

In Silico Solutions for Advanced Electroceuticals

Sim4Life Workshop 2019

Monday, October 21, 18:30 – 21:30
HYATT REGENCY MCCORMICK PLACE
Room: "Adler ABC"

Visit us at
Neuroscience 2019
Booth No. 1937

Agenda

- 18:30 – 18:40 Welcome and Introduction
Michael Oberle, ZMT Zurich MedTech AG, Switzerland
- 18:40 – 19:10 Noninvasive Deep Brain Stimulation via Temporally Interfering Electric Fields
Keynote Speaker: Nir Grossmann, Imperial College London, UK
- 19:10 – 19:30 Advanced Meshing for Neuromodulation Applications: Guidance, Tricks and Pitfalls
Bryn Lloyd, IT'IS Foundation, Switzerland
- 19:30 – 19:50 Image-based Modeling with Neuro-Functionalized Anatomical Models in Sim4Life
Antonino Mario Cassarà, IT'IS Foundation, Switzerland
- 19:50 – 20:00 Coffee Break
- 20:00 – 20:20 Challenges and Opportunities in Modeling of Peripheral Nerve Stimulation: An Anatomy-Functional Point of View
Mario Romero Ortega, University of Dallas, Texas, USA
- 20:20 – 20:40 Targeted Epidural Spinal Stimulation Enables Locomotion After Spinal Cord Injury: Personalized, Computationally-Guided Stimulation Protocols
Andreas Rowald, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 20:40 – 20:55 What's Next – Sim4Life Roadmap for Bioelectronic Medicine
Habib Bousleiman, ZMT Zurich MedTech AG, Switzerland
- 20:55 – 21:30 Adjourn & Networking Aperitif

To register, please send an email to s4l-sales@zmt.swiss

Directions to the Sim4Life Workshop

Hyatt Regency McCormick Place
2233 S. Dr. Martin Luther King
Jr. Dr., Chicago, IL 60616, USA
Room: "Adler ABC"

The hotel is less than 5 minutes walking distance from the main venue.

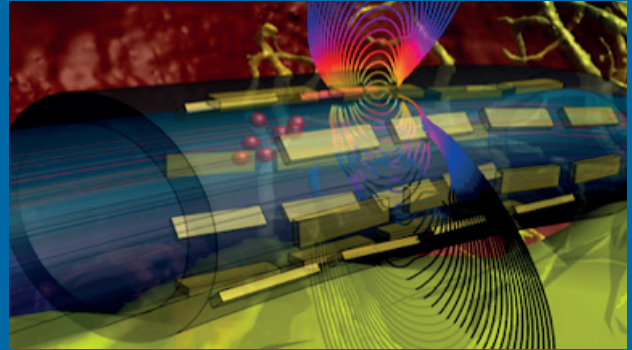


Sim4Life

Sim4Life is the first computational life sciences platform to integrate computable human phantoms with the most powerful physics solvers and the most-advanced tissue models for direct analysis of biological real-world phenomena and complex technical devices in a 3D validated biological and anatomical environment. Sim4Life provides smooth and fully automated or customizable workflows for applications ranging from exploratory research and medical device development to regulatory documentation for clinical trials and device certification.



Virtual Population V4.0: Neuro-Functionalized Anatomical Models



Stimulation of the vagus nerve with a multi-element cuff electrode array

Sim4Life light – Student Version

Free of charge for students to facilitate their understanding of computational modelling and simulations for various topics, ranging from wireless communication to medical applications. Please contact s4l-sales@zmt.swiss for further details.

Sim4Life Platform

Computable Human Phantoms	Physics Models	Tissue Models	Intuitive GUI and Workflow	Licensed Modules
ViP 4.0 Virtual Population	P-EM-FDTD Electromagnetics Full Wave Solvers	T-NEURO Neuronal Tissue Models	MODELER Advanced Modeling Tool Set	MRI IMANALYTICS M-MUSAIK M-TxCOIL M-BCAGE M-SYSSIM M-GRAD M-IMSAFE
ViZoo 1.0 Animal Models	P-EM-QS Quasi-Static Electromagnetics Solvers	T-CEM43 Tissue Damage Models	MESHER Robust & Effective Meshing	MODELING M-ISEG M-REMESH
3rd-Party Models	P-THERMAL Thermodynamics Solvers		POSER Physics-based Realistic Posing	CALCULATORS M-DISPFIT M-PPCALC
	P-FLOW Fluid Dynamics Solvers		SWEEPER Fully Configurable Parameter Sweeps	TOOLBOX M-MATCH M-MIMO M-MBSAR M-HAC M-5G
	P-ACOUSTICS Acoustics Solvers		ANALYZER Versatile Postprocessor and Analyzing Tool Set	IMPORT M-HUYGENS M-IMG M-VOX
			PYTHON Control via Python Scripting	OPTIMIZER Multi-Parameter Multi-Goal Optimizer
High Performance Computing Auto-Scheduler & Control ARES				