

HEARING: High-resolution structural and functional EAR imagING



HEARING WORKSHOP
High-resolution structural
and functional EAR
imagING
- From bench to bedside

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome - Registration

Contribution ID: 2

Type: **not specified**

Welcome - Registration & Apéro

Sunday, 21 May 2023 17:30 (3 hours)

Contribution ID: 3

Type: **not specified**

Introduction

Monday, 22 May 2023 08:50 (10 minutes)

Presenter: Prof. CAVERSACCIO, Marco (Inselspital, University Hospital Bern)

Session Classification: Morning Session I

Contribution ID: 4

Type: **not specified**

Clinical lecture 1: The human hearing system: an overview

Monday, 22 May 2023 09:00 (30 minutes)

Presenter: Dr MOLINARI, Giulia (Bologna University)

Session Classification: Morning Session I

Contribution ID: 5

Type: **not specified**

Basic research lecture 1: Basics and Principles of Synchrotron Imaging

Monday, 22 May 2023 09:30 (30 minutes)

Presenter: Prof. STAMPANONI, Marco (PSI - Paul Scherrer Institut)

Session Classification: Morning Session I

Contribution ID: 6

Type: **not specified**

Scientific Session 1: Assessing Biomechanics of the middle ear

Monday, 22 May 2023 10:30 (30 minutes)

Dr. med. Remenschneider, surgeon-scientist, Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school

Presenter: Prof. REMENSCHNEIDER, Aaron (Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school)

Session Classification: Morning Session II

Contribution ID: 7

Type: **not specified**

Scientific session 1: Conductive hearing loss: causes and treatment

Monday, 22 May 2023 11:30 (30 minutes)

Prof. Dr. med. Huber, Clinic Director ORL, University Hospital Zurich

Presenter: Prof. HUBER, Alexander (University Hospital Zurich)

Session Classification: Morning Session II

Contribution ID: 8

Type: **not specified**

Scientific Session 1: Middle Ear Nonlinear Response to High Intensity Sound

Monday, 22 May 2023 11:00 (30 minutes)

Presenter: Prof. CHENG, Jeffrey Tao (Eaton Peabody Lab., Mass. Eye and Ear Infirmary)

Session Classification: Morning Session II

Contribution ID: 9

Type: **not specified**

Unlocking the Cochlea: The Journey from Synchrotron Phase-Contrast Imaging to Artificial Intelligence

Tuesday, 23 May 2023 08:30 (30 minutes)

Presenter: Prof. AGRAWAL, Sumit K (The University of Western Ontario)

Session Classification: Morning Session III

Contribution ID: **10**

Type: **not specified**

Dynamic SR X-PCI Imaging of fish ear

Tuesday, 23 May 2023 09:00 (20 minutes)

Dr. Schlepütz, Beamline Scientist, Paul Scherrer Institut

Presenter: Dr SCHLEPUETZ, Christian (PSI - Paul Scherrer Institut)

Session Classification: Morning Session III

Contribution ID: 11

Type: **not specified**

Dynamic SR X-PCI Imaging of biological tissue

Tuesday, 23 May 2023 09:20 (20 minutes)

Dr. Schmeltz, Post-Doc, Paul Scherrer Institut

Presenter: Dr SCHMELTZ, Margaux Pauline (PSI - Paul Scherrer Institut)

Session Classification: Morning Session III

Contribution ID: 12

Type: **not specified**

Basic research lecture 6: SR X-PCI Morphology of Inner Ear

Prof. Rask-Andersen, Department of Surgical Sciences, University of Uppsala

Session Classification: Basic Science Round Table

Contribution ID: 13

Type: **not specified**

Basic research lecture 7: Physiology of Hearing

Dr. med. Hideko, ass. Professor and investigator, Eaton Peabody Lab, Harvard medical school

Session Classification: Basic Science Round Table

Contribution ID: 14

Type: **not specified**

Clinical lecture 4: From bench to bedside: innovative solutions for the treatment of sensorineural hearing loss

PD Dr. med. Arweiler-Harbeck, Medical Director Cochlear Implant Centrum Ruhr, Uniklinikum Essen

Session Classification: Basic Science Round Table

Contribution ID: 15

Type: **not specified**

Materials and techniques for ossiculoplasty

Monday, 22 May 2023 13:30 (10 minutes)

Presenter: Dr MOLINARI, Giulia (Bologna University)

Session Classification: Clinical Workshop 1

Contribution ID: 16

Type: **not specified**

Intraoperative assessment of prosthesis placement

Monday, 22 May 2023 13:40 (10 minutes)

Presenter: Prof. HUBER, Alexander (University Hospital Zurich)

Session Classification: Clinical Workshop 1

Contribution ID: 17

Type: **not specified**

Hands-on Ossiculoplasty for clinicians

Monday, 22 May 2023 14:00 (1 hour)

Presenter: Prof. ANSCHUETZ, Lukas

Session Classification: Clinical Workshop 1

Contribution ID: **18**

Type: **not specified**

Materials and techniques for ossiculoplasty

Monday, 22 May 2023 16:00 (10 minutes)

Presenter: Dr MOLINARI, Giulia (Bologna University)

Session Classification: Clinical Workshop 1

Contribution ID: 19

Type: **not specified**

Intraoperative assessment of prosthesis placement

Monday, 22 May 2023 16:10 (10 minutes)

Presenter: Prof. HUBER, Alexander (University Hospital Zurich)

Session Classification: Clinical Workshop 1

Contribution ID: 20

Type: **not specified**

Hands-on Ossiculoplasty for engineers

Monday, 22 May 2023 16:30 (1 hour)

Presenter: Prof. ANSCHUETZ, Lukas

Session Classification: Clinical Workshop 1

Contribution ID: 21

Type: **not specified**

Wrap up, workshop summary and feedback

Monday, 22 May 2023 17:30 (1h 30m)

Presenters: BONNIN, Anne (PSI - Paul Scherrer Institut); ANSCHUETZ, Lukas

Contribution ID: 22

Type: **not specified**

Principles of biomedical segmentation

Monday, 22 May 2023 13:30 (15 minutes)

Presenter: Dr LI, Hao (Uppsala University)

Session Classification: Engineering Workshop 1

Contribution ID: 23

Type: **not specified**

Experiences with Ear Image Segmentation

Presenter: LADAK, Hanif (University of Western Ontario)

Session Classification: Engineering Workshop 1

Contribution ID: 24

Type: **not specified**

Segmentation of inner ear malformations

Monday, 22 May 2023 13:45 (10 minutes)

Presenter: Dr DHANASINGH, Anandhan (MED-EL)

Session Classification: Engineering Workshop 1

Contribution ID: 25

Type: **not specified**

Advanced hands-on segmentation for engineers

Monday, 22 May 2023 13:55 (1h 5m)

Presenters: IVANOVIC, Aleksandra (PSI, Inselspital); Dr DHANASINGH, Anandhan (MED-EL); BONNIN, Anne (PSI - Paul Scherrer Institut); Prof. LADAK, Hanif (University of Western Ontario); Dr LI, Hao (Uppsala University)

Session Classification: Engineering Workshop 1

Contribution ID: 26

Type: **not specified**

Principles of biomedical segmentation

Monday, 22 May 2023 16:00 (15 minutes)

Presenter: Dr LI, Hao (Uppsala University)

Session Classification: Engineering Workshop 1

Contribution ID: 27

Type: **not specified**

Experiences with Ear Image Segmentation

Presenter: LADAK, Hanif (University of Western Ontario)

Session Classification: Engineering Workshop 1

Contribution ID: 28

Type: **not specified**

Segmentation of inner ear malformations

Monday, 22 May 2023 16:15 (10 minutes)

Presenter: Dr DHANASINGH, Anandhan (MED-EL)

Session Classification: Engineering Workshop 1

Contribution ID: 29

Type: **not specified**

Advanced hands-on segmentation for clinicians

Monday, 22 May 2023 16:25 (1h 5m)

Presenters: IVANOVIC, Aleksandra (PSI, Inselspital); Dr DHANASINGH, Anandhan (MED-EL); BONNIN, Anne (PSI - Paul Scherrer Institut); Prof. LADAK, Hanif (University of Western Ontario); Dr LI, Hao (Uppsala University)

Session Classification: Engineering Workshop 1

Contribution ID: 30

Type: **not specified**

Sound transmission from the Weberian apparatus to the inner ears: New insights into motion patterns of auditory structures in fishes

Tuesday, 23 May 2023 09:40 (20 minutes)

Presenter: Dr MAIDISCH, Isabelle (PSI - Paul Scherrer Institut)

Session Classification: Morning Session III

Contribution ID: 31

Type: **not specified**

From Images to Finite-Element Models of the Middle Ear: The Role of Synchrotron Imaging

Tuesday, 23 May 2023 11:20 (20 minutes)

Presenter: Prof. LADAK, Hanif (University of Western Ontario)

Session Classification: Morning Session IV

Contribution ID: 32

Type: **not specified**

3D printed materials

Monday, 22 May 2023 13:50 (10 minutes)

Presenter: Prof. REMENSCHNEIDER, Aaron (Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school)

Session Classification: Clinical Workshop 1

Contribution ID: 33

Type: **not specified**

Synchrotron techniques in bones research

Tuesday, 23 May 2023 10:40 (20 minutes)

Presenter: Dr DEJEA I VELARDO, Hector (Lund University)

Session Classification: Morning Session IV

Contribution ID: 34

Type: **not specified**

SR X-PCI imaging - anatomy of the inner and middle ear

Tuesday, 23 May 2023 11:00 (20 minutes)

Presenter: Dr LI, Hao (University of Uppsala)

Session Classification: Morning Session IV

Contribution ID: 35

Type: **not specified**

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Presenter: Prof. BAE, Seong Hoon

Session Classification: Morning Session V

Contribution ID: 36

Type: **not specified**

Electrophysiology in cochlear implantation

Wednesday, 24 May 2023 08:45 (20 minutes)

Presenter: Prof. ARWEILER-HARBECK, Diana (University Hospital Essen)

Session Classification: Morning Session V

Contribution ID: 37

Type: **not specified**

Discussion

Tuesday, 23 May 2023 11:40 (20 minutes)

Session Classification: Morning Session IV

Contribution ID: 38

Type: **not specified**

Laser-doppler vibrometry

Presenter: Prof. REMENSCHNEIDER, Aaron (Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school)

Session Classification: Clinical round table

Contribution ID: 39

Type: **not specified**

Intraoperative LDV

Tuesday, 23 May 2023 13:30 (10 minutes)

Presenter: Prof. HUBER, Alexander (University Hospital Zurich)

Session Classification: Clinical round table

Contribution ID: 40

Type: **not specified**

Translational Research - Protocols and Ethics

Tuesday, 23 May 2023 13:40 (10 minutes)

Presenter: Prof. AGRAWAL, Sumit K (The University of Western Ontario)

Session Classification: Clinical round table

Contribution ID: 41

Type: **not specified**

To be Communicated

Presenter: Prof. MANTOKOUDIS, Georgios (Inselspital Bern)

Session Classification: Clinical round table

Contribution ID: 42

Type: **not specified**

Augmented reality

Tuesday, 23 May 2023 13:50 (10 minutes)

Presenter: Dr MOLINARI, Giulia (Bologna University)

Session Classification: Clinical round table

Contribution ID: 43

Type: **not specified**

Intraoperative electrophysiology

Presenter: ARWEILER-HARBECK, Diana (University Hospital Essen)

Session Classification: Clinical round table

Contribution ID: 44

Type: **not specified**

Inner ear

Presenter: Dr CHENG, Jeffrey Tao (Eaton Peabody Lab., Mass. Eye and Ear Infirmary)

Session Classification: Basic Science Round Table

Contribution ID: 45

Type: **not specified**

Middle ear

Presenter: Prof. REMENSCHNEIDER, Aaron (Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school)

Session Classification: Basic Science Round Table

Contribution ID: 46

Type: **not specified**

Challenges in analysis and modelisation

Wednesday, 24 May 2023 11:10 (10 minutes)

Presenter: Prof. LADAK, Hanif (University of Western Ontario)

Session Classification: Basic Science Round Table

Contribution ID: 47

Type: **not specified**

In-vivo / In-vitro imaging important considerations for experiments

Wednesday, 24 May 2023 11:00 (10 minutes)

Presenter: Dr MAIDISCH, Isabelle (PSI - Paul Scherrer Institut)

Session Classification: Basic Science Round Table

Contribution ID: 48

Type: **not specified**

Correlative Imaging for bones

Wednesday, 24 May 2023 11:20 (10 minutes)

Presenter: Dr DEJEA I VELARDO, Hector (Lund University)

Session Classification: Basic Science Round Table

Contribution ID: 49

Type: **not specified**

Discussion

Wednesday, 24 May 2023 11:30 (30 minutes)

Session Classification: Basic Science Round Table

Contribution ID: 57

Type: **not specified**

Discussion

Session Classification: Morning Session III

Contribution ID: 65

Type: **not specified**

3D printed materials

Monday, 22 May 2023 16:20 (10 minutes)

Presenter: Prof. REMENSCHNEIDER, Aaron (Eaton Peabody Lab., Mass. Eye and Ear, Harvard medical school)

Session Classification: Clinical Workshop 1

Contribution ID: 66

Type: **not specified**

Next generation auditory implants based on magnetic stimulation

Wednesday, 24 May 2023 09:05 (20 minutes)

Presenter: Prof. LEE, Daniel (Massachusetts Eye and Ear)

Session Classification: Morning Session V

Contribution ID: 67

Type: **not specified**

Regeneration and gene therapy of the inner ear

Wednesday, 24 May 2023 09:25 (20 minutes)

Presenter: Prof. KEMPFLER, Judith (UMass Memorial Medical Center/UMass Chan Medical School & Mass Eye and Ear/Harvard Medical School)

Session Classification: Morning Session V

Contribution ID: **68**

Type: **not specified**

Discussion

Session Classification: Basic Science Round Table

Contribution ID: 70

Type: **not specified**

Superior canal dehiscence syndrome: An update on diagnosis and treatment

Wednesday, 24 May 2023 09:45 (20 minutes)

Presenter: Prof. MANTOKOUDIS, Georgios (Inselspital Bern)

Session Classification: Morning Session V

Contribution ID: 71

Type: **not specified**

Discussion

Tuesday, 23 May 2023 14:00 (30 minutes)

Session Classification: Clinical round table

Contribution ID: 74

Type: **not specified**

Discussion

Wednesday, 24 May 2023 10:05 (15 minutes)

Session Classification: Morning Session V

Contribution ID: 75

Type: **not specified**

Welcome from CSF and Monte Verità

Monday, 22 May 2023 08:35 (15 minutes)

Session Classification: Morning Session I

Contribution ID: 77

Type: **not specified**

Welcome Congress Chairs

Monday, 22 May 2023 08:30 (5 minutes)

Presenters: Dr BONNIN, Anne (PSI - Paul Scherrer Institut); Prof. ANSCHUETZ, Lukas (Department of Otorhinolaryngology, Head and Neck Surgery, Inselspital Bern Univ. Hospital, CH)

Session Classification: Morning Session I