

# **Conference** Program

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#### PhoSM Photoalgnment 2023 DEC 10 - 16 ST. PETERSBURG FLORIDA 2023 DEC 10 - 16 ST. PETERSBURG FLORIDA

Session	Start	End	Monday, 11 December 2023: Morning
Opening	8:30	8:50	<i>Welcome</i> Arri Priimägi, Nelson Tabiryan
Кеу	8:50	9:30	On the history of reactive mesogens and the importance of dye-enhanced chirality Dirk I. Broer, Eindhoven University of Technology
Inv	9:30	10:00	Azobenzene-powered optical Fourier elements Seungwoo Lee, Korea University Photonics Center
Reg	10:00	10:20	Real-time probing of orientation and deformation of azo-polymer films under pulsed irradiation Carsten Henkel. University of Potsdam
s <sup>\$\$</sup>	10:20	10:50	Coffee Break
Inv	10:50	11:20	Light-induced structuring of azobenzene-containing materials: from single beam to holographic photopatterning Stefano Luigi Oscurato, University of Naples Federico II
Inv	11:20	11:50	Sunlight-Triggered Reversible Soft-Bonded Azo Dye Materials for Optical Patterning and Controlled Photo-Dis-Assembly Christopher Barrett, McGill University
Reg	11:50	12:10	Polarization-driven reversible deformation in an azopolymer-elastomer composite David Urban, Norwegian University of Science and Technology
Reg	12:10	12:30	Large Force-Displacement Actuation via Liquid Crystalline Elastomer Actuators Prepared by Photoalignment Joselle McCracken, University of Colorado Boulder
	12:30	14:00	Lunch Break

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Session	Start	End	Monday, 11 December 2023: Afternoon
Кеу	14:00	14:40	Responsive Material Actuators enabled by Photoalignment of Liquid Crystalline Materials
			Timothy J. White, University of Colorado Boulder
			Mono-Molecular Photo Alignment Layer for Liquid Crystals Using Dip-Coating
Inv	14:40	15:10	Abhishek Kumar Srivastava, Hong Kong University of Science and Technology
Dec	15.10	15.20	Azopolymers and Azopolymer-Based Nanocomposite Materials for Applications in Polarization Holography and Photonics
кед	15:10	15:10 15:30	Lian Nedelchev, Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences
Reg	15:30 15:	) 15:50	An overview of spatial light modulator techniques for polarization-driven writing of surface microstructures on azopolymer films
-			David McGee, The College of New Jersey
s\$s	15:50	16:20	Coffee Break
Inv	16:20	16:50	Light responsive soft nano-objects
			Svetlana Santer, University of Potsdam
Inv	16:50	17:20	Perspective of broadband vectorial interferometry in photopatterning complex hierarchical structures Gabriella Cipparrone, Università della Calabria
Reg	17:20	17:40	Reprogrammable flat optics from maskless azopolymers photo-morphing Francesco Reda, University of Naples Federico II
Reg	17:40	18:00	<i>Polarization-independent diffractive waveplates/4G Optics</i> David Roberts, BEAM Engineering for Advanced Measurements Co.

Session	Start	End	Tuesday, 12 December 2023: Morning
Кеу	8:30	9:10	<i>Recent twists in photopatterning and photoactuation</i> Arri Priimägi, Tampere University
Inv	9:10	9:40	Human Interactive Materials for soft robotic machine/ haptics applications Danqing Liu, Eindhoven University of Technology
Reg	9:40	10:00	Multifunctional stimuli-responsive LC polymer composites Alexey Bobrovsky, Moscow State University
Reg	10:00	10:20	Protonation Effects on the Isomerization Kinetics of Functionalized Azo Photoswitches Coral Hillel, York University
s\$s	10:20	10:50	Coffee Break
Inv	10:50	11:20	Periodic photoalignment for aligning nematic, chiral nematic, blue phase and ferro-electric nematic liquid crystal Kristiaan Neyts, Hong Kong University of Science and Technology
Inv	11:20	11:50	Single-molecule fluorescence and nonclassical light from photoalignment agents Svetlana Lukishova, University of Rochester
Reg	11:50	12:10	Highly resolved and cross-talk free multiplexed holograms via broadband vectorial interferometry Biagio Audia, Università della Calabria
	12:30	14:00	Lunch

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Session	Start	End	Tuesday, 12 December 2023: Afternoon
Кеу	14:00	14:40	<i>Photopatterned liquid crystals to control biological systems</i> Oleg Lavrentovich, Kent State University
Inv	14:40	15:10	Solar Sailing Using Thin Geometric Phase Optical Films Grover Swartzlander, Rochester Institute of Technology
Reg	15:10	15:30	Reactive mesogens for large area reflective geometrical phase optical systems Mark Moran, BEAM Engineering for Advanced Measurements Co.
Reg	15:30	15:50	Magnified Replication of On-Axis Pancharatnam-Berry Phase Optical Elements John Semmen, University of Central Florida
s\$s	15:50	16:20	Coffee Break
Inv	16:20	16:50	Looking for Planets with Liquid Crystal Polymer Optics Eugene Serabyn, Jet Propulsion Laboratory, California Institute of Technology
Inv	16:50	17:20	Surface and bulk photo patterning of azobenzene molecules Tigran Galstian, Laval University
	17:20	18:30	Posters, BEAM Co. exhibit

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#### **Poster presentations**

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Sarah Collins, McGill University	Studies of Soft-Bonded Azo Dye Materials for Sunlight- Triggered Controlled Photo-Dis-Assembly
I Komang Januariyasa, University of Naples Federico II	3D Morphing of Azopolymer-based Microstructures: In Between Top-Down and Bottom-Up Approach
Marcella Salvatore, University of Naples Federico II	Morphology-related diffraction behavior of surface relief gratings on azopolymer films
Kayrel Edwards, McGill University	Experiment and Theory of Azo Isomerization for Photo- Disassembly

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TECHNOLOGY AND APPLICATIONS

Session	Start	End	Thursday, 14 December 2023: Morning
Кеу	8:30	9:10	Ultralong quantum-walk photonic simulations using photo- patterned optical elements with engineered design Lorenzo Marrucci, Universita' di Napoli Federico II
Inv	9:10	9:40	Vector beam detection via a pair of two liquid crystal polarization holograms Moritsugu Sakamoto, Nagaoka University of Technology
Reg	9:40	10:00	Azodye nanolayer liquid crystal photoalignment: applications in displays and photonics Vladimir Chigrinov, Hong Kong University of Science and Technology
Reg	10:00	10:20	Spectrally selective diffractive waveplates Justin Sigley, BEAM Engineering for Advanced Measurements Co.
5 <sup>5</sup> 5	10:20	10:50	Coffee Break
Inv	10:50	11:20	Lattice Arrangement of Blue Phase Liquid Crystals on a Patterned Photoaligned Surface Masanori Ozaki, Osaka University
Inv	11:20	11:50	Intuitive understanding of the connection between polarization volume holograms and Pancharatnam phase device Philip Bos, Kent State University
Reg	11:50	12:10	Ultrafast switching of infrared liquid crystal diffractive waveplates Jeoungyeon Hwang, BEAM Engineering for Advanced Measurements Co.
Reg	12:10	12:30	<i>LC materials and photo alignment layers for high peak power laser applications</i> Kenneth L. Marshall, University of Rochester
	12:30	14:00	Lunch Break

Session	Start	End	Thursday, 14 December 2023: Afternoon
Кеу	14:00	14:40	Photoalignment and Photopatterning by Scanning Wave Photopolymerization Atsushi Shishido, Tokyo Institute of Technology
Inv	14:40	15:10	Command electro-optical switching of photoaligned liquid crystal on photopatterned graphene electrode and with controllable anchoring strength Liang-Chy Chien, Kent State University
Reg	15:10	15:30	Digital holographic microscopy for photolithographic surface patterning Alex Berdin, Tampere University
Reg	15:30	15:50	Photopatterning of Novel Surface Topographies of Canal and Well Structures on Liquid-crystalline Polymer Films Sayuri Hashimoto, Tokyo Institute of Technology
5 <sup>5</sup> 5	15:50	16:20	Coffee Break
Inv	16:20	16:50	Hydrazone-Based Functional Materials Ivan Aprahamian, Dartmouth College
Inv	16:50	17:20	High refractive index azomaterials through hierarchical supramolecular chemistry Fabio Borbone, University of Napoli Federico II
	17:20	18:00	PhoSM 2025 (or 2024) discussion

# PhoSM Photoalgnment 2023 Dec 10 - 16 ST. PETERSBURG FLORIDA

Session	Start	End	Friday, 15 December 2023: Morning
Кеу	8:30	9:10	Review of modeling efforts on bulk and surface restructuring of glassy azopolymers Marina Grenzer, Leibniz Institute of Polymer Research
Inv	9:10	9:40	Birefringence Control of Photoalignable Liquid Crystalline Polymers and Application to Polarization Optical Devices Nobuhiro Kawatsuki, University of Hyogo, Japan
Reg	9:40	10:00	Electropolymerization Process as a New Tool to Obtain High Ordered Alignment Layers Eduardo Soto-Bustamante, University of Chile
Reg	10:00	10:20	Alvarez, Moire and other systems of diffractive waveplates Olena Ouskova, BEAM Engineering for Advanced Measurements Co.
555 	10:20	10:50	Coffee Break
Inv	10:50	11:20	Application of the fluctuation microscopy - direct imaging of the spatial distribution of elastic constant, anchoring condition, slippery interface Jun Yamamoto, Kyoto University
Inv	11:20	11:50	Active Surface Command Layers: From Polarization Holography to Plasmonics Luciano De Sio, Sapienza University of Rome
Reg	11:50	12:10	Achromatic planar liquid-crystal optics Zhenyi Luo, University of Central Florida
	12:30	14:00	Lunch Break

Session	Start	End	Friday, 15 December 2023: Afternoon
Кеу	14:00	14:40	Approaches to Controlling the Self-Assembly of Liquid Crystals in the Bulk Michael McConney, US Air Force Research Laboratory
Reg	14:40	15:00	Cholesteric Liquid Crystals with Controlled Molecular Orientation for Flexible Optical Sensors Kyohei Hisano, Tokyo Institute of Technology
Reg	15:00	15:20	Laser damage to photo and rubbed liquid crystal alignment materials Zoey Davidson, Seurat Technologies, Inc.
Reg	15:20	15:40	Paving the Pathway to the Holy Grail of Optics Nelson Tabiryan, BEAM Engineering for Advanced Measurements Co.
	15:40	16:00	Closing Notes & Recognitions
	16:00	18:00	Closing Reception