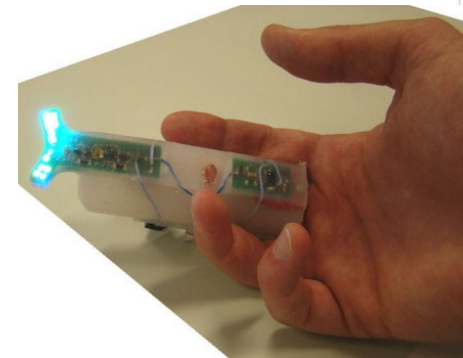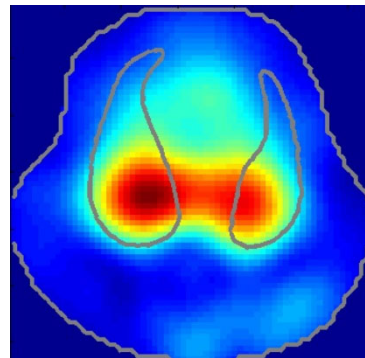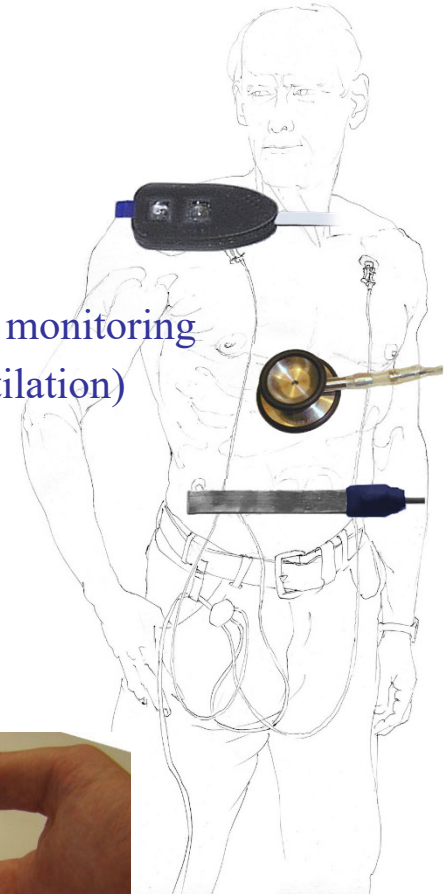**Research group** *Biomedical Sensing / Theranostics*
(Head: Univ.Prof. Eugenijus Kaniusas)

Diagnostic systems

- Electric, optic, and acoustic sensors for Point-of-Care diagnostics
- Hybrid/multiparametric sensors for anaesthesia/sleep/fitness/pain/perfusion monitoring
- CT-enhanced Electrical Impedance Tomography (for personalized lung ventilation)
- Diving pathophysiology monitoring

Therapeutic systems

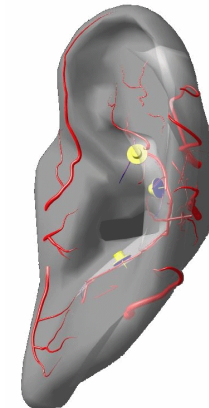## Advanced biomedical signal processing

Diagnostic systems

Therapeutic systems

- Electrical stimulation of auricular vagus nerve for pain/perfusion/ulcers/ cerebrovascular/stroke management (feedback-based)
- Selective stimulation of denervated muscles (in dystonia/dysphonia)
- Thermal body stimulation for sleep management (feedback-based)
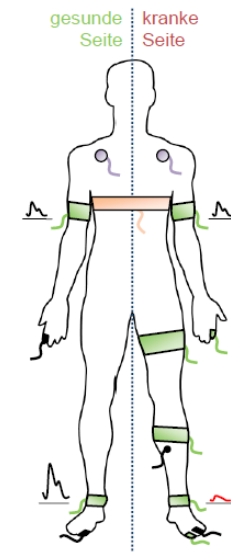
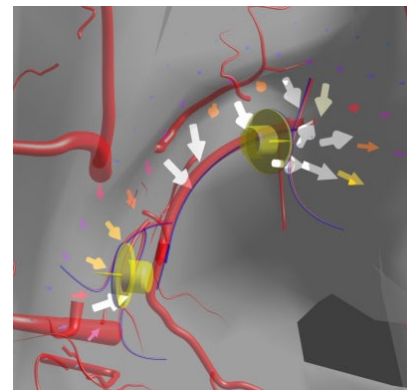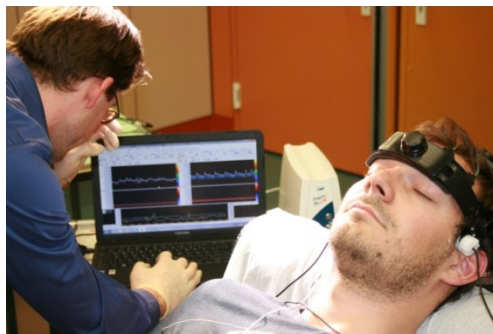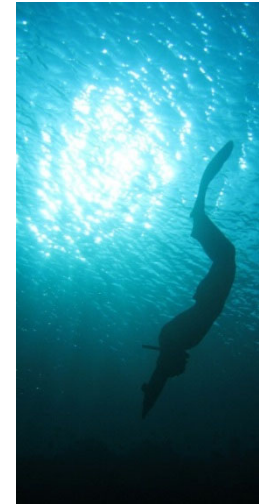### Advanced biomedical signal processing

Diagnostic systems

Therapeutic systems

Advanced biomedical signal processing

- Heart rate variability analysis (e.g., as prognostic factor for perioperative outcome)
- Cerebral autoregulation, pulse wave analysis
- Involuntary/voluntary apnea detection/analysis, individual OP-fitness monitoring

Research group *Biomedical Sensing / Theranostics*

Teaching

Spin-Off

Administration

Dean of academic affairs
Biomedical Engineering

Cooperations

Social-scientific projects