

Biomedical Raman Imaging

25-27 June 2023

Atlanta, GA

Program

25 June - Sunday

15:00 15:10

Welcome and Opening Remarks

Plenary Lectures

15:10	15:50	Ji-Xin Chen	Stimulated Raman Photothermal Microscopy towards Ultrasensitive Chemical Imaging
15:50	16:30	Wei-Min	A unified framework of molecular response under stimulated Raman scattering
16:30	17:10	Yasuyuki Ozeki	Advancing multicolor SRS imaging with functional Raman probes and quantum light
17:10	17:50	Lu Wei	Functional Stimulated Raman Imaging for Subcellular Bioanalysis

Reception and Posters

26 June - Monday

9:25 9:30

Day 2 Welcome and Remarks

Session 1: Diagnostics

9:30	10:00	Tamiki Komatsuzaki	On-the-fly Raman microscopy guaranteeing the accuracy of diagnosis by reinforcement learning
10:00	10:30	Fay Nicolson	Optimization of SORS Instrumentation for Applications in Preclinical Cancer Imaging

10:30 10:50 Break

Session 2: Biomedical and Metabolomics

10:50	11:20	Yasuaki Kumamoto	High-throughput spontaneous Raman spectroscopy and imaging for biomedical applications
11:20	11:50	Ayanjeet Ghosh	Multiscale Spatially Resolved Vibrational Spectroscopy of Amyloid Aggregates
11:50	12:20	Jian Shu	Decoding cell fates through single-cell genomics and imaging

Lunch, Exhibits and Posters

12:20 13:20

Lunch

13:20 14:50

Posters and Exhibit

Session 3: Metabolomics (continued)

14:50	15:20	Haruko Takeyama	Challenge to the Microbial Single-Cell Omics: The Combination of Genomics and Raman Metabolomics
15:20	15:50	Marcus Cicerone	Raman Metabolomics
15:50	16:20	Lingyan Shi	Multimodal imaging platform with SRS, MPF, and SHG for studying metabolism in aging and diseases
16:20	18:00	Panel Discussion - Technology Commercialization	

18:00 20:00

Evening Mixer: posters and exhibition

27 June - Tuesday

8:55 9:00

Day 3 Welcome and Remarks

Session 4: Spontaneous Raman Imaging

9:00	9:30	Katsumasa Fujita	Improvement of the detection sensitivity in Raman microscopy
9:30	10:00	Nicholas Smith	High-throughput high accuracy cell state discrimination by Raman analysis
10:00	10:30	Arno Germond	Probing metabolic shifts via Raman imaging: from stem cells to improved food processing

10:30 10:50 Break

Session 5: Photothermal and Multimodal Imaging

10:50	11:20	Takuro Ideguchi	Video-rate live-cell imaging with mid-infrared photothermal quantitative phase imaging (MIP-QPI)
11:20	11:45	Volker Schweikhard	Label-free, chemically specific imaging with the Leica STELLARIS 8 CRS – A true multi-modal optical dis
11:45	12:10	Mustafa Kansiz	Advances in Bio-Imaging using Multi-modal Sub-micron IR microscopy with simultaneous Raman & Flu

Lunch and Exhibit

12:10 13:25

Lunch

Session 6: Raman Probes

13:25	13:55	Ishan Barman	On self-assembled intracellular Raman reporters and plasmonic nanocavities
13:55	14:25	Mako Kamiya	Activatable Raman probes utilizing enzyme-induced aggregate formation for selective ex vivo imaging
14:25	14:55	Daniela Buccella	Raman Probes

14:55 15:15

Break

Session 7: CARS Imaging

15:15	15:45	Kotaro Hiramatsu	Fourier-transform coherent anti-Stokes Raman scattering (FT-CARS) for biological research
15:45	16:15	Sandro Heuke	Random illumination coherent anti-Stokes Raman scattering microscopy (RIM-CARS)
16:15	16:45	Charles Camp	Quantitative, Real-Time Raman Signal Extraction from CARS Hyperspectral Imagery

16:45 17:05

Break

Session 8: SRS Imaging

17:05	17:35	Dan Fu	Quantitative analysis with stimulated Raman scattering microscopy: challenges and opportunities
17:35	18:05	Krzysztof Brzozowski	Raman Microscopy – towards Better Sensitivity and Specificity

18:05 18:15

Closing Remarks