



European Materials Research Society

2023 Spring Meeting May 29 | June 2

40th Anniversary

Congress & Exhibition Centre, Strasbourg, France

SYMPOSIUM N

Hybrid photonics: integration, design and devices

Symposium Organizers:

Sébastien CUEFF, Ecole Centrale Lyon, France

Dries VAN THOURHOUT, Ghent University, Belgium

Joyce POON, MPI-Halle, Germany

Laurent VIVIEN, University Paris Saclay, France

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Applied Physics Letters

Wednesday May 31

N01

Light emission & Topology

Londres 1 (Ground floor)

10:00	2829	INV	Topo lasers and the Berkeley Surface-emitting laser (BerkSEL). How we overcame a six-decade challenge in wave-physics	KANTÉ Boubacar
10:30	1530		GaN-on-Insulator platform for nonlinear processes and laser integration	BHAT Nagesh
10:45	448		Solution-processable CP-TADF polymers for next-generation OLED display applications	XU Zhiyu
11:00	1081		Electroluminescence from Single-Walled Carbon Nanotubes with Quantum Defects	SINIGALIA Alisa
11:15	2650		Thermally activated doping mechanism enabled high-performance metal halide perovskite light emitting diodes	QIN Jiajun
11:30	499	INV	Topological Metaphotonics	GENEVET Patrice

Wednesday May 31

N02

Integration of functional materials

Londres 1 (Ground floor)

13:30	2828	INV	Heterogeneous material approaches in integrated photonics: the challenging path from explorative research to industrial manufacturing	BAETS Roel
14:00	558		High performance Si OPA for LiDARs by interface control of direct fusion bonding	LEE Eun Kyung
14:15	784		Carrier dynamics engineering for enhanced radiative recombination in graphene/QD mixed-dimensional heterostructures	LUNG Nhat Dang Quang
14:30	1617		Formation of (Er _{0.1} Y _{0.9}) ₂ Zr ₂ O ₇ waveguide amplifier by digitally processed DC sputtering toward heterogeneous integration on SiN _x waveguide circuits	ISSHIKI Hideo
14:45	2444		Hybrid integration of nitrogen-vacancy centres in nanodiamond with foundry silicon nitride photonics	SMITH Joe

Wednesday May 31
N03
Integration of functional materials 2

Londres 1 (Ground floor)

15:00	931	INV	Doped crystalline zirconia oxides for photonic applications	MATZEN Sylvia
15:30	1298	INV	AlGaAs-on-insulator hybrid platforms for guided and free-space nonlinear photonics	LEO Giuseppe

Wednesday May 31
N_P
Poster session

Etoile (1st floor) - 4.30 p.m to 6.30 p.m

1_64	Simultaneous Recording of Independent Visible and Infrared Images in a Thin-Film Cavity for Multispectral Optical Security	KANG Dongkyun
2_111	Selective growth of magnetic garnet crystals for optical isolator with Si guiding layer	YOKOI Hideki
3_272	Traffic flow control on road intersections: Communication through Visible Light.	VIEIRA Manuel Augusto
4_586	Wafer-scale characterization of high-brightness blue micro-LED arrays with a high pixel density of 4233 pixels per inch for industrial mass production	PARK Hyeong-Ho
5_770	Fabrication of hierarchical surface structure by using nanoscale lateral wet-etching of Nickel films in lamellae layers	KIM Jeong Hwan
6_777	Photoluminescence and Electron Paramagnetic Resonance Spec-troscopy for Intrinsic Defects of ZnO Quantum Dots	KIM Hong Hee
7_796	Engineering of Formamidinium and Cesium for High-performance Perovskite Photodetectors with Low Dark Current	HONG Eunyong
8_1252	Voltage-Tunable Broadband Ni-doped CuCrO2 Photodetector and Its Application in Optoelectrical AND Gate Logic	JEON Yunchae
9_1333	Elaboration of perovskite thin films with metal-insulator transition for infrared optical modulation	TAUSCH Arthur

10_1350	Fiber photonics in frame of the optical fluxes waveguide-resonance propagation	EGOROV Vladimir
11_1431	Gallium-Doped Zinc Oxide Thin Film on Silicon for Near Infrared Plasmonics	HSU Klaus Yung-Jane
13_1881	Bulk and Micro-Photoluminescence Studies of Perovskites	ARVANITAKIS Georgios
14_1906	Uniform and scalable printing of perovskite ink for new generation solar cells	AKIN KARA Duygu
15_2123	Interactions in interphase regions of “KBi(MoO ₄) ₂ crystal / K ₂ O-P ₂ O ₅ -MoO ₃ -Bi ₂ O ₃ glass” nanocomposite material	HIZHNYI Yuriy
16_2143	Effect of oxygen deficiency on Bi ₁₂ GeO ₂₀ crystal phase luminescent properties	AVETISOV Igor
17_2286	Theoretical study of the structural, optical and ONL properties of some polyacetylene derivatives	HAFIED Wahab
18_2289	Structural, optical and non-linear-ONL-optical analysis of halogen-substituted hexatriene	DJEBAILI Abdelbaki
19_2298	Influence of the small cation on the spin relaxation in quasi-2D layered hybrid perovskites	STADLBAUER Anna
20_2512	Dual-Light-Emitting Printable Fluorescent-Phosphorescent Metal-Organic Frameworks for Three-Dimensional Encryption	OH Jin Woo
21_2541	Development of light-controlled nanoparticle-polymer cell isolation array	HUNG Sheng-Ting
22_2647	The Play Role of Absorbers/Collectors in the Efficiency of Pioneering Radial Flexible Photo-Thermoelectric Optical Sensors.	PIRES Ana Lucia
23_2654	Establishing charge-transfer excitons in 2D perovskite heterostructures	ZHANG Jia
24_2726	Charge control of manganese ions in red phosphors based on magnesium germanates	BORKOVSKA Lyudmyla

Thursday June 1
N04
Fabrication & Patterning

Londres 1 (Ground floor)

10:00	497	INV	Top-down and bottom-up fabrication of electro-optic lithium niobate and barium titanate devices	GRANGE Rachel
10:30	2520		Structuring and Patterning Silicon Nanowire Arrays for Engineering Light Absorption in Three Dimensions	BOURRET Gilles
10:45	2426		Gate Tunable Near-Infrared Plasmonic Resonances in Atomically Thin NbSe ₂	ZHAO Meng
11:00	2313		Strategies to obtain chiral perovskites via surface modification	HEINDL Markus
11:15	10		High-Pressure-Engineered Optical Properties of Hybrid Perovskites from Bulk to Low Dimension	YIN Tingting
11:30	2843	INV	3D additive fabrication for CMOS-compatible integration of scalable neural networks	BRUNNER Daniel

Thursday June 1
N05
Phase-change Materials

Londres 1 (Ground floor)

13:30	2362	INV	Photonic in-memory computing	PERNICE Wolfram
14:00	1546		Optical switch of Sb ₂ S ₃ phase change material for tunable nanophotonic applications	LAPRAIS Capucine
14:15	153		Gallium Sulfide as Phase-Change Material for Photonic Applications	GUTIERREZ Yael
14:30	1738	INV	New functionalities enabled by phase change materials in silicon devices	SANCHIS Pablo

Thursday June 1
N06
Photodetectors
Londres 1 (Ground floor)

15:00	2641	INV	Optimization of light coupling, third order optical nonlinear properties and mid-IR photodetectors using integrated hybrid photonics	SERNA Samuel
15:30	1790		Influence of Shell thickness in 2D CdSe/ CdS Core/Shell NPLs for High Performance Photodetector Applications	MEDDA Anusri

Thursday June 1
N07
Systems & circuits
Londres 1 (Ground floor)

16:30	2842	INV	Integrated photonic devices for neuromorphic computing	OFFREIN Bert Jan
17:00	261		Visible Light Navigation System for mobile users inside large building	VIEIRA Manuela
17:30	1435		Towards all-optical polariton logic circuitry	MAHRT Rainer

