	SYMP 57	87
Tarcza, Kelly	PS 717	117
Tarumoto, Shunsuke	PS 27, PS 259, PS 402, PS 454	6, 35, 65, 72
Tasko, Stephen M.	PS 191	27
Taukulis, Ian	PS 395, PS 417	64, 67
Taulu, Samu	PD 137	173
Taylor, Amanda O.	PS 146, PS 157, PS 168, PS 170	21, 22, 23, 24
Taylor, Anna M.	PS 984	160
Taylor, Hazel	PS 947	156
Teece, Katherine H.	PS 736	119
Teitz, Tal	PD 146, PS 462, PS 944	174, 73, 156
Tejani, Viral	PS 108, PS 553	16, 96
Telian, Steven	PS 571	98
Telischi, Fred	PS 232, PS 356, PS 606, PS 676	32, 59, 102, 111
Tellez, Robin	PS 476	75
Tempel, Bruce	PS 1026	165
Teng, Gaojun	PS 1004	163
Terashima, Hiroki	PS 612, PS 614	103, 103
Terreros, Gonzalo B.	PS 548, PS 783	95, 135
Thakkar, Tanvi	PS 331, PS 339, PS 349	56, 57, 58
Thapa, Punam	PS 935	154
Thawani, Ankita	PS 893	149
Themann, Christa L.	PS 271	48
Theodoroff, Sarah M.	PS 530	81
Thomeer, Hans	PS 70	11
Thompson, Alex	PS 578	99
Thurrow, Johannes	PS 538	94
Tian Zhai, Tianqu	PS 534	93
Tian, Cong	PS 412	66
Tillein, Jochen	PD 45	84
Tintěra, Jaroslav	PS 266	47
Todt, Ingo	PS 482, PS 483	75, 75
Toledo, Luís Felipe	PS 489	76
Tollin, Daniel J.	PD 90, PS 56, PS 206, PS 587, PS 628, PS 633	131, 9, 29, 100, 105, 105
Tona, Risa	PD 66	91
Tong, Ling	PS 42	7
Tong, Mei-ling	PS 664	110
Topsakal, Vedat	PS 772	124
Torre, Peter	PS 497	77
Torres Cadenas, Lester	PS 795	137
Torres, Lani	PS 583	99
Tothová, Diana	PS 266	47
Towers, Emily	PS 400	65

Author Index

Name	Abstract No.	Page No.
Townes, Thomas	PD 145	174
Trabandt, Maren	PS 141	20
Trahiotis, Constantine	PS 859	145
Trakimas, Danielle	PS 477	75
Tran Van Ba, Christophe	PD 149, PS 270, PS 518	175, 48, 80
Tran, Emma	PS 75, PS 265, PS 1020	12, 36, 165
Trang, Ella	PS 90	14
Tran, Sarah	PS 876	147
Trecek, Talon	PD 165, PS 649	177, 108
Trevino, Monica	PS 18, PS 517, PS 519	5, 80, 80
Trieu, Jenny	PS 833	141
Trine, Allison	PS 1024	165
Tropitzsch, Anke	PS 87, PS 165	13, 23
Trouillet, Alix	SYMP 64	88
Troyer, Todd	PS 853	144
Trpchevska, Natalia	PS 253	34
Trussell, Laurence	PS 33, PS 34, PS 797	6, 7, 0137
Tserga, Evangelia	PS 523	80
Tsetsos, Konstantinos	PS 625	104
Tsivkovskaia, Natalia	PS 459, PS 524	72, 81
Tsujimoto, Mariko	PS 22	5
Tsuji, Tetsuro	PS 584	99
Tsunada, Joji	PD 158	176
Tsuzaki, Minoru	PS 622, PS 707	104, 115
Tufts, Jennifer	PS 212	29
Tung, Chun-Yu	PS 896	149
Turner, Jeremy	PS 743	120
Turner, Katie	PS 773	124
Turner, Richard E.	PS 101	15
Tusty, Mahbuba	PS 11	4
Tward, Aaron	PD 57	90
Tward, Daniel J.	PS 833	141
Tyler, Richard	SYMP 33	44
Tzafriri, Rami Tzafriri	PS 187	26
Tzounopoulos, Thanos	PS 832, PS 840, PS 936	141, 142, 155
Uchiyama, Mio	PS 759	122
Udagawa, Tomokatsu	PD 101	134
Udagawa, Tomokatsu	PS 760	122
Ueda, Yoshitomo	PS 382	62
Uehara, Natsumi	PS 22	5
Ueyama, Takehiko	PS 931	154
Uhler, Kristin	PS 663, PS 1018	109, 164
Undurraga, Jaime A.	PS 97, PS 105, PS 343, PS 634, SYMP 25	15, 16, 57, 106, 41
Urata, Shinji	PD 36	46
Urbain, Melissa	PS 77	12
Urbanek, Madeleine	PS 462	73
Urbanski, Dana	PS 573	98

Author Index

Name	Abstract No.	Page No.
Uribe, Phillip	PS 464, PS 524, PS 653, PS 690, PS 787	73, 81, 108, 113, 136
Urness, Lisa	PS 384	62
Usami, Shin-ichi	PS 140, PS 166, PS 167, PS 605	20, 23, 23, 102
Vachhani, Jay	PS 226, PS 491	31, 76
Vachicouras, Nicolas	PS 579	99
Vachicouras, Nicolas	SYMP 39	82
Vaisbuch, Yona	PS 265	36
Valdés-Baizabal, Catalina	PS 883	148
Valderrama-Valenzuela, Joaquin T.	PS 734	119
Valdez, Tulio	PS 11	4
Valentini, Chris	PS 962, PS 964	158, 158
Valero, Michelle D.	PS 680, PS 685, PS 691, SYMP 11	112, 113, 113, 37
van Beurden, Isabeau	SYMP 40	82
Van Dam, Debby	PS 720	117
Van de Berg, Raymond	PS 361, PS 364, PS 777, PS 780	60, 60, 124, 125
Van de Heyning, Paul	PS 772, PS 777	124, 124
Van Den Broucke, Arthur	PS 67	11
van der Heijden, Marcel	PD 12, PS 594	42, 101
Van Dijk, Pim	PD 9, PD 48	42, 84
Van Eeckhoutte, Maaike	SYMP 27	41
Van Hedger, Stephen C.	PD 4	38
van Kronenberg, Philipp	PD 56	89
Van Rompaey, Vincent	PS 364, PS 720, PS 772, PS 777, PS 780	60, 117, 124, 124, 125
van Stiphout, Lisa	PS 780	125
Van Yper, Lindsey N.	PS 634, PS 728, SYMP 25	106, 118, 41
Vandenberghe, Luk H.	PS 685	113
Vanderveken, Olivier M.	PS 772	124
Vanneste, Sven	PS 767	123
Varadarajan, Varun	PS 975	159
Varela-Nieto, Isabel	PD 78, PS 375	127, 61
Varman, Rahul	PS 449	71
Varma, Sonia	PD 86	130
Varnet, Leo	PS 511	79
Varshney, Gaurav	PS 144	20
Vasilijic, Sasa	PS 176	25
Vasilkov, Viacheslav	PS 1022	165
Vattino, Lucas G.	PS 827, PS 830	141, 141
Vaughan, Chloe	PS 91, PD 106, PS 102, PS 106, PS 107, PS 329	14, 168, 15, 16, 16, 55
Vavakou, Anna	PD 12, PS 594	42, 101
Veeranna, Sangamanatha	PD 86	130
Velez-Cortes, Florencia	PS 603	102
Vélez-Ortega, A. Catalina	SYMP 60	87

Author Index

Name	Abstract No.	Page No.
Velez, Danielle	PD 60	90
Velisar, Anca	PS 257	35
Venail, Frederic	PS 61, PS 77	10, 12
Vencovsky, Vaclav	PS 713	116
Venkitakrishnan, Soumya	PS 573	98
Ventura, Christopher	PS 185	26
Veraguth, Dorothe	PS 92	14
Verbrugge, Emily R.	PS 388	63
Verdoodt, Dorien	PS 720	117
Verhaert, Nicolas	PS 201	28
Verhulst, Sarah	PS 67, PS 514, PS 1022	11, 79, 165
Versnel, Huib	PS 57, PS 70	9, 11
Vetesnik, Ales	PS 713	116
Vetter, Douglas E.	PS 17, PS 111, PS 935	4, 17, 0154
V-Ghaffari, Babak	PS 48, PD 134, PS 972	8, 172, 159
Vickers, Deborah	PS 97, PS 104, PS 105, PS 350	15, 16, 16, 58
Vidal, Jaclyn	PS 15, PS 613	4, 103
Viechweg, Shaun	PD 169	178
Vielman Quevedo, Rene	PS 88, PS 444	14, 70
Vijayakumar, Sarath	PD 102, PS 455, PS 689	134, 72, 113
Vincent, Philippe	PS 673	111
Vinck, Martin	PD 45	84
Vink, Henk	PS 70	11
Viswanathan, Vibha	PS 730	118
Vitry, Sandrine	PS 924	153
Vivar, Miguel	PS 864	145
Viziano, Andrea	PS 359, PS 490	59, 76
Vogl, Christian	SYMP 77	126
Vollmer, Maike	PS 555, PS 556	96, 96
von Gersdorff, Henrique	PS 798	137
von Jonquieres, Georg	PD 175	178
Vona, Barbara	PS 165	23
Voorn, Roos	SYMP 77	126
Voss, Robert	PS 412	66
Voss, Susan E.	PS 198	27
Vyas, Pankhuri	PS 920	152
Wada, Hiroshi	PS 598, PS 662	101, 109
Wade, Kristen	PS 515	79
Wadle, Simon L.	PS 838	142
Wafa, Talah	PS 386	63
Wagner, Elizabeth	PD 69, PS 215	92, 30
Wahalla, Marc	PS 583	99
Waldhaus, Joerg	PD 61, PD 163	90, 177
Walilko, Tim	PD 90	131
Walker, Brea	PD 140	173
Walker, Elizabeth	PS 1017	164
Walker, Kerry	PS 1018	164

Author Index

Name	Abstract No.	Page No.
Walter, Michael H.	PS 745	120
Walters, Bradley J.	PS 25, PS 112, PS 180, PS 428, PS 935	5, 17, 25, 68, 154
Walton, Joseph P.	PS 268, PS 274, PS 626, PS 671, PS 677, PS 784	48, 48, 105, 111, 111, 135
Walujkar, Sanket	PD 68	91
Walz, Katherina	PS 155, PS 421	22, 67
Wang, Chao	PS 673	111
Wang, Chaoyun	PS 792	136
Wang, Chen	PS 474	74
Wang, Donghong	PS 157, PS 168, PS 170	22, 23, 24
Wang, Guo-Peng	PS 427	68
Wang, Haibo	PS 107	16
Wang, Haobing	PD 173	178
Wang, Haolin	PS 822	140
Wang, Haoyu	PD 85	130
Wang, Hong Jun	PS 687	113
Wang, Hongling	PD 114	169
Wang, Jessica	PS 60, PS 714	10, 116
Wang, Jian	PS 529, PS 1004	81, 163
Wang, Jing	PD 78, PS 152, PS 683, SYMP 76	127, 21, 112, 126
Wang, Jinghan	PS 405	65
Wang, Juemei	PS 110, PS 407, PS 521	17, 66, 80
Wang, Jun	PS 366	60
Wang, Lizhen	PS 456, PS 941	72, 155
Wang, Meijian	PS 825	141
Wang, Qixuan	PS 235, PS 285	32, 50
Wang, Rujie	PS 107	16
Wang, Shuo	PS 808	139
Wang, Shuze	PD 163	177
Wang, Tian	PS 644, PS 647	107, 107
Wan, Guobin	PS 290	50
Wang, Weihua	PS 828	141
Wang, Weijie	PS 723	117
Wang, Wenying	PS 995	162
Wang, Xiaobo	PS 524	81
Wang, Xiaofen	PS 384	62
Wang, Xiaohan	PS 952, PS 953, PS 955	157, 157, 157
Wang, Xiaohui	PS 175	24
Wang, Xiaoyu	PS 40, PS 41, PS 379, PS 903	7, 7, 62, 150
Wang, Xizi	PD 165, PS 649	177, 108
Wang, Xuan	PS 193	27
Wang, Xuelin	PS 69	11
Wang, Xueling	PD 85, PS 688	130, 113
Wang, Ya-Xian	PS 941	155
Wang, Yi	PS 116	17
Wang, Yixi	PS 146	21

Author Index

Name	Abstract No.	Page No.
Wang, Yong	PS 1036	167
Wang, Yuan	PS 40, PS 41, PS 379, PS 903	7, 7, 62, 150
Wang, Zhe	PS 481, PS 484	75, 75
Wang, Zhen	PS 255	35
Wang, Zhirong	PS 900	150
Warchol, Mark	PS 42, PS 216, PS 527, PS 649, PS 718, PS 719, PS 799, PS 943, PRES SYMP 4	7, 30, 81, 108, 117, 117, 137, 155, 1
Ward, Andrew	PS 697	114
Ward, Bryan K.	PS 256	35
Ward, Kristina M.	PS 727	118
Ward, Matt	PS 746	120
Warnecke, Athanasia	PD 114, PD 147, SYMP 14, SYMP 93	169, 174, 38, 130
Warnecke, Michaela	SYMP 24	41
Warner, Brendon	PS 323	55
Warner, Cynthia	PD 106	168
Warnholtz, Birthe	PD 95, PS 570	132, 98
Warren, David	PS 581	99
Warzybok, Anna	PS 338	57
Wasano, Koichiro	PS 154, PS 408, PS 410, PS 415, PS 599	22, 66, 66, 67, 101
Washington, Stuart D.	PS 1039	
Watanabe, Akira	PS 637	106
Watson, McKenzie	PS 1027, PS 1028	166, 166
Weakly, Jacob M.	PS 908	151
Weaver, A. Monique	PS 416	67
Weaver, Amy E.	PS 157, PS 168, PS 170	22, 23, 24
Wedemeyer, Carolina	PS 804	138
Weeks, Rebekah	PS 242	33
Weghorst, Forrest	PS 894	149
Wehren, Elizabeth R.	PS 383	62
Wei, Eric	PS 776, PS 781	124, 125
Weinberg, Madison M.	PS 817, PS 1006	140, 163
Weisz, Catherine	PS 795, PS 796, SYMP 49	137, 137, 83
Wei, Wei	PD 58, PS 427	90, 68
Wei, Zheng	PS 395, PS 417	64, 67
Welsh, Nora C.	PS 456, PS 941	72, 155
Wendt, Dorothea	PS 733	119
Wenger, Cornelia	PS 94	14
Wen, Haiqi	PD 16, PS 126	43, 18
Wenstrup, Jeffrey J.	PS 754	121
Wentling, Maureen	PS 924	153
Werner, Lynne A.	PS 501	78
Werring, David J.	PD 117	169
Werth, Emily G.	PS 964	158
Wertjanz, David	PS 885	148

Author Index

Name	Abstract No.	Page No.
Wesarg, Thomas	PS 347, PS 348	58, 58
West, Alan C.	PD 32	46
West, Cody	PD 25	45
West, Matthew B.	PS 656	108
Whaley, Gareth A.	PS 590	100
Whinna, Alyssa	PS 114, PS 344	17, 57
Whiteford, Kelly	PS 619	104
White, Karl	SYMP 101	133
Whitelegge, Julian	PD 31	45
White, Patricia M.	PS 366, PS 403, PS 655	60, 65, 108
White-Schwoch, Travis	PS 658, PS 814, PS 816	109, 139, 140
Whitlon, Donna S.	PS 669	110
Whitton, Jonathon	PD 60, PS 184, PS 692, SYMP 12	90, 26, 114, 37
Wichert, Nina L.	PS 583	99
Wichmann, Carolin	PS 32, SYMP 75	6, 125
Widdershoven, Josine	PS 780	125
Widmayer, Heather	PS 425	68
Wiegner, Armin	PS 555	96
Wiggins, Ian	SYMP 4, SYMP 7	36, 37
Wilfling, Tamara	PS 479	75
Wilkerson, Brent A.	PS 429	68
Willcox, Thomas	PD 116	169
Williams, Erin	PS 114	17
Williams-Fritze, Misty J.	PS 187	26
Williams, Jessica	PRES SYMP 1	1
Williams, Justin	PS 746	120
Williamson, Tanika T.	PS 1028	166
Williams, Robert	PD 124	170
Williges, Ben	PS 97, PS 105, PS 559	15, 16, 96
Willilams, Susan P.	PS 363	60
Willis, Dianna	PS 74	12
Willis, Shelby	PS 562	97
Wilson, Duncan	PD 117	169
Wilson, John	PS 55	9
Wilson, Uzma S.	PS 711, PS 712	116, 116
Wimalasena, Lahiru N.	PD 68	91
Wine, MD, Todd M.	PD 64	91
Wineski, Robert	PS 180	25
Winn, Matthew B.	PS 339, PS 736, PS 756, PS 1009	57, 119, 121, 163
Wise, Andrew	PD 29, PS 90, PS 578, PS 670, PS 682	45, 14, 99, 110, 112
Wit, Hero	PD 9	42
Withnell, Robert	PS 195, PS 377, PS 801	27, 62, 138
Witt, Martin	PS 583	99
Wohlfrom, Hilde	PS 799	137
Wohl, Timothy R.	PS 590	100
Wojtczak, Magdalena	PD 2, PD 91, PS 249	38, 131, 34

Author Index

Name	Abstract No.	Page No.
Wolff, Anne	PS 236	32
Wolland, Shiran	PD 19, PS 387	43, 63
Wollenberg, Barbara	PS 755	121
Wollet, Mackenna	PS 794	137
Wolpert, Stephan	PS 770	123
Wong, Daniel	PD 57	90
Wong, Elaine Y.M.	PS 398	65
Wong, Emily C.	PS 365	60
Wong, Nicole F.	PS 29	6
Wong, Victor	PS 74	12
Wong, Wesley	PS 697	114
Wood, Matthew JA	PS 941	155
Wood, Megan B.	PD 171, PS 920	178, 152
Woo, Jung-A A.	PS 1028	166
Wornow, Michael	PS 172	24
Wouters, Jan	PS 95, PS 319, PS 846	14, 54, 143
Wright, Beverly A.	PD 51, PS 506	88, 78
Wu, Calvin	PS 38, PS 242, PS 245, PS 971	7, 33, 33, 159
Wu, Chen-Chi	PD 115, PS 715	169, 116
Wu, Doris	PS 372	61
Wu, Fan	PS 223, PS 910	30, 151
Wu, Hao	PD 85	130
Wu, Hao	PS 142, PS 235, PS 285, PS 424, PS 688, PS 722, PS 790	20, 32, 50, 68, 113, 117, 136
Wu, Lorna	PD 18	43
Wunderlich, Julia	SYMP 5	37
Wu, Patricia	PS 933, PS 979	154, 160
Wu, Peizhe	PS 62, PS 178	10, 25
Wu, Shangru	PS 258	35
Wu, Xia	PS 1032	166
Wu, Xudong	PS 184, PS 692	26, 114
Wu, Yu-Hsiang	PS 573, PS 726	98, 118
Wu, Yunan Charles	PD 1, PS 1010	38, 164
Wu, Zizhen	PD 71	92
Xia, Anping	PS 11, PS 12, PS 13, PS 16	4, 4, 4, 4
Xia, Lu	PS 336	56
Xiao, Yanlin	PS 791	136
Xie, Le	PS 175, PS 1025	24, 165
Xie, Ruili	PS 179, PS 825, PS 1036	25, 141, 167
Xie, Zilong	PD 6, PS 332	38, 56
Xiong, Colin	PS 303	52
Xiong, Hao	PD 30, PD 150	45, 175
Xiong, Hao	PS 1030	166
Xiong, Wei	PD 27	45
Xiong, Wei	PD 58	90

Author Index

Name	Abstract No.	Page No.
Xiong, Wei	PS 700	115
Xu, Bing	PS 580	99
Xu, Dong	PS 452	71
Xue, Na	PS 915	152
Xue, Yuanyuan	PS 405	65
Xu-Friedman, Matthew A.	PS 29	6
Xu, Fuyi	PD 124	170
Xu, Jiang-Hong	PS 472	74
Xu, Jinshu	PD 167, PD 168	177, 177
Xu, Kai	PS 175, PS 1025	24, 165
Xu, Kevin	PS 562	97
Xu, Lei	PD 106, PS 107	168, 16
Xu, Linjing	PS 76, PS 79	12, 12
Xu, Pin-Xian	PD 167, PD 168	177, 177
Xu, Renhua	PS 145	20
Xu, Shan	PS 222, PS 910	30, 151
Xu, Yinfang	PS 358	59
Xu, Youguo	PS 255	35
Xu, Yuan	PS 463	73
Xu, Zhenhang	PD 146, PS 689	174, 113
Yakushin, Sergei	PS 782	125
Yamagishi, Shimpei	PS 623	104
Yamahara, Kohei	PD 151, PS 569	175, 98
Yamamoto, Erika	PS 707	115
Yamamoto, Norio	PD 151, PS 174, PS 569, PS 637, PS 639, PS 642, PS 762, PS 890	175, 24, 98, 106, 106, 107, 122, 149
Yamamoto, Ryosuke	PS 637, PS 890	106, 149
Yamamoto, Shinya	PS 887	148
Yamanaka, Toshiaki	PS 566	97
Yamasaki, Kazuo	PS 1035	167
Yamashita, Daisuke	PS 22	5
Yamashita, Hiroshi	PS 27, PS 259, PS 402, PS 454	6, 35, 65, 72
Yamashita, Taku	PS 72	11
Yamasoba, Tatsuya	PS 360	59
Yamoah, Ebenezer N.	PD 73, PD 172, PS 267, PS 723, PS 968, PS 969, PS 995, PS 1026	127, 178, 48, 117, 158, 159, 162, 165
Yang, Chao-Hui	PS 218	30
Yang, Darren	PS 697	114
Yang, Haidi	PD 150	175
Yang, Hui	PS 405	65
Yang, Jing	PS 1004	163
Yang, Jinsong	PS 345	57
Yang, Juan-Mei	PS 472	74
Yang, Jun	PS 150, PS 681, PS 926	21, 112, 153
Yang, Keum-Jin	PS 679	112
Yang, Lu	PS 235	32

Author Index

Name	Abstract No.	Page No.
Yang, Ming-Yu	PS 218	30
Yang, Tao	PS 142	20
Yang, Tian	PD 35	46
Yang, Yang	PS 990	161
Yang, Yan-Mei	PS 472	74
Yang, Yung-Hao	PS 624	104
Yan, Jun	PS 303	52
Yao, Hui	PS 396	64
Yao, Justin D.	PS 313	53
Yap, Gaik Sean	PS 615	103
Yasumoto, Akiyoshi	PS 174	24
Yayli, Melih	PS 824	140
Yee, Kathleen T.	PS 17, PS 111	4, 17
Yeh, Wei-Hsi	PS 172	24
Yengo, Christopher M.	SYMP 58	87
Yerkes, Breanne D.	PS 611	103
Yin, Pingbo	PS 310	53
Yin, Tom C. T.	SYMP 15	39
Yip, Sylvia	PS 467	73
Yntema, Helger G.	PD 127	171
Yoder-Himes, Deborah	PS 475	74
Yogarajah, Priyanka	PS 327	55
Yokota, Kenji	PS 510	79
Yoo,, Hongki	PS 478	75
Yoo, Eunsoo	PS 675	111
Yoo, Jee Eun	PS 224	31
Yoo, Jessica	PS 1013	164
Yoo, Jihye	PS 679	112
Yoo, Myung Hoon	PS 450	71
Yoon, MD, Patricia J.	PD 64	91
Yoon, Hyun-Ju	PS 907	151
Yoon, Patricia J.	PD 105	167
Yoon, So Yeon	PS 390	63
Yoon, Sung Hwan	PS 480, PS 484	75, 75
Yoshihara, Toru	PS 174	24
Yoshiki, Atsushi	PS 1035	167
Yoshimatsu, Masayoshi	PS 763	122
Yoshimura, Hidekane	PD 25, PS 140	45, 20
Yost, William	PS 858	145
Youm, Ibrahima	PD 71, PS 65, PS 111, PS 353, PS 662, PS 823, PS 1057	92, 11, 17, 58, 109, 140
Younes, Laurent	PS 833	141
Young, Caryl	PS 893	149
Young, Jesse	PS 873	146
Young, Juan	PS 421	67
Young, Juan I.	PS 155	22
Yuan, Jie	PD 79	128

Author Index

Name	Abstract No.	Page No.
Yu, Dehong	PS 688	113
Yu, Dongmei	PS 926	153
Yu, Haoze	PD 165, PS 645, PS 649	177, 107, 108
Yu, HePing	PD 63, PS 149	91, 21
Yu, Kevin Shengyang	PD 57	90
Yu, Michelle	PS 962, PS 964	158, 158
Yusuf, Prasandhya	PD 45	84
Yu, Wei-Ming	PS 907	151
Yu, Xiaojie	PS 700	115
Yu, Xiaoyan	PS 41	7
Yu, Xiaoyu	PS 142	20
Zaar, Johannes	PS 513, PS 572, PS 1011	79, 98, 164
Zahorik, Pavel	PD 53, SYMP 22	88, 40
Zak, Magdalena	PD 24	44
Zallocchi, Marisa	PS 380, PS 451, PS 462, PS 942, PS 947	62, 71, 73, 155, 156
Zaltz, PhD, Yael	PS 739	119
Zamanindezhad, Ladan	PS 559	96
Zang, Andie	PS 18	5
Zarabanda, David	PS 11	4
Zebroski, Heather L.	PS 429	68
Zee, David S.	PS 256	35
Zeilinger, Carsten	PD 114	169
Zekveld, Adriana	SYMP 4	36
Zelles, Tibor	PS 460	72
Zeng, Dingxuan	PS 432	69
Zeng, Fan-Gang	PS 773	124
Zeng, Riuyu	PS 787	136
Zenke, Katharina	PS 341	57
Zhai, Xiu	PS 740	119
Zhang, Aizhen	PD 124, PS 419, PS 420	170, 67, 67
Zhang, Andrea	PS 469	74
Zhang, Celia	PS 214	29
Zhang, Chao	PS 588	100
Zhang, Fang	PS 704	115
Zhang, Fawen	PS 536	93
Zhang, Hongyu	PS 1004	163
Zhang, Hongyuan	PS 645	107
Zhang, Huimin	PS 175	24
Zhang, Huiming	PS 876	147
Zhang, JiangPing	PD 63, PS 149	91, 21
Zhang, Jingyuan	PS 655	108
Zhang, Jinhui	PS 952, PS 953, PS 955	157, 157, 157
Zhang, Jinjin	PS 792	136
Zhang, Jinsheng	PS 247, PS 248, PS 828	34, 34, 141
Zhang, Ke	PS 258, PS 474	35, 74
Zhang, Li	PS 828	141

Author Index

Name	Abstract No.	Page No.
Zhang, Lichun	PS 282	49
Zhang, Min	PS 545	95
Zhang, Qinghai	PS 921	153
Zhang, Qiuxiang	SYMP 74	125
Zhang, Ting	PD 167, PD 168	177, 177
Zhang, Wenhan	PD 160, PS 746	176, 120
Zhang, Xiao-Dong	PS 968, PS 995	158, 162
Zhang, Xiaolin	PS 792	136
Zhang, Xichun	PS 184, PS 692	26, 114
Zhang, Yan	PD 102	134
Zhang, Yan	PS 358	59
Zhang, Yuan	PS 406	66
Zhang, Yuan-Yuan	PS 920	152
Zhang, Yuhua	PS 721	117
Zhang, Yuzhou	PS 146	21
Zhang, Zhen	PS 529	81
Zhang, Zhenshen	PS 64, PS 526	10, 81
Zhan, Ting	PD 150	175
Zhan, Yi	PS 533	93
Zhao, Bo	PD 67, PD 71, PD 127, PS 896	91, 92, 171, 149
Zhao, Chunli	PS 345	57
Zhao, Fangfang	PS 145, PS 420, PS 476	20, 67, 75
Zhao, Hong-Bo	PD 74, PD 77, PD 121, PS 917	127, 127, 170, 152
Zhao, Jingjing	PS 790	136
Zhao, Qirui	PS 700	115
Zhao, Shouqin	PS 345	57
Zhao, Sijia	PS 608	102
Zhao, Tong	PS 145, PS 792	20, 136
Zhao, Xingle	PS 424	68
Zheng, Bin	PS 474	74
Zheng, Jing	PS 899	150
Zheng, Qingyin	PD 63, PD 124, PS 145, PS 149, PS 214, PS 419, PS 420, PS 476, PS 792, SYMP 85	91, 170, 20, 21, 29, 67, 67, 75, 136, 127
Zheng, Tihua	PS 145, PS 792	20, 136
Zheng, Yiqing	PD 30	45
Zheng, Yiqing	PS 1030	166
Zheng, YuKe	PD 63, PS 149	91, 21
Zhou, Luyi	PS 946	156
Zhou, Nancy J.	PS 673	111
Zhou, Ning	PS 320, PS 322	54, 54
Zhou, Wenxiao	PS 128	18
Zhou, Wu	PS 255, PS 419, PS 428, SYMP 71	35, 67, 68, 90
Zhou, Xin	SYMP 3	36
Zhou, Yi	PS 871	146

Author Index

Name	Abstract No.	Page No.
Zhou, Yingjie	PS 209, PS 414, PS 461, PS 485, PS 899	29, 67, 72, 76, 150
Zhou, Yitian	PS 253	34
Zhuang, Hong	PS 1004	163
Zhu, Hong	PS 255, PS 419, PS 428, SYMP 71	35, 67, 68, 90
Zhu, Jennifer S.	PD 120, PS 441	170, 70
Zhu, Jianliang	PS 686	113
Zhu, MengYu	PS 950	156
Zhu, Xiaoxia	PS 671, PS 677, PS 785, PS 786, PS 788, PS 789, PS 1027, PS 1028	111, 111, 136, 136, 136, 136, 166, 166
Zhu, Yan	PD 74, PD 77, PD 121, PS 917	127, 127, 170, 152
Zhu, Ying	PD 164	177
Zilany, Muhammad S.	PS 751	121
Zoglio, Jillian	PS 60	10
Zong, Chenghang	PS 645	107
Zorio, Diego	PS 40, PS 41, PS 903	7, 7, 0150
Zou, Chengyun	PS 290	50
Zuo, Jian	PD 102, PD 146, PS 380, PS 451, PS 455, PS 462, PS 689, PS 942, PS 944, PS 947	134, 174, 62, 71, 72, 73, 113, 155, 156, 156
Zurita, Hector	PD 153	175
Zwolan, Teresa A.	PS 99	15



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