

SSBE Annual Meeting 2021

Langhans Auditorium

Murtenstrasse 31, 3008 Bern

August 26th, 2021



Preliminary Program

- 09.00** **Welcome**
- 09.05** **Keynote**
Bert Müller, Department of Biomedical Engineering, University of Basel
Exploiting mechanical forces at stenoses for structural alterations of non-spherical liposomes
- 09.45** **Student Award**
Jeremy Genter, University of Bern
Orthokeratology - A biomechanical model of the short-term refractive correction
M. Bischofberger, Univ. Applied Sciences & Arts Northwestern Switzerland (FHNW)
Automatic Landmark Identification For Surgical 3D Navigation
Mathieu Simon, University of Bern
Computational and Experimental Investigation of the Mechanical Properties of the Human Distal Tibia
- 10.10** **Research Award**
Dasha Nelidova, Institute of Molecular and Clinical Ophthalmology Basel (IOB)
Restoring light sensitivity using tunable near-infrared sensors
Serife Seda Kucur, University of Bern
Exploration and Exploitation of Visual Fields: from Acquisition to Prediction of Glaucoma
Andreas Frutiger, ETH Zürich
Molecular holograms - design principles of robust biosensors at the example of focal molography
- 10.50** **Break**
- 11.05** **Oral Session – Neuroimaging / Neuroengineering**
C.S. Martinez, CSEM & CIBM Center for Biomedical Imaging
A computational phantom for ultra-high resolution MR methods development: bigbrain-MR
T.A. Khoa Nguyen, University Hospital Bern & University of Bern
Stimulation maps to guide programming of deep brain stimulation
A. Segura, University Hospital Bern & University of Bern
Patient-specific hyperdirect pathway activation in DBS for parkinson's disease
C. Vergne, FHNW & University of Strasbourg, France
Orientation detection of deep brain stimulation electrodes with an embedded magnetic sensor
- Q & A**

11:20

Oral Session – Imaging

O.B. Satir, University of Bern

Automated segmentation and landmarking of scapulae to assess the outcome of total shoulder arthroplasty

A. Migga, University of Basel

Laboratory-based phase tomography for biomedical Imaging

C. Tanner, University of Basel

Visualization of annual layers in tooth cementum using extended-microtomography

Q & A

G. Sigron, University of Basel & University Hospital of Basel

Combining microtomography and histology to characterize distraction osteogenesis

P. Eghbali, Ecole Polytechnique Fédérale de Lausanne (EPFL)

Evaluation of glenoid bone density on normal scapula

C. Mattle, University of Basel

Nanostructural characterization of a dental composite for wide color matching

A. Dudle, University of Bern

Long-term stability of a CT scanner

Q & A

11:45

Oral Session – Biomedical devices and techniques

C. Aguet, Swiss Center for Electronics and Microtechnology (CSEM)

Blood pressure estimation based on feature learning from photoplethysmography

C. Féry, University of Applied Sciences and Arts Northwestern Switzerland (FHNW)

Limb shape acquisition in orthopedics with magnetic sensors on a flex PCB

T. Kochetkova, EMPA

Assessing jaw-bone quality at the micro- and meso-scale

Q & A

L. Sijgers, University Hospital Zurich

Intraoperative monitoring of residual hearing during cochlear implant surgery using electrocochleography

S. Zeinali, University of Bern

Dynamic microvasculature model to closely mimic breathing motions in vitro

M.H. Nambiar, University of Bern

Biomechanical simulation platform for patient-specific refractive interventions

Q & A

T. Cantieni, University of Bern, Institute of Complementary and Integrative Medicine

Feasibility to measure tissue oxygen saturation using textile-integrated polymer optical fibres

P. Zamprogno, University of Bern

Mechanical characterization of soft and stretchable biological membranes for organ-on-chip

Q & A

12.15

General Assembly