8:00-8:50 Morning Seminar 1 — Room A

Chair: Naito Y (Japan)

MS1-1 **Perimodiolar Electrodes: Designed for Optimal Placement**
Treaba C (USA), Patrick J (Australia)

MS1-2 **Slim Electrodes: Designed to Preserve Inner Ear Structures**
Patrick J (Australia)

MS1-3 **Cochlear Implant Biology and Surgery Research**
Verhoeven K (Belgium)

Co-sponsor: Nihon Cochlear Co., Ltd.

9:00-9:45 Keynote Lecture 3 — Room A

Chair: Takahashi S (Japan)

KL3 **Application of Human iPS Cells for Inner Ear Biology and Human Disease Modeling**
Okano H, Hosoya M, Fujioka M, Ogawa K (Japan)

10:00-11:08 Podium 5: Developmental Biology 1 — Room A

Chairs: Dabdoub A (Canada)
Kanzaki S (Japan)

10:00 29 Target Lecture **Wnt4 Signaling Inhibits Hair Cell Formation in the Developing Mammalian Cochlea through the Non-Canonical Wnt/Calcium/PKC Pathway**
Dabdoub A (Canada)

10:20 30 **β-catenin is Required for Hair-cell Differentiation in the Cochlea**
Shi F (USA), Hu L (USA, China), Edge AS (USA)

10:32 31 **In Vivo Overactivation of Notch Signaling Pathway in Cochlear Prosensory Epithelium**
Tateya T, Sakamoto S, Imayoshi I, Kageyama R (Japan)

10:44 32 **Replacing Atoh1 with Neurog1 can Differentiate and Maintain Hair Cells**
Jahan I, Pan N, Kersigo J, Fritzsch B (USA)

10:56 33 **CASK Function in the Inner Ear**
Kita T, Honda A, Matsumoto Y, Aruga J, Kudo M, Nagao S, Ladher RK (Japan)

11:10-12:06 Podium 6: Developmental Biology 2 — Room A

Chairs: Ladher R (Japan)
Suzuki M (Japan)

11:10 34 Target Lecture **Controlling Inner Ear Fate and Shape**
Ladher R, Honda A, Kita T, Freeman S, Sai XR (Japan)

11:30 35 **Expression of bHLH Genes in Developing Cochlear Epithelium**
Sakamoto S, Tateya T, Harima Y, Imayoshi I, Ito J, Kageyama R (Japan)

11:42 36 **Molecular Mechanisms for Human Anterior/Posterior Cranial Placode Cell Lineage Specification**
Ealy M, Ronaghi M, Bravo D, Nasr M, Waldhaus J, Heller S (USA)

11:54 37 **Septin7 Regulates the Formation of Inner Ear during Early Developmental Stage**
Torii H, Yamamoto N, Yoshida A, Nakagawa T, Ito J (Japan)

12:15-13:15 Luncheon Seminar 2 — Room A

Chair: Yamasoba T (Japan)

LS2-1 **Electro-Acoustic Stimulation of the Cochlear: Fundamental Studies**
Shepherd RK, Fallon JB, Irving S, Wise AK (Australia)

LS2-2 **Electroporation**
Patrick J, Housley G (Australia)

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10:00-12:14 Podium 7: Cochlear Implant — Annex 2

Chairs: Pyykkö I (Finland)
Oh SH (Korea)

10:00 38 Target Lecture
Inner Ear Imaging of Cochlear Implant Using Optimization of Cone Beam CT
Pyykkö I, Zou J, Koivisto J, Lähelmä J, Aarnisalo AC (Finland)

10:30 39
Inner Ear Health and Cochlear Implant Function
Pfingst BE, Colesa DJ, Watts MM, Budenz CJ, Raphael Y (USA)

10:42 40
Speech Perception and Speech Production after Cochlear Implantation in Prelingually Deaf Children
Sziklai I, Pongrácz I, Sziklainé Héjja M, Kunkli F, Szilvássy J, Batta JT (Hungary)

10:54 41
Recent and Future Trends in the Bioelectrical Interface of Auditory Implants
Volkenstein S, Kwiatkowska M, Gahlen F, Dazert S (Germany)

11:06 42
The Effect of Systemic Steroid Pump in Preservation of Residual Hearing after Cochlear Implantation
Rah YC (Korea), Lee MY (Korea), Lee HS (Korea), Choi JJ (Korea), Park MN (Korea), Suh MW (Korea), Oh SH (Korea), Chang SO (Korea), O'Leary S (Australia), Lee JH (Korea)

11:18 43
Detection of Cochlin-Tomoprotein in the Fluid Leakage during Cochlear Implantation
Shirai K, Ogawa Y, Kawano A, Ikezono T, Suzuki M (Japan)

11:30 44 Target Lecture
Effects of Congruent and Incongruent Visual Cues on Speech Perception and Brain Activity in Cochlear Implant Users
Song J-J, Lee H-J, Kang H, Lee DS, Chang SO, Oh SH (Korea)

11:50 45
Simultaneous 2nd Cochlear Implantation and Translabyrinthine Removal of Vestibular Schwannoma after 1st Cochlear Implantation on the Other Side
Doi K, Sato M, Kobayashi T, Shiraishi K, Saito K, Kohama K, Kinoshita T (Japan)

12:02 46
Development of a Piezoelectric Electrode with a Modiolus Penetration Needle
Tona Y, Nakagawa T, Kawano S, Ito J (Japan)

14:15-15:00 Keynote Lecture 4 — Room A

Chair: Sakaguchi H (Japan)

KL4 **The Intricate, Multifunctional Roles of Myosin Motors in Hair Cell Stereocilia**
Ebrahim S, Grati M, Kachar B (USA)

15:10-16:18 Podium 8: Molecular Structure of Inner Ear 1 — Room A

Chairs: Kurima K (USA)
Doi K (Japan)

15:10 47 Target Lecture **Transmembrane Channel-like 1 and 2 are Localized at Stereociliary Tips of Mammalian Inner Ear Hair Cells**
Kurima K, Ebrahim S, Millis BA, Pan B, Nakanishi H, Fujikawa T, Kawashima Y, Holt JR, Griffith AJ, Kachar B (USA)

15:30 48 **Role of Rho-GTPases in Inner Ear Hair Cells**
Sakaguchi H, Ueyama T, Nakamura T, Morioka S, Ninoyu Y, Saito N, Hisa Y (Japan)

15:42 49 **Localization-delocalization Transition of Tricellulin by Occludin in the Inner Ear**
Kitajiri S, Katsuno T, Sasaki H, Nagao K, Ito J, Furuse M, Tsukita S (Japan)

15:54 50 **Human Basilar Membrane - An Immunohistochemistry and Electron Microscopic Study**
Liu W (Sweden), Atturo F (Sweden, Italy), Santi P (USA), Glueckert R (Austria), Pfaller K (Austria), Schrott-Fischer A (Austria), Rask-Andersen H (Sweden)

16:06 51 **Lipid Droplets from Guinea Pig Hensen Cells are Protein Storage Organelles**
Kalinec GM, Lomberk G, Thein P, Parsa A, Park C, Urrutia R, Kalinec F (USA)

16:35-17:35 Podium 9: Molecular Structure of Inner Ear 2 — Room A

Chairs: Rask-Andersen H (Sweden)
Katori Y (Japan)

16:35 52 **The Human Endolymphatic Sac is the Endocrine Organ of the Inner Ear and Produces Multiple Potent Natriuretic Hormones**
Nue Møller M, Kirkeby S, Vikeså J, Cilius Nielsen F, Thomasen PC (Denmark)

16:47 53 **Further Characterization of the Striated Organelle and Apical Mitochondria in Rat Inner Ear Hair Cells**
Lysakowski A, Price SD, Chidavaenzi RL (USA)

16:59 54 **Targeting of Prestin and Slo to the Basolateral Surface: Hair Cells are Epithelial and not Neuronal**
Navaratnam D, Moeini-Naghani I, Bai J-P, Zhang Y, Santos-Sacchi J (USA)

17:11 55 **Constitutive Gαi Coupling Activity of VLGR1 and its Regulation by PDZD7**
Hu Q-X, Dong J-H, Du H-B, Zhang D-L, Ren H-Z, Ma M-L, Cai Y, Zhao T-C, Yin X-L, Yu X, Xue T, Xu Z-G, Sun J-P (China)

17:23 56 **The Role of TRIOBP in Stereocilia Rootlets Formation**
Katsuno T (Japan), Yamahara K (Japan), Kita T (Japan), Sakamoto T (USA), Ono K (USA), Segawa K (Japan), Ito J (Japan), Kitajiri S (Japan)

17:40-18:40 Podium 10: Auditory & Vestibular Function — Room A

Chairs: Laurell G (Sweden)
Sakamoto T (Japan)

17:40 57 **Auditory Characteristics in Mouse Model of the Sclerosteosis**
Moon IJ, Kim KR, Cho YS, Chung WH, Jin DK, Hong SH (Korea)

17:52 58 **Cochlear Pathology Contributes to Hearing Loss in Vestibulo-cochlear Schwannomas and Allows for New Diagnostic Evaluation and Treatment**
Nue Møller M, Hansen S, Miayzaki H, Thomasen PC (Denmark)

18:04 59 **Evaluation of Hearing Aid's Sucsess Probability Based on Aided Auditory Steady State Response Thresholds**
Sardari S, Sameni Seyed J, Jafari Z (Iran)

18:16 60 **Phonological Loop Activation by Maintenance of Pseudo-words with Auditory and Visual Presentation in Functional Magnetic Resonance Imaging**
Kanazawa Y, Yamazaki H, Aso T, Ishii T, Nakamura K, Fukuyama H, Ito J (Japan)

18:28 61 **Evaluation of Cerebral Hemodynamic Responses during Phonological Working Memory Tasks Using Functional Near-infrared Spectroscopy (fNIRS)**
Yamazaki H, Hiraumi H, Kanazawa Y, Ito J (Japan)

15:10-16:18 Podium 11: Tinnitus — Annex 2

Chairs: Knipper M (Germany)
Ogawa K (Japan)

15:10 62 **Future of Biomedical Research in Inner Ear Biology**
Target Lecture
Knipper M (Germany)

15:30 63 **Neuroimaging of Brain Regions Responsible for Tinnitus Loudness and Distress**
Ueyama T, Donishi T, Ukai S, Shinosaki K, Hotomi M, Ikeda Y, Tamagawa S, Terada M, Yamanaka N, Kaneoke Y (Japan)

15:42 64 **The Efficacy of Tinnitus Counselling Compared to Cognitive-Behavioral Therapy on Tinnitus**
Jeong H-J, Oh S-J (Korea)

15:54 65 **Dysfunctional Noise Cancelling of the Rostral Anterior Cingulate Cortex in Tinnitus Patients**
Song J-J (Korea), Vanneste S (USA), Jang JH (Korea), De Ridder D (New Zealand)

16:06 66 **Toward an Objectification of Tinnitus: Machine Learning Approach of Resting-State Cortical Oscillation Pattern Can Detect the Presence of Tinnitus**
Vanneste S (USA), De Ridder D (New Zealand), Song J-J (Korea)

16:35-17:43 Podium 12: Mechanics and Model of Cochlear and Middle Ear — Annex 2

Chairs: Gummer A (Germany)
Koike T (Japan)

16:35 67 **Modeling of Human Active Cochlea Using Finite-Element Method: Simulation of DPOAEs**
Target Lecture
Koike T, Mochizuki H, Sakashita T (Japan)

16:55 68 **The Use of a Fast Method of Recording Schroeder Phase Masking Function for Measuring Nonlinear Cochlear Function**
Rahmat S (New Zealand, Malaysia), O'Beirne GA (New Zealand)

17:07 69 **Otoacoustic Emissions and Hearing Functionality in Patients Affected by Neurodegenerative Diseases**
Sisto R, Pisani V, Moleti A, Di Girolamo S, Mazzone S, Di Mauro R, Botti T, Sanjust F, Cerini L, Tirabasso A (Italy)

17:19 70 **Frequency Tuning and Phase-locking Estimated from Cochlear Potentials in Normal Hearing Human Volunteers**
Verschooten E, Desloovere C, Joris PX (Belgium)

17:31 71 **Cochlear Response in a Model of Middle Ear Surgery**
Bergin MJ, Bird PA, Vlajkovic SM, Thorne PR (New Zealand)

17:45-18:41 Podium 13: Developmental Biology 3 — Annex 2

Chairs: Varela-Nieto I (Spain)
Minoda R (Japan)

17:45 72 **Programmed Cell Senescence in Inner Ear Development and Ageing**
Target Lecture
Varela-Nieto I, Gibaja A, Celaya A, de Iriarte R, Magariños M, Zubeldia JM, Murillo-Cuesta S, Contreras J (Spain)

18:05 73 **Live Cochlear Explant Imaging Reveals Reorganization Processes Underlying Robust Development of the Organ of Corti**
Amir L (Israel), Hersch M (Switzerland), Bhonker Y (Israel), Chen P (USA), Matsuzaki F (Japan), Avraham KB (Israel), Sprinzak D (Israel)

18:17 74 **Live Imaging to Explore Dynamics of Stereocilia Formation in the Developing Mammalian Cochlea**
Bhonker Y (Israel), Amir L (Israel), Kim SM (USA), Chen P (USA), Matsuzaki F (Japan), Sprinzak D (Israel), Avraham KB (Israel)

18:29 75 **Defining Spontaneous Morphological Activity in the Kölliker's Organ of the Developing Cochlea**
Dayaratne N, Vlajkovic SM, Lipski J, Thorne PR (New Zealand)

15:10-16:20 Podium 14: Vestibular Schwannoma -Clinical Breakthrough- Room B-1

Chairs: Miyazaki H (Denmark)
Kanemaru S (Japan)

15:10 76 **Inner Ear Symptoms and Quality of Life in 1000 Observed Patients with Vestibular Schwannomas**
Thomasen PC, Hansen S, Yde J, Stangerup S, Møller M, Workman C (Denmark)

15:25 77 **The Cutting Edge of Hearing Preservation Surgery -Using Intraoperative Monitoring of ABR and Dorsal Cochlear Nucleus Action Potential with CE-chirp Stimuli-**
Miyazaki H (Denmark)

15:40 78 **The Prehabilitation Concept (PREHAB) to Enhance Postoperative Recovery in Vestibular Schwannoma Patients**
Magnusson M, Tjernström F (Sweden)

15:55 79 **Clinical Application for Regeneration of the Skull/Temporal Bone**
Kanemaru S, Kanai R, Tsuji T, Yamamoto M, Toda H, Yamashita M, Maetani T, Nishida A (Japan)

16:10 Discussion

Co-sponsor: Nihon Kohden Corporation

16:35-18:31 Podium 15: Personalized Medicine and Genetics Room B-1

Chairs: Zenner HP (Germany)
Omori K (Japan)

16:35 80 **Personalized Medicine**
Target Lecture
Zenner HP (Germany), Pfister M (Switzerland), Friese N (Germany), Zrenner E (Germany), Röcken M (Germany)

16:55 81 **Development of an *in vitro* Bioassay to Analyze Interface-dependent Response Profiles of Auditory Neurons on Multi-electrode Arrays**
Hahnewald S (Switzerland), Roccio M (Switzerland), Marconi E (Switzerland), Garnham C (Austria), Melchionna T (Austria), Tscherter A (Switzerland), Streit J (Switzerland), Brossard J (Switzerland), Homsy A (Switzerland), Keppner H (Switzerland), Widmer H-R (Switzerland), Senn P (Switzerland)

17:07 82 **Genetic Background of Single Nuclear Polymorphism Causing Hearing Loss Caused by Tobacco Smoking**
Pyykkö I, Iltanen K, Zou J, Juhola M (Finland)

17:19 83 **Genetic Background of Single Nuclear Polymorphism in Causing Noise Susceptibility**
Pyykkö I, Iltanen K, Zou J, Juhola M (Finland)

17:31 84 **Genetic Etiology of Presbycusis in Portugal**
Chora JR, Pereira L, Simões-Teixeira H, Matos TD, Fialho MG, Caria MH (Portugal)

17:43 85 **ILDR1 Deficiency Causes Degeneration of Cochlear Outer Hair Cells and Disrupts the Structure of the Organ of Corti: A Mouse Model for Human Deafness DFNB42**
Sang Q, Li W, Feng Y, Xu Y, Feng R, Xing Q, Zhao X, Jin L, He L, Li H, Wang L (China)

17:55 86 **Novel *MITF* Mutation as a Molecular Etiology of Hereditary Unilateral or Asymmetric Sensorineural Hearing Loss**
Kim SH, Kim AR, Choi HS, Kim MY, Chun EH, Oh SH, Choi BY (Korea)

18:07 87 **Characterization of Expression and Transcriptional Regulation in Short Isoform of the Deafness Gene *Whirlin* in Mice**
Yasuda SP, Kikkawa Y (Japan)

18:19 88 **The Inner Ear Pharmacokinetics Depends on Systemic Injection Dose**
Kanzaki S, Fujioka M, Inagaki Y, Oishi N, Ogawa K (Japan)