

# SSBE Annual Meeting 2021

Langhans Auditorium

Murtenstrasse 31, 3008 Bern

August 26<sup>th</sup>, 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 and markerless registration in 3D seurgical 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**