

POI Laboratories

The laboratories of the Peter Osypka Institute for Pacing and Ablation dispose a widespread spectrum of modern medical equipment. As part of the Medical Engineering Bachelor, the students attend their practical lectures in our laboratories on Radiofrequency ablation, Electro anatomical mapping, cardiac pacing and defibrillation.

In addition to the theory, the laboratory- training goes deeply, making special emphasis on the practical experience, manipulation and application of methods and devices, learning according to the principle: "Learning by watching, touching and adjusting!"

Currently, the following themes with experimental setups for testing will be offered:

- Recordings of 12-lead routine electrocardiogram
- High-fidelity in long-term-memory-ECG
- Technique and function of implantable ECG event recorders
- Semi-invasive left-atrial and ventricular derivation
- Signal Averaging - technique for late potential analysis
- Phonocardiography and Sphygmography
- Variants external pacemaker
- Implantable rate-adaptive single chamber pacemaker
- Physiological dual-chamber pacing on heart simulator
- Pacemaker with automatic anti-tachycardia pacing
- Automatic function implantable single-chamber defibrillators
- Automatic function implantable dual chamber defibrillators
- Cardiac resynchronization therapy (CRT) with implants
- Remote Data Transmission cardiac implants
- Defibrillator-/Pacemaker-Programming on Teaching System
- Methods for Diastolic AV delay optimization
- Serial AV and VV delay optimization by impedance cardiography
- In vitro electrophysiological studies simulation
- Initiation and termination of supraventricular tachycardia
- Control and regulation technology for high frequency catheter ablation
- X-ray free imaging: anatomic CARTO Mapping
- MRI / CT image integration on electroanatomical CARTO XP System Merge
- Free X-ray ultrasound-based imaging with Real-Time Position Management System
- Hemodynamic monitoring using AESCULON
- Hemodynamic monitoring using Cardio Screen