

UNIVERSITÀ
DEGLI STUDI
DI PADOVADNS
DIPARTIMENTO
DI NEUROSCIENZE

Symposium & 56th Inner Ear Biology Workshop

"Hearing research: from history into the future"

Chairs: Alessandro Martini, Fabio Mammano and Paolo Gasparini



7-10 SEPTEMBER 2019 - PADUA, ITALY

Symposium

Saturday 7 September 2019

Fiera di Padova

12.00	Registration
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Aula Magna, Bo Palace - University of Padova

SATELLITE SYMPOSIUM

New Approaches for Improving Inner Ear Function

Chairman: Alessandro Martini

14.30	The early days of dexamethasone-eluting electrode <i>Alessandro Martini (Padua, Italy)</i>
14.45	Dexamethasone-eluting electrode /other drug delivery <i>Verena Scheper (Hannover, Germany)</i>
15.00	Vestibular implants <i>Angelica Peres Fornos (Geneva, Switzerland)</i>
15.15	Brief summary and closure <i>Susanne Braun (Starnberg, Germany)</i>

15.30 – 15.45 Coffee break

INNER EAR BIOLOGY SYMPOSIUM

Hearing Research: From History into the Future

Chairmen: Alessandro Martini, Paolo Gasparini, Fabio Mammano

15.45	Welcome address
16.00	Highlight in Human Cochlear Microanatomy <i>Helge Rask-Andersen (Uppsala, Sweden)</i>
16.30	Tailoring tissue remodeling during early inner ear development: together we can <i>Isabela Varela-Nieto (Madrid, Spain)</i>
17.00	Inner Ear Drug Delivery by Precise Perforation <i>Lalwani Anil K. (New York, USA)</i>
17.30	Central auditory prostheses: challenges and potentials <i>Andrej Kral (Hannover, Germany)</i>
18.00	Cochlear neuroregeneration: myth or reality <i>Marcelo Rivolta (Sheffield, UK)</i>
18.30	Padua, cradle of modern medicine <i>Giorgio Zanchin (Padua, IT)</i>

Opening Ceremony of the 56th Inner Ear Biology Workshop

19.00	Welcome from the Rector <i>Magnificus Professor Rosario Rizzuto, University of Padova</i>
	Elena Lucrezia Cornaro Piscopia Award Ceremony <i>Helen Cornaro was a Venetian philosopher of noble descent, who in 1678 became one of the first women to receive an academic degree from a University, and the first to receive a Doctor of Philosophy degree. The degree was conferred on 25 June 1678 in the Padua Cathedral, in the presence of the University authorities.</i> <i>The Elena Lucrezia Cornaro Piscopia Awards honour outstanding women scientists from all over the world, whose studies are focused on Inner Ear Neurobiology and Developmental biology.</i>

Palazzo della Ragione, external arcade

20.00 Welcome Reception



DNS DIPARTIMENTO
DI NEUROSCIENZE

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7-10 SEPTEMBER 2019 - PADUA, ITALY

56th Inner Ear Biology Workshop

Fiera di Padova

Sunday 8 September 2019

07.30	Registration
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SESSION I

REGENERATION, STEM CELLS AND DEVELOPMENTAL BIOLOGY

Moderators: Leila Abbas, Anna Rita Fetoni

08.00	TARGET LECTURE Embryology of human inner ear <i>Marta Roccio (Bern, Switzerland)</i>
08.25 10.10	COMMUNICATIONS
08.25	Comprehensive analyses of gene expressions in the developing primate cochlea <i>Makoto Hosoya, Masato Fujioka, Kaoru Ogawa - Tokyo, Japan</i>
08.38	Wnt Signalling Regulates the Formation of Inner Ear Sensory Organs by Antagonizing Prosensory signals <i>Magdalena Zak, Vincent Plagnol, Nicolas Daudet - London, UK</i>
08.51	Proteostasis is essential during cochlear development for neuron survival and hair cell polarity Delacroix Laurence (Belgium) <i>Steve Freeman, Susana Mateo-Sanchez, Ronald Pouyo, Brigitte Malgrange, Laurence Delacroix - Liege, Belgium</i>
09.04	Frizzled3 and Frizzled6 Cooperate with Vangl2 to Direct Cochlear Innervation by Type II Spiral Ganglion Neurons <i>Michael Deans - Salt Lake City, United States</i>

09.17	Differential expression of transmembrane channel-like protein 1 (TMC1) during fetal development of the human inner ear <i>E.S.A. van Beelen, W.H. van der Valk, J.C.M.J. de Groot, H. Locher, P.P.G. van Benthem - Leiden, Netherlands</i>
09.30	Single-cell transcriptomics of chick auditory epithelial cells during hair cell regeneration <i>Takayuki Nakagawa, Mami Matsunaga, Tomoko Kita, Ryosuke Yamamoto, Hiroe Ohnishi, Norio Yamamoto, Koichi Omori, Satoko Sakamoto, Akira Watanabe - Kyoto, Japan</i>
09.43	Evidence of intrinsic multi-potent/stem cells in the mature porcine cochlea <i>Desmond Nunez, Printha Wijesinghe, Boyuan Zheng, Elizabeth Hui, Germain Ho - Vancouver, Canada</i>
09.56	How the computational methods can contribute to better knowledge of the ear <i>Fernanda Gentil, Marco Parente, Carla Santos, Bruno Areias, Jorge Belinha, Renato Natal Jorge - Porto, Portugal</i>

SESSION II

EAR PHYSIOLOGY AND AGING	
Moderators: <i>Ito Juichi, Fabio Mammano</i>	
10.10	TARGET LECTURE The voltage and frequency dependence of prestin nonlinear capacitance is time-dependent <i>Joseph Santos-Sacchi, Winston Tan - New Haven, United States</i>
10.30 13.00	COMMUNICATIONS
10.30	Emilin 2 promotes the stiffness and smooth mechanical gradient of the cochlear basilar membrane that is essential for fine, consistent, frequency resolution <i>Ian Russell⁽¹⁾, Victoria A. Lukashkina⁽¹⁾, Snezana Levic⁽¹⁾, Young-Wook Cho⁽²⁾, Lily Ng⁽²⁾, Douglas Forrest⁽²⁾, Andrei N. Lukashin⁽¹⁾ - Brighton, UK⁽¹⁾; Bethesda, Maryland, United States⁽²⁾</i>
10.43	Membrane traffic in the outer hair cell <i>Csaba Harasztosi, Anthony W. Gummer - Tübingen, Germany</i>
10.56	Correlation analysis of inner hair cell Ca²⁺ action potential activity and spontaneous Ca²⁺ signaling in non-sensory cells of the pre-hearing mouse cochlea <i>Federico Ceriani⁽¹⁾ - Stuart L. Johnson⁽¹⁾ - Aenea Hendry⁽¹⁾ - Bechara Kachar⁽²⁾ - Walter Marcotti⁽¹⁾ - Fabio Mammano⁽³⁾ - Sheffield, UK^(1, 2); Bethesda, MD, USA⁽²⁾ - Padova, Italy⁽³⁾</i>
11.09	Mechanical creep of the hair bundle is not correlated with Ca²⁺-dependent slow adaptation <i>Giusy Caprara, Andrew Mecca, Anthony Peng - Aurora, United States</i>
11.22	Age-related structural changes at auditory hair cell ribbon synapses: the role of cadherin23 and otoferlin <i>Didier Dulon - Bordeaux, France</i>

11.35	Second messengers regulate the sensitivity of cochlear hair cell mechanotransduction <i>Andrew Mecca, Anthony Peng - Aurora, United States</i>
11.48	Relevance of the presence of auditory nerve peripheral processes for the electrically evoked compound action potential <i>Dyan Ramekers, Henk Vink, Ferry Hendriksen, Huib Versnel - Utrecht, Netherlands</i>
12.01	G6PD overexpression protects from oxidative stress and ameliorates ARHL progression <i>Jose María Bermúdez Muñoz⁽¹⁾, Adelaida María Celaya⁽¹⁾; Sara Hijazo⁽¹⁾, Manuel Serrano⁽²⁾, Isabel Varela Nieto⁽¹⁾ - Madrid, Spain⁽¹⁾; Barcelona, Spain⁽²⁾</i>
12.14	Inflammatory cytokines as diagnostic predictors of age-related hearing loss: cross-sectional investigation from the Great Age Study <i>Rodolfo Sardone, Petronilla Battista, Rossella Donghia, Marcello Chieppa, Madia Lozupone, Vito Guerra, Fabio Castellana, Letizia Pesole, Valeria Passalacqua, Antonio Lippolis, Domenico Scrutinio, Ilaria Bortone, Gianluigi Giannelli, Francesco Panza, Giancarlo Logroscino, <u>Nicola Quaranta</u> - Bari, Italy</i>
12.27	Age-related differences in the auditory temporal processing at peripheral and central levels in Fischer 344 rats <i>Jiří Popelář⁽¹⁾, Kateryna Pysanenko⁽¹⁾, Zbyněk Bureš⁽²⁾, Daniel Šuta⁽¹⁾, Natalia Rybalko⁽¹⁾, Tzai-Wen Chiu⁽³⁾, Yohan Bouleau⁽⁴⁾, Didier Dulon⁽⁴⁾, Josef Syka⁽¹⁾ - Prague, Czech Republic⁽¹⁾; Jihlava, Czech Republic⁽²⁾; Hsinchu, Taiwan, Province of China⁽³⁾; Bordeaux, France⁽⁴⁾</i>
12.40	Hearing Loss in aging: does the shape of the audiogram predict perfusion changes in the primary auditory cortex? <i>Renzo Manara⁽¹⁾, Sara Ponticorvo⁽¹⁾, Davide Brotto⁽²⁾, Arianna Cappiello⁽¹⁾, Sofia Cuoco⁽¹⁾, Donato Troisi⁽¹⁾, Claudia Cassandro⁽¹⁾, Marta John⁽¹⁾, Alfonso Scarpa⁽¹⁾, Ettore Cassandro⁽¹⁾, Francesco Di Salle⁽¹⁾, Maria Teresa Pellicchia⁽¹⁾, Fabrizio Esposito⁽¹⁾ - Salerno, Italy⁽¹⁾; Padova, Italy⁽²⁾</i>

13.00 - 13.15 Group photo

13.15 - 14.00 Lunch time

SATELLITE SYMPOSIUM

BEYOND THE DEVICE: NEW THERAPEUTIC APPROACHES FOR HEARING LOSS	
14.00	Cochlear Implants: the future is now <i>Denise Goldman (UK)</i>
14.07	Understanding how drugs work in the cochlea – Pharmacokinetics studies <i>Manuel Manrique Rodriguez (Navarra, Spain)</i>
14.27	The journey from preclinical to the clinic <i>Jonas Dyhrfjelds-Johnsen (France)</i>
14.47	Conclusions <i>Denise Goldman (UK)</i>

SESSION III

COCHLEAR IMPLANT, IMPLANTABLE PROSTHESIS AND DRUG DELIVERY SYSTEMS	
Moderators: <i>Verena Scheper, Roberto Bovo</i>	
15.00	<p>TARGET LECTURE</p> <p>Delivery of drugs to the entire cochlea without breaking its boundaries <i>Andrei Lukashkin</i>⁽¹⁾, <i>Ildar Sadreev</i>⁽²⁾, <i>Natalia Zakharova</i>⁽³⁾, <i>Yury Yarin</i>⁽⁴⁾, <i>Ian Russell</i>⁽¹⁾ - Brighton, UK⁽¹⁾; Bristol, UK⁽²⁾; Uckfield, UK⁽³⁾; Dresden, Germany⁽⁴⁾</p>
15.20 17.20	COMMUNICATIONS
15.20	<p>Hearing preservation at low frequencies by insulin-like growth factor 1 in a guinea pig model of cochlear implantation <i>Norio Yamamoto</i>⁽¹⁾, <i>Kohei Yamahara</i>⁽¹⁾, <i>Koji Nishimura</i>⁽¹⁾, <i>Hideaki Ogita</i>⁽²⁾, <i>Juichi Ito</i>⁽²⁾, <i>Takayuki Nakagawa</i>⁽¹⁾, <i>Ichiro Furuta</i>⁽¹⁾, <i>Tomoko Kita</i>⁽¹⁾, <i>Koichih Omori</i>⁽¹⁾ - Kyoto, Japan⁽¹⁾; MoriYama, Japan⁽²⁾</p>
15.33	<p>Advances in piezoelectric nanomaterials for cochlear stimulation <i>Serena Danti</i>⁽¹⁾, <i>Delfo D'Alessandro</i>⁽¹⁾, <i>Bahareh Azimi</i>⁽¹⁾, <i>Marco Onorati</i>⁽¹⁾, <i>Luisa Trombi</i>⁽¹⁾, <i>Laura Astolfi</i>⁽²⁾, <i>Alessando Martini</i>⁽²⁾, <i>Stefano Berrettini</i>⁽¹⁾ - Pisa, Italy⁽¹⁾; Padova, Italy⁽²⁾</p>
15.46	<p>Hearing preservation of adult cochlear implant users with Partial Deafness – one year follow up after using steroids therapy <i>Magdalena B. Skarzynska</i>⁽¹⁾, <i>Piotr H. Skarzynski</i>⁽²⁾, <i>Bartlomiej Krol</i>⁽²⁾, <i>Elzbieta Gos</i>⁽²⁾, <i>Kamila Kordowska</i>⁽²⁾, <i>Monika Boruta</i>⁽²⁾ - Henryk Skarzynski⁽²⁾ - Kajetany, Poland⁽¹⁾ - Warsaw/Kajetany, Poland⁽²⁾</p>
15.59	<p>Surgical feasibility of localized therapeutic hypothermia application for preservation of residual hearing in cochlear implantation <i>Andrea Viziano</i>⁽¹⁾, <i>Enrique Perez</i>⁽²⁾, <i>Zaid Al-Zaghal</i>⁽²⁾, <i>Fred F. Telischi</i>⁽²⁾, <i>Rachele Sangaletti</i>⁽²⁾, <i>Weitao Jiang</i>⁽²⁾, <i>W. Dalton Dietrich</i>⁽²⁾, <i>Curtis King</i>⁽³⁾, <i>Michael Hoffer</i>⁽²⁾, <i>Suhrud Rajguru</i>⁽²⁾ - Rome, Italy⁽¹⁾; Miami, FL, United States⁽²⁾; Seattle, WA, United States⁽³⁾</p>
16.12	<p>Cochlear implant perspective in congenital single side deafness: a temporal bone study <i>Eva Orzan</i>, <i>Giulia Pizzamiglio</i>, <i>Paola Staffa</i>, <i>Raffaella Marchi</i>, <i>Sara Ghiselli</i>, <i>Flora Maria Murru</i>, <i>Enrico Muzzi</i>, <i>Lucio Torelli</i>, <i>Massimo Gregori</i> - Trieste, Italy</p>
16.25	<p>Accelerated osteointegration of the titanium-implant coated with biocomponents, collagen/hydroxyapatite/bone morphogenetic protein-2, for bone-anchored hearing aid <i>ChulHo Jang</i>⁽¹⁾, <i>HyungJin Lee</i>⁽²⁾, <i>GeunHyung Kim</i>⁽³⁾ - Gwangju, Republic of Korea⁽¹⁾ - Winston-Salem, United States⁽²⁾ - Suwon, Republic of Korea⁽³⁾</p>
16.38	<p>Outcomes after application of active bone conducting implants <i>Eleonor Koro</i>^(1,2), <i>Mimmi Werner</i>^(1,2) - Umeå, Sweden⁽¹⁾; Örnköldsvik, Sweden⁽²⁾</p>
16.51	<p>Sustained N-acetylcysteine delivery to the inner ear by poloxamer 407 hydrogels in a guinea pig model <i>Christoph Arnoldner</i>, <i>Julia Clara Gausterer</i>, <i>Nodir Saidov</i>, <i>Navid Ahmadi</i>, <i>Chengjing Zhu</i>, <i>Michael Wirth</i>, <i>Gottfried Reznicek</i>, <i>Franz Gabor</i>, <i>Clemens Honeder</i> - Vienna, Austria</p>

POSTER SESSION

17.15 – 20.00

Poster viewing and discussion - Wine & Cheese

20.00 End of daily sessions

Monday 9 September 2019

07.30	Registration
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SESSION IV**GENETICS OF DEAFNESS AND GENE THERAPY**Moderators: *Helena Caria, Giorgia Girotto*

08.00	<p>TARGET LECTURE</p> <p>Mutations in PLS1 cause autosomal dominant non-syndromic hearing loss in three families of European ancestry</p> <p><i>Anna Morgan</i>⁽¹⁾, <i>Daniel C. Koboldt</i>⁽²⁾, <i>Elizabeth S. Barrie</i>⁽²⁾, <i>Erin R. Crist</i>⁽²⁾, <i>Gema García García</i>⁽³⁾, <i>Massimo Mezzavilla</i>⁽¹⁾, <i>Flavio Faletra</i>⁽¹⁾, <i>Theresa Mihalic Mosher</i>⁽²⁾, <i>Richard K. Wilson</i>⁽²⁾, <i>Catherine Blanchet</i>⁽³⁾, <i>Kandamurugu Manickam</i>⁽²⁾, <i>Anne-Francoise Roux</i>⁽³⁾, <i>Paolo Gasparini</i>⁽¹⁾, <i>Daniele Dell’Orco</i>⁽⁴⁾, <i>Giorgia Girotto</i>⁽¹⁾ - Trieste, Italy⁽¹⁾; Columbus, Ohio, United States⁽²⁾; Montpellier, France⁽³⁾; Verona, Italy⁽⁴⁾</p>
08.20 10.30	<p>COMMUNICATIONS</p>
08.20	<p>Gene Therapy of Usher Syndrome Type IC</p> <p><i>Gwenaelle Geleoc</i>⁽¹⁾, <i>Carl Nist-Lund</i>⁽¹⁾, <i>Charles Askew</i>⁽²⁾, <i>Christopher Tran</i>⁽³⁾, <i>Alice Galvin</i>⁽¹⁾, <i>Abhilash Ponnath</i>⁽³⁾, <i>Selena Heman-Ackah</i>⁽¹⁾, <i>Yukako Asai</i>⁽¹⁾, <i>Artur Indzykulian</i>⁽¹⁾, <i>Francine Jodelka</i>⁽⁴⁾, <i>Michelle Hasting</i>⁽⁴⁾, <i>Hamilton Farris</i>⁽³⁾, <i>Frank Rigo</i>⁽⁵⁾, <i>Jeffrey Holt</i>⁽¹⁾, <i>Jennifer Lentz</i>⁽³⁾ - Boston, United States⁽¹⁾; Chapel Hill, United States⁽²⁾; New Orleans, United States⁽³⁾; Chicago, United States⁽⁴⁾; Carlsbad, United States⁽⁵⁾</p>
08.33	<p>A rationally designed adeno-associated viral vector enables safe and efficient gene transfer to supporting cells in the mouse cochlea</p> <p><i>Renjie Chai</i> - Nanjing, China</p>
08.46	<p>The distinct functions of TRIOBP-5: sculpting stereocilia rootlets and stiffening supporting cells</p> <p><i>Shin-ichiro Kitajiri</i>⁽¹⁾, <i>Tatsuya Katsuno</i>⁽²⁾, <i>Inna Belyantseva</i>⁽³⁾, <i>Alexander Cartagena-Rivera</i>⁽³⁾, <i>Keisuke Ohta</i>⁽⁴⁾, <i>Shawn Crump</i>⁽⁵⁾, <i>Ronald Petralia</i>⁽³⁾, <i>Kazuya Ono</i>⁽²⁾, <i>Risa Tona</i>⁽³⁾, <i>Ayesha Imtiaz</i>⁽³⁾, <i>Atteeq Rehman</i>⁽³⁾, <i>Hiroshi Kiyonari</i>⁽⁶⁾, <i>Mari Kaneko</i>⁽⁶⁾, <i>Ya-Xian Wang</i>⁽³⁾, <i>Takaya Abe</i>⁽⁶⁾, <i>Makoto Ikeya</i>⁽²⁾, <i>Cristina Fenollar-Ferrer</i>⁽³⁾, <i>Gavin Riordan</i>⁽³⁾, <i>Elisabeth Wilson</i>⁽³⁾, <i>Tracy Fitzgerald</i>⁽³⁾, <i>Kohei Segawa</i>⁽²⁾, <i>Koichi Omori</i>⁽²⁾, <i>Juichi Ito</i>⁽²⁾, <i>Gregory Frolenkov</i>⁽⁵⁾, <i>Thomas Friedman</i>⁽³⁾ -</p>

	<i>Matsumoto, Japan</i> ⁽¹⁾ - <i>Kyoto, Japan</i> ⁽²⁾ - <i>Bethesda, United States</i> ⁽³⁾ - <i>Kurume, Japan</i> ⁽⁴⁾ - <i>Lexington, United States</i> ⁽⁵⁾ - <i>Kobe, Japan</i> ⁽⁶⁾
08.59	Disruption of CLRN2, a gene encoding clarin-2, causes autosomal recessive hearing loss in humans and zebrafish <i>Barbara Vona</i> ⁽¹⁾ , <i>Neda Mazaheri</i> ⁽²⁾ , <i>Reza Maroofian</i> ⁽³⁾ , <i>Hela Azaiez</i> ⁽⁴⁾ , <i>Kevin T. Booth</i> ⁽⁴⁾ , <i>Kate Clancy</i> ⁽⁵⁾ , <i>Gholamreza Shariati</i> ⁽²⁾ , <i>Alireza Sedaghat</i> ⁽²⁾ , <i>Ruben Stepanyan</i> ⁽⁵⁾ , <i>Richard J. H. Smith</i> ⁽⁴⁾ , <i>Thomas Haaf</i> ⁽⁶⁾ , <i>Hamid Galehdari</i> ⁽²⁾ , <i>Kumar N. Alagramam</i> ⁽⁵⁾ , <i>Suhasini R. Gopal</i> ⁽⁵⁾ - <i>Tuebingen, Germany</i> ⁽¹⁾ ; <i>Ahvaz, Iran (Islamic Republic of)</i> ⁽²⁾ ; <i>London, United Kingdom</i> ⁽³⁾ ; <i>Iowa City, United States</i> ⁽⁴⁾ ; <i>Cleveland, United States</i> ⁽⁵⁾ ; <i>Wuerzburg, Germany</i> ⁽⁶⁾
09.12	Disease modelling and drug screening for GJB2 related hearing loss with iPS cells <i>Kazusaku Kamiya</i> , <i>Ichiro Fukunaga</i> , <i>Shori Tajima</i> , <i>Keiko Kanayama</i> , <i>Yoko Oe</i> , <i>Cheng Chen</i> , <i>Sayaka Ohta</i> , <i>Osamu Minowa</i> , <i>Katsuhisa Ikeda</i> - <i>Tokyo, Japan</i>
09.25	Dominant deafness due to a point mutation in TMC1 <i>Robert Fettiplace</i> , <i>Maryline Beurg</i> , <i>Amanda Barlow</i> - <i>Madison, United States</i>
09.38	Synaptic Changes in Cochlear Hair cells of Tmc Mutant Mice <i>John Lee</i> ⁽¹⁾ , <i>Jeffrey Holt</i> ⁽²⁾ <i>Gwenaëlle Géléoc</i> ⁽²⁾ - <i>Cambridge, United States</i> ⁽¹⁾ ; <i>Boston, United States</i> ⁽²⁾
09.51	Whole exome sequencing in Slovak patients with bilateral sensorineural hearing impairment <i>Zuzana Slobodova</i> , <i>Lukas Varga</i> , <i>Lucia Demesova</i> , <i>Ivica Masindova</i> , <i>Daniel Danis</i> , <i>Lenka Langova</i> , <i>Milan Profant</i> , <i>Daniela Gasperikova</i> - <i>Bratislava, Slovak Republic</i>
10.04	Characterization of the genetic bases of hearing loss in an Italian cohort <i>Federica Cesca</i> ⁽¹⁾ , <i>Elisa Bettella</i> ⁽¹⁾ , <i>Roberta Polli</i> ⁽¹⁾ - <i>Emanuela Leonardi</i> ⁽¹⁾ , <i>Maria Cristina Aspromonte</i> ⁽¹⁾ , <i>Mariagrazia Bellini</i> ⁽¹⁾ , <i>Stefania Bigoni</i> ⁽²⁾ , <i>Alberto Sensi</i> ⁽³⁾ , <i>Pietro Scimemi</i> ⁽¹⁾ , <i>Rosamaria Santarelli</i> ⁽¹⁾ , <i>Alessandra Murgia</i> ⁽¹⁾ - <i>Padova, Italy</i> ⁽¹⁾ - <i>Ferrara, Italy</i> ⁽²⁾ - <i>Cesena, Italy</i> ⁽³⁾
10.17	Enrichment of rare missense variants in OTOG gene in Familial Meniere disease <i>Pablo Román-Naranjo</i> ⁽¹⁾ - <i>Maria del Carmen Moleon</i> ⁽¹⁾ - <i>Alvaro Gallego-Martinez</i> ⁽¹⁾ - <i>Andrés Soto-Varela</i> ⁽²⁾ - <i>Juan Carlos Amor-Dorado</i> ⁽³⁾ - <i>Ángel Batuecas-Caletrio</i> ⁽⁴⁾ - <i>Ismael Aran</i> ⁽⁵⁾ - <i>Paz Perez-Payo</i> ⁽⁶⁾ - <i>Jose Antonio Lopez-Escamez</i> ⁽¹⁾ - <i>Granada, Spain</i> ⁽¹⁾ ; <i>Santiago de Compostela, Spain</i> ⁽²⁾ ; <i>Ibiza, Spain</i> ⁽³⁾ ; <i>Salamanca, Spain</i> ⁽⁴⁾ ; <i>Pontevedra, Spain</i> ⁽⁵⁾ ; <i>Oviedo, Spain</i> ⁽⁶⁾

SESSION V

NOISE INDUCED HEARING LOSS, OTOTOXICITY AND OTOPROTECTION	
Moderators: <i>Anthony W. Gummer</i> , <i>Laura Astolfi</i>	
10.40	TARGET LECTURE Implications of compound screens for protection of mammalian hair cells from aminoglycoside ototoxicity <i>Allen F Ryan</i> , <i>Kwang Pak</i> , <i>Taylor Wyrick</i> , <i>Clara Draf</i> , <i>Arwa Kurabi</i> - <i>La Jolla, United States</i>
11.00 13.30	COMMUNICATIONS

11.00	<p>MicroRNA Expression Changes in the Cochlear Nucleus and Inferior Colliculus after Noise-Induced Hearing Loss <i>Sohyeon Park, Myung-Whan Suh, Jun Ho Lee, Seung Ha Oh, Moo Kyun Park - Seoul, Republic of Korea</i></p>
11.13	<p>Glucose supplementation and prevention of noise-induced hearing loss <i>Hao Xiong - Guangzhou, China</i></p>
11.26	<p>Targeting cellular defensive response and inflammation in cancer cells and cisplatin-induced ototoxicity <i>Anna Rita Fetoni, Fabiola Paciello, Rolando Rolesi, Diana Troiani, Gaetano Paludetti - Rome, Italy</i></p>
11.39	<p>Entry rate of gentamicin through the MET channels of outer hair cells varies with position along the cochlea <i>Virginia Mahieu ⁽¹⁾, Peter Steyger ⁽²⁾, Corne Kros ⁽¹⁾ - Brighton, United Kingdom ⁽¹⁾; Omaha, United States ⁽²⁾</i></p>
11.52	<p>Prevention of the cisplatin cytotoxicity in an inner ear in vitro model <i>Erica Gentilin ⁽¹⁾, Mariarita Candito ⁽¹⁾, Edi Simoni ⁽¹⁾, Serena Danti ⁽²⁾, Alessandro Martini ⁽¹⁾, Laura Astolfi ⁽¹⁾ - Padua, Italy ⁽¹⁾; Pisa, Italy ⁽²⁾</i></p>
12.05	<p>3R mouse model for cisplatin ototoxicity studies: platinum correlation with deafness <i>German Nacher-Soler, Francis Rousset, Marta Coelho, Karl-Heinz Krause, Pascal Senn - Genève, Switzerland</i></p>
12.18	<p>Inhibition of the adenosine A2A receptor mitigates excitotoxic injury in organotypic tissue cultures of the rat cochlea <i>Srdjan Vlajkovic, Belinda Han, Shelly Lin, Kristan Espinosa, Peter Thorne - Auckland, New Zealand</i></p>
12.32	<p>Opioid modulation of cochlear auditory responses in the rat inner ear <i>Enrique Soto, Teresa Ramirez, Rosario Vega - Puebla, Mexico</i></p>
12.45	<p>A665-conjugated Acetylcysteine target prestin of outer hair cells with peptide hydrogel delivery preventing cisplatin-induced hearing loss <i>Jiaqi Pang, Hao Xiong, Xiaoding Xu, Yiqing Zheng - Guangzhou, China</i></p>
12.58	<p>Loss of function mutation in the NADPH oxidase subunit p22phox prevents early onset hearing loss <i>Francis Rousset, German Nacher Soler, Marta Coelho, Sten Ilmarv, Antoine Marteyn, Vivianne Kokje, Karl-Heinz Krause, Pascal Senn - Geneva, Switzerland</i></p>
13.11	<p>Head-to-head comparison of different classes of otoprotectants against cisplatin-induced hearing loss in clinically relevant ex vivo models of hair cell, SGN and stria vascularis damage <i>Bonnie Jacques, Pranav Mathur, Phillip Uribe, Anne Harrop-Jones, Stephanie Szobota, Sairey Siegel, Kathie Bishop, Fabrice Piu, Alan Foster - San Diego, United States</i></p>

Tuesday 10 September 2019

07.30	Registration
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SESSION VI

PHYSIOPATHOLOGY OF AUDITORY PATHWAYS AND INNER EAR IMMUNOLOGY

Moderators: *Marlies Knipper, Rosamaria Santarelli*

08.00	<p>TARGET LECTURE</p> <p>Presence and characterization of cochlear mast cells <i>Agnieszka Szczepek, Heidi Olze, Alina Smorodchenko - Berlin, Germany</i></p>
08.20 10.20	<p>Oral communications</p>
08.20	<p>Brain-derived neurotrophic factor in auditory brainstem controls central learning mechanisms and social behavior <i>Philipp Eckert⁽¹⁾ - Philine Marchetta⁽¹⁾ - Michael Walter⁽²⁾ - Marie Manthey⁽³⁾ - Wibke Singer⁽¹⁾ - Michele Jacob⁽³⁾ - Lukas Rüttiger⁽¹⁾ - Thomas Schimmang⁽⁴⁾ - Peter Pilz⁽²⁾ - Marlies Knipper⁽¹⁾ - Tuebingen, Germany⁽¹⁾; Tuebingen, Germany⁽²⁾; Boston, United States⁽³⁾; Valladolid, Spain⁽⁴⁾</i></p>
08.33	<p>Neural correlates of fine structure and temporal envelope in the human auditory nerve <i>Xavier Dubernard⁽¹⁾ - Frederic Venail⁽¹⁾ - Jean-Charles Kleiber⁽²⁾ - Arnaud Bazin⁽²⁾ - André Chays⁽²⁾ - Jean-Luc Puel⁽¹⁾ - Jérôme Bourien⁽¹⁾ - Montpellier, France⁽¹⁾; Reims, France⁽²⁾</i></p>
08.46	<p>The development and subpopulation of tissue-resident macrophages in the mouse cochlea. <i>Ippei Kishimoto, Takayuki Okano, Koichi Omori - Kyoto, Japan</i></p>
08.59	<p>Decoding the auditory nerve and measuring the effect on speech-in-noise intelligibility of each known sensorineural pathology in the auditory periphery <i>Jacques Grange, John Culling - Cardiff, UK</i></p>
09.12	<p>Vascular associations in the choroid plexus: do they matter for the auditory system? <i>Paola Perin, Victoria Barcio, Simone D'Onofrio, Stefano Scarpa, Roberto Pizzala - Pavia, Italy</i></p>
09.25	<p>Absence of STAT1 predisposes mice to otitis-related hearing loss <i>Soledad Levano⁽¹⁾, Peter Kern⁽¹⁾, Ana Bento⁽¹⁾, David Bächinger⁽²⁾, Arianne Monge Naldi⁽²⁾, Daniel Bodmer⁽¹⁾ - Basel, Switzerland⁽¹⁾; Zurich, Switzerland⁽²⁾</i></p>
09.38	<p>Cell-free biological drug for the inner ear: Extracellular vesicles derived from mesenchymal stromal cells support the survival of spiral ganglion neurons <i>Jennifer Schulze⁽¹⁾, Athanasia Warnecke⁽¹⁾, Thomas Lenarz⁽¹⁾, Eva Rohde⁽²⁾, Julia Hollerweger⁽²⁾, Teresa Lassacher⁽²⁾, Mario Gimona⁽²⁾ - Hannover, Germany⁽¹⁾; Salzburg, Austria⁽²⁾</i></p>
09.51	<p>Stress receptors in higher frontal brain regions influence auditory nerve function and auditory brainstem responses <i>Philine Marchetta, Philipp Eckert, Lukas Rüttiger, Wibke Singer, Marlies Knipper - Tübingen, Germany</i></p>
10.04	<p>The acoustic challenge in school age children with mild hearing loss <i>Claudia Cassandro, Giulia Aschero, Valeria Landi, Silvano Lovallo, Alessandra Manassero, Diego Sammarco, Irene Vernerio, Roberto Albera - Turin, Italy</i></p>

SESSION VII

TINNITUS AND VESTIBULAR DISORDERS	
<i>Moderators: Jose Antonio Lopez-Escamez, Cosimo De Filippis</i>	
	TARGET LECTURE
10.25	Stem Cell Therapy and Gene Therapy for Sensorineural hearing loss, Tinnitus, and Neurodegeneration: Present and Future <i>Tai June Yoo - Honolulu, Hawaii USA; Seoul, Republic of Korea; Memphis, Tennessee, USA</i>
10.50 13.30	Oral communications
10.50	Identification of functional biomarkers of tinnitus and tinnitus/hyperacusis in patients <i>Benedikt Hofmeier, Marlies Knipper, Lukas Rüttiger, Uwe Klose, Stephan Wolpert - Tübingen, Germany</i>
11.03	Psychiatric comorbidity in patients with tinnitus or auditory hallucination and sound therapy <i>Kensuke Kiyomizu, Takeshi Nakamura, Tetsuya Tono, Kensei Yoshida, Yasushi Ishida - Miyazaki, Japan</i>
11.16	Subclinical cochlear dysfunction in newly diagnosed relapsing- remitting multiple sclerosis <i>Massimo Ralli⁽¹⁾, Marco de Vincentiis⁽¹⁾, Arianna Di Stadio⁽²⁾, Stefano Di Girolamo⁽¹⁾, Maria Albanese⁽¹⁾ - Roma, Italy⁽¹⁾ - Perugia, Italy⁽²⁾</i>
11.29	Prognostic Factors for Recovery of Symptoms in Acute Vestibular Neuritis <i>Jung-Yup Lee, Sun O Chang, Min-Beom Kim - Seoul, Korea, Republic of Korea</i>
11.42	The proteome of the perilymph in relation to hearing loss in patients with vestibular schwannoma <i>Jesper Edvardsson Rasmussen, Per Olof Eriksson, Jonas Bergquist, Göran Laurell - Uppsala, Sweden</i>
11.55	Pharmacological Ablation of Vestibular Hair Cells or Ganglion Neurons to Generate a Model of Unilateral Vestibular Dysfunction <i>Koji Nishimura⁽¹⁾, Akiyoshi Yasumoto⁽¹⁾, Steven Meas⁽²⁾, Hideaki Ogita⁽³⁾, Akiko Taura⁽⁴⁾, Juichi Ito⁽³⁾, Koichi Omori⁽¹⁾ - Kyoto, Japan⁽¹⁾; Toronto, Canada⁽²⁾; Moriyama, Japan⁽³⁾; Ibaraki, Japan⁽⁴⁾</i>
12.08	Ionic direct current stimulation results in spike-rate adaptation in vestibular afferents of the mouse crista in vitro <i>Marco Manca, Elisabeth Glowatzki, Dale Roberts, Gene Yevgeny Fridman, Felix Peter Aplin - Baltimore, United States</i>
12.21	Inefficient cranial venous outflow and increased CSF pulsatility in the Aqueduct of Sylvius in patients with Meniere's disease <i>Christian Contarino⁽¹⁾, Giuseppe Nicolò Frau⁽²⁾, Sabino Walter Della Sala⁽²⁾, Eleuterio F. Toro⁽³⁾ - Delaware, United States⁽¹⁾; Rovereto, Italy⁽²⁾; Trento, Italy⁽³⁾</i>
12.34	Biomarkers for the differential diagnosis of Vestibular Migraine and Meniere Disease <i>Marisa Flook⁽¹⁾ - Lidia Frejo⁽²⁾ - Alvaro Gallego-Martinez⁽¹⁾ - Eduardo Martin-Sanz⁽³⁾ - Marcos Rossi-Izquierdo⁽⁴⁾ - Juan Carlos Amor-Dorado⁽⁵⁾ - Andres Soto-Varela⁽⁶⁾ - Sofia Santos-Perez⁽⁶⁾ - Angel Batuecas-Caletrio⁽⁷⁾ - Juan Manuel Espinosa-Sanchez⁽¹⁾ - Patricia Perez-Carpena⁽¹⁾ - Marta Martinez-Martinez⁽¹⁾ - Jose Antonio Lopez-Escamez⁽¹⁾ - Granada, Spain⁽¹⁾; New York, United States⁽²⁾; Getafe, Spain⁽³⁾; Lugo, Spain⁽⁴⁾; Ibiza, Spain⁽⁵⁾; Santiago de Compostela, Spain⁽⁶⁾; Salamanca, Spain⁽⁷⁾</i>

12.47	<p>Electrocochleography finding in meniere disease after active pressure treatment <i>Edoardo Covelli, Maurizio Barbara, Simonetta Monini, Silvia Tarentini - Roma, Italy</i></p>
13.00	<p>Anatomical, biochemical and behavioural characterization of a mouse model for Meniere's Disease <i>Anna Lysakowski ⁽¹⁾, Maria Teresa Requena ⁽²⁾, Jacob Kulaga ⁽¹⁾, Joseph Lesus ⁽¹⁾, Jose Antonio Lopez Escamez ⁽³⁾ - Chicago, United States ⁽¹⁾ - Edinburgh, UK ⁽²⁾ - Granada, Spain ⁽³⁾</i></p>
13.13	<p>Metabolomics in Meniere's disease: redox modulation by nutritional approaches with mushrooms <i>Maria Concetta Scuto, Angela Trovato Salinaro, Gabriele Di Rosa, Vittorio Calabrese, Luigi Maiolino - Catania, Italy</i></p>

12.00-13.00 **IEB Business Meeting and Closing**