

IEB 2012 Symposium

The Inner Ear in Translational Research

Closing the gap toward causal treatment

Saturday, 29. September

09.00 – 09.15 Introduction
Hubert Löwenheim
Tübingen Hearing Research Centre; Tübingen, Germany

Session I: Endogene causes of hearing loss **Chairperson: H. Kumagami**

09.15 – 09.45 S1 Genotype-phenotype correlations in non-syndromic hearing loss
Henricus P.M. Kunst
Department of Otorhinolaryngology, Radboud University Nijmegen Medical Centre; Nijmegen, The Netherlands

09.45 – 10.15 S2 Unraveling the genetics of autosomal recessive deafness
Hannie Kremer
Department of Otorhinolaryngology, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands

10.15 – 10.45 S3 Next-generation Sequencing: A novel screening approach in diagnosing hereditary hearing loss
Saskia Biskup
CeGaT GmbH, Tübingen, Germany

10.45 – 11.15 Break

Session II: Exogene causes of hearing loss

Chairperson: F. Kalinec

11.15 – 11.55 S4 Sensory hair cell death and protection: Insight into a new approach
Jonathan Gale
UCL Ear Institute, London, UK

11.55 – 12.35 S5 Fish in a dish: Habilitation of hearing and balance disorders in the 21st Century
Edwin W. Rubel
University of Washington and Fred Hutchinson Cancer Research Center, Seattle, USA

12.35 – 13.35 Lunch

Intermission

13.35 – 13.50 S6 The Role of Not for Profits in Supporting Translational Research
Ralph Holme
Head of Biomedical Research, Action on Hearing Loss, London, UK

Session III: Screening and stem cell technologies

Chairperson: P. Senn

13.50 – 14.30 S7 Auditory evoked responses can be restored by human ES cell-derived otic progenitors
Marcelo N. Rivolta
Centre for Stem Cell Biology, Department of Biomedical Sciences, University of Sheffield, Sheffield, UK

14.30 – 15.10 S8 Cochlear progenitor cell differentiation to hair cells
Albert Edge
Eaton Peabody Laboratory, Massachusetts Eye and Ear Infirmary, Boston, USA
Department of Otolaryngology, Harvard Medical School, Boston, USA

15.10 – 15.40 Break

Session IV: Drug delivery to the inner ear

Chairperson: M. Müller

- 15.40 – 16.20 S9 Manipulations of the cochlea and measurement of functional status
Alec N. Salt
Washington University School of Medicine, St. Louis, USA
- 16.20 – 17.00 S10 Intracochlear drug delivery systems and new therapeutic concepts
Takayuki Nakagawa
Department of Otolaryngology, Head and Neck Surgery,
Graduate School of Medicine, Kyoto University, Kyoto,
Japan

IEB Workshop, Programme – Overview

Saturday, 29. September

18.00 – 23.00 IEB Welcome Reception in Casino am Neckar
Wöhrdstraße 25, 72072 Tübingen

Sunday, 30. September

08.15 – 08.30 Opening

08.30 – 10.15 Oral presentations (Deafness genes / Gene therapy: O1 – O7)

10.15 – 10.45 Break

10.45 – 12.15 Oral presentations (Gene therapy / Delivery: O8 – O13)

12.15 – 13.30 Lunch

12.45 – 14.30 Poster presentations I
P1 – P16: Deafness genes / Gene therapy / Delivery
P17 – P28: Development
P29 – P38: Hair cells / Non-sensory cells
P39 – P42: Cochlear mechanics, P43 – P47: Neurotransmission

14.30 – 16.00 Oral presentations (Development I: O14 – O19)

16.00 – 16.30 Break

16.30 – 17.30 Oral presentations (Development II: O20 – O23)

18.00 Buses leave for a visit to the ENT-Clinic and
Hearing Research Centre

19.30 Buses leave the ENT-Clinic for the After Work Party at
the Boxenstop Car Museum, Brunnenstraße, 72074 Tübingen

Monday, 01. October

08.15 – 08.45 ***Spoendlin Junior Award Lecture***

08.45 – 10.00 Oral presentations (Hair cells: O24 – O28)

10.00 – 10.30 Break

10.30 – 12.00 Oral presentations (Hair cells / Non-sensory cells: O29 – O34)

12.00 – 12.30 Announcements and Group photo

12.30 – 13.30 Lunch

- 12.45 – 14.30 Poster presentations II
P48 – P51: Homeostasis, P52 – P54: Ototoxicity
P55 – P66: Protection / Prevention / Regeneration
P67 – P86: Pathology / Therapy
P87 – P89: Morphological techniques
- 14.30 – 16.00 Oral presentations (Neurotransmission: O35 – O40)
- 16.00 – 16.30 Break
- 16.30 – 17.30 Oral presentations (Homeostasis / Diagnostics: O41 – O44)
- 18.45 Buses leave for the Conference Dinner in the Sommerrefektorium Kloster Bebenhausen – from the Kupferbau at 18.45 and from the main train station (bus stop A) at 19.00. Return to Tübingen at approx. 23.30.

Tuesday, 02. October

- 08.15 – 10.00 Oral presentations (Ototoxicity / Prevention: O45 – O51)
- 10.00 – 10.30 Break
- 10.30 – 12.15 Oral presentations (Protection: O52 – O58)
- 12.15 Business meeting
- 13.00 Close of Workshop
- 13.15 Bus leaves for “Post Congress Tour into the Inner Ear: Hands-on Human Temporal Bone Preparation and Cochlea Implant”, Institute of Anatomy, Elfriede-Aulhorn-Str. 8. Prior registration required. Lunch is provided. Start: 14.00. End: 18.00.
- OR
- 15.30 Buses leave the main train station (bus stop A) at 15.30 for “Post Congress Tour into the Castle of Hohenzollern”, followed by dinner at 18.00. Buses return to Tübingen between 23.00 and 24.00.

IEB Workshop

Detailed Programme

Sunday, 30. September

- 08.15 – 08.30 Opening
- Session A: Deafness genes / Gene therapy**
Chairpersons: A. Ryan, H. Bolz
- 08.30 – 08.45 O1 Comprehensive genetic analysis of all known deafness genes by next-generation sequencing
**H. Bolz, C. Neuhaus, C. Bergmann, T. Eisenberger*
- 08.45 – 09.00 O2 Efficacy of targeted genomic capture and massively parallel sequencing of 82 known deafness genes for molecular genetic diagnosis of hereditary deafness in Korean multiplex families
**B.J. Kim, G. Park, A. Kim, K.-H. Han, Y.H. Kim, S.O. Chang, S.-H. Oh, W.-Y. Park, B.-Y. Choi*
- 09.00 – 09.15 O3 Polymorphic analysis in patients with Ménière's disease and sudden sensorineural hearing loss
**M. Teranishi, Y. Uchida, N. Nishio, K. Kato, H. Otake, T. Yoshida, M. Sone, S. Sugiura, F. Ando, H. Shimokata, T. Nakashima*
- 09.15 – 09.30 O4 Allelic variants of TLR10 gene and MICA-STR A.4 suggest changes in innate immune response in Ménière's disease
*I. Gazquez, T. Requena, N. Perez, I. Aran, A. Soto-Varela, S. Santos, H. Perez-Garrigues, P. Perez, G. Trinidad, A. Batuecas, R. Teggi, L. Zagato, M.A. Lopez-Nevo, *J.A. Lopez-Escamez*
- 09.30 – 09.45 O5 Differential expression of apoptosis-related genes in the cochlea of conditional GJB2 gene knockout mice
**Y. Zhang*
- 09.45 – 10.00 O6 DNA vaccines and stem cell therapy restore hearing in hearing loss in human patients as well as experimental animals
*B. Zhou, M. Kermany, Q. Cai, C. Cai, *T.J. Yoo*
- 10.00 – 10.15 O7 Inner ear protein transduction utilizing arginine-rich cell-penetrating peptides
**R. Minoda, T. Miwa, E. Yumoto*
- 10.15 – 10.45 Break

Session B: Gene therapy / Delivery
Chairpersons: P. Thorne, S. Plontke

- 10.45 – 11.00 O8 Exploring novel therapeutic interventions based on gene delivery to treat hereditary deafness
**F. Galindo Ramirez, G. Crispino, G. Di Pasquale, J. Chiorini, F. Mammano*
- 11.00 – 11.15 O9 Mouse otocyst trans-uterine gene transfer restores hearing in connexin 30 knockdown mice
**T. Miwa, R. Minoda*
- 11.15 – 11.30 O10 Penetrating the inner ear with a cell penetrating peptide and siRNA
**S. Dash-Wagh, S. Jacob, S. Lindberg, A. Fridberger, I. Langel, M. Ulfendahl*
- 11.30 – 11.45 O11 Transplantation of multipotent stromal cells (MSC): Is there a future role in cochlear implantation?
**A. Radeloff, R. Mlynski, K. Rak, K. Frölich, P. Schendzielorz, R. Hagen*
- 11.45 – 12.00 O12 Restoration of transport function and anion exchanger activity of missense pendrin mutations by salicylate
**H. Wada, K. Ishihara, S. Okuyama, S. Kumano, K. Iida, H. Hamana, M. Murakoshi, T. Kobayashi, S. Usami, K. Ikeda, Y. Haga, K. Tsumoto, H. Nakamura, N. Hirasawa*
- 12.00 – 12.15 O13 Leakage control after intracochlear drug delivery by injections through the round window membrane
**S. Plontke, J. Hartsock, A. Salt*
- 12.15 – 13.30 Lunch
- 12.45 – 14.30 **Poster presentations I**
P1 – P16: Deafness genes / Gene therapy / Delivery
P17 – P28: Development
P29 – P38: Hair cells / Non-sensory cells
P39 – P42 Cochlear mechanics
P43 – P47 Neurotransmission

Session C: Development I

Chairpersons: I. Varela-Nieto, A. Forge

- 14.30 – 14.45 O14 Early otic development depends on autophagy for apoptotic cell clearance and neural differentiation
**M. Magarinos, M.R. Aburto, H. Sanchez-Calderón, J.M. Hurlé, I. Varela-Nieto*
- 14.45 – 15.00 O15 The incoherent feed-forward loop regulation of Atoh1 by Sox2 provides a mechanism for sensory commitment and deferred hair cell differentiation in the developing inner ear
*J. Neves, *F. Giraldez*
- 15.00 – 15.15 O16 Septin protein expression in the embryonic and neonatal mouse cochlea
**N. Yamamoto, A. Yoshida, T. Nakagawa, J. Ito*
- 15.15 – 15.30 O17 Ras/p38 and PI3K/Akt but not Mek/Erk signaling mediate BDNF-induced neurite formation on neonatal cochlear spiral ganglion explants
**Y. Brand, L.M. Mullen, K. Pak, E. Chavez, K. Kondo, A.F. Ryan*
- 15.30 – 15.45 O18 Neural cell adhesion molecule (NCAM) mediates glial cell line-derived neurotrophic factor (GDNF) induced neuritogenesis in the neonatal spiral ganglion
**S. Euteneuer, K.H. Yang, E. Chavez, A. Leichtle, G. Loers, A. Olshansky, K. Pak, M. Schachner, A.F. Ryan*
- 15.45 – 16.00 O19 Reduction of phosphatidylinositol 4,5-bisphosphate [PI(4,5)P₂] synthesis causes graded alteration of Ca²⁺ signaling along the postnatal cochlea
**E. Simeonato, L. Rodriguez, P. De Camilli, T. Pozzan, F. Mammano*
- 16.00 – 16.30 Break

Session D: Development II

Chairpersons: J. Ashmore, M. Göpfert

- 16.30 – 16.45 O20 A Hopf bifurcation controls intracellular calcium oscillations in the developing mouse cochlea
**F. Ceriani, F. Mammano*
- 16.45 – 17.00 O21 Spatio-temporal pattern of action potential firing in mouse inner hair cells
**G. Sendin, J. Bourien, J.-L. Puel, R. Nouvian*

- 17.00 – 17.15 O22 Loss of stria vascularis integrity and endocochlear potential in E-cadherin KO mice
*H. Maier, M. Schweizer, M.-O. Trowe, A. Kispert
- 17.15 – 17.30 O23 Transmembrane channel-like proteins Tmc1 and Tmc2 influence the tonotopic variation in the mechanotransducer channels of mouse cochlear hair cells
*R. Fettiplace, K.X. Kim
- 18.00 Buses leave for a visit to the ENT-Clinic and Hearing Research Centre
- 19.30 Buses leave the ENT-Clinic for the After Work Party at the Boxenstop Car Museum, Brunnenstraße, 72074 Tübingen

Monday, 01. October

- 08.15 – 08.45 **Spoendlin Junior Award Lecture**
Drosophila auditory organ genes and genetic hearing defects
D. Piepenbrock
Session E: Hair cells
Chairpersons: J. Santos-Sacchi, J. Engel
- 08.45 – 09.00 O24 Mechanotransduction current adaptation differs between lower vertebrate and mammalian hair cells
A.W. Peng, *T. Effertz, A.J. Ricci
- 09.00 – 09.15 O25 Microdomains shift and rotate in the lateral wall of cochlear outer hair cells
R. Kitani, C. Park, *F. Kalinec
- 09.15 – 09.30 O26 Does DDR1 contribute to the cytoarchitecture and stability of motile cells?
*A.-M. Meyer zum Gottesberge, S. Hansen
- 09.30 – 09.45 O27 Slow down prestin – a very simple model says you're moving too fast!
*J. Santos-Sacchi, L. Song
- 09.45 – 10.00 O28 The striated organelle in inner ear hair cells
*A. Lysakowski
- 10.00 – 10.30 Break

Session F: Hair cells / Non-sensory cells

Chairpersons: A. Nuttall, S. Klis

- 10.30 – 10.45 O29 How are inner hair cells stimulated? Evidence for multiple mechanical drives
**J. Guinan*
- 10.45 – 11.00 O30 Testing the cochlear amplifier with otoacoustic emissions
**R. Sisto, A. Moleti, T. Botti*
- 11.00 – 11.15 O31 The effect of aging on cochlear performance: A simulation approach using a physiologically-based electromechanical model of the cochlea
**A. Saremi, S. Stenfelt*
- 11.15 – 11.30 O32 Acoustic signal transduction in a simple ear – the *crista acustica* of bushcrickets
**M. Nowotny, A. Palghat Udayashankar, J. Hummel, M. Kössl*
- 11.30 – 11.45 O33 Drastic impairment of calcium signaling in cochlear non-sensory cells of postnatal Cx30 KO mice
**L. Rodriguez Hernandez, E. Simeonato, F. Mammano*
- 11.45 – 12.00 O34 A molecular dynamics investigation of Connexin 26 and Connexin 30 channels
**F. Zonta, G. Polles, G. Zanotti, F. Mammano*
- 12.00 – 12.30 Announcements and Group photo
- 12.30 – 13.30 Lunch
- 12.45 – 14.30 **Poster presentations II**
P48 – P51: Homeostasis, P52 – P54: Ototoxicity
P55 – P66: Protection / Prevention / Regeneration
P67 – P86: Pathology / Therapy
P87 – P89: Morphological techniques

Session G: Neurotransmission

Chairpersons: R. Fettiplace, J. Guinan

- 14.30 – 14.45 O35 The presynaptic scaffold Bassoon and the synaptic ribbon control synaptic strength at the mouse inner hair cell afferent synapse
**H. Takago, N. Strenzke, T. Moser*

- 14.45 – 15.00 O36 Voltage-gated ionic conductances required for action potential firing in auditory nerve fibers
*C. Michel, R. Nouvian, J. Santos-Sacchi, J.-L. Puel, J. Bourien
- 15.00 – 15.15 O37 Logic of sound level encoding in the auditory nerve
*J. Bourien, Y. Tang, M. Lenoir, S. Ladrech, C. Batrel, R. Nouvian, J.-L. Puel, J. Wang
- 15.15 – 15.30 O38 A new physiologic technique for assessing apical cochlear function: The Auditory Nerve Overlapped Waveform (ANOW)
*J. Lichtenhan, A. Salt, J. Guinan, Jr.
- 15.30 – 15.45 O39 Functional and histological characterization of the degenerating auditory nerve in the deafened guinea pig
*D. Ramekers, H. Versnel, E.M. Smeets, S.B. Strahl, W. Grolman, S.F.L. Klis
- 15.45 – 16.00 O40 Effects of inner ear biology on cochlear implant function
*B.E. Pflugst, Y. Raphael, D.J. Colesa, C.L. Budenz, M.M. Watts, G.L. Su, L.L. Kabara, S.B. Strahl, S.N. Garadat, N. Zhou, K.M. Masterson
- 16.00 – 16.30 Break

Session H: Homeostasis / Diagnostics

Chairpersons: A. Schrott-Fischer, H. Wada

- 16.30 – 16.45 O41 Anti-diuretic hormone can regulate water homeostasis of the inner ear
*C. Gleiser, A. Eckhard, D. Taguchi, M. Müller, H. Löwenheim, B. Hirt
- 16.45 – 17.00 O42 Raised static pressure in scala media of gerbils is consistent with endolymphatic hydrops
*E. LePage, P. Avan, Y. Pavier, T. Mom
- 17.00 – 17.15 O43 Visualization of endolymphatic hydrops in living animals using optical coherence tomography (OCT)
*Y. Tona, T. Sakamoto, M. Taniguchi, H. Torii, T. Nakagawa, J. Ito
- 17.15 – 17.30 O44 Inner ear MRI using a multi-functional nanoprobe for MRI contrast enhancement and radical scavenging
*J. Zou, M. Zhen, J. Zheng, I. Pyykko, C. Shu, C. Wang
- 18.45 Buses leave for the Conference Dinner in the Sommerrefektorium Kloster Bebenhausen – from the Kupferbau at 18.45 and from the main train station (bus stop A) at 19.00. Return to Tübingen at approx. 23.30.

Tuesday, 02. October

Session I: Ototoxicity / Prevention

Chairpersons: J. Syka, R. Nouvian

- 08.15 – 08.30 O45 Cell-specific accumulation of gentamicin and doxycyclin within the guinea pig cochlea after intratympanic application
**U.-R. Heinrich, I. Schmidtman, I. Fischer, W.J. Mann, K. Helling*
- 08.30 – 08.45 O46 Variability of ototoxicity but not antimicrobial potency of gentamicin in-vitro
**M. Huth, A. Vu, A. Cheng, A. Ricci*
- 08.45 – 09.00 O47 Dissociation of antibacterial activity and aminoglycoside ototoxicity: Prevention is better than protection
**J. Schacht, T. Matt, N.C. Leong, K. Lang, S.-H. Sha, R. Akbergenov, D. Scherbakov, M. Meyer, S. Duschka, J. Xie, S. Dubbaka, D. Perez-Fernandez, A. Vasella, V. Ramakrishnan, E. Böttger*
- 09.00 – 09.15 O48 Sepsis otopathy: Proof of concept
**J. Schmutzhard, R. Glueckert, C. Pritz, M. Blumer, M. Bitsche, H. Riechelmann, A. Schrott-Fischer*
- 09.15 – 09.30 O49 Upstream JNK signaling and JNK isoforms in hair cell damage
**A. Ryan, K. Pak, J. Savas*
- 09.30 – 09.45 O50 AMP-activated protein kinase in BK-channel regulation and protection against hearing loss following acoustic overstimulation
**M. Jaumann, M. Föller, J. Dettling, A. Saxena, T. Pakladok, C. Munoz, W. Singer, P. Ruth, M. Sopjani, G. Seebohm, L. Rüttiger, M. Knipper, F. Lang*
- 09.45 – 10.00 O51 Oxidative stress in acoustic trauma: Cochlear and cortical responses following the increase of antioxidant defense
*A.R. Fetoni, S.L. Eramo, R. Rolesi, F. Paciello, P. de Bartolo, C. Bergamini, D. Troiani, *G. Paludetti*
- 10.00 – 10.30 Break

Session J: Protection

Chairpersons: A. Szczepek, J. Schacht

- 10.30 – 10.45 O52 Lack of brain-derived neurotrophic factor hampers inner hair cell synapse physiology, but protects against noise-induced hearing loss
**W. Singer, A. Zuccotti, S. Kuhn, S.L. Johnson, C. Franz, D. Hecker, H.-S. Geisler, I. Köpschall, K. Rohbock, K. Gutsche, J. Dlugaiczyk, B. Schick, W. Marcotti, L. Rüttiger, T. Schimmang, M. Knipper*
- 10.45 – 11.00 O53 The hearing function of the deletion of L-type CaV1.2 in the peripheral and central auditory system
**S.C. Lee, A. Zuccotti, S.V. Satheesh, T. Schimmang, L. Rüttiger, H.G. Nothwang, M. Knipper*
- 11.00 – 11.15 O54 Cisplatin- and ROS-induced ototoxicity and otoprotection in a whole organ culture model of the postnatal and functionally mature mouse inner ear
**H. Arnold, A. Tropitzsch, M. Müller, H. Löwenheim*
- 11.15 – 11.30 O55 Activation of gp130-STAT3 signaling pathway protects the inner and outer hair cells from the cisplatin-mediated toxicity
**A. Szczepek, E. Gerschner, O. Hegend, H. Olze, B. Mazurek*
- 11.30 – 11.45 O56 Identification of novel downstream effectors of IGF-1 signal pathways using a comprehensive gene expression analysis
**Y. Hayashi, N. Yamamoto, T. Nakagawa, J. Ito*
- 11.45 – 12.00 O57 Neuronal erythropoietin overexpression protects mice against presbycusis
**A. Monge Naldi, C. Belfrage, M. Gassmann, J. Vogel*
- 12.00 – 12.15 O58 NOS inhibition enhances myogenic tone by increasing rho-kinase mediated Ca²⁺ sensitivity in the male but not the female gerbil spiral modiolar artery
**K. Reimann, G. Krishnamoorthy, P. Wangemann*
- 12.15 Business meeting
- 13.00 Close of Workshop

13.15 Bus leaves for "Post Congress Tour into the Inner Ear: Hands-on Human Temporal Bone Preparation and Cochlea Implant", Institute of Anatomy, Elfriede-Aulhorn-Str. 8. Prior registration required. Lunch is provided. Start: 14.00. End 18.00.

OR

15.30 Buses leave the main train station (bus stop A) at 15.30 for "Post Congress Tour into the Castle of Hohenzollern", followed by dinner at 18.00. Buses return to Tübingen between 23.00 and 24.00.

Posters

Posters should remain posted for the entire length of the meeting.
Authors should be at their posters during poster presentation time.
There will be organized on-site poster discussions.
Poster board dimensions: 140 cm wide, 95 cm high.

Deafness genes / Gene therapy / Delivery

- P1 Expression of HERG and ERG channels in the rat cochlea
**M. Sato, M. Miyashita, K. Saito, K. Terao, K. Doi*
- P2 Loss of mammal-specific tectorial membrane component carcinoembryonic antigen cell adhesion molecule 16 (CEACAM16) leads to hearing impairment at low and high frequencies
**L. Rüttiger, R. Kammerer, R. Riesenberger, C. Schäuble, R. Krupar, A. Kamp, K. Sunami, A. Eisenried, M. Hennenberg, F. Gruner, A. Bress, S. Battaglia, H. Schrewe, M. Knipper, M.R. Schneider, W. Zimmermann*
- P3 Grxcr1 mutation affects development and function of cochlear hair cells in Tasmanian devil mice
**S. Kuhn, S.L. Johnson, B. Lorente, K.P. Steel, W. Marcotti*
- P4 Effects of salicylate derivatives on changes in localization of H723R pendrin mutant expressed in cultured cells
**S. Koyama, H. Sato, M. Murakoshi, T. Kobayashi, S. Usami, K. Ikeda, Y. Haga, K. Tsumoto, H. Nakamura, N. Hirasawa, K. Ishihara, H. Wada*
- P5 The controversial p.M34T mutation in GJB2: Report on three Portuguese patients with NSSHL
**A.C. Gonçalves, J. Chora, R. Santos, P. Cavilhas, M. da Silva, A. O'Neill, G. Fialho, H. Caria*
- P6 A novel wolframin mutation, p.D171N, in a nonsyndromic sensorineural low-frequency hearing loss case
**A.C. Gonçalves, T.D. Matos, R. Santos, P. Cavilhas, M. da Silva, A. O'Neill, G. Fialho, H. Caria*
- P7 Lack of fatty acid binding protein 7 slows the progression of age-related hearing loss in mice
**J. Suzuki, T. Oshima, R. Kimura, K. Yoshizaki, Y. Takata, Y. Owada, T. Kobayashi, N. Osumi*
- P8 Expression of peyvakin in human cochlea-an immunohistochemical study
**W. Liu, A. Kinnefors, F. Edin, H. Rask-Andersen*
- P9 Histone acetylation and methylation indicates epigenetic change in the aged cochlea of mice
**K.-I. Watanabe, W. Bloch*

- P10 Differentiation of human induced pluripotent stem cells into otic sensory neural fate
*A. Dos Santos, N. Abboud, E. Savary, I. Watabe, J. De Vos, F. Feron, A. Zine
- P11 Pilot study of stem-cell based therapy for auditory spiral ganglion loss after experimental bacterial meningitis
*P. Senn, J. Zimmermann, D. Grandgirard, S. Hofer, A. Mina, S. di Santo, H.R. Widmer, S. Leib
- P12 Creatine supplementation promotes propagation and differentiation of rat spiral ganglion-derived stem cells
*A. Mina, S. di Santo, A. Ducray, H.R. Widmer, P. Senn
- P13 Topical application of dexamethasone in a thermoreversible hydrogel for hearing preservation in an animal model of cochlear implantation
*C. Honeder, W. Gstoettner, E. Engleder, F. Gabor, R. Plasenzotti, E. Vyskocil, C. Arnoldner
- P14 Thermoreversible hydrogels: Alternative-therapy to systemic glucocorticoid therapy for inner ear diseases
*E. Engleder, C. Honeder, J. Klobasa, C. Arnoldner, F. Gabor
- P15 Effects of TrkB antibody functionalized silica nanoparticles on the survival of spiral ganglion neurons
C. Pritz, *A. Schrott-Fischer, M. Bitsche, W. Salvenmoser, J. Dudas, R. Glueckert
- P16 Surgical approach for local treatment strategies of noise induced hearing loss
*J.A. Sistiaga, L. Sanz, S. Murillo Cuesta, R. Martinez Vega, C. Avendaño, I. Varela Nieto, T. Rivera

Development

- P17 Expressions of HGF and its high-affinity receptor C-MET in the early developing rat cochlea
*K. Doi, M. Sato, M. Miyashita, K. Matsumoto, T. Nakamura, K. Saito, K. Terao
- P18 C-RAF deficiency causes cochlear abnormalities and profound sensorineural deafness in mice
R. de Iriarte, *M. Magarinos, U.R. Rapp, I. Varela-Nieto
- P19 Role of p75NTR-positive Schwann cells on spiral ganglion neurite outgrowth
*S. Hansen, K. Schaumann, T. Klenzner, J. Schipper

- P20 Connexin 26 (Cx26) is crucial for the development and the preservation of the organ of Corti
*G. Crispino, F. Galindo Ramirez, G. Di Pasquale, J. Chiorini, F. Mammano
- P21 Study of the Boettcher cells along their development: Junctions and expression of the urea-transporter B (UT-B)
*M. Cloes, T. Renson, N. Johnen, M.-E. Francart, N. Thelen, M. Thiry
- P22 Evidence for a partial epithelial-mesenchymal transition in rat auditory organ development
*N. Johnen, M.-E. Francart, N. Thelen, M. Cloes, M. Thiry
- P23 Absence of Plastin1 does not impair stereocilia formation but results in a moderate hearing loss
*R. Taylor, S.L. Johnson, E.-M. Grimm-Günter, F. Rivero, W. Marcotti, A. Forge, N. Daudet
- P24 The resting mechanotransducer current drives spontaneous action potentials in pre-hearing mammalian cochlear inner hair cells
*S.L. Johnson, H. Kennedy, M. Holley, R. Fettiplace, W. Marcotti
- P25 Regulation of vestibular organs epithelial morphogenesis by the vertebrate planar cell polarity pathway is dependent on P120-catenin
*D. Ren, R. Ma, K. Jin, F. Chi, P. Chen
- P26 The molecular development of the mouse dorsal cochlear nucleus
*M. Mao, P. Thorne, F. Kubke, J. Montgomery
- P27 Evaluation of the neurogenic potential in the postnatal cochlear nucleus
*K. Rak, J. Völker, S. Frenz, A. Radeloff, R. Hagen, R. Mlynski
- P28 A transient, afferent input-dependent, postnatal niche for neural progenitors in the cochlear nucleus
*S. Volkenstein, S. Sinkkonen, T. Jan, S. Most, A. Cheng, K. Oshima, S. Dazert, S. Heller

Hair cells / Non-sensory cells

- P29 The chloride-channel blocker anthracene-9-carboxylic acid reduces the nonlinear capacitance of outer hair cells by acting directly on prestin
*C. Harasztosi, A.W. Gummer
- P30 The RC time constant problem of outer hair cells: A re-examination
*K. Iwasa, M. Ospeck
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