BE-OPTICAL
Advanced Biomedical Optical Imaging and Data Analysis

New trends in biomedical imaging and data analysis
Scientific Program

July 3, 2019

Chair: Dr. Meritxell Vilaseca

09:15–10:00 Isabella Guido (invited talk), Visualisation and analysis of mechanically constrained biopolymers.
10:00–10:45 Jesus Malo (invited talk), Deep networks in the visual brain: from measurements to algorithms.
10:45–11:05 Pablo Amil, Distance-based outlier mining methods based on network structure analysis.

11:05–11:30 *Coffee break*

Chair: Prof. Dr. Cristina Masoller

11:30–12:15 Robin Henderson (invited talk), Topological Event History Analysis.
12:15–12:35 Donatus Halpaap, Studying speckle patterns of laser diode light under different pump current and feedback conditions for speckle reduction in double pass imaging.
12:35–12:55 Vineesh Kappadan, Study of electro-mechanical restitution in Langendorff-perfused beating rabbit hearts using ratiometric imaging and marker-free motion tracking.

13:00–14:00 *Lunch*

Chair: Prof.Dr. Stefan Luther

14:00–14:45 Yuval Ebenstein (invited talk), Single molecule detection of epigenetic marks.
14:45–15:05 Raúl A. Quiñonez Uribe, Arrhythmia Termination in Murine Hearts using Millisecond Optogenetic Stimulation.
15:05–15:25 Sayedeh Hussaini, Control of arrhythmogenic cardiac wave activity applying computational optogenetics.
15:25–15:45 Jordi Tiana-Alsina, Experimental study of the degree of locking in weakly forced stochastic systems.

15:45–16:15 *Coffee break*

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Chair: Prof. Dr. Ulrich Parlitz

16:15–17:00 Claus-Dieter Ohl (invited talk), Seeing not touching revealed the physics of nanobubbles.
17:00–17:45 Dagmar Krefting (invited talk), Reproducible Data Experiments in Biomedical Imaging and Biosignal analysis.
17:45–18:30 Santiago Costantino (invited talk), Capturing live single cells based on visual phenotypes.

19:30–20:30 Dinner
20:30–20:50 A. Schlemmer, Efficient Research Data Management with CaosDB.
20:50–21:20 G. Datseris, Software to make your scientific life easier.

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Chair: Prof. Dr. Jörg Enderlein

09:15–10:00 Christian Eggeling (invited talk), Super-resolution fluorescence spectroscopy of membrane organization.
10:00–10:20 Mariano Gonzalez Pisfil, Scanning FCS and Super-Resolution Microscopy on 2D Lipid membranes.
10:20–10:40 Adrià Escobet, Deep multiphoton imaging with temporal focusing and single-pixel detection (TRAFIX).
10:40–11:00 Soheil Mojiri, Out-of-plane bending components in Chlamydomonas flagella observed with multi-plane phase contrast imaging.

11:00–11:30 *Coffee break*

Chair: Dr. Alejandro Giacomotti

11:30–12:15 Anne Marie Haghiri (invited talk), On-chip bioanalysis: identification of trace biomarkers.
12:15–12:35 Antu Gortari, Metasurface-based total internal reflection bioimaging.
12:35–12:55 Shun Qin, Introduction of the Maximum Likelihood Estimation and Its Application on Data Analysis.

13:00–14:00 *Lunch*

Chair: Prof. Maciej Wojtkowski

14:00–14:45 Robert Hubert (invited talk), New trends in Megahertz Optical Coherence Tomography (OCT).
14:45–15:05 Ana Rodríguez-Aramendía, Anterior segment/retinal swept source optical coherence tomography system (SS-OCT) for comprehensive imaging and biometry of the eye.
15:05–15:25 Alfonso Jiménez-Villar, Analysis of the Ocular Defocus and Retinal Imaging by Scanning Laser Ophthalmoscope Integrated with Acousto-Optic Lens.

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15:30–16:00 *Coffee break*

Chair: Dr. Ireneusz Grulkowski

16:00–16:20 Tommaso Alterini, Spectral analysis of the retina and the choroid in the visible and near infrared: preliminary results of a clinical study.
16:20–16:40 Mounika Rapolu, In-vivo longitudinal imaging of glioblastoma (GBM) tumor in mouse brain microvasculature using 800nm OCT system.
16:40–17:00 Piotr Wegrzyn, Two Implementations of Spatiotemporal Optical Coherence Manipulation (STOC).
17:00–17:20 Maria Masoliver, Dynamics of weakly forced excitable systems.
17:20–17:40 Vramori Mitra, Investigation of femtosecond laser-induced herringbone patterns using fractal and multifractal analysis.

17:40–18:00 Closing Remarks