Detailed program, July, 2-4th

THURSDAY – July, 2nd	
08.00-08.15	**Opening remarks**
08.15-08.35	**Memorial lecture – John Rosowski on Saumil Merchant**
08.45-09.30	**Keynote 1. Dorte Hammershøi, Aalborg, Denmark** (45 min). Sound transmission to and within the human ear canal and its significance for localization. **Moderator: Michael Gaihede**
09.30-10.15	**Coffee break – Poster**
10.15-12.15	**Session A1 (8) – ME Active Implants (I)** **Moderator: Hannes Maier & Stefan Plontke** **10.15.** Development of 3-Coil Bellows Type Middle Ear Transducer for Round Window Stimulation. **Dong Ho Shin, Daegu, Korea**. **10.30.** Can stapes velocity be used to estimate the efficacy of mechanical stimulation of the round window of the cochlea with an active middle ear prosthesis? **Daniel J Tollin, Aurora, Co, USA**. **10.45.** A method to characterize the output of active middle ear implants in temporal bone experiments using a commercial pressure sensor. **Martin Grossöhmichen, Hannover, Germany**. **11.00.** A novel air-filled middle-ear implant for non-aerated ears: Progress report. **Michael E. Ravicz, Boston, Ma, USA**. **11.15.** A preliminary study of acoustic stimulation at the lateral canal; **Nicolas Verhaert, Leuven, Belgium**. **11.30.** Active middle-ear implant fixation in incus vibroplasty. **Sebastian Schraven, Würzburg, Germany**. **11.45.** Comparison of alternative coupling methods of the Vibrant Soundbridge FMT. **Susan Busch, Hannover, Germany**. **12.00.** Effects of loads and coupling techniques on the efficiency of the backward stimulation of the cochlea with the floating mass transducer. **Antoniu Gostian, Cologne, Germany**.
12.15-13.15	**Lunch break – Poster**
13.15-14.00	**Keynote 2. W Robert J Funnell, Montreal, Canada** (45 min). Finite-element modelling of the middle ear. **Moderator: Joris Dirckx**

14.00-15.00	**Session A2 – ME Biomechanics (4)** **Moderator: Kiyofumi Gyo and John Rosowski** **14.00.** Experimental investigation of the spatial motion of malleus and incus for sound induced vibrations. **Albrecht Eiber, Stuttgart, Germany**. **14.15.** Measurement of elastic properties of the stapes annular ligament using AFM technique. **Marcin Michalowski, Warsaw, Poland**. **14.30.** Biomechanics of the Incudo-Malleolar Joint – Numerical and Experimental Investigations for Quasi-Static Loads. **Sebastian Ihrle, Stuttgart, Germany**; **14.45.** A single-ossicle ear: acoustic response and mechanical properties measured in duck. **Pieter GG Muyshondt, Antwerp, Belgium**.
15.00-15.30	**Coffee break – Poster**
15.30-17.30	**Session A3 – ME Biomechanics (continued) (8)** **Moderator: Hideko Heidi Nakajima and Marcus Neudert** **15.30.** Superior Semicircular Canal Dehiscence (SSCD): temporal bone experiments and clinical symptoms. **Karl-Bernd Hüttenbrink, Köln, Germany.** **15.45.** Motion of Tympanic Membrane in Guinea Pig Otitis Media Model Investigated by Scanning Laser Vibrometry and Finite Element Modeling. **Xuelin Wang, Norman, OK, USA**. **16.00.** Mechanical Damage of Tympanic Membrane in Relation to Impulse Pressure Waveform – A Study in Chinchillas. **Rong Z Gan, Norman, OK, USA**. **16.15.** Motion of Tympanic Membrane Surface Produced by Reverse Mechanical Stimulation. **Jeffrey Tao Cheng, Boston, MA, USA**. **16.30.** On the connection between the eardrum and the malleus: a detailed study through micro-CT and histology. **Daniel De Greef, Antwerp, Belgium**. **16.45.** Response of the human tympanic membrane to transient acoustic and mechanical stimuli. **Michael Ravicz, Boston, MA, USA**. **17.00.** Sound transmission via the malleus-incus complex. **Ivo Dobrev, Zürich, Switzerland**. **17.15.** The impact of a cochlear implant electrode array on middle ear transfer function. **Dirk Beutner, Cologne, Germany**.
17.30	Adjourn

FRIDAY – July, 3rd	
08.00-08.45	**Keynote 3. Prof. Evert Hamans, Antwerp, Belgium** (45 min). The clinical consequences of interaural attenuation. **Moderator: Joris Dirckx**
08.45-10.15	**Session B1 – Computational Models (6)** **Moderator: Michael McKenna and Thomas Zahnert** **08.45.** Testing the effects of variations in human tympano-ossicular chain geometry and material properties on middle-ear sound transmission using 3D finite-element models. **Charles Steele, Stanford, CA, USA**. **09.00.** Modelling of cochlear hydrodynamics before and after stapedotomy using new FSI model. **Konrad Kamieniecki, Warsaw, Poland**. **09.15.** On the influence of anatomical variations on METF - theoretical investigations using a finite element model. **Steffen Oßmann, Dresden, Germany**. **09.30.** Precision of ossicular motion reconstructed from 1D and 3D-LDV measurements. **Pascal Ziegler, Stuttgart, Germany**. **09.45.** Statistical shape modeling of the incudomalleolar complex using micro-CT and clinical cone-beam CT. **Joris AM Soons, Antwerp, Germany**. **10.00.** Virtual reality in ear surgery 2015 and beyond. **Mads Sølvsten Sørensen, Copenhagen, Denmark**.
10.15-10.45	**Coffee break – Poster**
10.45-12.45	**Session B2 – ME Active Implants (II) (8)** **Moderator: Michael E Ravicz and Dirk Beutner** **10.45.** Efficiency of the Codacs™ Actuator in Alternative Stimulation Applications of the Stapes. **Hannes Maier, Hannover, Germany**. **11.00.** Electroacoustical model of floating-mass transducer stimulation of the middle ear. **Ernst Dalhoff, Tübingen, Germany**. **11.15.** Evaluation of coupling conditions of an active middle ear implant (Vibrant Soundbridge) using Laser-Doppler Vibrometry in vivo. **Frank Böhnke, Munich, Germany**. **11.30.** Fully implantable hearing aid in the incudostapedial joint gap. **Martin Koch, Dresden, Germany**. **11.45.** Importance of Controlled Static Contact Force in Mechanical Round Window Stimulation. **Rolf Salcher, Hannover, Germany**.

	12.00. Mechanical stimulation of the umbo using a light-activated contact hearing device: Maximum equivalent pressure output and maximum stable gain measurements in temporal bones and model calculations. **Sunil Puria, Stanford, CA, USA**. **12.15.** Stapes velocities and intracochlear pressures for two modes of direct mechanical stimulation. **James R Easter, Boulder, CO, USA**. **12.30.** Comparison of Audiological Results of the Bonebridge to a Percutaneous Device. **Thomas Giere, Hannover, Germany**.
12.45-13.45	**Lunch break – Poster**
	Meeting of the Scientific Committee *(room will be announced)*
13.45-14.30	**Keynote 4. Prof. Bernard Ars, Bruxelles, Belgium** (45 min) Middle Ear Cleft Pressure Regulation. Morphological and Physiological Aspects. **Moderator: Michael Gaihede**
14.30-15.15	**Session B3 – Diagnostics (3)** **Moderator: Rong Z Gan and Dan D Hougaard** **14.30.** Aural acoustic wideband measurements in infants of ambient and tympanometric reflectance and equivalent admittance. **Douglas H. Keefe, Omaha, NE, USA**. **14.45.** Creating borderline situations in middle ear surgery: is there a value of virtual tympanotomy? **Christian Offergeld, Freiburg, Germany**. **15.00.** Effects of static negative middle ear pressure on wideband acoustic immittance. **Jont Allen, Urbana, IL, USA**.
15.15-15.45	**Coffee break – Poster**
15.45-17.15	**Session B4 – Bone Conduction (6)** **Moderator: Alex Huber and Hanif Ladak** **15.45.** Model predictions of bone conduction hearing in the human. **Stefan Stenfelt, Linköping, Sweeden.** **16.00.** Bone conduction: what contributes to Carhart's notch? **Hideko Heidi Nakajima, Boston, MA, USA.** **16.15.** Bonebridge® implant in adults and children: computer assisted 3D planning and audiological outcome. **Stefan Plontke, Halle, Germany.** **16.30.** BAHA Attract – first Nordic results on a new transcutaneous bone conduction hearing solution. **Dan D Hougaard, Aalborg, Denmark.** **16.45.** Application of bone conduction implants Med-El Bonebridge in adult patients with congenital or acquired hearing loss – first experience. **Maciej Mrowka, Warsaw, Poland.**

	<u>17.00.</u> Intracranial sound pressure during BC stimulation. **Christof Röösli, Zürich, Switzerland.**
17.15-18.30	**Workshop – The ME transfer function – Refreshments incorporated** **Moderator: Matthias Bornitz and Hiroshi Wada**
18.30	Adjourn – Guided City Walk (optional – preregistration needed)

SATURDAY – July, 4th	
08.00-08.45	**Keynote 5. Abigail Tucker, London, Great Britain** (45 min) A developmental biology approach to understanding the middle ear. **Moderator: Michael Gaihede**
08.45-09.45	**Session C1 – Evolution, Development, and Imaging (4)** **<u>Moderator: Anthony Gummer and Mads S Sørensen</u>** **<u>08.45.</u>** Changes in dynamic characteristics of the external ear canal wall during the first 3 months of life. **Michio Murakoshi, Kagoshima, Japan**. **<u>09.00.</u>** Evolution of modern human middle ear ossicles – Evidence from extant and extinct species. **Alexander Stoessel, Leipzig, Germany**. **<u>09.15.</u>** Signaling of different Wnt pathway members accompany the developmental processes of middle ear formation. **Ulrike J. Sienknecht, Oldenburg, Germany**. **<u>09.30.</u>** High frequency ultrasound and optical coherence tomography: New technologies for non-invasive high resolution middle ear imaging and vibrometry. **Thomas Landry, Nova Scotia, Canada**.
09.45-10.00	**Conference Photo – Staircase in the hall area**
10.00-10.30	**Coffee break – Poster**
10.30-11.30	**Keynote 6. Prof. Haruo Takahashi, Nagasaki, Japan** (60 min) Middle ear pathophysiology and management viewed from pressure-regulation function. **Moderator: Michael Gaihede**
11.30-12.30	**Session C2 – ME Physiology and Pressure Regulation (4)** **<u>Moderator: Christian Offergeld and Jont Allen</u>** **<u>11.30.</u>** Ossicular chain motion during low frequency and high intensity sound stimulation. **Nathaniel T Greene, Aurora, CO, USA**.

	<u>11.45.</u> Congestion of mastoid mucosa and influence on middle ear pressure. **Pernille VF Jensen, Aalborg, Denmark**. **<u>12.00.</u>** Tympanic membrane pressure buffering in the quasi-static pressure regime. **Wasil HM Salih, Khartoum, Sudan**. **<u>12.15.</u>** Determination of the mastoid surface area and volume based on micro-CT-scanning of human temporal bones. Geometrical parameters dependence on scanning resolutions. **Olivier Cros, Aalborg, Denmark**.
12.30-13.30	**Lunch break – Poster**
13.30-15.15	**Session C3 – Surgical Techniques and Reconstruction (8)** **<u>Moderator: Sunil Puria and Christof Röösli</u>** **<u>13.30.</u>** Intraoperative Online Monitoring of Ossiculoplasty using LDV – first clinical measurements. **Thomas Zahnert, Dresden, Germany.** **<u>13.45.</u>** Intra-operative assessment of ossicular fixation. **John Peacock, Antwerp, Belgium.** **<u>14.00.</u>** A new flexible TORP with silicone coated ball joint and its properties. **Thomas Stoppe, Dresden, Germany**. **<u>14.15.</u>** Round window vibration induced by new chamber stapes prosthesis: preliminary results of experimental investigation. **Magdalena Solyga, Warsaw, Poland**. **<u>14.30.</u>** Influence of Prosthesis‘ Length on Middle Ear Transfer Function. **Marcus Neudert, Dresden, Germany**. **<u>14.45.</u>** Titanium PORP’s and TORP’s versus autologous ossicles. Clinical results in 337 tympanoplasties. **Ayhan Al Kole, Aalborg, Denmark**. **<u>15.00.</u>** Theoretical and Practical Considerations of 3-Dimensionally Printed Biomimetic Tympanic Membrane Grafts: Preliminary Design, Manufacture, and Acoustic Testing. **Aaron Remenschneider, Boston, MA, USA**.
15.15-16.30	**Closing session** **<u>Moderator K-B Hüttenbrink and Michael Gaihede</u>** **15.15.** MEMRO 2018 – presentations and voting **15.45.** Poster Awards **16.00.** Closing remarks
18.00	Bus for Conference Dinner departure from the First Hotel