

ELAINE 2024 – Day 1

Wednesday, March 20, 2024

16:00 – 17:00 Arrival and Registration

17:00 – 17:15 Welcome: Elizabeth Prommer, Rector University Rostock

17:15 – 18:00 Opening Talk: Rainer Adelung, Chair of Functional Nanomaterials, Kiel University

18:30 Social Evening with DJ Paule Paulsen

Day 2

Thursday, March 21, 2024

08:00 – 09:00 Arrival and Registration

Session I - Multiscale Modeling for Electrically Active Implants and Implant Reliability

1st Chair: Bergita Ganse; 2nd Chair: Revathi Appali

09:00 – 09:45	Bergita Ganse	Keynote - Smart Implants for Bone Fracture Healing
09:45 – 10:00	Dennie Supriatna	Development of Scale Separation Maps for Multiscale Modelling of Electrically Active Implants
10:00 – 10:15	Karthik Sridhar	In-silico Investigation of Electrode-Tissue Interface Dynamics in Deep Brain Stimulation
10:15 – 10:30	Franziska Alt	Adjusting the Pores Geometry of 3D Printed Polycaprolactone Bone Graft Substitutes for Modulated Mechanical Integrity, Cell Ingrowth and Electrical Field Distribution
10:30 – 10:45	Nada Abroug	Coupling Mechanical Response to Swelling Effect in Hydrogels

10:45 – 11:15 Coffee Break

Session II: Technological Developments and Future Directions for the Development of Electrically Active Implants

1st Chair: Julia Glaum; 2nd Chair: Marc Reichenbach

11:15 – 12:00	Julia Glaum	Keynote - Microstructural design and chemical stability of piezoelectric BaTiO ₃ ceramics in the context of load-bearing biomedical applications
12:00 – 12:15	Jacob Peter Thönes	Data-Driven 3D Reconstruction for Absolute Electrical Impedance Tomography
12:15 – 12:30	Judith Evers	Effect of Polymer Electrode Coating on Local Field Potentials Recorded From Implanted Deep Brain Electrodes
12:30 – 12:45	Christian Polley	Tailoring a Hard-To-Soft Transition Interface on 3D Porous Titanium Alloy Scaffolds
12:45 – 13:00	Marco Stubbe	Measurement of the Electrical Potential in the Articular Cartilage Using Implanted Electrodes

13:00 – 14:00 Lunch

SFB 1270/2 ELAINE



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Session III: Role of Molecular Signaling in Biophysical Stimulation for Regenerative Medicine

1st Chair: Sahba Mobini; 2nd Chair: Hermann Seitz

14:00 – 14:45	Sahba Mobini	Keynote - Novel applications of low intensity bioelectrical stimulation
14:45 – 15:00	Henrike Rebl	Intracellular Signaling Processes and Cell Migration After Physical Stimulation
15:00 – 15:15	Poh Soo Lee	Defining the Effects of Electric Field Stimulations and Oxygen Tension Interplay on Osteogenic Differentiation of Human Mesenchymal Stromal Cells
15:15 – 15:30	Franziska Dorn	The Nanomorphology of Neural Stem Cells Investigated by Scanning Ion Conductance Microscopy
15:30 – 15:45	Henning Kellermann	Influence of Electrical Stimulation on the Proliferation and Differentiation of Murine Adult Neural Stem Cells in Vitro

15:45 – 17:15 Poster Session

18:30 – 22:00 Social Evening: Excursion on a Boat with live music by Saxophonist Lydia Harder

Day 3

Friday, March 22, 2024

Session IV: Innovations and Therapeutic Applications of Neurostimulators for Deep Brain Stimulation and Neuronal Disorders

1st Chair: Jens Volkmann; 2nd Chair: Judith Evers

09:00 – 09:45	Jens Volkmann	Keynote - Spatiotemporal retuning of motor disease networks by deep brain stimulation
09:45 – 10:00	Fabiana Santana Kragelund	Impact of Deep Brain Stimulation on Neuronal Network Mechanisms in Generalised Dystonia
10:00 – 10:15	Konstantinos Spiliotis	Data-Driven Identification of Neural Activity Patterns
10:15 – 10:30	Sarah Pfeisinger	Subthalamic Nucleus Deep Brain Stimulation Induces Functional Deficits in Forebrain Norepinephrineric Neurotransmission in a Parkinson's Disease Model
10:30 – 10:45	Meike Statz	Quantification of Motor Symptoms Using Automated Gait Analysis in a Parkinson Rat Model

10:45 – 11:00 Closing Words and Farewell