

OPTIC 2022 Student Paper Oral Award

S1. Nanophotonic Materials and Devices

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0101-O004	0534	Influence of Surface Plasmon on Optical Detection of Picosecond Ultrasonic Pulse Generated in Aluminum Nanofilms	Ting-Shan Lee	Graduate Institute of Photonics and Optoelectronics	Ting-Shan Lee, and Chi-Kuang Sun
2022-FRI-S0102-O001	0674	Actively-tunable varifocal metalens	Po-Sheng Huang	National Cheng Kung University	Po-Sheng Huang, Amir Hassanfiroozi, and Pin Chieh Wu
2022-FRI-S0102-O002	0107	Silicon Photonic On-chip Metasurfaces with Simultaneous Emission Amplitude and Phase Control	Ping-Yen Hsieh	National Yang Ming Chiao Tung University	Ping-Yen Hsieh, Shun-Lin Fang, Yu-Siang Lin, Wen-Hsien Huang, Jia-Min Shieh, Peichen Yu, and You-Chia Chang
2022-FRI-S0101-O003	0268	Structure, optical and thermoelectric properties of few-layer tin monochalcogenides $\text{SnS}_{1-x}\text{Se}_x$ ($0 \leq x \leq 1$) with strong in-plane anisotropy for energy application	Thalita Maysha Herninda	National Taiwan University of Science and Technology	Thalita Maysha Herninda, and Ching-Hwa Ho
2022-FRI-S0101-O001	0190	Memory Operations of Multi-Layer Molybdenum Disulfide Top-Gate Transistors	Bo-Hao Chen	National Cheng Kung University	Bo-Hao Chen, Po-Cheng Tsai, Coung-Ru Yan, Shoou-Jinn Chang, and Shih-Yen Lin
2022-FRI-S0101-O005	0406	Giant Circular Dichroism of Extrinsic Chiral Dielectric Meta-GMR	Yi-Cheng Lin	National Central University	Yi-Cheng Lin, Yung-Chih Liu, and Chih-Ming Wang

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S2. Optical Waveguides and Communications

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0202-O007	0760	Fabrication of tapered waveguides by i-line lithography for flexible coupling control	Shih-Xin Wu	National Central University	Shih-Xin Wu, Tien-Hsiang Lee, Wei-Hao Huang, and Pei-Hsun Wang
2022-FRI-S0202-O006	0596	A compact silicon photonics driver chip for IFOG system employing thermal-optic phase shifters	Tzu-Jung Kuo	National Sun Yat-sen University	Tzu-Jung Kuo, Sin-Yun Lu, Wei-Xuan Chen, Yen-Chieh Wang, and Yung-Jr Hung
2022-FRI-S0202-O001	0429	High Coupling Efficiency of Mirco-Lensed Fiber by UV-Curable Resin for Silicon Photonics Waveguide	Po-Lin Huang	National Chung Hsing University	Po-Lin Huang, Chun-Nien Liu, and Wood-Hi Cheng
2022-FRI-S0202-O004	0294	Laser-powered silicon photonics using CMOS photovoltaic cells	Rou-Shiuan Shen	National Sun Yat-sen University	Rou-Shiuan Shen, Ying-Chi Chen, and Yung-Jr Hung
2022-FRI-S0201-O006	0573	Optimization of Long Short Term Memory Neural Network (LSTMNN) based Visible Light Positioning (VLP) System to Enhance the Positioning Accuracy	Hsiu-Cheng Lin	National Yang Ming Chiao Tung University	Hsiu-Cheng Lin, Li-Sheng Hsu, Chi-Wai Chow, and Chien-Hung Yeh

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S3. Quantum and Laser Technology

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0301-O002	0501	Generation and manipulation of photon pairs by a four-stage integrated optical circuit	Tien-Dat Pham	National Central University	Tien-Dat Pham, Cheng-Chung Chiu, Pin-Ju Tsai, and Yen-Hung Chen
2022-FRI-S0301-O006	0252	High-entropy chaos generation using semiconductor lasers subject to mutual injection for physical random number generation	Zhan-Yu Liu	Department of Photonics	Zhan-Yu Liu, Chin-Hao Tseng, and Sheng-Kwang Hwang
2022-FRI-S0301-O008	0064	Vectorial vortex beams generated by photonic-crystal surface-emitting lasers with honeycomb lattice	Yi-Jing Wu	National Yang Ming Chiao Tung University	Yi-Jing Wu, Bing-Hong Chuang, Chia-Jui Chang, Lih-Ren Chen, and Tien-Chang Lu

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S4. Optical Information Processing and Holography

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0402-O001	0807	Fresnel biprism for common-path digital holographic microscopy	Chen-Ming Tsai	National Taiwan University	Chen-Ming Tsai, and Yuan Luo
2022-FRI-S0401-O002	0793	Zoomable lensless digital holographic microscope using volume holographic optical waveguides	Pin-Duan Huang	National Central University	Pin-Duan Huang, Wen-Li Wang, Chih-Hung Chen, Yeh-Wei Yu, Tsung-Hsun Yang, and Ching-Cherng Sun

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S5. Optical Design, Testing and Engineering

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0502-O003	0022	Optical Dispersion Identification with Deformable Mirror by Spatial Spectral Interferometry	Jui Chi Chang	National Cheng Kung University	Jui Chi Chang, and Chia Yuan Chang
2022-FRI-S0502-O005	0841	Electrically Tunable Defect Modes in a Photonic Structure with Liquid Crystal for a Miniature NIR Spectrometer	Guan-Fu Sung	College of Photonics	Guan-Fu Sung, Shun-Yi Chiu, Yi-Cheng Chang, Yu-Chen Liou, Chin-Pin Yeh, and Wei Lee
2022-FRI-S0502-O001	0677	Use Wavefront Sensor to Evaluate the Head Mount Display	Siang-Sheng Wang	National Central University	Yu Ting Cho, and Chao Wen Liang
2022-FRI-S0502-O004	0745	Light Collimating with Use of Metalenses for Spatial Incoherence	Chi Sun	National Taiwan University	Chi Sun, Jun-Hsun Liao, and Guo-Dung Su
2022-FRI-S0501-O001	0053	Dynamic Remote Focusing by Model-based Adaptive Optics	Jui-Tse Yang	National Cheng Kung University	Jui-Tse Yang, Cheng-Jung Yang, and Chia-Yuan Chang

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S6. Biophotonics and Biomedical Imaging

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0601-O002	0709	Inter-Modality Unsupervised Image Translation from Harmonic generation microscopy (HGM) image to H&E-stained image via Deep Learning Network	Wei-Ju Chen	National Tsing Hua University	Wei-Ju Chen, En-Yu Liao, Tsung-Ming Tai, Yi-Hua Liao, Chi-Kuang Sun, Cheng-Kuang Lee, Simon See, and Hung-Wen Chen
2022-FRI-S0601-O005	0813	U-net model for Single-Axis Quantitative Differential Phase Contrast imaging of cells	Yen-Chih Yu	National Tsing Hua University	Yen-Chih Yu, Sunil Vyas, J. Andrew Yeh, and Yuan Luo
2022-FRI-S0601-O008	0768	Development of high-speed polarization-sensitive optical coherence tomography imaging based on HCG-VCSEL	Chien-Hua Peng	National Taiwan University	Chien-Hua Peng, Yu-Cheng Mei, Hung-Kai Chen, Ting-Yen Tsai, Ting-Hao Chen, Chuan-Bor Chueh, Michael C. Y. Huang, and Hsiang-Chieh Lee

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S7. Display and Solid State Lighting

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0702-O002	0531	Tandem ionic/nonionic hybrid white phosphorescent organic electroluminescent device	Dian Luo	National Yang Ming Chiao Tung University	Dian Luo, Hai-Ching Su, and Chih-Hao Chang
2022-FRI-S0702-O006	0186	Experimental Characterization of Highly Efficient Full-Color 1588 PPI Micro-LED Displays	Chih-Yuan Tsai	National Taiwan University	Chih-Yuan Tsai, Jian-Hong Lin, Yen-Chia Cheng, and Ching-Fuh Lin
2022-FRI-S0702-O004	0467	Compact Mini-LED Driving Circuit with Low Power Consumption Structure For Use in LCD Backlight Units	Yi-Chien Chen	National Cheng Kung University	Yi-Chien Chen, Chih-I Liu, Chung-Tien Chu, and Chih-Lung Lin
2022-FRI-S0702-O007	0157	Multifunctional Smart Window with Transmittance, Light Field and Scattering Control	Jhieh-Yi Lyu	National Sun Yat-sen University	Jhieh-Yi Lyu, Li-Min Chang, Kuan-Wu Lin, Heng-Yi Tseng, Cheng-Chang Li, Duan-Yi Guo, Hung-Chang Jau, Chun-Ta Wang, and Tsung-Hsien Lin

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S8. Thin Film and Photovoltaic Technology

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-SAT-S0804-O006	0630	Epitaxy growth low temperature gallium nitride on silicon substrate by Using the Pulsed Magnetron Sputtering Deposition	Hung-Sheng Liu	National Central University	Hung-Sheng Liu, Zhi-Guang Chen, and Sheng-Hui Chen
2022-SAT-S0804-O005	0543	The use of the slope of merit function algorithm in finding the stopping criteria of spectrum in broadband optical monitoring system	Shih-Kai Hsu	Feng Chia University	Shih-Kai Hsu, Hong-Lin Zhuo, and Chien-Jen Tang
2022-FRI-S0802-O006	0625	Growth Characteristics of sp ² Bonded Boron Nitride Thin Films on Silicon by Low-Pressure Chemical Vapor Deposition	Jian-Yu Li	National Central University	Jian-Yu Li, Zhong-Jun Jiang, and Sheng-Hui Chen
2022-FRI-S0802-O004	0191	The van der Waals Epitaxy of Copper Thin Films on Molybdenum Disulfide Surfaces with Low Resistivity	Hao-Qian Li	National Yang Ming Chiao Tung University	Hao-Qian Li, Che-Jia Chang, Po-Tsung Lee, and Shih-Yen Lin

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S9. Optical Sensing

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S0902-O001	0170	Photon Confinement by Plasmonic Diffraction for Near-Infrared Sensitivity Improvement of Silicon Image Sensor	Takahito Yoshinaga	Shizuoka University	Takahito Yoshinaga, Kazuma Hashimoto, Nobukazu Teranishi, and Atsushi Ono
2022-FRI-S0902-O003	0378	High-performance Avalanche Photodiode for 4-D FMCW Lidar Applications	Zohauddin Ahmad	National Central University	Zohauddin Ahmad, Sung-Yi Ou, Po-Shun Wang, Naseem None, You-Chia Chang, Chia-Chien Wei, and Jin-Wei Shi
2022-FRI-S0901-O004	0568	Fiber Michelson Interferometer Formed by Pencil-shaped SMF for Liquid-level Sensing	En-Shuo Lee	National Sun Yat-sen University	En-Shuo Lee, and Chin-Ping Yu
2022-FRI-S0901-O003	0289	Deep Neural Network Acceleration for Optical Dispersion Estimation with FPGA Integration	Xin-Li Lee	National Cheng Kung University	Xin-Li Lee, Chia-Yuan Chang, Jui-Chi Chang, and Shu-Yu Chang

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S10. Metaverse Photonics

Agenda ID	Manuscript ID	Title	Presenter	Presenter's Unit	Authors
2022-FRI-S1002-O002	0803	Waveguide-based Augmented Reality Devices Design using Hybrid Rigorous Coupled-wave Analysis and Ray-tracing Method	Yang-Kuan Tseng	National Taiwan University of Science and Technology	Yang-Kuan Tseng, and Tsung-Xian Lee
2022-FRI-S1001-O003	0356	Single-shot three-dimensional face detection based on fringe projection incoherent digital holography	Ssu-Chia He	Institute of Electro-Optical Engineering	Ssu-Chia He, Yu-Chih Lin, Che-We Chen, Han-Yen Tu, and Chau-Jern Cheng
2022-FRI-S1001-O002	0814	A liquid crystal lens set in augmented reality systems and virtual reality systems for rapidly varifocal images and vision correction	TING-WEI HUANG	National Yang Ming Chiao Tung University	TING-WEI HUANG, HAO-HSIN HUANG, YU-JEN WANG, and YI-HSIN LIN