

Program

Thursday, August 19

08:30 - 09:00

Opening Ceremony

Háskólatorg Entry Hall

President's Address

Professor Matti Anniko

Opening Address

Professor Kristín Ingólfssdóttir

Rector - University of Iceland

Musical Entertainment

09:15 - 10:30

Oral Session A1 - Advances and Basic Science

Room 102

Chairs: Dan Merfeld and Paul Smith

09:15 - 09:30

A1-1 Animal responses evoked by chronic vestibular implant stimulation

Dan Merfeld, Wangsong Gong, Csilla Haburcakova, Richard Lewis, Keyvan Nicoucar, Michael Saginaw

Harvard Medical School, Boston, USA

09:30 - 09:45

A1-2 Discharge frequency versus recruitment coding for a unilateral vestibular implant

James Phillips

University of Washington, Seattle, USA

09:45 - 10:00

A1-3 Evidence that spatial memory deficits in rats following bilateral vestibular loss may be permanent

Smith Paul, Jean ha-Baek, Cynthia Darlington, Zheng Yiwen

University of Otago, Dunedin, New Zealand

10:00 - 10:15

A1-4 Vestibular function in human subjects and animal models with profound deafness related to GJB2 mutation

Katsuhisa Ikeda, Misato Kasai

Juntendo University Faculty of Medicine, Tokyo, Japan

10:15 - 10:30

A1-5 Molecular physiology of signaling and plasticity in functionally distinct central vestibular neurons

Sascha du Lac

Salk Institute, La Jolla, USA

09:15 - 10:30

Oral Session B1 - Vestibular Loss

Room 103

Chairs: Miriam Welgampola and Brian Day

09:15 - 09:30

B1-1 Horizontal conjugate gaze deviation (h-CGD) in the acute vestibular syndrome

Jorge C Kattah¹, John Pula¹, David Newman-Toker²

¹University of Illinois College of Medicine Peoria, Peoria, USA

²Johns Hopkins University, Baltimore, USA

09:30 - 09:45

B1-2 Dynamic visual acuity (DVA) and oscillopsia severity in patients with bilateral vestibular loss

Mark Pijnenburg¹, Nils Guinand¹, Frans Boselie¹, Christel Loo², Maurice Janssen², Jean-Philippe Guyot³, Herman Kingma¹

¹Division of Balance Disorders, Department of ENT, University Hospital Maastricht, Maastricht, The Netherlands

²Biomedical Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands

³Department of Otolaryngology Head and Neck Surgery, University Hospitals, Geneva, Switzerland

09:45 - 10:00

B1-3 A Clinical test of the vestibulospinal pathways

Miriam Welgampola¹, Eli Jane Ramsay², Michael Gleeson², Brian L Day²

¹University of Sydney, Sydney, Australia

²Sobell Department of Motor Neuroscience and Movement Disorders, UCL, London, United Kingdom

10:00 - 10:15

B1-4 Improved dynamic visual acuity testing to assess peripheral vestibular function

Stefan Hegemann¹, D. Vital², Dominik Straumann¹, Christofer Bockisch³, R. Probst⁴

¹Zurich University Hospital, Zurich, Switzerland

²Departments of Otorhinolaryngology Head & Neck Surgery, Switzerland

³Zurich University Hospital, Zurich, Switzerland

⁴Departments of Otorhinolaryngology Head & Neck Surgery, Switzerland

10:15 - 10:30

B1-5 Postural control, vestibular neuritis, wavelets and fractal analysis

Philippe Lorin

Cabinet d'explorations otoneurologiques et de rééducation vestibulaire, Le Mans, France

09:15 - 10:30 **Oral Session C1 - Specific Gravity** **Room 104**
Chairs: Leonardo Manzari and Giacinto Asprella Libonati

09:15 - 09:30

C1-1 Gravity sensitive cupula: light/heavy cupula of lateral semicircular canal (LSC)

Giacinto Asprella Libonati

Madonna delle Grazie Hospital, Matera, Italy

09:30 - 09:45

C1-2 Can the nystagmus pattern in patients with a 'light cupula' in the lateral semicircular canal be reproduced during the stage of positional alcohol nystagmus I in hemilabyrinthectomized subjects

Tatjana Tomanovic, Johan Bergenius

Karolinska University Hospital, Stockholm, Sweden

09:45 - 10:00

C1-3 Oculomotor deficits caused by 0.06% and 0.10% blood alcohol concentrations and relationship to subjective perception of drunkenness

Stephen Gomez¹, Per-Anders Fransson², Måns Magnusson², Mitesh Patel², Fredrik Modig²

¹University of Plymouth, Plymouth, United Kingdom

²Department of Clinical Sciences, Lund, Sverige

10:00 - 10:15

C1-4 Dizziness and stand/gait unsteadiness in CSF hypovolemia

Keiko Soma¹, Takanobu Kunihiro², Yasuhiko Takei³

¹Nipponkokan hospital, Kawasaki, Japan

²Keio University, Tokyo, Japan

³Kyorin university, Tokyo, Japan

10:15 - 10:30

C1-5 Obesity and postural sway during quiet upright stance

Kathrine Jáuregui-Renaud, Nora Cruz-Gómez, Georgina Plascencia, Laura Villanueva

Instituto Mexicano del Seguro Social, México D.F., Mexico

09:15 - 10:30 **Oral Session D1- Drugs in Ear** **Room 105**
Chairs: Måns Magnusson and Takayuki Nakagawa

09:15 - 09:30

D1-1 Vestibular PREHAB and gentamicin before schwannoma surgery may improve long-term postural function

Fredrik Tjernström¹, Per-Anders Fransson², Babar Kahlon³, Mikael Karlberg², Sven Lindberg³, Peter Siesjö³, Måns Magnusson²

¹Skåne University Hospital, Lund, Sweden

²Lund University Hospital, Lund, Sweden

³Lund, Sweden

09:30 - 09:45

D1-2 Selective oval window gentamicin to spare the cochlea in Meniere's disease

Måns Magnusson

Lund University, Lund, Sverige

09:45 - 10:00

D1-3 Unilateral intra perilymphatic infusion of substance P facilitates vestibular functional recovery against AMPA-induced vestibulotoxicity

Hiroshi Yamashita, Hiroaki Shimogori, Hideki Toyota, Kenji Takeno, Kazuma Sugahara, Makoto Hashimoto
Yamaguchi University Graduate School of Medicine, Ube, Japan

10:00 - 10:15

D1-4 Topical application of IGF1 for the treatment of inner ear disorders

Takayuki Nakagawa¹, Tatsunori Sakamoto¹, Harukazu Hiraumi¹, Norio Yamamoto¹, Yayoi Kikkawa², Yasuhiko Tabata¹, Satoshi Teramukai¹, Ken-ichi Inui¹, Juichi Ito¹

¹Kyoto University, Kyoto, Japan

²University of Tokyo, Tokyo, Japan

10:15 - 10:30

D1-5 Validation of a specific drug against g-level transition induced spatial disorientation and orthostatic intolerance: the ESA SPIN-D study

Aurélië Weerts¹, Robby Vanspauwen¹, Kristof Buytaert¹, Pierre-François Migeotte², Xavier Neyt², Paul Van de Heyning¹, Floris Wuyts¹

¹Antwerp University Research Centre for Equilibrium and Aerospace (AUREA), Antwerp (Edegem), Belgium

²Signal and Image Centre, Royal Military Academy, Brussels, Belgium

10:30 - 11:00 Coffee Break

11:00 - 12:30 **Oral Session A2 - VEMP** **Room 102**
 Chairs: Ian S. Curthoys and Sally Rosengren

11:00 - 11:20

A2-1 An overview of the ocular vestibular evoked myogenic potential (oVEMP) to bone conducted vibration as a simple clinical test of dynamic utricular function

Ian Curthoys

University of Sydney, Sydney, Australia

11:25 - 11:45

A2-2 oVEMPs: which stimulus?

Sally Rosengren, Sendhil Govender, Ken Cai, James Colebatch

University of New South Wales, Sydney, Australia

11:45 - 12:00

A2-3 Does an SCD just ‘amplify’ normal oVEMP responses?

Leigh McGarvie¹, Ian Curthoys², Ann Burgess², Michael Halmagyi¹

¹Institute of Clinical Neurosciences, Sydney, Australia

²Vestibular Research Laboratory, School of Psychology, University of Sydney, Sydney, Australia

12:00 - 12:15

A2-4 Test-retest reliability and normative values of ocular vestibular evoked myogenic potentials (oVEMPs) to bone conducted vibration

Kristof I. Buytaert, Catherine Blaivie, Paul H. Van de Heyning, Floris L. Wuyts

Antwerp University Research Center for Equilibrium and Aerospace (AUREA), Edegem (Antwerp), Belgium

12:15 - 12:30

A2-5 Ocular and cervical vestibular-evoked myogenic potentials to 500Hz Fz bone conducted vibration in semicircular canal dehiscence

Leonardo Manzari¹, Ann Burgess², Leigh A. McGarvie³, Ian S. Curthoys²

¹MSA Ent Academy Center Cassino, Cassino, Italy

²Vestibular Research Laboratory, School of Psychology, the University of Sydney, Sydney, Australia

³Institute of Clinical Neurosciences, Royal Prince Alfred Hospital, Sydney, NSW, Sydney, Australia

11:00 - 12:30 **Oral Session B2 - Head Impulse** **Room 103**
 Chairs: Michael Halmagyi and Konrad Weber

11:00 - 11:15

B2-1 Etiologic diversity of positive head impulse test in ENT daily practice

Erik Ulmer

Cabinet ORL, Cannes, France

11:15 - 11:30

B2-2 The video head impulse test: diagnosis of bilateral vestibulopathy after gentamicin vestibulotoxicity

Gabor Michael Halmagyi¹, Hamish G MacDougall², Konrad Peter Weber³, Leigh A McGarvie¹, Ian S Curthoys²

¹Department of Neurology, Royal Prince Alfred Hospital, Sydney, Australia

²Vestibular Research Laboratory, School of Psychology, University of Sydney, Sydney, Australia

³Zurich University Hospital & Royal Prince Alfred Hospital, Sidney, Zurich, Switzerland

11:30 - 11:45

B2-3 The video head impulse test: diagnosis of unilateral vestibulopathy

Konrad Peter Weber¹, Hamish G MacDougall², Leigh A McGarvie³, Gabor Michael Halmagyi³, Ian S Curthoys²

¹Zurich University Hospital & Royal Prince Alfred Hospital, Sidney, Zurich, Switzerland

²Vestibular Research Laboratory, School of Psychology, University of Sydney, Sydney, Australia

³Department of Neurology, Royal Prince Alfred Hospital, Sydney, Australia

11:45 - 12:00

B2-4 Head impulse testing after chronic complete vestibular loss: catch-up saccades

Nadine Lehnen¹, Stefan Glasauer¹, Konrad P. Weber²

¹University of Munich, Munich, Germany

²Zurich University Hospital, Zurich, Switzerland

12:00 - 12:15

B2-5 Is the caloric stimulation indispensable?

Karl-Friedrich Hamann

TU München, München, Germany

12:15 - 12:30

B2-6 Assessing vestibulo-ocular function without measuring eye movements

Kara Beaton, Howard Ying, Dale Roberts, Mark Shelhamer

Johns Hopkins University School of Medicine, Baltimore, USA

11:00 - 12:30

Oral Session C2 - Motion Sickness

Room 104

Chairs: Bernard Cohen and Philippe Perrin

11:00 - 11:15

C2-1 Vertigo induced by downhill mountain biking and road cycling

Philippe Perrin¹, Alexis Lion², Gilles Bosser³, Gérome Gauchard², Dominique Vibert⁴

¹Nancy-University and University Hospital, Villers-Lès-Nancy, France

²Nancy-University, Nancy, France

³Regional Institute of Rehabilitation (IRR), Nancy, France

⁴Department of Otorhinolaryngology, Inselspital, University of Bern, Bern, Switzerland

11:15 - 11:30

C2-2 Motion sickness and tilting trains

Bernard Cohen¹, Mingjia Dai¹, Dmitri Ogorodnikov¹, Jean Laurens², Theodore Raphan³, Christopher Bockisch², Marco Penner², Philippe Müller⁴, Alexiou Athanasios⁴, Klaus Stadtmüller⁴, Jürgen Edmaier⁴, Thomas Grossenbacher⁴, Ueli Brugger⁵, Gerald Hauser⁵, Dominik Straumann⁶

¹Mount Sinai School of Medicine, New York, United States of America

²Zurich University Hospital, Zurich, Switzerland

³Brooklyn College of the City University of New York, Brooklyn, United States of America

⁴Schweizerische Bundesbahn, Zurich, Switzerland

⁵Alstom Schienenfahrzeuge AG, Zurich, Switzerland

⁶University of Zurich, Zurich, Switzerland

11:30 - 11:45

C2-3 Motion sickness and postural stability

Jelte Bos

TNO Human Factors, Vrije Universiteit Amsterdam, Soesterberg, Nederland

11:45 - 12:00

C2-4 Subjective body alignment with g-vector seems independent of g-load

Eric Groen, Bruno Correia Grácio, Mark Wentink

TNO Defence, Security and Safety, Soesterberg, Nederland

12:00 - 12:15

C2-5 Galvanic vestibular stimulation (GVS) as an analog of post-flight spatial disorientation in shuttle pilots

Steven Moore¹, Valentina Dilda¹, Hamish MacDougall², Jonathan Clark³

¹Mount Sinai School of Medicine, New York, USA

²University of Sydney, Sydney, Australia

³National Space Biomedical Research Institute, Houston, USA

12:15 - 12:30

C2-6 Somatogyral illusions during flight: effect of the post-roll illusion on pilot's control behaviour

Suzanne Nooij¹, Eric Groen²

¹Center for Man in Aviation, Soesterberg, Netherlands

²TNO Human factors, Soesterberg, Netherlands

11:00 - 12:30 **Oral Session D2 - Ageing & Balance** **Room 105**
Chairs: F. Owen Black and Ilmari Pyykkö

11:00 - 11:15

D2-1 Longitudinal study of normal subject postural control: age, gender and vestibular dysfunction

F. Owen Black¹, William Paloski², Jeffrey Mettler³, Alan Feiveson⁴, Scott Wood⁵

¹Legacy Clinical Research & Technology Center, Portland, USA

²University of Houston, Houston, USA

³NIA Clinical Research Branch, Gerontology Research Center, Baltimore, USA

⁴NASA/JSC Neuroscience Laboratories, Houston, USA

⁵University Space Research Association, Houston, USA

11:15 - 11:30

D2-2 Presbyequilibrium in the oldest olds, a combination of vestibular, oculomotor and postural deficits

Ilmari Pyykkö¹, Eeva Tuunanen², Pirkko Jäntti², Dennis Poe²

¹University of Tampere, Tampere, Finland

²University of Tampere, Tampere, Finland

11:30 - 11:45

D2-3 Change of body movement coordination during cervical proprioceptive disturbances in older adults

Mitesh Patel

Lund University Hospital, Lund, Sweden

11:45 - 12:00

D2-4 Aging effect on galvanic vestibular-evoked myogenic potentials

Chih-Ming Chang¹, Po-Wen Cheng¹, Yi-Ho Young²

¹Far Eastern Memorial Hospital, Taipei, Taiwan

²Department of Otolaryngology, National Taiwan University Hospital, Taipei, Taiwan

12:00 - 12:15

D2-5 Vibrotactile neurofeedback for vestibular rehabilitation in patients with presbyvertigo

Tatsuhiko Harada¹, Fumiyuki Goto², Sho Kanzaki³, Kaoru Ogawa³, Arne Ernst⁴, Dietmar Basta⁴

¹International University of Health and Welfare, Atami, Japan

²Hino Municipal Hospital, Hino, Japan

³Keio University, Tokyo, Japan

⁴University of Berlin, Berlin, Germany

12:15 - 12:30

D2-6 Clinical investigation of presbyastasis patients using the cross test

Takao Yabe¹, Yoshinari Takai¹, Junichi Yokota², Fumiuyuki Goto³, Toshiaki Tanaka⁴, Tohru Ifukube⁴, Yasuyuki Nomura⁵, Rie Yabe⁶

¹Tokyo Metropolita Hiroo Hospital, Tokyo, Japan

²Rehabilitation Amakusa hospital, Koshigaya, Japan

³Department of Otolaryngology, Hino Municipal Hospital, Tokyo, Japan

⁴Research center for advanced science and technology, Tokyo University, Tokyo, Japan

⁵Department of Otolaryngology, Nihon University, Tokyo, Japan

⁶Yabe ENT Clinic Ginza, Japan

12:30 - 13:30 Lunch

13:30 - 14:00 **Poster Session 1 - Posters No: PA-1 to PA-36 and PB-37 to PB-70**

During the poster session the authors of these abstracts will stand by their poster ready to answer questions

14:00 - 15:45 **Oral Session A3 - VEMP**

Room 102

Chairs: Ian S. Curthoys and Sally Rosengren

14:00 - 14:15

A3-1 Ocular vestibular evoked potentials (oVEMPs) compared to the subjective visual vertical (SVV) during tilt and eccentric rotation - easier, cheaper and almost better

Stefan Hegemann¹, Yulia Matkhalikova², Dominik Straumann², Christofer Bockisch²

¹Zurich University Hospital, Zurich, Switzerland

²Zurich University Hosital, Zurich, Switzerland

14:15 - 14:30

A3-2 Direction dependent excitatory and inhibitory ocular vestibular evoked myogenic potentials (oVEMPs) produced by oppositely directed accelerations along the antero-posterior mid-sagittal axis of the head

Peter Jombik¹, Pavel Spodniak²

¹Zvolen Hospital, Zvolen, Slovak Republic

²Tech Univ Zvolen, Fac Environm Technol, Dept Environm Sci, Zvolen Slovak Republic

14:30 - 14:45

A3-3 Ocular VEMP via bone-conducted vibration stimuli in guinea pigs

Yi-Ho Young, Ting-Hua Yang

National Taiwan University Hospital, Taipei, Taiwan

14:45 - 15:00

A3-4 Ocular vestibular evoked myogenic potentials (oVEMPs) after unilateral vestibular deafferentiation due to vestibular schwannoma

Kristof I. Buytaert, Catherine Blaivie, Paul H. Van de Heyning, Floris L. Wuyts

Antwerp University Research center for Equilibrium and Aerospace (AUREA), Edegem (Antwerp), Belgium

15:00 - 15:15

A3-5 Influence of the repetition rate of the stimulation on the ocular vestibular evoked myogenic potentials (oVEMPs) to bone conducted vibration

Kristof I. Buytaert, Catherine Blaivie, Paul H. Van de Heyning, Floris L. Wuyts

Antwerp University Research center for Equilibrium and Aerospace (AUREA), Edegem (Antwerp), Belgium

15:15 - 15:30

A3-6 Does VEMP testing detect vestibular damage related to head trauma and whiplash injury?

Art Mallinson¹, Neil Longridge²

¹Vancouver General Hospital, Vancouver, B.C., Canada

²University of British Columbia, Vancouver, B.C., Canada

15:30 - 15:45

A3-7 Vestibular-evoked myogenic potential (VEMP) in the evaluation of schistosomal myeloradiculopathy

Lilian Felipe¹, Herman Kingma², Carlos Maurício de Figueiredo Antunes³, Denise Utsch Goncalves⁴, José Roberto Lambertucci⁴

¹Belo Horizonte, Brazil

²Department of Balance Disorders, Clinical Movement Laboratory, Maastricht, The Netherlands

³Santa Casa de Belo Horizonte, Belo Horizonte, Brazil

⁴Tropical Medicine Post Graduate Program, Faculty of Medicine, Federal University, Belo Horizonte, Brazil

14:00 - 17:00 **Oral Session B3 - Mathematical Modelling**
Chairs: Rolf Johansson and Thomas Mergner

Room 103

14:00 - 14:30

B3-1 Identification of and compensation for sensorineural time delays in human postural control

Robert J. Peterka

Oregon Health & Science University, Portland, USA

14:30 - 15:00

B3-2 Modelling the vestibular system-fifty years of progress

Laurence R. Young

MIT, Cambridge, USA

15:00 - 15:30

B3-3 Modeling posture control and vertigo

Thomas Mergner

Neurologische Klinik, Freiburg, Germany

15:30 - 16:00 Coffee Break

16:00 - 16:30

B3-4 Modeling stance control in neurological patients with Parkinson's rigidity and hereditary spasticity

Christoph Maurer

Universitätsklinikum Freiburg Neurologische UNI-Klinik, Freiburg, Germany

16:30 - 17:00

B3-5 Optimal coordination and control of posture and movements

Rolf Johansson

Lund University, Lund, Sweden

14:00 - 15:45

Oral Session C3 - Neuro & Neck

Room 104

Chairs: Thomas Lempert and Eva-Maj Malmström

14:00 - 14:15

C3-1 Classification of vestibular migraine

Thomas Lempert¹, David Newman-Toker², Barry Seemungal³, Alexander Bisdorff⁴, John Waterston⁵, John Carey⁶, Joseph Furman⁷, Maurizio Versino⁸

¹Schlosspark-Klinik, Berlin, Germany

²Dept. of Neurology, Johns Hopkins University School of Medicine, Baltimore, USA

³Dept. of Clinical Neuroscience, Charing Cross Hospital, London, United Kingdom

⁴Dept. of Neurology, Centre Hospitalier Emile Mayrisch, Esch-Sur-Alzette, Luxembourg

⁵Dept. of Neurology, The Alfred Hospital, Victoria, Australia

⁶Dept. of Otolaryngology, Johns Hopkins University School of Medicine, Baltimore, USA

⁷Depts. of Neurology and Otolaryngology, Pittsburgh, USA

⁸Dept. of Neurological Sciences, University of Pavia, Pavia, Italy

14:15 - 14:30

C3-2 Enhanced motion detection in vestibular migraine

Richard Lewis, Koeun Lim, Keyvan Nicoucar, Daniel Merfeld, Adrian Priesol

Harvard Medical School, Boston MA, USA

14:30 - 14:45

C3-3 Sensory dysmodulation in vestibular migraine: an otoacoustic emission suppression study

Louisa Murdin¹, Presanna Premachandra², Rosalyn Davies²

¹Institute of Neurology, London, United Kingdom

²National Hospital for Neurology and Neurosurgery, London, United Kingdom

14:45 - 15:00

C3-4 Treatment of the vestibular migraine according to the clinical picture

Sergio Carmona, Romina Weinschelbaum, Osvaldo Bruera

INEBA, Buenos Aires, Argentina

15:00 - 15:15

C3-5 Experimentally induced deep cervical muscle pain distort head on trunk orientation

Eva-Maj Malmström¹, Hans Westergren¹, Per-Anders Fransson², Mikael Karlberg², Måns Magnusson²

¹Skåne University Hospital, Malmö, Sweden

²Clinical Sciences, Lund University, Lund, Sverige

15:15 - 15:30

C3-6 Neuropathy is an integral component of the cerebellar ataxia neuropathy vestibular areflexia syndrome (CANVAS)

David Szmulewicz¹, John Waterston², Michael Halmagyi³, Stuart Mossman⁴, Andrew Chancellor⁵, Catriona McLean⁶, Elsdon Storey²

¹Melbourne, Australia

²Department of Neuroscience (Medicine), Monash University, Alfred Hospital Campus, Melbourne, Australia

³Department of Neurology, Royal Prince Alfred Hospital, New South Wales, Sydney, Australia

⁴Department of Neurology, Capital Coast Health, Wellington, New Zealand

⁵Department of Medicine, Tauranga Hospital, Tauranga, New Zealand

⁶Department of Anatomical Pathology, Alfred Hospital Campus, Melbourne, Australia

15:30 - 15:45

C3-7 A spatial navigation bias due to a distorted internal representation of time

Diego Kaski, Matthew Dudson-Green, Paresch Malhotra, Adolfo Bronstein, Barry Seemungal

Imperial College London, London, United Kingdom

14:00 - 15:45

Oral Session D3 - Epidemiology

Room 105

Chairs: Howard Hoffman and Scott Eggers

14:00 - 14:20

D3-1 Balance and dizziness problems and falls in the United States: results from the 2008 national health interview survey (NHIS)

Howard Hoffman¹, Helen Cohen², Charles Della Santina³, Daniel Sklare¹

¹National Institute on Deafness and Other Communication Disorders (NIDCD), NIH, Bethesda, USA

²Department of Otolaryngology - Head and Neck Surgery, Baylor College of Medicine, Houston, USA

³Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins Medical School, Baltimore, USA

14:25 - 14:45

D3-2 Prevalence and impact of bilateral vestibular deficiency (BVD): results from the 2008 United States national health interview survey

Charles C. Della Santina¹, Howard Hoffman²

¹Johns Hopkins School of Medicine, Baltimore, USA

²Epidemiology and Statistics Program, NIDCD, NIH, Bethesda, USA

14:45 - 15:00

D3-3 Investigation of the relationship between migraine, vertigo, unsteadiness and dizziness in a clinical cohort

Scott Eggers, Jeffrey Staab, Neil Shepard, Brian Neff, Adam Goulson, Matthew Carlson

Mayo Clinic, Rochester, USA

15:00 - 15:15

D3-4 Development of screening tests of the vestibular system for epidemiologic and post-flight studies

Helen S Cohen¹, Ajitkumar Mulavara², Brian Peters³, Christopher Miller³, Jacob Bloomberg⁴, Haleh Sangi-Haghpeykar¹

¹Baylor College of Medicine, Houston, USA

²Universities Space Research Association, Houston, USA

³Wyle Laboratories, Houston, USA

⁴NASA/ Johnson Space Center, Houston, USA

15:15 - 15:30

D3-5 Prevalence of vestibular function and balance abnormalities among HIV-seropositive and HIV-seronegative women and men

Helen S Cohen¹, Michael Plankey², Howard Hoffman³, Mary Young², Joseph Margolick⁴, Gayle Springer⁴

¹Baylor College of Medicine, Houston, USA

²Georgetown University Medical Center, Washington, USA

³National Institute on Deafness and Other Communication Disorders, Bethesda, USA

⁴Johns Hopkins School of Public Health, Baltimore, USA

15:30 - 15:45

D3-6 Quality of life (QoL) of patients with bilateral vestibular loss

Nils Guinand¹, Frans Boselie¹, Jean-Philippe Guyot², Herman Kingma¹

¹Division of Balance Disorders, Department of ENT, University Hospital Maastricht, Maastricht, The Netherlands

²Department of Otolaryngology Head and Neck Surgery, University Hospitals, Geneva, Geneva, Switzerland

Friday, August 20

08:45 - 10:30 **Oral Session A4 - Postural Control** **Room 103**
Chairs: Richard Fitzpatrick and Juichi Ito

08:45 - 09:00

A4-1 The impact of external noise perception on sway in normal individuals

Michael Hoffer¹, Ali Hoffer², Carey Balaban³, Kim Gottshall¹

¹Naval Medical Center, San Diego, San Diego, USA

²Marshall School, San Diego, USA

³Department of Otolaryngology, University of Pittsburgh, Pittsburgh, PA

09:00 - 09:15

A4-2 First trial postural reactions to unexpected balance disturbances: a comparison with the acoustic startle reaction

John HJ Allum¹, Lars Oude Nijhuis², Josep Valls-Sole³, Sebastiaan Overeem², Bastiaan Bloem²

¹University Hospital Basel, Basel, Switzerland

²Dept of Neurology, Radboud University Medical Centre, Nijmegen, The Netherlands

³Neurology Service, Clinical Hospital Barcelona, Barcelona, Spain

09:15 - 09:30

A4-3 Foam surfaces and standing balance testing: the balance perturbing effects, the perturbing mechanisms and considerations for clinical and experimental practice

Mitesh Patel, Per-Anders Fransson, Rolf Johansson, Måns Magnusson

Lund University Hospital, Lund, Sweden

09:30 - 09:45

A4-4 Perceptual and locomotor responses to galvanic vestibular stimulation with and without sensory conflict

Richard Fitzpatrick¹, Brian Day², Rebecca St George¹

¹Prince of Wales Medical Research Institute, Sydney, Australia

²Institute of Neurology, UCL, London, United Kingdom

09:45 - 10:00

A4-5 What advantages do two vestibular labyrinths offer the human balance system?

Brian Day¹, Jonathan Marsden², Elijane Ramsay¹, Omar Mian¹, Richard Fitzpatrick³

¹UCL Institute of Neurology, London, United Kingdom

²University of Plymouth, Plymouth, United Kingdom

³Prince of Wales Medical Research Institute, Sydney, Australia

10:00 - 10:15

A4-6 Otolith and canal involvement in the balance response to galvanic vestibular stimulation

Omar Mian¹, Chris Dakin², Jean-Sébastien Blouin², Richard Fitzpatrick³, Brian Day¹

¹UCL Institute of Neurology, London, United Kingdom

²School of Human Kinetics, University of British Columbia, Vancouver, Canada

³Prince of Wales Medical Research Institute and University of New South Wales, Sydney, Australia

10:15 - 10:30

A4-7 Cortical transcranial direct current stimulation increases the duration of the ‘broken escalator’ locomotor aftereffect

Diego Kaski, Shamim Quadir, Mark Buckwell, Barry Seemungal, Adolfo Bronstein

Imperial College London, London, United Kingdom

08:45 - 10:30

Oral Session B4 - Eye & Head Movements

Room 102

Chairs: Jelte Bos and Krister Brantberg

08:45 - 09:00

B4-1 A new clinical test of otolith function

Qadeer Arshad, Diego Kaski, David Buckwell, ME Faldon, Michael Gresty, Barry Seemungal, Adolfo Bronstein

Imperial College London, London, United Kingdom

09:00 - 09:15

B4-2 Functional imaging of the development of the vestibulo-ocular reflex circuit

Joel Glover¹, Hiraku Mochida¹, Katsushige Sato², Yoko Momose-Sato³

¹University of Oslo, Oslo, Norge

²Komazawa Women’s University, Tokyo, Japan

³Kanto Gakuin University, Yokohama, Japan

09:15 - 09:30

B4-3 Dynamic visual acuity before, during and after exercise in traumatic brain injury subjects and normal controls

Caroline Messmer, Michael Hoffer, Kim Gottshall

Naval Medical Center San Diego, San Diego, USA

09:30 - 09:45

B4-4 A Dynamic visual acuity test with a flasing optotype

Jelte Bos¹, Maarten Hogervorst², Anne-Marie Brouwer²

¹TNO Human Factors, Vrije Universiteit Amsterdam, Soesterberg, Nederland

²TNO Human Factors, Soesterberg, Nederland

09:45 - 10:00

B4-5 Three-dimensional signal analysis of nystagmus with video-oculography

Martti Juhola¹, Heikki Aalto², Topi Jutila², Timo Hirvonen²

¹University of Tampere, Tampere, Finland

²Helsinki University Central Hospital, Helsinki, Finland

10:00 - 10:15

B4-6 Dynamic visual acuity of patients with vestibular neuritis

Ingrid van Rooy¹, Anne-Marie Brouwer², Sjaak Klis¹, Jelte Bos², Tjasse Bruintjes³

¹University Medical Center Utrecht, Utrecht, Nederland

²Department of Human Factors, TNO Defence and Security, Perception and Simulation, Soesterberg, Nederland

³Department of Otorhinolaryngology, Gelre Ziekenhuizen Apeldoorn, Apeldoorn, Nederland

10:15 - 10:30

B4-7 Development of a normative percentage of saccadation during smooth pursuit testing

Jorge Gonzalez¹, Alexander Kiderman²

¹Bloomsburg University of Pennsylvania, Bloomsburg, USA

²Neuro-Kinetics, Inc., Pittsburgh, USA

08:45 - 10:30 **Oral Session C4 - Vestibular Loss and Little More**
 Chairs : Michael Karlberg and Barry Seemungal

Room 105

08:45 - 09:00

C4-1 Acute bilateral vestibular loss - a single subject experimental study

Mikael Karlberg¹, Måns Magnusson²

¹Lund University Hospital, Lund, Sverige

²Oto-rhino-laryngology, Lund, Sverige

09:00 - 09:15

C4-2 Vestibular perception after acute vestibular neuritis

Barry Seemungal, Sian Cousins, Nick Cutfield, Michael Gresty, Adolfo Bronstein

Imperial College London, London, United Kingdom

09:15 - 09:30

C4-3 Residual perception of motion and tilt in patients with bilateral vestibular function loss

Nils Guinand¹, Bram Geerets¹, Frans Boselie¹, Mark Pijnenburg¹, Christel Van Loo¹, Maurice Janssen¹, Jean-Philippe Guyot², Herman Kingma¹

¹Division of Balance Disorders, Department of ENT, University Hospital Maastricht, Maastricht, The Netherlands

²Department of Otolaryngology Head and Neck Surgery, University Hospitals, Geneva, Geneva, Switzerland

09:30 - 09:45

C4-4 Crohn's disease in the inner ear. A histopathological approach to a special autoimmune inner ear disease (AIED)

Stefan Hegemann¹, I. Hegemann², M. Dettmer³

¹Zurich University Hospital, Zurich, Switzerland

²Internal Medicine, Switzerland

³Zurich University Hospital, University of Bern, Iceland

09:45 - 10:00

C4-5 To investigate the influence of acute vestibular impairment following mild traumatic brain injury on subsequent ability to successfully complete a vestibular physical therapy program and remain on active duty one year later

Kim Gottshall, Michael Hoffer

Naval Medical Center San Diego, San Diego, USA

10:00 - 10:15

C4-6 Recovery after acute unilateral vestibular loss and predictors for self-rated remaining symptoms after six months

Ann-Sofi Kammerlind¹, Torbjörn Ledin², Lars Ödkvist³, Elisabeth Skargren⁴

¹Ryhov County Hospital, Jönköping, Sweden

²Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden

³Department of Otorhinolaryngology, University Hospital, Linköping, Sweden

⁴Department of Medicine and Health, Linköping University, Linköping, Sweden

10:15 - 10:30

C4-7 The halpern syndrome of monocular visual vertigo: resurgence of a dorsal light reflex in the patient with central vestibular disease

Michael Brodsky

Mayo Clinic, Rochester, USA

08:45 - 10:30

Oral Session D4 - Vestibular Reflexes

Room 104

Chairs : Thomas Mergner and Pierre-Paul Vidal

08:45 - 09:00

D4-1 Unilateral centrifugation by head tilt

Jelte Bos¹, Stephanie Winters², Sjaak Klis², Wilko Grolman²

¹TNO Human Factors, Vrije Universiteit Amsterdam, Soesterberg, Nederland

²University Medical Center, Utrecht, Netherlands

09:00 - 09:15

D4-2 Vestibular stimulation during active head movements: perceptual and motor findings and proactive-reactive fusion model

Thomas Mergner¹, Jan Kassubeck², Grigorijs Nasios³, Christoph Maurer¹

¹University of Freiburg, Freiburg, Germany

²University of Ulm, Ulm, Germany

³Department of Speech and Language Therapy, TEI of Epirus, Ioannina, Greece

09:15 - 09:30

D4-3 Vestibular predominance and post rotatory nystagmus in figure skaters

Anna Hafström¹, Per-Anders Fransson², Måns Magnusson²

¹Lund University Hospital, Lund, Sweden

²Dept of Otorhinolaryngology, Lund University Hospital, Lund, Sweden

09:30 - 09:45

D4-4 Vestibular asymmetry as the cause of idiopathic scoliosis: A possible answer from xenopus

Pierre-Paul Vidal

CNRS - Paris Descartes, Paris, France

09:45 - 10:00

D4-5 Self-tilt thresholds match (or outperform) standard maximum-likelihood predictions

Dan Merfeld, Koeun Lim, Keyvan Nicoucar

Harvard Medical School, Boston, USA

10:00 - 10:15

D4-6 Modification of the cervico-ocular reflex (cor) by visual-cervical interaction

Sergei Yakushin¹, Olga V Kolesnikova¹, Charley C Della Santina², Lloyd B Minor², Theodore Raphan³, Bernard Cohen¹

¹Mount Sinai School of Medicine, New York, USA

²John Hopkins University, Baltimore, USA

³Brooklyn College, CUNY, Brooklyn, USA

10:15 - 10:30

D4-7 Cognitive influences on motion perception

Dan Merfeld¹, Andrew Rader², Charles Oman²

¹Harvard Medical School, Boston, USA

²MIT, Cambridge, USA

10:30 - 11:00 Coffee Break

11:00 - 12:30 **Oral Session A5 - Vestibular-Eye Interaction** **Room 103**
Chairs: Swee Aw and Kathleen Cullen

11:00 - 11:15

A5-1 Effect of vestibular activation on human visual cortical area V5/MT excitability

Barry Seemungal¹, Jessica Guzman¹, Qadeer Arshad¹, Vincent Walsh², Adolfo Bronstein¹

¹Imperial College London, London, United Kingdom

²Institute of Cognitive Neurosciences, UCL, London, UK

11:15 - 11:30

A5-2 Does the human electrically-evoked vestibulo-ocular reflex rely on vestibular hair cell transduction?

Swee Aw¹, Michael Todd², Nadine Lehnen³, Grace Aw², Konrad Weber², Thomas Eggert³, Michael Halmagyi²

¹Royal Prince Alfred Hospital / University of Sydney, Sydney, Australia

²Royal Prince Alfred Hospital, Sydney, Australia

³Ludwig-Maximilians University Munich, Munich, Germany

11:30 - 11:45

A5-3 The mechanism underlying human electrical vestibular stimulation

Michael Todd, Swee Aw, Michael Halmagyi

Royal Prince Alfred Hospital, Sydney, Australia

11:45 - 12:00

A5-4 Maintaining binocular fixation while moving: a model of smooth pursuit in three dimensions

Theodore Raphan¹, Mikhail Kunin¹, Sergei Yakushin², Bernard Cohen²

¹City University of NY (Brooklyn College), Brooklyn, USA

²Mt. Sinai School of Medicine, New York, USA

12:00 - 12:15

A5-5 Neural correlates of motor learning in the vestibulo-ocular reflex: dynamic regulation of multimodal integration

Kathleen Cullen¹, Lloyd Minor², Soroush Sadeghi¹

¹McGill University, Montreal, Canada

²Johns Hopkins University School of Medicine, Baltimore, USA

12:15 - 12:30

A5-6 Virtually dizzy - modelling the human vestibulo-ocular response

John Veness¹, Paul Radomskij², Ewa Raglan¹

¹Great Ormond Street Hospital, London, UK

²University College London, London, UK

11:00 - 12:30 **Oral Session B5 – Meniere’s** **Room 102**
 Chairs: Neil Shepard and Floris L. Wuyts

11:00 - 11:15

B5-1 Spontaneous recurrent attacks of vertigo that do not lead to permanent audio-vestibular deficit

Krister Brantberg¹, Robert Baloh²

¹Karolinska Hospital, Stockholm, Sverige

²Department of Neurology, UCLA, Los Angeles, USA

11:15 - 11:30

B5-2 VEMP threshold response curves in Meniere’s syndrome: sensitivity / specificity

Neil Shepard, James McPherson

Mayo Clinic, Rochester, USA

11:30 - 11:45

B5-3 The air-conducted ovemp in Ménière’s disease

Stephanie Winters, Sjaak Klis, Wilko Grolman

University Medical Center Utrecht, Utrecht, Nederland

11:45 - 12:00

B5-4 Ocular and cervical vestibular-evoked myogenic potentials (oVEMPs and cVEMPs) to bone conducted vibration (BCV) in Ménière’s disease during quiescence vs during acute attacks

Leonardo Manzari¹, Ann Burgess², Ian S. Curthoys²

¹MSA Ent Academy Center Cassino, Cassino, Italy

²Vestibular Research Laboratory, School of Psychology, the University of Sydney, Sydney, Australia

12:00 - 12:15

B5-5 The Antwerp Meniere Index (AMI): an electrocochleography based method to scale Meniere’s Disease

Floris Wuyts, Gerd Claes, Claudia De Valck, Paul Van de Heyning

University of Antwerp, Antwerp, Belgium

12:15 - 12:30

B5-6 Endolymphatic hydrops in Meniere’s disease and sudden deafness detected by MRI in combination with intratympanic gadolinium injection

Arata Horii¹, Yasuhiro Osaki², Tadashi Kitahara², Takao Imai², Atsuhiko Uno², Suetaka Nishiike², Norihiko Fujita², Hidenori Inohara²

¹Suita Municipal Hospital, Suita, Japan

²Osaka University Graduate School of Medicine, Osaka, Japan

11:00 - 12:30 **Oral Session C5 - BPPV** **Room 105**
Adolfo M. Bronstein and Miriam Welgampola

11:00 - 11:15

C5-1 A new type of BPPV with only unsteadiness of gait: a 152 patients study

Thomas Richard-Vitton

ENT - Clinique Générale de Marignane, Marignane, France

11:15 - 11:30

C5-2 Visual dependence and BPPV

Adolfo Bronstein, K Agarwal, M Faldon, M Mandala, K Murray, Y Silove

Imperial College London, London, United Kingdom

11:30 - 11:45

C5-3 Benign paroxysmal positional vertigo in mountain bikers

Dominique Vibert¹, Robin C. Redfield PhD², Rudolf Häusler MD¹, Marco Caversaccio MD¹

¹University of Berne, Berne, Switzerland

²Department of Engineering Mechanics, US Air Force Academy, Colorado Springs, USA

11:45 - 12:00

C5-4 Sitting-up vertigo and trunk oscillation in patients with benign positional vertigo but without positional nystagmus

Bela Buki¹, László Simon², Sándor Garab², Yunxia W Lundberg³, Heinz Jünger⁴, Dominik Straumann⁵

¹Krems, Austria

²Semmelweis University, Budapest, Hungary

³Boys Town National Research Hospital, Omaha, USA

⁴Krems County Hospital, Krems, Austria

⁵University Hospital Zurich, Zurich, Switzerland

12:00 - 12:15

C5-5 Benign paroxysmal positional vertigo of horizontal canal about 30 ageotropic cases

Philippe Lorin

Cabinet d'explorations otoneurologiques et de rééducation vestibulaire, Le Mans, France

12:15 - 12:30

C5-6 Characteristics of subjects with complex BPV treated on the epley omniax rotator

Miriam Welgampola¹, Robbie Yavor², Alison White², Leigh McGarvie², Swee Aw¹, Michael Todd², Michael Halmagyi²

¹University of Sydney, Sydney, Australia

²Royal Prince Alfred Hospital Camperdown, Sydney, Australia

11:00 - 12:30 **Oral Session D5 - Vestibular Rehabilitation** **Room 104**
Chairs: Helen S. Cohen and Johan Holmberg

11:00 - 11:15

D5-1 Static, dynamic balance and well being after acute unilateral vestibular loss

Lena Kollén¹, Berit Bjerle², Monika Fagevik Olsén², Claes cm Möller³

¹Sahlgrenska University, Gothenburg, Sverige

²Gothenburg, Sverige

³Claes.möller, Öregro, Sverige

11:15 - 11:30

D5-2 Comparison of the effects of visual and vibrotactile feedback on postural stability during balance rehabilitation exercise training

Kelli E. Bechly, Wendy Carendar, Kathleen Sienko

University of Michigan, Ann Arbor, USA

11:30 - 11:45

D5-3 The effect of additional otolith specific exercises to standard vestibular rehabilitation protocols for adults with unilateral vestibular dysfunction

Arimbi Winoto¹, Kate Murray², Keith Hill¹, Joanne Enticott³

¹La Trobe University, Bundoora, Australia

²Dizzy Day Clinics, Melbourne, Australia

³Royal Victorian Eye and Ear Hospital, Melbourne, Australia

11:45 - 12:00

D5-4 The Vibrotactile labyrinthine substitution system (VLS): indications for placebo effects of vibrotactile biofeedback in improving balance in bilateral vestibular loss patients

Maurice Janssen¹, Jos Aarts², Yvonne Janssen-Potten³, Hans Vles³, Rob Van Lummel⁴, Robert Stokroos³, Herman Kingma³

¹Maastricht, Nederland

²University Maastricht, Maastricht, Nederland

³University Hospital Maastricht, Maastricht, Nederland

⁴McRoberts, The Hague, Nederland

12:00 - 12:15

D5-5 Vestibular rehabilitation by vibrotactile neurofeedback in otolith disorders

Dietmar Basta, Arne Ernst

Charité Medical School, University of Berlin, Berlin, Germany

12:15 - 12:30

D5-6 Vestibular physiotherapy outcomes in patients with and without migrainous vertigo. A prospective single blinded controlled study

Jessica Vitkovic

The University of Melbourne, Parkville, Australia

12:30 - 13:30 Lunch

13:30 - 14:00 **Poster Session 2 - Posters No: PC-71 to PC-93, PD-94 to PD-109, PE-110 to PE-111, and PF-112 to PF-113**

During the poster session the authors of these abstracts will stand by their poster ready to answer questions

14:00 - 15:30 **Oral Session A6 - Inner Ear Morphology**

Room 103

Chairs: Helge Rask Andersen and Timothy Hullar

14:00 - 14:15

A6-1 A new study on the fluid dynamics in the SCC and the utricle

Francesco Boselli¹, Leonhard Kleiser¹, Stefan Hegemann², Dominik Obrist¹

¹ETH, Zurich, Switzerland

²University Hospital Zurich, Zurich, Switzerland

14:15 - 14:30

A6-2 Precise measurement of the human semicircular canals in CT and micro-CT

Andrew Bradshaw¹, Ian Curthoys², Michael Todd³, John Magnussen⁴, David Taubman⁵, Swee Aw³, Michael Halmagy³

¹Royal Prince Alfred Hospital, Camperdown, NSW, Australia

²Vestibular Research Laboratory, School of Psychology, the University of Sydney, Sydney, Australia

³Department of Neurology, Royal Prince Alfred Hospital, Sydney, Australia

⁴Department of Radiology, Royal Prince Alfred Hospital, Sydney, Australia

⁵School of Electrical Engineering, University of New South Wales, Sydney, Australia

14:30 - 14:45

A6-3 Whale inner ear morphology: Use of 3D modelling and rapid prototyping technology

Paolo Gargiulo, Hannes Petersen

Landspítali University Hospital, Reykjavik, Iceland

14:45 - 15:00

A6-4 Acoustic resonance and reduced semicircular canal size in cetaceans

Timothy Hullar

Washington University in St. Louis, Saint Louis, USA

15:00 - 15:15

A6-5 Vestibular evoked myogenic potentials divers

Haim Lavon¹, Dror Tal², Gil Kaminski-Graif², Dov HersHKovitz², Avi Shupak³

¹Carmel Medical Center, Haifa, Israel

²Motion Sickness and Human Performance Laboratory, Israel Naval Medical Institute, Haifa, Israel

³Unit of Otoneurology Lin Medical Center, and The Technion Faculty of Medicine, Haifa, Israel

15:15 - 15:30

A6-6 Whale vestibular morphology and sea sickness

Hannes Petersen

Landspítali, University Hospital, Reykjavik, Iceland

14:00 - 15:30

Oral Session B6 - ESCEBD & the Young Ones

Room 102

Chairs: Philippe Perrin, Herman Kingma

14:00 - 14:30

B6-1 Presentation of the 'European Society for Clinical Evaluation of Balance Disorders' (ESCEBD)

Several speakers

14:30 - 14:45

B6-2 Vestibular-evoked myogenic potential (VEMP) to evaluate cervical myelopathy in human T cell lymphotropic virus type I infection

Lilian Felipe¹, José Roberto Lambertucci², Herman Kingma³, Anna Bárbara Carneiro-Proietti⁴, Denise Utsch Goncalves²

¹Belo Horizonte, Brazil

²Tropical Medicine Post Graduate Program, Faculty of Medicine, Federal University, Belo Horizonte, Brazil

³Department of Balance Disorders, Clinical Movement Laboratory, Maastricht, The Netherlands

⁴Hemominas Foundation, Minas Gerais State Centre of Hematology and Blood Transfus, Belo Horizonte, Brazil

14:45 - 15:00

B6-3 Postural control in adolescent extremely low birthweight preterm children

Arnar Þór Tulinius¹, Einar J. Einarsson¹, Ingibjörg Georgsdóttir², Ásgeir Haraldsson², Hannes Petersen²

¹Faculty of Medicine, University of Iceland, Reykjavik, Iceland

²Landspítali University Hospital, Reykjavik, Iceland

15:00 - 15:15

B6-4 Blood pressure and heart rate changes induced by sinusoidal galvanic stimulation of the labyrinths in the anesthetized rat

Bernard Cohen, Sergei Yakushin, Giorgio Martinelli, Dmitri Ogorodnikov, Rowena Flores, Mingjia Dai, Gay Holstein

Mount Sinai School of Medicine, New York, USA

15:15 - 15:30

B6-5 Physiological effect of cupula shrinkage on the semicircular canal activity

Mamoru Suzuki, Youichi Iimura, Ujimoto Konomi, Koji Otsuka, Taro Inagaki, Shigetaka Shimizu, Yasuo Ogawa
Tokyo Medical University, Tokyo, Japan

14:00 - 15:30

Oral Session C6 – Meniere’s & More

Room 105

Chairs: Ilmari Pykkö and Ian S. Curthoys

14:00 - 14:15

C6-1 The vestibular evoked-potential profile of Ménière’s disease

Rachael Taylor¹, Ayanthi Wijewardene², William Gibson², Michael Halmagyi², Miriam Welgampola²

¹Royal Prince Alfred Hospital, Sydney, Australia

²University of Sydney, Sydney, Australia

14:15 - 14:30

C6-2 Meniere’s disease patients show enhanced eye velocity and altered VOR dynamics in response to high acceleration head rotations

Ian Curthoys¹, Leonardo Manzari², Hamish MacDougall¹

¹University of Sydney, Sydney, Australia

²MSA ENT Academy Center, Cassino, Italy

14:30 - 14:45

C6-3 Tinnitus in Menière’s disorder

Ilmari Pykkö¹, Dafydd Stephens², Erna Kentala³, Hilla Levo³, Dennis Poe⁴, Yrjö Auramo⁵

¹University of Tampere, Tampere, Finland

²University of Cardiff, Cardiff, United Kingdom

³University of Helsinki, Helsinki, Finland

⁴University of Tampere, Tampere, Finland

⁵Pori Polytechnical University, Pori, Finland

14:45 - 15:00

C6-4 Clinical characteristics of delayed endolymphatic hydrops in Japan: a nation-wide survey by the peripheral vestibular disorder research committee of Japan

Hideo Shojaku¹, Yukio Watanabe¹, Noriaki Takeda², Tetsuo Ikezono³, Masahiro Takahashi⁴, Akinobu Kakigi⁵, Juichi Ito⁶, Katsumi Doi⁷, Mamoru Suzuki⁸, Masaya Takumida⁹, Katsumasa Takahashi¹⁰, Hiroshi Yamashita¹¹, Izumi Koizuka¹², Shinichi Usami¹³, Mitsuhiro Aoki¹⁴, Hideaki Naganuma¹⁵

¹University of Toyama, Toyama, Japan

²University of Tokushima, Tokushima, Japan

³Nihon Medical University, Tokyo, Japan

⁴Yokohama Central Clinic, Yokohama, Japan

⁵University of Tokyo, Tokyo, Japan

⁶University of Kyoto, Kyoto, Japan

⁷University of Osaka, Osaka, Japan

⁸Tokyo Medical University, Tokyo, Japan

⁹University of Hiroshima, Hiroshima, Japan

¹⁰University of Gunma, Maebashi, Japan

¹¹University of Yamaguchi, Ube, Japan

¹²St. Marianna Medical University, Kawasaki, Japan

¹³University of Sinsyu, Matsumoto, Japan

¹⁴University of Gifu, Gifu, Japan

¹⁵Kitasato University, Sagamihara, Japan

15:00 - 15:15

C6-5 Shorter CCTTT repeats at promoter of NOS2A gene decrease risk for Ménière's disease in European population in a case-control with replication study

Jose Antonio Lopez-Escamez¹, Antonia Moreno², Irene Gazquez¹, Ismael Aran³, Andres Soto-Varela⁴, Sofia Santos⁴, Herminio Perez-Garrigues⁵, Alicia Lopez-Nevot², Miguel Angel Lopez-Nevot²

¹Hospital de Poniente, Almeria, Spain

²Hospital Virgen de las Nieves, Granada, Spain

³Hospital de Pontevedra, Pontevedra, Spain

⁴Hospital Clinico Universitario Santiago, Aantiago de Compostela, Spain

⁵Hospital La Fe, Valencia, Spain

15:15 - 15:30

C6-6 Blockage of endolymph by saccular otoconia in Meniere's disease

Hideo Yamane¹, Masahiro Takayama², Kishiko Sunami², Hiramori Sakamoto², Toshio Imoto², Matti Anniko³

¹Osaka City University, Osaka, Japan

²Dept. of Otolaryngology Osaka City University, Osaka, Japan

³Dept. of Otolaryngology and Head & Neck Surgery, Uppsala, Sweden

14:00 - 15:30 **Oral Session D6 - Vestibular Rehabilitation** **Room 104**
Chairs: Helen S. Cohen and Brian Day

14:00 - 14:15

D6-1 Pilot studies on treatment of Mal de Debarquement (MDD)

Mingjia Dai¹, Theodore Raphan², Catherine Cho¹, Eric Smouha¹, Bernard Cohen¹

¹Mount Sinai School of Medicine, New York, USA

²Brooklyn College, CUNY, New York, USA

14:15 - 14:30

D6-2 Vestibular rehabilitation with vibrotactile neurofeedback training in patients with Parkinson's disease

Marcos Rossi-Izquierdo¹, Arne Ernst², Dietmar Basta², Andrés Soto-Varela¹, Sofía Santos-Pérez¹, Ana Faraldo-García¹, Ángel Sesar-Ignacio¹

¹University Hospital of Santiago de Compostela, Santiago de Compostela, Spain

²Hospital of the University of Berlin, Berlin, Germany

14:30 - 14:45

D6-3 The effects of vibrotactile feedback on protective stepping responses in Parkinson's disease patients

Pei-Yun Lee¹, Kris Gadareh¹, Mohammad J Naushahi², Peter G Bain², Dipankar Nandi², Michael A Gresty¹, Adolfo M Bronstein¹

¹Imperial College Neuro-otology Unit, London, United Kingdom

²Imperial College Neuromodulation Group, London, United Kingdom

14:45 - 15:00

D6-4 Reduced posturographic differences during anticipation of a postural threat between patients with phobic postural vertigo and healthy subjects

Johan Holmberg, Fredrik Tjernström, Mikael Karlberg, Per-Anders Fransson, Måns Magnusson

University of Lund, Lund, Sweden

15:00 - 15:15

D6-5 The effect of vibrotactile feedback on vestibular-deficient postural performance during visual perturbations

Kelli E. Bechly¹, Shawn O'Connor², Kathleen Sienko¹

¹University of Michigan, Ann Arbor, USA

²Simon Fraser University, Burnaby, Canada

15:15 - 15:30

D6-6 The application of vibrotactile neurofeedback training in patients with a semicircular dysfunction

Fumiyuki Goto¹, Tatsuhiko Harada², Sho Kanzaki³, Ogawa Kaoru³, Arne Ernst⁴, Dietmar Basta⁴

¹Hino Municipal Hospital, Tokyo, Japan

²Department of Otolaryngology, International University of Health and Welfare, Kanagawa, Japan

³Department of Otolaryngology, Keio University, School of Medicine, Tokyo, Japan

⁴Department of Otolaryngology at UKB, Charité Medical School, Berlin, Germany

15:30 - 16:00 Coffee Break

16:00 - 18:00 **Oral Session A7 - Classification** **Room 102**
 Chairs: Herman Kingma and Alexander Bisdorff

16:00 - 16:15

A7-1 Classification of vestibular symptoms

Alexandre Bisdorff

Centre Hospitalier Emile Mayrisch, Department of Neurology, Esch-Sur-Alzette, Luxembourg

16:15 - 16:25

A7-2 Building a classification

David Newman-Toker

The Johns Hopkins University School of Medicine, Baltimore, USA

16:25 - 16:35

A7-3 Proposed multi-layer structure for the international classification of vestibular disorders

David Newman-Toker¹, Jeffrey Staab², Adolfo Bronstein³, Thomas Lempert⁴, Nicolás Pérez⁵, Toshiaki Yagi⁶, Alexandre Bisdorff⁷

¹The Johns Hopkins University School of Medicine, Baltimore, USA

²Mayo Clinic, Department of Psychiatry and Psychology, Rochester, USA

³Imperial College London, Division of Neuroscience & Psychological Medicine, London, United Kingdom

⁴Schlosspark-Klinik, Department of Neurology, Berlin, Germany

⁵Clinica Universitaria de Navarra, Department of Otorhinolaryngology, Navarra, Spain

⁶Nippon Medical School, Department of Otolaryngology, Tokyo, Japan

⁷Centre Hospitalier Emile Mayrisch, Department of Neurology, Esch-Sur-Alzette, Luxembourg

16:35 - 16:50

A7-4 Validation of a clinical syndrome of persistent dizziness and unsteadiness

Jeffrey Staab, Scott Eggers, Brian Neff, Neil Shepard, Adam Goulson, Matthew Carlson

Mayo Clinic, Rochester, USA

16:50 - 17:05

A7-5 Acute vestibular syndrome - systematic review of bedside diagnostic predictors of stroke

Alexander Tarnutzer, Aaron Berkowitz, Karen Robinson, Yu-Hsiang Hsieh, David Newman-Toker

The Johns Hopkins School of Medicine, Baltimore, USA

17:05 - 17:15

A7-6 Defining Meniere's

Lloyd Minor

John Hopkins University, Baltimore, USA

17:15 - 17:25

A7-7 Defining vestibular migraine

Thomas Lempert

Schlosspark-Klinik, Department of Neurology, Berlin, Germany

17:25 - 17:35

A7-8 Defining BPPV

Michael Von Brevern

Parklinik Weissensee, Berlin, Germany

17:35 - 17:40

A7-9 Future directions

Alexandre Bisdorff

17:40 - 18:00

Panel

18:30 / 19:15 Banquet - Blue Lagoon

Transport will be from the Congress Hotels at 18:30 for banquet with bath entrance and at 19:15 for banquet without bath entrance.

Saturday, August 21

09:30 - 12:30	Oral Session A8 - Vestibular Physiology	Room 102
	Chairs: Cynthia Darlington and Dan Merfeld	

09:30 - 09:45

A8-1 Electrophysiological and immunohistochemical changes in the vestibular nuclear activity following acute hypotension in rats

Byung Rim Park¹, Min Sun Kim¹, Dae Im Kang²

¹Wonkwang University School of Medicine, Iksan, Korea (Rep)

²Korea Research Institute of Standards and Science, Daejeon, Korea (Rep)

09:45 - 10:00

A8-2 Effects of tinnitus induced by acoustic trauma on performance in a spatial forced alternating T maze task

Cynthia Darlington, Emma Hamilton, Lucy Stiles, Paul Smith, Yiwen Zheng

University of Otago, Dunedin, New Zealand

10:00 - 10:15

A8-3 Responses of rostral vestibular nucleus neurons to low velocity yaw rotation

Shawn Newlands, Min Wei, Tom Seidl, Laurel Carney

University of Rochester Medical Center, Rochester, USA

10:15 - 10:30

A8-4 Pulsed infrared radiation rapidly modulates hair cell neurotransmitter release

Suhrud M. Rajguru¹, Claus-Peter Richter¹, Stephen M. Highstein², Greg M. Dittami³, Richard D. Rabbitt³

¹Northwestern University, Chicago, USA

²Marine Biological Laboratory, Woods Hole, USA

³University of Utah, Salt Lake City, USA

10:30 - 11:00 Coffee Break

11:00 - 11:15

A8-5 Membrane proteins define microdomains in the vestibular afferent calyx

Anna Lysakowski¹, Sophie Gaboyard-Niay², Irina Calin-Jageman³, Shilpa Chatlani⁴, Steven Price¹, Ruth Anne Eatock⁵

¹University of Illinois at Chicago, Chicago, USA

²Universite de Montpellier, Montpellier, France

³Dominican University, River Forest, USA

⁴University of Chicago, Chicago, USA

⁵Harvard University, Boston, USA

11:15 - 11:30

A8-6 Asymmetry in vestibular responses to cross-coupled stimulus

Jaime Mateus¹, Jorge Cañizales¹, Andrew Hearn², Laurence Young¹

¹Massachusetts Institute of Technology, Cambridge, USA

²National University of Ireland, Dublin, Ireland

11:30 - 11:45

A8-7 Achiasmatic zebrafish as a behavioral model for infantile nystagmus syndrome (INS)

Melody Yingyu Huang¹, Dominik Straumann¹, Stephan Neuhauss²

¹University Hospital Zurich, Zurich, Switzerland

²University of Zurich, Zurich, Switzerland

11:45 - 12:00

A8-8 The use of ocular counterroll and horizontal nystagmus patterns in trapezoidal eccentric rotation as indicators of canal and utricular function.

Jorge Gonzalez¹, Alexander Kiderman²

¹Bloomsburg University of Pennsylvania, Bloomsburg, USA

²Neuro-Kinetics, Inc., Pittsburgh, USA

12:00 - 12:15

A8-9 Dynamic posturography: the clinical value in the diagnosis of patients with acute vertigo

Daogong Zhang, Zhaomin Fan, Yuechen Han, Haibo Wang

Provincial Hospital affiliated to Shandong University, Jinan, China

12:15 - 12:30

A8-10 A New vestibular evoked potential occurring 6 msec after stimulus onset with air-conducted tone auditory stimuli

Eleftherios Papathanasiou¹, Athena Lemesiou¹, Stavros Hadjiloizou², Panayiota Myriantopoulou¹, Marios Pantzaris¹, Savvas Papacostas¹

¹The Cyprus Institute of Neurology & Genetics, Nicosia, Cyprus

²Cyprus Paediatric Neurology Institute, Nicosia, Cyprus

09:30 - 12:30

Oral Session B7 - Differential Diagnosis

Room 103

Chairs: Nicolas Perez and Pierre Bertholon

09:30 - 09:45

B7-1 Dizziness in the emergency department

Arni Egill Ormolfsson¹, Olof Birna Margretardottir¹, Einar Hjaltsted¹, Hannes Petersen²

¹Landspítali Hospital, Reykjavik, Iceland

²Landspítali University Hospital, Reykjavik, Iceland

09:45 - 10:00

B7-2 Nystagmus assessments documented by emergency physicians in acute dizziness presentations: opportunity for improvement?

Kevin Kerber¹, Lewis Morgenstern¹, William Meurer¹, Jane Forman¹, A. Fendrick¹, David Newman-Toker²

¹University of Michigan, Ann Arbor, USA

²John Hopkins University, Baltimore, USA

10:00 - 10:15

B7-3 Do different symptom sets represent different sites of pathology or different types of patients?

Art Mallinson¹, Neil Longridge²

¹Vancouver General Hospital, Vancouver, Canada

²University of British Columbia, Vancouver, Canada

10:15 - 10:30

B7-4 Otosclerosis among patients with dizziness

Nicolas Perez¹, Paloma Eza²

¹University of Navarra, Pamplona, Spain

²University of Cantabria, Santander, Spain

10:30 - 11:00

Coffee Break

11:00 - 11:15

B7-5 Canal and otolith function testing in subjects with vestibular schwannoma

Robbie Yavor¹, Miriam Welgampola², Rachael Taylor², Benjamin Jonker¹, Brindha Shivalingam¹, Hamish MacDougall², Ian Curthoys², Michael Halmagyi¹

¹Royal Prince Alfred Hospital Camperdown, Sydney, Australia

²University of Sydney, Sydney, Australia

11:15 - 11:30

B7-6 Endolymphatic hydrops in patients with superior semicircular canal dehiscence syndromeIlmari Pyykkö¹, Dennis Poe²¹University of Tampere, Tampere, Finland²University of Tampere, Tampere, Finland

11:30 - 11:45

B7-7 Gait disorders associated with bilateral sensorineural hearing loss due to late chronic Lyme disease in 2 patientsPierre Bertholon¹, Céline Cazorla², Anne Carricajo², Alexander Oletski², Gilles Damon², Christian Martin², Bernard Laurent²¹Hôpital Nord, Saint Etienne, France²Saint Etienne, France

11:45 - 12:00

B7-8 Gaze displacement and eye-to-foot coordination during voluntary reorientations in standing parkinsonian patientsDimitri Anastasopoulos¹, Nausica Ziavra¹, Socratis Sklavos¹, Eugenia Savvidou¹, Adolfo Bronstein²¹University of Athens, Athens, Greece²Imperial College, London, United Kingdom

12:00 - 12:15

B7-9 How balance deteriorates in migraineurs

Gülden Akdal, Birgül Dönmez Balci, Salih Angin, Vesile Öztürk

Dokuz Eylül University, Izmir, Turkey

12:15 - 12:30

B7-10 Vestibular migraine - validity of clinical diagnostic criteria at long-term follow upAndrea Radtke¹, Hannelore Neuhauser², Michael Von Brevern³, Tilman Hottenrott¹, Thomas Lempert⁴¹Charité, Berlin, Germany²Robert Koch Institute, Berlin, Germany³Parkklinik Weissensee, Berlin, Germany⁴Schlosspark-Klinik, Berlin, Germany09:30 - 12:30 **Oral Session C7 - Ageing & Balance****Room 104**

Chair: John H.J. Allum

09:30 - 09:45

C7-1 Reference values of static and dynamic clinical balance testsPia Bergquist Larsson¹, Ann-Sofi Kammerlind², Torbjörn Ledin³¹Faculty of Health Science Linköping University, Linköping, Sweden²Ryhov County Hospital, Jönköping, Sverige³Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sverige

09:45 - 10:00

C7-2 The relationship between accelerometer scores, age, and status (patient versus control) during standing

Susan Whitney¹, Gregory Marchetti², Jennica Roche¹, Chia-Cheng Lin¹, Daniel Steed¹, Mark Musolino³, Gabriel Furman¹, Mark Redfern¹

¹University of Pittsburgh, Pittsburgh, PA

²Duquesne University, Pittsburgh, USA

³Crossroads Consulting, LLC, Johnstown, USA

10:00 - 10:15

C7-3 Psychophysical responses to earth-vertical rotations in the elderly

Timothy Hullar¹, Osarenoma Olomu¹, Robert Mallery², Rosalie Uchanski¹

¹Washington University in St. Louis, Saint Louis, USA

²Brigham and Women's Hospital, Boston, USA

10:15 - 10:30

C7-4 Vibrotactile postural control in patients that have sit-to-stand balance deficit and fall

Karen Atkins

BalanceSense LLC, Celebration, USA

10:30 - 11:00 Coffee Break

11:00 - 11:15

C7-5 Visual vertigo and vestibulopathy: oculomotor and posturography findings

Oz Zur¹, Ruth Dickstein¹, Elizabeth Dannenbaum², Joyce Fung²

¹Haifa University, Raanana, Israel

²Jewish Rehabilitation Hospital, Quebec, Canada

11:15 - 11:30

C7-6 The role of positive experiences in Menière's disorder

Dafydd Stephens¹, Ilmari Pyykkö², Hilla Levo³, Erna Kentala³, Dennis Poe², Yrjö Auramo⁴

¹Cardiff University, Cardiff, Wales, United Kingdom

²University of Tampere, Tampere, Finland

³University of Helsinki, Helsinki, Finland

⁴Pori Polytechnical University, Pori, Finland

11:30 - 11:45

C7-7 Cell phone based vibrotactile feedback system for home-based vestibular rehabilitation balance training

Beom-Chan Lee, Kelli Bechly, Kathleen Helen Sienko

University of Michigan, Ann Arbor, USA

11:45 - 12:00

C7-8 Enhancing vestibular function by imperceptible levels of electrical stimulation

Jorge Serrador¹, Maria Geraghty², Brian Deegan³, Scott Wood⁴

¹Veterans Biomedical Research Institute, East Orange, USA

²University College Dublin, Dublin, Ireland

³National University of Ireland Galway, Galway, Ireland

⁴University Space Research Administration & NASA JSC, Houston, USA

12:00 - 12:15

C7-9 Trunk sway reductions in young and older adults using multi-modal biofeedback: randomized controlled trials

John HJ Allum

University Hospital Basel, Basel, Switzerland

12:15 - 12:30

C7-10 Effectiveness of variations on repositioning treatments for benign paroxysmal positional vertigo

Helen S Cohen, Haleh Sangi-Haghpeykar

Baylor College of Medicine, Houston, USA

09:30 - 12:30

Oral Session D7 - Meniere's & SSCD

Room 105

Chairs: Swee Aw and Martin Westhofen

09:30 - 09:45

D7-1 A novel inner ear monitoring system for evaluating ototoxicity of gentamicin eardrops in guinea pigs

Ting Hua Yang

National Taiwan University Hospital, Taipei, Taiwan

09:45 - 10:00

D7-2 Using different protocols of intratympanic gentamycin for the treatment of Meniere disease, according to the condition of the patient

Sergio Carmona, Diego Castagnino, Lilian Frankel, Romina Weinschelbaum

INEBA, Buenos Aires, Argentina

10:00 - 10:15

D7-3 The effect of intratympanic injection of gentamicin in low concentration for Meniere's disease on hearing level (3 years follow up)

Nathan Shlamkovitch, Efraim Eviatar

Assaf Harofeh Medical Center, Zerifin, Israel

10:15 - 10:30

D7-4 Audiological status of intratympanic gentamicin and medication treatment for Meniere's disease

Hisayoshi Ishizaki

Kikugawa General Hospital, Shizuoka, Japan

10:30 - 11:00 Coffee Break

11:00 - 11:15

D7-5 Ventilation tubes in Meniere's disease and Meniere's syndrome - cochlear and vestibular effects

Martin Westhofen¹, Jonas Park²

¹ORL-Department, Aachen, Germany

²ORL-Department, University Aachen, Aachen, Germany

11:15 - 11:30

D7-6 Middle ear pressure treatment of Meniere's disease by the trans-tympanic membrane stimulation

Yukio Watanabe, Hideo Shoujaku, Makiko Junicho, Masatsugu Asai, Michiro Fujisaka, Hiromasa Takakura

Graduate school of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan

11:30 - 11:45

D7-7 Vestibulo-ocular reflex evoked by bone-conducted tone in superior and posterior canal dehiscence

Swee Aw¹, Grace Aw², Andrew Bradshaw², Michael Todd², Michael Halmagyi²

¹Royal Prince Alfred Hospital / University of Sydney, Sydney, Australia

²Royal Prince Alfred Hospital, Sydney, Australia

11:45 - 12:00

D7-8 Autophony and pulsatile tinnitus in patients with superior canal dehiscence syndrome (SCDS): insights into mechanisms from tympanic membrane displacement measurement

Ros Davies¹, Robert Marchbanks², Linda Luxon¹, Peter Rudge¹, Adolfo Bronstein¹, Rosalyn Davies¹

¹The National Hospital for Neurology and Neurosurgery, London, United Kingdom

²Neurological Physics Group, Dept of Medical Physics, Southampton University, Southampton, United Kingdom

12:00 - 12:15

D7-9 Superior canal dehiscence in Iceland

Sigurður Stefánsson

Landspítali University Hospital, Reykjavik, Iceland

12:15 - 12:30

D7-10 The subarcuate canal and its artery as a surgical landmark in transmastoid repair of superior semicircular canal dehiscence syndrome

Robby Vanspauwen¹, Liselotte Rotteveel², Thomas Somers², Bert De Foer³, Joost Van Dinther², Andrzej Zarowski², Erwin Offeciers²

¹Sint-Augustinus Hospital, Wilrijk - Antwerp, Belgium

²University Department of ENT, Sint-Augustinus Hospital, Wilrijk - Antwerp, Belgium

³Dept. of Medical Imaging, Sint-Augustinus Hospital, Wilrijk - Antwerp, Belgium

12:30 - 13:30 Lunch and Closing of the Conference

Poster Sessions

Poster Session 1 - A. Basic Science

PA-01 Effect of an ototoxic agent on cupular morphology - a comparison with semicircular canal pathology

Koji Otsuka, Ujimoto Konomi, Mamoru Suzuki, Taro Inagaki, Go Hasegawa, Shigetaka Shimizu, Takafumi Kondo

Tokyo Medical University, Tokyo, Japan

PA-02 Using an artificial vestibular system and robot simulations to mimic human postural responses to support surface translational accelerations

Thomas Mergner, Luminous Fennell

University of Freiburg, Freiburg, Germany

PA-03 Membrane excitability of Purkinje neuron in vestibulocerebellum

Chang-Hee Kim¹, Jun Kim², Sang Jeong Kim²

¹Seoul National University College of Medicine, Seoul, Korea (Rep)

²Seoul National University, Seoul, Korea (Rep)

PA-04 Bone-conducted vibration combined with real-time triaxial accelerometry in eliciting ocular and cervical vestibular evoked myogenic potentials

Shou-Jen Wang¹, Fu-Shan Jaw², Yi-Ho Young³

¹Institute of Biomedical Engineering, Taipei, Taiwan

²Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan

³Department of Otolaryngology, National Taiwan University Hospital, Taipei, Taiwan

PA-05 Galvanic vestibular-evoked myogenic potentials in humans and guinea pigs

Po-Wen Cheng¹, Yi-Ho Young²

¹Department of Otolaryngology, Far Eastern Memorial Hospital, Taipei, Taiwan

²Department of Otolaryngology, National Taiwan University Hospital, Taipei, Taiwan

PA-06 Gabab receptors contribute to the restoration of balance during vestibular compensation in mice

Dianne Broussard¹, Raquel Heskin-Sweezie², Heather Titley², Joan Baizer³

¹University Health Network, Toronto, Canada

²Department of Physiology, University of Toronto, Toronto, Canada

³University at Buffalo, Buffalo, United States of America

PA-07 Vestibulo-ocular reflex thresholds match perceptual thresholds above 1 Hz

Dan Merfeld, Csilla Haburcakova, Richard Lewis

Harvard Medical School, Boston, United States of America

PA-08 A primate model for pendular nystagmus

Junko Fukushima¹, Natsuko Shichinohe¹, Graham Barnes², Teppei Akao¹, Sergei Kurkin¹, Manabu Kase³, John Leigh⁴, Tim Belton⁵, Kikuro Fukushima¹

¹Hokkaido University, Sapporo, Japan

²University of Manchester, Manchester, United Kingdom

³Teine Keijinkai Hospital, Sapporo, Japan

⁴Case Western Reserve University, Cleveland, United States of America

⁵Northwestern University, Chicago, United States of America

PA-09 Dose deficit in hippocampal function affect equilibrium function?

Hidefumi Yamamoto¹, Hideo Yamane¹, Michiharu Morini²

¹Osaka City University, Osaka, Japan

²Tokyo Metropolitan Neurological Hospital, Tokyo, Japan

PA-10 Cortical response concerned with circular vection detected by functional near infrared spectroscopy (fNIRS)

Hiromasa Takakura, Hideo Shoujaku, Hisao Nishijo, Yukio Watanebe

Graduate school of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan

PA-11 Evidence of re-weighting to plantar sensation at 0.06% and 0.10% blood alcohol intoxication in human postural control and adaptation

Per-Anders Fransson, Fredrik Modig, Mitesh Patel, Måns Magnusson

Lund University, Lund, Sverige

PA-12 Morphological changes in stria vascularis in experimental animal models administered arginine vasopressin

Hideaki Naganuma, Katsumasa Kawahara, Ryohei Sato, Koji Tokumasu, Atsusi Ochiai, Hiroyuki Makino, Makito Okamoto

Ktasato Univ. School of Medicine, Kanagawa, Japan

PA-13 Expression of aryl hydrocarbon receptor in the inner ear of rodents.

Kazuhiko Kubo¹, Mitsuru Ohashi², Shizuo Komune²

¹Chidoribashi General Hospital, Fukuoka, Japan

²Department of Otorhinolaryngology, Kyushu University, Fukuoka, Japan

PA-14 Influence of galvanic and air-caloric vestibular stimulation on self-attribution of body parts and tactile perception

Christophe Lopez¹, Bigna Lenggenhager², Olaf Blanke², Fred W. Mast¹

¹University of Bern, Bern, Switzerland

²Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland

PA-15 The relationship between the superior canal dehiscence syndrome and human evolution: Does human evolution cause vertigo?

Atsunobu Tsunoda, Naoto Takahashi, Ken Kitamura

Tokyo Medical and Dental University, Tokyo, Japan

PA-16 Effects of 0.06% and 0.10% blood alcohol intoxication on human postural control

Fredrik Modig, Patel M, Magnusson M, Johansson R, Fransson PA.
Department of Clinical Sciences, Lund, Lund University, Sweden.

PA-17 Predicting change of vestibular direction detection thresholds from acceleration profile differences

Florian Soyka, Karl Beykirch, Paolo Robuffo Giordano, Heinrich H. Bühlhoff
Max Planck Institute for Biological Cybernetics, Tübingen, Germany

PA-18 The vertical component of caloric nystagmus and the orientation of the semicircular canals

Sachiko Aoki, Yasuko Arai, Kazufumi Suzuki, Ai Masukawa
Tokyo Women's Medical University, Medical Center East, Tokyo, Japan

PA-19 The effect of morphological cupula change on caloric response

Taro Inagaki, Mamoru Suzuki, Yoichi Iimur, Koji Otsuka, Shigetaka Shimizu, Ujimoto Konomi
Tokyo Medical University, Tokyo, Japan

PA-20 The mammalian saccule: transduction and transmission

Jocelyn Songer¹, Ruth Anne Eatock²
¹Massachusetts Eye and Ear Infirmary, Boston, United States of America
²Harvard Medical School, Boston, United States of America

PA-21 Path integration in the third dimension

Michael Barnett-Cowan¹, Tobias Meilinger¹, Manuel Vidal², Heinrich Bühlhoff¹
¹Max Planck Institute for Biological Cybernetics, Tübingen, Germany
²Collège de France - CNRS, Paris, France

PA-22 The use of nanotechnology for cochlear regeneration

Ilmari Pyykkö¹, Dennis Poe², Jing Zou²
¹University of Tampere, Tampere, Finland
²University of Tampere, Tampere, Finland

PA-23 Self-motion perception evoked by vestibular, visual, and combined stimulation at threshold levels

Ognyan Kolev¹, Thomas Mergner², Hubert Kimmig³, Wolfgang Becker⁴
¹University Hospital, St. Naum, Sofia, Bulgaria
²Neurology, University of Freiburg, Freiburg, Germany
³Schwarzwald-Baar Klinikum, Villingen-Schwenningen, Germany
⁴Universität Ulm, Ulm, Germany

PA-24 Idiopathic scoliosis is linked to an anatomical asymmetry in the peripheral vestibular system

Gaëlle Quarck, Julien Lacoudre, Eric Edy, Pierre Denise, Jean-François Mallet
University of Caen, Normandy, Caen Cedex, France

PA-25 In vitro whole-cell conductances recorded from developing human cristae

Rebecca Lim, Aaron Camp, Melissa Walsh, Robert Callister, Alan Brichta
The University of Newcastle, Callaghan, Australia

PA-26 Inhibitory synaptic transmission in the lateral vestibular nucleus

Rebecca Lim, Iain Stitt, Aaron Camp, Robert Callister, Alan Brichta
The University of Newcastle, Callaghan, Australia

PA-27 Thresholds for self-motion perception in roll about earth-vertical and earth-horizontal axes with and without fixation targets

Ognyan Kolev¹, Daniel Merfeld²

¹Medical University - Sofia, Sofia, Bulgaria

²JVPL, MEEI, Department of Otolaryngology, Harvard Medical School, Boston, United States of America

PA-28 Response of the angular vestibulo-ocular reflex (aVOR) to high accelerations in three dimensions after lateral semicircular canal nerve section

Sergei Yakushin¹, Mingjia Dai¹, Jun-Ichi Suzuki², Yasuko Arai³, Theodore Raphan⁴, Bernard Cohen¹

¹Mount Sinai School of Medicine, New York, United States of America

²Teikyo University, Tokyo, Japan

³Tokyo Women's Medical College, Tokyo, Japan

⁴Brooklyn College, CUNY, Brooklyn, United States of America

PA-29 Self-motion perception parallels the angular vestibulo-ocular reflex during earth-vertical yaw and pitch rotations in patients with midline cerebellar dysfunction

Antonella Palla¹, Giovanni Bertolini¹, Stefano Ramat², Dominik Straumann¹, Sarah Marti¹

¹Zurich University Hospital, Zurich, Switzerland

²Dipartimento di Informatica e Sistemistica, Università di Pavia, Pavia, Italy

PA-30 The anatomy of the utricular and saccular maculae in relation to the footplate of the stapes. An X-ray microCT study

Payal Mukherjee¹, Hilal Uzun², Ian Curthoys³, Allan Jones², Andrew Bradshaw¹, David Pohl¹

¹Royal Prince Alfred Hospital, Sydney, Australia

²Australian Centre for Microscopy and Microanalysis, Sydney, Australia

³University of Sydney, Sydney, Australia

PA-31 Utricular function in normal subjects and patients with vestibular dysfunction

Qadeer Arshad, K Agarwal, ME Faldon, Michael Gresty, Barry Seemungal, Adolfo Bronstein
Imperial College London, London, United Kingdom

PA-32 Population responses of floccular purkinje cells during vergence pursuit

Sergey Kurkin, Takashi Tsubuku, Teppei Akao, Junko Fukushima, Kikuro Fukushima
Hokkaido University School of Medicine, Sapporo, Japan

PA-33 Sensorimotor noise in the vestibulo-ocular reflex exhibits low-dimensional structure

Dan Merfeld, Faisal Karmali

Harvard Medical School, Boston, United States of America

PA-34 Perceptual roll tilt thresholds demonstrate visual-vestibular fusion

Dan Merfeld, Faisal Karmali, Keyvan Nicoucar, Koeun Lim
Harvard Medical School, Boston, United States of America

PA-35 Effects of cinnarizine on isolated vestibular hair cells of guinea pigs

Martin Westhofen¹, Ingo Sparrer², Thorsten Haasler², Andreas Lückhoff³, Thien An Duong Dinh²
¹ORL-Department, Aachen, Germany
²ORL-Department, University Aachen, Aachen, Germany
³Institute of Physiology, RWTH University, Aachen, Germany

PA-36 Histological analysis of a pygmy killer whale (*feresa attenuata*) inner ear

Anna Lysakowski¹, Steven Price¹, Timothy Hullar²
¹University of Illinois at Chicago, Chicago, United States of America
²Washington University, St. Louis, United States of America

Poster Session 1 - B. Diagnosis

PB-37 Non-invasive evaluation of endolymphatic hydrops and normal value of endolymphatic space using magnetic resonance imaging

Fang Liu¹, Weining Huang², Zhengchang Wang³
¹Beijing Hospital, Beijing, China
²Department of Otolaryngology, Beijing Hospital, Beijing, China
³Department of Radiology, Beijing Tongren Hospital, Capital Medical University, Beijing, China

PB-38 OVEMP findings to air-conducted tones are independent of CVEMP findings?

Toshihisa Murofushi¹, Hanako Saigusa¹, Kikuko Wakayama¹, Eriko Yoshimura², Yukiko Tsuda², Yasuhiro Chihara³
¹Teikyo University School of Medicine, Kawasaki, Japan
²Yoshimura ENT Clinic, Fujisawa, Japan
³Tokyo Postal Services Agency Hospital, Tokoyo, Japan

PB-39 Diagnostic value of rotational test in peripheral vertigo patients

Daogong Zhang, Zhaomin Fan, Yuechen Han, Haibo Wang
Provincial Hospital affiliated to Shandong University, Jinan, China

PB-40 Digitalization of paper-based electronystagmography

Masakatsu Taki¹, Tatsuhisa Hasegawa², Hirofumi Sakaguchi¹, Toshihiro Suzuki¹, Yasuo Hisa¹
¹Kyoto Prefectural University of Medicine, Kyoto, Japan
²Kyoto Prefectural Yosanoumi Hospital, Yosa, Japan

PB-41 The prevalence of Vestibulo Ocular Reflex (VOR) deficit and postural sway in children with intellectual disability: preliminary results

Zur O¹, Ronen A², Melzer I² and Carmeli E³

¹The Israeli Center for Dizziness and Balance Disorders, Raanana

²Physical Therapy Department, School of community health, Rekanati, Ben Gurion University,

³Faculty of Medicine, Physical Therapy Department, The Stanley Steyer School of Health Professions, Tel Aviv University

PB-42 Subjective visual vertical in vestibular neuritis and unilateral sudden deafness

Yasuo Ogawa, Koji Otsuka, Taro Inagaki, Takahito Kondo, Shigetaka Shimizu, Mamoru Suzuki

Tokyo Medical University, Tokyo, Japan

PB-43 The n10 of the ocular vestibular evoked myogenic potential to 500Hz Fz bone conducted vibration is a valuable new indicator of semicircular canal dehiscence

Leonardo Manzari¹, Ann Burgess², Ian S. Curthoys²

¹MSA Ent Academy Center Cassino, Cassino, Italy

²Vestibular Research Laboratory, School of Psychology, The University of Sydney, Sydney, Australia

PB-44 Ocular vestibular evoked myogenic potentials to air-conducted sound and bone-conducted vibration in superior vestibular neuritis

Shinichi Iwasaki¹, Ian S. Curthoys², Yasuhiro Chihara¹, Munetaka Ushio¹, Leigh McGarvie³, Ann M. Burgess², Tatsuya Yamasoba¹

¹University of Tokyo, Faculty of Medicine, Tokyo, Japan

²Vestibular Research Laboratory, School of Psychology, University of Sydney, Sydney, Australia

³Institute of Clinical Neurosciences, Royal Prince Alfred Hospital, Sydney, Australia

PB-45 About correlation between centre of pressure, trunk, and head sways during quiet upright stance

Angelo Buizza, Paola Ferraris, Roberto Gandolfi, Remo Lombardi, Eleonora Pilato

University of Pavia, Pavia, Italy

PB-46 3D analysis of benign positional nystagmus due to cupulolithiasis in posterior semicircular canal

Takao Imai¹, Atsuhiko Uno¹, Suetaka Nishiike¹, Tadashi Kitahara², Arata Horii³, Noriaki Takeda⁴, Hidenori Inohara¹

¹Osaka University Graduate School of Medicine, Osaka, Japan

²Department of Otolaryngology, Osaka Rosai Hosapital, Osaka, Japan

³Department of Otolaryngology, Suita Municipal Hosapital, Osaka, Japan

⁴Department of Otolaryngology, Tokushima University Graduate School of Medicine, Tokushima, Japan

PB-47 Localization and prevalence of hydrops formation in Meniere's disease using a test battery

Chi-Hsuan Huang¹, Shou-Jen Wang², Yi-Ho Young²

¹Catholic Cardinal Tien Hopital, Taipei, Taiwan

²National Taiwan University Hospital, Taipei, Taiwan

PB-48 Ocular vestibular evoked myogenic potentials in response to vertex bone

Berit Holmeslet¹, Magnus Westin², Krister Brantberg¹

¹St.Olav Hospital, Trondheim, Norge

²Department of Audiology, Karolinska Hospital, Stockholm, Sweden

PB-49 Impaired sacculocollic reflex in anterior inferior cerebellar artery infarctionSeonhye Kim¹, Ji Soo Kim²¹Pusan National University Yangsan Hospital, Yangsan-Si, Gyeongsangnam-Do, Korea (Rep)²Seoul National University Bundang Hospital, Seoul, Korea (Rep)**PB-50 Emergency department referrals for acute vestibular neuritis are more commonly due to BPPV**Nick Cutfield¹, Barry Seemungal², Adolfo Bronstein²¹University of Otago and Imperial College London, Dunedin, New Zealand²Imperial College, London, United Kingdom**PB-51 Dissociation between cVEMP and oVEMP projections activated by sound in vestibular neuritis**

Sendhil Govender, Sally M. Rosengren, James G. Colebatch

Prince of Wales Clinical School and Medical Research Institute, Sydney, Australia

PB-52 Analysis of vestibular function in patients with otosclerosisNaoki Saka¹, Masafumi Sakagami², Toru Seo³¹Hyogo College of Medicine, Nisinomiya, Japan²Hyogo college of Medicine, Nisinomiya, Japan³Osaka Central Hospital, Osaka, Japan**PB-53 Accurate VOR gain measurement in the video head impulse test**Andrew Bradshaw¹, Hamish MacDougall², Konrad Weber³, Ian Curthoys²¹Royal Prince Alfred Hospital, Camperdown, NSW, Australia²Vestibular Research Laboratory, School of Psychology, the University of Sydney, Sydney, Australia³Department of Neurology, Zurich University Hospital, Zurich, Switzerland**PB-54 Difference of vestibuloauditory findings in patients with tumor of cerebellopontine angle: vestibular schwannoma vs meningioma**Yoshihiro Umeno¹, Kazuhiko Kubo², Shizuo Komune¹¹Kyushu University, Fukuoka, Japan²Chidoribashi General Hospital, Fukuoka, Japan**PB-55 The clinical utility of Romberg's test**David Szmulewicz¹, John Waterston², Elsdon Storey²¹Melbourne, Australia²Department of Neuroscience (Medicine), Monash University, Alfred Hospital Campus, Melbourne, Australia**PB-56 Ocular vestibular-evoked myogenic potentials to bone conducted vibrations in superior vestibular neuritis show utricular function**A.M. Burgess¹, Leonardo Manzari², I.S. Curthoys¹¹University of Sydney, Sydney, Australia²Department of Experimental Pathology, La Sapienza University, Rome, Italy

PB-57 Bedside diagnosis of vestibular neuritis in a patient with congenital nystagmusFredrik Tjernström¹, Mikael Karlberg², Måns Magnusson²¹Skåne University Hospital, Lund, Sweden²Lund University Hospital, Lund, Sweden**PB-58 High VOR gain and prolonged time constant in rotation chair test can induce motion intolerance in dizzy patients**

Won-Ho Chung, Gil Joon Lee, Hosuk Chu, Hye-Youn Youm, Il Joon Moon, Se-Hyung Kim

Samsung Medical Center, Seoul, South Korea

PB-59 A vestibular evoked myogenic potential (VEMP) metric that estimates the EMG inhibition depth produced by the saccular responseS R Prakash¹, John Guinan², Barbara Herrmann¹, Steven Rauch¹¹Massachusetts Eye and Ear Infirmary, Boston, United States of America²Eaton-Peabody Laboratory, Massachusetts Eye and Ear Infirmary, Boston, United States of America**PB-60 The Vestibular Dysfunction Index (VDI): A method to assess the degree of vestibular dysfunction in patients with vertigo**Floris Wuyts¹, Leen Maes², Ingeborg DHooghe², Kristof Buytaert¹, Paul Van de Heyning¹¹University of Antwerp, Antwerp, Belgium²University of Ghent, Ghent, Belgium**PB-61 Impaired sacculocollic reflex in lateral medullary infarction: correlation of cervical vestibular evoked myogenic potential with other vestibular function tests**Seonhye Kim¹, Ji Soo Kim²¹Pusan National University Yangsan Hospital, Yangsan-Si, Gyeongsangnam-Do, Korea (Rep)²Seoul National University Bundang Hospital, Seoul, Korea (Rep)**PB-62 Furosemide loading VEMP testing can detect occult endolymphatic hydrops in silent ears**Toru Seo¹, Naoki Saka², Masafumi Sakagami²¹Osaka Central Hospital, Osaka, Japan²Hyogo College of Medicine, Nishinomiya, Japan**PB-63 Video head impulse tests (vHIT) of individual lateral, posterior and anterior semicircular canal function**Hamish MacDougall¹, Konrad Weber², Leigh McGarvie³, Leonardo Manzari⁴, Michael Halmagyi³, Ian Curthoys¹¹University of Sydney, Sydney, Australia²Department of Neurology, Zurich University Hospital, Zurich, Switzerland**PB-64 Inferior labyrinth compromise in Fabry's disease**Sergio Carmona¹, Ana Pardal², Ricardo Reisin²¹INEBA, Buenos Aires, Argentina²British Hospital, Buenos Aires, Argentina

PB-65 Ocular vestibular evoked myogenic potentials in response to skull vibration: dependency on stimulus configuration and stimulus siteMagnus Westin¹, Berit Holmeslet², Krister Brantberg¹¹Karolinska Hospital, Stockholm, Sweden²St. Olavs Hospital, Trondheim University Hospital, Trondheim, Norway**PB-66 Prediction of abnormalities of Postural Evoked Responses (PER) with Motor Control Test (MCT) results**Neil Shepard¹, Thomas Boismier², Ann Anderson¹¹Mayo Clinic, Rochester, United States of America²Ear, Nose and Throat Associates, PC, Ft. Wayne, United States of America**PB-67 HITs for kids: the video-based head-impulse test in children and adolescents**

Nadine Lehnen, Klaus Bartl, Stefan Kohlbecher, Stefan Glasauer, Klaus Jahn, Erich Schneider

University of Munich, Munich, Germany

PB-68 Psychophysical responses to earth-vertical rotations in normal and vestibulopathic subjectsTimothy Hullar¹, Osarenoma Olomu¹, Robert Mallery², Rosalie Uchanski¹¹Washington University in St. Louis, St. Louis, United States of America²Brigham and Women's Hospital, Boston, United States of America**PB-69 Head-tilt thermal test in patients with unilateral vestibular disorders**Masafumi Ohki¹, Toshihisa. Murofushi²¹Musashino Red Cross Hospital, Tokyo, Japan²Teikyo University School of Medicine, Mizonokuchi Hospital, Kawasaki, Japan**PB-70 Inferior vestibular neuritis: absence of vestibular evoked myogenic potentials in the presence of normal caloric responses**

Eun Jin Son, Kyoung Rok Kim, Seung Ah Hong, Ho Young Lim

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Poster Session 2 - C. Disorders

PC-71 Physical activity as a contributing factor for onset of idiopathic benign paroxysmal positional vertigoLea Pollak¹, Mark Kushnir², Hadassah Goldberg Stern³

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Kathrine Jáuregui-Renaud, Fatima Gómez-Alvarez

Instituto Mexicano del Seguro Social, Mexico D.F., Mexico

PC-73 Vestibular paroxysmia with paroxysmal pulsatile tinnitusTzu-Pu Chang¹, Yi-Chang Wu²¹Buddhist Tzu Chi General Hospital, Taichung Branch, Taiwan, Taichung, Taiwan²Antien ENT Clinic, Tainan, Taiwan**PC-74 A case of mumps virus related opsoclonus myoclonus syndrome**

Jwe Il Kim

Dankook University Hospital, Cheonan, South-Korea

PC-75 Dynamic posturography: the clinical value in finding balance abnormality of patients with benign paroxysmal positional vertigo

Daogong Zhang, Zhaomin Fan, Yuechen Han, Haibo Wang

Provincial Hospital affiliated to Shandong University, Jinan, China

PC-76 Assessment of postural stability using a foam posturography in idiopathic bilateral vestibulopathyFujimoto Chisato¹, Murofushi Toshihisa², Chihara Yasuhiro¹, Ushio Munetaka¹, Suzuki Mitsuya¹, Yamasoba Tatsuya¹, Iwasaki Shinichi¹¹Faculty of Medicine, The University of Tokyo, Bunkyo-Ku, Tokyo, Japan²University Hospital, Mizonokuchi, Teikyo University School of Medicine, Kawasaki, Japan**PC-77 Episodic upbeat nystagmus: a new phenotype of episodic ataxia?**

Kwang Dong Choi, Jae Hwan Choi, Moon In-Soo

Pusan, Korea

PC-78 Ictal downbeat nystagmus in cardiogenic vertigoKwang-Dong Choi¹, Jeong-Ju Lee², Tae-Hyoung Kim³, Min-Ji Kim⁴, Ji Soo Kim⁵¹Pusan, Korea (Rep)²Lee Jeong-Ju, Seoul, Korea (Rep)³Kim, Pusan, Korea (Rep)⁴Kim Min-Ji, Pusan, Korea (Rep)⁵Kim Ji Soo, Seoul, Korea (Rep)**PC-79 Walking to the toilet in inpatient with vertigo (2nd report)**

Akira Doi, Kenichi Kozakura, Aya Murai, Kumiko Shimamoto, Keiko Morizane, Kozo Tamura, Keiko Tsutsui, Yukari Nishimori, Akiko Motoyoshi, Kayo Hasegawa

Kochi Health Sciences Center, Kochi, Japan

PC-80 Vestibular neuritis with dissociation between cVEMP and oVEMP responses is consistent with utricular origin of oVEMPs and saccular origin of cVEMPsLeonardo Manzari¹, Ann Burgess², Ian S. Curthoys²¹MSA Ent Academy Center Cassino, Cassino, Italy²Vestibular Research Laboratory, School of Psychology, The University of Sydney, Sydney, Australia

PC-81 Treatment of apogeotropic horizontal canal benign paroxysmal positional vertigo; comparison of gufoni and head-shaking maneuver

Sun-Young Oh¹, Ji Soo Kim², S.-H. Lee³, D.-U. Kim⁴, S.-H. Jeong⁵, K.-D. Choi⁶, B.-K. Kim⁷

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PC-82 Partial labyrinthine injury in severe decompression illness: a vascular embolic explanation?

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PC-83 Audiovestibular sarcoidosis

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PC-84 Vertigo and disequilibrium of SLE patients

Atsushi Ochiai, Hideaki Naganuma, Koji Tokumasu, Makito Okamoto

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PC-85 Characterization of presbyequilibrium among institutionalized elderly persons

Ilmari Pyykkö¹, Dennis Poe², Pirkko Jäntti², Eeva Tuunanen²

¹University of Tampere, Tampere, Finland

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PC-86 Asymmetric vestibular function in CI candidates - does it matter?

Julia Długaiczky¹, Markus Kapsreiter², Christoph Brase², Joachim Hornung², Carsten Finke², Bernhard Schick¹

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PC-87 Comparing CT methods for temporal bone imaging

Richard Penninger, John Carey

The Johns Hopkins University School of Medicine, Baltimore, United States of America

PC-88 Rizatriptan reduces motion sickness in migraineurs

Joseph Furman, Dawn Marcus, Carey Balaban

University of Pittsburgh, Pittsburgh, United States of America

PC-89 Lack of vestibulo-ocular reflex gain modulation by eye position signals in the post-acute phase of vestibular neuritis

Dimitri Anastasopoulos, Evangelos Anagnostou, Jochim Heimberger, Socratis Sklavos
University of Athens, Athens, Greece

PC-90 Covert short latency saccades in combined vestibular and cerebellar failure

Stuart Mossman
Wellington Hospital, Wellington, New Zealand

PC-91 Clinical characteristics of inferior vestibular neuritis

Yasuhiro Chihara¹, S Iwasaki², T Murofushi³, M Yagi¹, A Inoue², C Fujimoto², N Egami², Munetaka Ushio², S Karino², K Sugawara², Tatsuya Yamasoba²

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²University of Tokyo, Tokyo, Japan

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PC-92 The action of vestibular signals in suppressing first trial and habituated reactions in the upper body following postural perturbations

John HJ Allum¹, John Allum², Lars Oude Nijhuis³, Sharissa Corporaal², Mark Carpenter⁴

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PC-93 Depersonalization and derealization symptoms in vestibular patients with and without anxiety

Ognyan Kolev¹, Spaska Georgieva²

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²University Hospital of Neurology, 1113-Sofia, Bulgaria

Poster Session 2- D. Treatment

PD-94 The comparison of intratympanic steroid injection and oral steroid therapy for sudden sensorineural hearing loss

Yong-Soo Park, Eun-ju Jeon, Dong Hyun Kim, Jae Won Park
Incheon St. Mary's Hospital, Incheon, South-Korea

PD-95**4-Aminopyridine improves oculomotor and vestibular function in ataxia-telangiectasia**

Sarah Marti¹, Aasef Shaikh², Alexander Tarnutzer¹, Antonella Palla¹, Thomas Crawford², Dominik Straumann¹, David Zee²

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PD-96 Long-term outcome of benign paroxysmal positional vertigoBK KIM¹, Kyung Cheon Chung²¹Eulji Hospital, Seoul, South-Korea²Kyung Hee Hospital, Seoul, South-Korea**PD-97 The protective effect of resveratrol on vestibular hair cells death**

Kazuma Sugahara, Takefumi Mikuriya, Yoshinobu Hirose, Yujiro Fukuda, Hideki Toyota, Kenji Takeno, Makoto Hashimoto, Hiroaki Shimogori, Hiroshi Yamashita

Yamaguchi University, UBE, Japan

PD-98 A much better visual acuity could suppress the magnitude of the nystagmoid oscillation in a case of congenital nystagmusTomoyuki Okada¹, Masahiko Fukasawa¹, Makoto Hyodo¹, Manabu Nakamura¹, Yasuhiko Tanaka¹, Tadashi Nakamura¹, Satoki Ueno², Izumi Koizuka¹¹St Marianna University School of Medicine, Kawasaki City, Japan²Department of Ophthalmology, St Marianna University School of Medicine, Kawasaki City, Japan**PD-99 Effect of furosemide in patients with Ménière's disease**

Hidefumi Yamamoto, Kishiko Sunami, Hideo Yamane

Japan/Osaka-City University, Osaka-City, Japan

PD-100 Postural control and adaptation are influenced by preceding postural challengesFredrik Tjernström¹, Mitesh Patel², Per-Anders Fransson², Måns Magnusson²¹Skåne University Hospital, Lund, Sweden²Lund University Hospital, Lund, Sweden**PD-101 Prospective analysis of treatment outcomes between geotropic and apogeotropic type in HC-BPPV**

Won-Ho Chung, Hayoung Byun, Hosuk Chu, Il Joon Moon, Se-Hyung Kim, Gil Joon Lee

Samsung Medical Center, Seoul, South-Korea

PD-102 Treatment of posture and gait disturbance in a patient with advanced Parkinson's disease using simultaneous PPN and STN DBSMohammad J Naushahi¹, Pei-Yun Lee², Peter G Bain¹, Adolfo M Bronstein², Dipankar Nandi¹¹Imperial College Neuromodulation Group, London, United Kingdom²Imperial College Neuro-otology Unit, London, United Kingdom**PD-103 Influence of occlusal splints on equilibrium function**

Hiroyuki Ito, Yasumasa Ito, Yumiko Kunimi, Mitsuru Asanuma

Kanagawa Rehabilitation Hospital, Atsugi, Japan

PD-104 3D angular vestibulo-ocular reflex adaptation to chronic motion-modulated multichannel prosthetic stimulation of semicircular canal ampullary nerves

Charles C. Della Santina, Chenkai Dai, Gene Fridman, Bryce Chiang, Natan Davidovics

Johns Hopkins School of Medicine, Baltimore, United States of America

PD-105 The clinical features of vertigo with psychogenic origin

Yasuhiko Takei, Masahiro Morita, Noyuki Kohno
Kyorin University Hospital, Tokyo, Japan

PD-106 Design and performance of a multichannel vestibular prosthesis that restores semicircular canal sensation in rhesus monkey

Charles C. Della Santina, Bryce Chiang, Gene Fridman, Chenkai Dai
Johns Hopkins School of Medicine, Baltimore, United States of America

PD-107 Vestibulo-ocular reflex responses to a multichannel vestibular prosthesis incorporating a 3D coordinate transformation for correction of misalignment

Charles C. Della Santina¹, Gene Fridman¹, Natan Davidovics¹, Chenkai Dai¹, Americo A. Migliaccio²
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²Prince of Wales Medical Research Institute, Sydney, Australia

PD-108 Effects of biphasic current pulse frequency, amplitude, duration and interphase gap on eye movement responses to prosthetic electrical stimulation of the vestibular nerve

Charles C. Della Santina, Natan Davidovics, Gene Fridman, Bryce Chiang
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PD-109 Galvanic stimulation associated to vestibular rehabilitation to treat unilateral peripheral vestibular

Sergio Carmona, Guillermina Pianetti, Antonella Ferrero
INEBA, Buenos Aires, Argentina

Poster Session 2 - E. Epidemiology

PE-110 The clinical characteristics and treatment outcome of post-traumatic BPPV

HK Song
KangDong Sacred Heart Hospital, Seoul, South-Korea

PE-111 A research of disquilibrium disease at department of Neurotology, Kitasato University Hospital

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²Kitasato University School of Medicine, Kanagawa, Japan

Poster Session 2 - F. Ageing and Balance

PF-112 Postural deficiency in intellectually disabled adult with vestibular impairment

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PF-113 Effect of vision, proprioception and the position of the vestibular organ on postural sway

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