



Progress in Electrically Active Implants – Tissue and Functional Regeneration

Tuesday - Sept 29th

09:00 – 09:05 Welcome

Keynote Lecture I

09:05 – 09:35 Thomas Stieglitz

Session I: Developments in Electrical Neurostimulators

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|---------------|------------------|--|
| 09:35 – 09:45 | John Fleming | Clinically-viable approaches for closed-loop deep brain stimulation in Parkinson's disease |
| 09:45 – 09:55 | Kevan Hashemi | An Implantable, Battery-Powered, Wireless, Stimulator |
| 09:55 – 10:05 | Franz Plocksties | Towards an Energy Autonomous Implant for Closed-loop Neurostimulation |
| 10:05 – 10:15 | Maria Kober | Development of a fully implantable rodent DBS system for long-term neurostimulation |

10:15 – 10:35 Discussion

10:35 – 10:45 Coffee Break

Keynote Lecture II

10:45 – 11:15 M^aAngeles Pérez Ansón

Session II: Multiscale Modelling and Simulation in the field of Implantology and Tissue Regeneration

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|---------------|----------------------|--|
| 11:15 – 11:25 | Hendrikje Raben | Numerical Model of an Electro-Stimulating Implant for a Porcine Mandibular Critical Size Defect |
| 11:25 – 11:35 | Bojana Rosic | Bayesian multiscale analysis describing mechanical response of bone tissue |
| 11:35 – 11:45 | Wiebke Radlof | Predictability of the mechanical behaviour of additively manufactured porous structures for the application in load-bearing implant structures |
| 11:45 – 11:55 | Abdul Razzaq Farooqi | Computational Modeling of Electroactive Hydrogels for Cartilage-Tissue Repair Using Electrical Stimulation |

11:55 – 12:15 Discussion

12:15 – 13:15 Lunch Break

Keynote Lecture III

13:15 – 13:45 John G. Hardy

Session III: Describing Therapeutic and Regenerative Electrical Stimulation – From Idea to Reality

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|---------------|--------------------|--|
| 13:45 – 13:55 | Kai Budde | Documenting an Electrical Cell Stimulation Experiment–Guidelines at Work |
| 13:55 – 14:05 | Abijeet Mehta | Physiological electric fields induce directional migration of mammalian cranial neural crest cells |
| 14:05 – 14:15 | Judith Evers | Characterisation of the electrode-tissue interface of chronically implanted stimulated and un-stimulated deep brain stimulation electrodes |
| 14:15 – 14:25 | Konstantin Butenko | Stochastic optimization of deep brain stimulation in the entopeduncular nucleus in a hamster model |

14:25 – 14:45 Discussion

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Progress in Electrically Active Implants – Tissue and Functional Regeneration

Wednesday – Sept 30th

09:00 – 09:05 Welcome

Keynote Lecture IV

09:05 – 09:35 Yiannos Manoli

Session IV: Electrical Conductive and Piezoactive Materials and Energy Supply to Electrically Active Implants

09:35 – 09:45	Sofiane Bouhedma	Bioheat-based thermoelectric power supply to electrically active implants
09:45 – 09:55	Dennis Flachs	Biocompatible energy-harvester based on FEP-piezoelectrets
09:55 – 10:05	Amir Azinfar	Tuning the surface morphology of polyelectrolyte multilayer films by changing the chain length of the PSS macromolecule on a nanometer scale and examining its mechanical properties in pure water and NaCl solution
10:05 – 10:15	Thomas Distler	Enzymatically Crosslinked Oxidised Alginate Gelatine Hydrogels for Cartilage Tissue Engineering and their Potential for Conductive Hydrogel Derivatives

10:15 – 10:35 Discussion

10:35 – 10:45 Coffee Break

Live Poster Session

10:45 – 11:15 Abstract #1-12

11:15 – 11:45 Abstract #14-34

11:45 – 12:15 Abstract #36-48

12:15 – 12:30 Closing

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