2022年12月15 日

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BISC

Bioimaging with New Technologies I (Osamu Matoba)			
Time	**Speaker**	**Topic**	**Affiliation**
13:45-13:50	Osamu Matoba	Opening remark	
13:50-14:20	Shean-Jen Chen	Temporal focusing-based multiphoton imaging with deep inpainting and prediction	Institute of Imaging and Biomedical Photonics, National Yang Ming Chiao Tung University
14:20-14:50	Chia-Lung Hsieh	Machine learning-assisted chromatin imaging in live cell nuclei by label-free interference DYNAMICS imaging	Institute of Atomic and Molecular Sciences, Academia Sinica
14:50-15:05 (250201)	Ya-Han Chuang[1,2], Ya-Hui Lin[1,2], Yueh-Feng Wu[3], Sung-Jan Lin[2,3], Li-An Chu[1]	Super-resolution imaging for collagen rich tissue	[1]Department of Biomedical Engineering and Environment Sciences, National Tsing Hua University [2]Brain Research Center, National Tsing Hua University [3]Department of Biomedical Engineering, National Taiwan University
15:05-15:20 (250326)	Chien-Hua Peng[1], Yu-Cheng Mei[1], Hung-Kai Chen[2], Ting-Yen Tsai[1], Ting-Hao Chen[1], Chuan-Bor	Development of high-speed polarization-sensitive optical coherence tomography imaging based on HCG-VCSEL	[1]Graduate Institute of Photonics and Optoelectronics, National Taiwan University [2]Bandwith10 Ltd.,

	Chueh[1], Michael C. Y. Huang[2], and Hsiang-Chieh Lee[1,3]		Berkeley [3]Department of Electrical Engineering, National Taiwan University
15:20-16:20		Coffee Break	
Ubiquitous Biology & Physiology (Sheng-Hao Tseng)			
Time	**Speaker**	**Topic**	**Affiliation**
16:20-16:50	Izumi Nishidate	Non-contact physiological measurement using camera-based diffuse reflectance spectroscopy	Tokyo University of Agriculture and Technology
16:50-17:20	En-Te Hwu	Hacking Consumer Electronics for Biomedical Imaging	Technical University of Denmark
17:20-17:35 (250402)	Mamadi M.S Colley[1], Cheng-Jen Chang[1], Jen-Chang Yang [2,3,4], Pei-Wen Peng[5] and Tzu-Sen Yang[1,3,4,5]	Single-Cell Manipulation and Detection Platform Based on Optical Tweezers for investigating the Chemotaxis and Response of Cancer cells to Tyrosine Kinase Inhibitor PD153035	[1]Graduate Institute of Biomedical Optomechatronics, Taipei Medical University [2]Graduate Institute of Nanomedicine and Medical Engineering, Taipei Medical University [3]International PhD Program in Biomedical Engineering, Taipei Medical University [4]Research Center of Biomedical Device, Taipei Medical University [5]School of Dental Technology, Taipei Medical University
17:35-17:50 (250308)	S. Miyamura[1], R. Oe[1], T.	Rapid detection of SARS-CoV-2 nucleocapsid	[1]Graduate School of Advanced Technology

	Nakahara[1], S. Okada[2], S. Taue[3], Y. Tokizane[4], T. Minamikawa[4], T. Yano[4], K. Otsuka[4,5], A. Sakane[4,5], T. Sasaki[4,5], K. Yasutomo[4,5], T. Kajisa[4,6], and T. Yasui[4]	protein antigen by dual-comb biosensing	and Science, Tokushima University [2] Graduate School of Science and Technology for Innovation, Tokushima University [3]School of System Engineering, Kochi University of Technology [4] Institute of Post-LED Photonics, Tokushima University. [5] Graduate School of Medicine, Tokushima University [6] Graduate School of Interdisciplinary New Science, Toyo University

2022年12月16 日

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Bioimaging with New Technologies II (Shi-Wei Chu)			
Time	**Speaker**	**Topic**	**Affiliation**
08:30-09:30	Ji-Xin Cheng	Mid-Infrared Photothermal Microscopy: Principle, Instrumentation, and Applications	Photonics Center, Boston University
09:00-09:30	Katsumasa Fujita	Side-illumination Raman microscopy using a Bessel beam for observation of cell spheroids.	Department of Advanced Physics, Osaka University
09:30-09:45 (250162)	Guan-Jie Huang[1,2], Pei-Chen Lai[2,3], Kuo-Chuan Chao[2], Peng Lin[4], Ji-Xin Cheng[4], Ann-Shyn Chiang[2,6], Bo-Han Chen[2], Chih-Hsuan Lu[2], Shi-Wei Chu[1,2,7], and Shang-Da Yang[2,3]	Multiple-Plate Continuum for Stimulated Raman Scattering Spectro-Microscopy across the Entire Raman Active Region	[1]Department of Physics, National Taiwan University [2]Brain Research Center, National Tsing Hua University [3]Institute of Photonics Technologies, National Tsing Hua University [4]Department of Electrical and Computer

			Engineering, Boston University [5]Department of Biomedical Engineering & Environmental Sciences, National Tsing Hua University [6]Institute of Systems Neuroscience and Department of Life Science, National Tsing Hua University [7]Molecular Imaging Center, National Taiwan University
09:45-10:00 (250266)	Yi-Ru Luo[1], Ling-Hui Yen[1], Ya-Hui Lin[1], Chi-Wen Liong[2], Chih-Ming Wang[3], Shih-Kuo Chen[2], Hsueh-Cheng Chiang[3], Chin-Hsien Lin[4], Li-An	Super-resolution neuronal imaging in Drosophila, mouse and human	[1]Department of Biomedical Engineering and Environmental Science, National Tsing Hua University [2]Department of Life Science,

	Chu[1]		National Taiwan University [3]Department of Pharmacology, National Cheng Kung University [4]Department of Neurology, National Taiwan University Hospital,
10:00-10:20		Coffee Break	
Light & Neuroscience (Kung-Bin Sung)			
Time	**Speaker**	**Topic**	**Affiliation**
10:20-10:50	Chi-Kuang Sun	Realtime and Noninvasive Pathological Diagnosis of Diabetic Peripheral Neuropathy by Third-harmonic-generation Imaging of Free Nerve Ending (TIFNE)	Department of Electrical Engineering, National Taiwan University Electrical Engineering and Computer Science Optical Molecular Imaging Core Laboratory Molecular Imaging Center, National Taiwan University

10:50-11:20	Adam T. Eggebrecht	Developing optical methods for brain mapping at the point-of-care	Biophotonics Research Center Mallinckrodt Institute of Radiology; Imaging Sciences Program; Department of Biomedical Engineering; Division of Biology and Biomedical Sciences; Department of Electrical and Systems Engineering. Washington University School of Medicine
11:20-11:35 (250198)	Li-Wen Wang[1,2], Ya-Hui Lin[1,2], Ching-Han Hsu[1], Li-An Chu[1,2]	High speed automated cell detection and quantification in whole mouse brain	[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University [2]Brain Research Center, National Tsing Hua

			University
11:35-11:50 (250160)	Heng Chang[1,2], Wei-Kun Chang[2], Bi-Chang Chen[2,3], Li-An Chu[1,2]	Single/Multiphoton Light Sheet Microscopy for Drosophila Whole Brain Functional Imaging	[1]Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University [2]Brain Research Center, National Tsing Hua University [3]Research Center for Applied Sciences, Academia Sinica

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Novel Biomolecular Sensing (Miya Ishihara)			
Time	**Speaker**	**Topic**	**Affiliation**
13:50-14:20	Keisuke Goda	Unconventional SERS: metal/plasmon-free and wearable/flexible SERS	Department of Chemistry, University of Tokyo
14:20-14:35 (250039)	Hsin-Jou Wang[1], Wei-Chun Chang[2], Tsai-Hsueh Leu[3], Yi-Min Wang[1], Gautam Takhellambam[1], Chia-Wei Sun[1]	Using deep learning for bone mineral density prediction with near infrared light	[1]Department of Photonics and Institute of Electro-Optical Engineering, National Yang Ming Chiao Tung University [2]Department of Orthopedic Surgery, Taipei Municipal Wan fang Hospital [3]Department of Orthopedic Surgery, Taipei City Hospital Renai Branch,
14:35-14:50 (250268)	Eiji Hase, Takeo Minamikawa, Yu Tokizane, Takeshi Yasui	Analysis of lipid molecular properties in nonalcoholic fatty liver disease by use of Brillouin microspectroscopy	Institute of Post-LED Photonics, Tokushima University
14:50-15:05 (250423)	Manoj Kumar Kumar[1], Naru	Single-shot recording of transport of intensity	[1]Graduate School of

	Yoneda[1], Xiangyu Quan[1,2], Osamu Matoba[1,2]	equation-based three dimensional fluorescent imaging	System Informatics, Kobe University [2]Center of Optical Scattering Image Science, Kobe University
15:05-15:20 (250297)	Tatsuki Tahara[1]	Incoherent digital holography system for simultaneous imaging of three dimensional and polarization information without a polarization filter	[1]Applied Electromagnetic Research Center, Radio Research Institute, National Institute of Information and Communications Technology
15:20-15:40		Coffee Break	
Large-tissue and High-speed Imaging (Hsiang-Chieh Lee)			
Time	**Speaker**	**Topic**	**Affiliation**
15:40-16:10	Miya Ishihara	Photoacoustic imaging technology to visualize from cells to organs in vivo	National Defense Medical College
16:10-16:40	Bernhard Baumann	Advancing contrast for optical coherence tomography in the eye and brain	Center for Medical Physics and Biomedical Engineering, Medical University of Vienna
16:40:16:55 (250386)	Sung-Wen Huang, Jia-Pu Syu, and Wen-Chuan Kuo	Diopter correction Spectral-Domain Optical Coherence Tomography Angiography in Ophthalmology	Institute of Biophotonics, National Yang Ming Chiao Tung University
16:55-17:10 (250413)	Bhaskar Jyoti Borah, Yao-	H&E-compatible Rapid Fresh Pathology technique for	Department of Electrical

	Chen Tseng, Chi-Kuang Sun	intraoperative tumor assessment at a sustained data throughput of >700 Mbps	Engineering and Graduate Institute of Photonics and Optoelectronics, National Taiwan University

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Label-free Microscopy (Yatsuhiro Awatsuji)			
Time	**Speaker**	**Topic**	**Affiliation**
08:00-08:30	Laura Waller	Computational 3D microscopy with scattering samples	Department of Electrical Engineering and Computer Sciences, UC Berkley
08:30-09:00	YongKeun Park	Quantitative phase imaging and artificial intelligence: inference of molecular-specific information from label-free imaging	Korea Advanced Institute of Science and Technology
09:00-09:15 (250295)	Yen-Chih Yu[1,2], Sunil Vyas[2], J. Andrew Yeh[1], Yuan Luo[2]	AI assisted FPGA based Isotropic Quantitative Differential Phase Contrast imaging imaging	[1]Institute of Nano Engineering and Microsystems, National Tsing Hua University [2]Institute of Medical Device and Imaging, National Taiwan University
09:15-09:30 (250033)	Yi-Teng Hsiao[1], Tsai-Ying Wu[1,2], Shi-Wei Chu[2], Chia-Lung Hsieh[1]	High speed interferometric scattering confocal microscopy unveils rapid cell dynamics at the nanoscale	[1]Institute of Atomic and Molecular Sciences, Academia Sinica [2]Department of Physics,

			National Taiwan University
09:30-09:40		Coffee Break	
Bioimaging with New Technologies III (Katsumasa Fujita)			
Time	**Speaker**	**Topic**	**Affiliation**
09:40-10:10	Jin-Wu Tsai	Detection of Neurodegeneration Using Automated Dendritic Spine Identification Based on Convolutional Neural Network	Institute of Brain Science, National Yang Ming Chiao Tung University
10:10-10:40	Jung-Chi Liao	Microscopy-guided subcellular proteomics	Institute of Atomic and Molecular Sciences Academia Sinica. Genome and Systems Biology Degree Program, National Taiwan University
10:40-10:55 (250420)	Surag Athippillil Suresh[1,2], Sunil Vyas[2], J. Andrew Yeh[1], Yuan Luo[2,3,4]	Volume holographic lenslet array based confocal imaging	[1]Institute of Nano Engineering and Microsystems, National Tsing Hua University [2]Institute of Medical Device and Imaging, National Taiwan University [3]Department of Biomedical Engineering, National Taiwan University [4]Molecular

			Imaging Center, National Taiwan University