



ADVANCED PHOTONICS 2018 IN CLINICAL MEDICINE AND SURGERY

THE 2nd FINNISH – JAPANESE MEDICAL PHOTONICS SYMPOSIUM
25 September 2018 – Auditorium – Kuopio University Hospital – Kuopio Finland

PROGRAM

SESSION I

Photonics Applications in Clinical Medicine and Surgery

Chair *Mikael von und zu Fraunberg*

- 09.00 – 09.05 Welcome – *Markku Hauta-Kasari*
- 09.05 – 09.30 Keynote: History of Photonics in Microneurosurgery
– *Juha E Jääskeläinen*
- 09.30 – 09.45 Eye Tracking and Light-based Neuromodulation in Inner Ear Diseases
– *Matti Iso-Mustajärvi*
- 09.45 – 10.00 Advanced Optic Coherence Imaging in Ophthalmological Diagnostics
– *Kai Kaarniranta*
- 10.00 – 10.15 Therapeutic Light Sources in Oral and Maxillofacial Diseases
– *Jari Kellokoski*
- 10.15 – 10.35 Computational Spectral Imaging in Ophthalmology and Dentistry
– *Pauli Fält*
- 10.35 – 10.45 Hyperspectral Imaging with Tunable Light Sources in Neurosurgery
– *Piotr Bartczak*
- 10.45 – 11.00 Photonics in Diagnostics of Neurodegenerative Diseases
– *Anne Koivisto*
- 11.00 – 12.00 Lunch (own cost)

SESSION II

Medical Photonics in Academic and Business Driven Research

Chair *Roman Bednarik*

- 12.00 – 12.20 Keynote: NeuroCenter of Finland and Medical Photonics
– *Mikael von und zu Fraunberg*
- 12.20 – 12.40 Academy of Finland FIRST: Artificial Intelligence in Microsurgery
– *Roman Bednarik*
- 12.40 – 12.50 Ultraviolet Light in Preventing Infections in Healthcare
– LED Future Ltd
- 12.50 – 13.05 Fluorescent Dyes and Hyperspectral Imaging in Image-guided Surgery
– Stryker Corporation
- 13.05 – 13.35 Keynote: Optical measurement and analysis of resected esophagogastric tumor - *Hideaki Haneishi*, Center for Frontier Medical Engineering, Chiba University
- 13.35 – 14.15 Panel: Collaboration of Clinical Medicine & Academia & Industry
- Chairs: *Roman Bednarik and Antti-Pekka Elomaa*
- Fraunberg, Hauta-Kasari, Haneishi, Iso-Mustajärvi, Kaarniranta, Corporates

14.15 – 14.45 Coffee Break

SESSION III International Collaboration for Personalized Multimodal Medical Engineering

Chair *Markku Hauta-Kasari*

14.40 – 14.45 Finnish-Japanese collaboration in Computational Spectral Imaging
- *Markku Hauta-Kasari*

14.45 – 15.00 Keynote: International Network of Multi-modal Medical Engineering for Precision Medicine - *Hideaki Haneishi*

15.00 – 15.20 Future of Computer Aided Surgery - From Image-guided to Multimodal Information-guided - *Ryoichi Nakamura*

15.20 – 15.40 Visualization of oxygen saturation and hemoglobin concentration in ocular fundus based on RGB camera - *Kazuya Nakano*

15.40 – 15.55 Progress in Tongue Image Analysis Project and Spectral Estimation for Tongue Coating Measurement - *Yudai Ota*

15.55 – 16.10 Optimal design of illuminant for improving intraoperative color appearance of organs – *Yoko Kurabuchi*

16.10 – 16.30 Non-contact emotion monitoring based on physics- and physiology-based image analysis - *Norimichi Tsumura*

16.30 Ending

SESSION IV Visit to Eastern Finland Microsurgery Research & Training Center

Host Antti-Pekka Elomaa

16.30 Demonstrations of Photonics Applications in Microsurgery (UEF)

Hands-on Microsurgical Training (KUH)

KUH NeuroCenter Surgical Multimedia Systems (Stryker)

REGISTRATION for physical or virtual attendance by Friday 14 September 2018

<https://my.surveypal.com/Advanced-Photonics-2018>

No registration fee

ORGANIZER

KUH Kuopio University Hospital and UEF University of Eastern Finland

Research Coordinator Virve Kärkkäinen PhD, KUH NeuroCenter	virve.karkkainen@kuh.fi
Coordinator Antti-Pekka Elomaa, KUH MicrosurgeryCenter	antti-pekka.elomaa@kuh.fi
Professor Juha E Jääskeläinen, KUH NeuroCenter	juha.e.jaaskelainen@kuh.fi
Assoc Professor Roman Bednarik, UEF School of Computing	roman.bednarik@uef.fi
Professor Markku Hauta-Kasari, UEF School of Computing	markku.hauta-kasari@uef.fi



JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE
日本学術振興会

