

*16th Mediterranean Workshop and Topical Meeting
“Novel Optical Materials and Applications”*

NOMA
2023



DETAILED PROGRAM

*Grand Hotel San Michele
Cetraro - Italy, June 04 - 10, 2023*

Schedule

	MONDAY 5	TUESDAY 6		THURSDAY 8	FRIDAY 9
8:45-9:00	OPENING				
9:00-9:30	Rubinsztein-Dunlop	Lavrentovich		Zheludev	Ledoux-Rak
9:30-9:50	Boltasseva	Samuel	SOCIAL EVENT	Jorge	Grenzer
9:50-10:10	Evangelista	Ostroverkhova		Zorzi	Karpinski
10:10-10:30	Khoo	Krahne		De Sio	Zappone
10:30-11:00	coffee break	coffee break		coffee break	coffee break
11:00-11:20	Fainman	Savoia		Shalaev	Chigrinov
11:20-11:40	Rocksthul	De Luca		Huttunen	Lin
11:40-12:00	Liu	Moser		Miniewicz	Galstian
12:00-12:20	d'Alessandro	Zhou		Cronin-Golomb	Serabyn
12:20-12:40	Thon	Criante		Khurgin	Mazzulla
13:00-15:30	Lunch break	Lunch break		Lunch break	Lunch break
15:30-16:00	Marrucci	Huang		Psaltis	15:40 De Angelis
16:00-16:20	Ponsinet	Termine		Shishido	Zografopoulos
16:20-16:40	Brodzki	Werner		Riboli	Celebrano
16:40-17:00	Caputo	Veltri		Lucchetta	Strangi
17:00-17:40	coffee break & POSTER SESSION	coffee break & POSTER SESSION		coffee break & POSTER SESSION	coffee break & POSTER SESSION
17:40-18:00	Chandran Thodika	Singer		Cipparrone	Ni
18:00-18:20	Assanto	Lio		Saphiannikova	Berdin
18:20-18:40	Kaczmarek	Asquini		Wolinski	Jonsson
18:40-19:00	Tone	Garoli		Gluckstad	Flytzanis
19:00-19:20		Matczyszyn			CLOSING REMARKS
20:15-21:45	Welcome drinks & Dinner	Dinner	Gala Dinner	Dinner	

Topics Legend

	MONDAY 5	TUESDAY 6		THURSDAY 8	FRIDAY 9
8:45-9:00	OPENING				
9:00-9:30	Keynote	Keynote		Keynote	Keynote
9:30-9:50	NOMA FLAVOR	SEMICONDUCTORS	SOCIAL EVENT	BIOPHOTONICS	NOMA FLAVOR
9:50-10:10	<i>Chair: Simoni</i>	<i>Chair: Lin</i>		<i>Chair: Fainman</i>	<i>Chair: Miniewicz</i>
10:10-10:30	coffee break	coffee break		coffee break	coffee break
10:30-11:00					VIRTUAL
11:00-11:20	NANO- OPTICS/MATERIALS	BIO-PHONONS/ SENSING/PRINTING		NONLINEAR- OPTICS/MATERIALS	LIQUID CRYSTALS: APPLICATIONS
11:20-11:40	<i>Chair: Palermo</i>	<i>Chair: Guglielmelli</i>		<i>Chair: Belej</i>	<i>Chair: Ferraro</i>
11:40-12:00					
12:00-12:20					
12:20-12:40					
13:00-15:30	Lunch break	Lunch break		Lunch break	Lunch break
15:30-16:00	Keynote	Keynote		Keynote	15:40
16:00-16:20	METAMATERIALS/ STRUCTURES	PLASMONICS/ ANTENNAS		PHOTOSENSITIVE PROCESSES	METASURFACES
16:20-16:40	<i>Chair: Shalaev</i>	<i>Chair: Kaczmarek</i>		<i>Chair: Singer</i>	<i>Chair: Caligiuri</i>
16:40-17:00	coffee break & POSTER SESSION	coffee break & POSTER SESSION		coffee break & POSTER SESSION	coffee break & POSTER SESSION
17:00-17:40					
17:40-18:00	LIQUID CRYSTALS: NLO&APPLICATIONS	NOMA FLAVOR		HOLOGRAPHIC & NANOSTRUCTURES	NOMA FLAVOR
18:00-18:20	<i>Chair: Bruno</i>	<i>Chair: Berdin</i>		<i>Chair: Zorzi</i>	<i>Chair: Khoo</i>
18:20-18:40					Keynote
18:40-19:00					CLOSING REMARKS
19:00-19:20					
20:15-21:45	Welcome drinks & Dinner	Dinner	Gala Dinner	Dinner	

Detailed Program

MONDAY, June 5th 2023		
8:45 – 9:00	OPENING	
<i>Chair: F.Simoni</i>		
9:00 – 9:30	KL: H. Rubinsztein-Dunlop	Imaging, measuring and modelling using optical tweezers
<i>Noma Flavor</i>		
9:30 – 9:50	A. Boltasseva	Photonics for Green Energy and Extreme Optics: From Materials to Designs
9:50 – 10:10	L.R. Evangelista	Fractional Calculus as a Tool for Applications in Physics: Electrical Impedance Response of Materials
10:10 – 10:30	I.C. Khoo	Super-high grating period chiral photonic crystals for ultrafast laser vector fields manipulations
10:30 – 11:00	<i>Coffee Break</i>	
<i>Nano-optics/materials</i>		<i>Chair: G. Palermo</i>
11:00 – 11:20	Y. Fainman	Nanolasers: Dynamics and Phase locking
11:20 – 11:40	C. Rockstuhl	Multiscale Modeling of Molecular Nanophotonic Materials
11:40 – 12:00	Z. Liu	Imaging with random encodings
12:00 – 12:20	A. d'Alessandro	Modeling and Characterization of a gold nanorod array for Photo-thermal Applications
12:20 – 12:40	S. Thon	Inverse Design and Parameter Prediction in Spectrally-Selective Colloidal Quantum Dot Films for Optoelectronics
13:00 – 15:30	<i>Lunch Break</i>	
<i>Chair: V. Shalaev</i>		
15:30 – 16:00	KL: L. Marrucci	Ultralong photonic quantum walks in a single optical beam
<i>Metamaterials/structures</i>		
16:00 - 16:20	V. Ponsinet	Self-Assembled Meta-Atoms and Metasurfaces
16:20 - 16:40	J. Brodzki	Topological Learning and disorder for the classification and design of structured metasurfaces
16:40 - 17:00	R. Caputo	Highly Efficient Photo-Thermal Effects in Hybrid Metastructures
17:00 – 17:40	<i>Coffee Break & POSTER SESSION</i>	
<i>Liquid Crystals: Nonlinear Optics & Applications</i>		<i>Chair: M.D.L. Bruno</i>
17:40 - 18:00	S. Chandran Thodika	Spin-independent spin-orbit self-focusing of light in liquid crystals
18:00 - 18:20	G. Assanto	Direction sensitive nematicons
18:20 - 18:40	M. Kaczmarek	Photovoltaic-Liquid Crystal Spatial Light Modulators and their Non-Invasive Characterization
18:40 - 19:00	C.M. Tone	Microfluidic chromonic liquid crystal droplets generation: tunable dimensions and topologies
20:15 - 21:45	<i>Welcome drinks & Dinner</i>	

TUESDAY, June 6th 2023		
		<i>Chair: Y-H. Lin</i>
9:00 – 9:30	KL: O. Lavrentovich	Domain Walls in Ferronematics and Geometrical Optics
<i>Semiconductors</i>		
9:30 – 9:50	I. Samuel	Approaches to Electrically Driven Organic Semiconductor Lasers
9:50 – 10:10	O. Ostroverkhova	Photophysics, Photochemistry, and Optoelectronics of Organic Semiconductors in Microcavities
10:10 – 10:30	R. Krahne	White Light Emission and Exciton-phonon coupling in Two-Dimensional Metal Halide Perovskites
10:30 – 11:00	<i>Coffee Break</i>	
<i>Bio-phonons/sensing/printing</i>		<i>Chair: A. Guglielmelli</i>
11:00 – 11:20	L. Savoia	Novel Health Applications of Bio-phonons
11:20 – 11:40	A. De Luca	Bio-inspired Photonics based on structured bacteria growth media
11:40 – 12:00	C. Moser	Volumetric Bioprinting: a new light-based tool for producing artificial tissue models
12:00 – 12:20	L. Zhou	Label-Free Detection and Identification of SARS-CoV-2 Using Surface-enhanced Raman Spectroscopy and Machine Learning
12:20 – 12:40	L. Criante	Integrated spherical mirror tuned to an optofluidic flow cytometer for highly sensitive detection of micro-sized samples in flow
13:00– 15:30	<i>Lunch Break</i>	
		<i>Chair: M. Kaczmarek</i>
15:30 – 16:00	KL: S. Huang	New optical features of designer 2D materials and machine-learning assisted characterization
<i>Plasmonics/Antennas</i>		
16:00 - 16:20	R. Termine	Coexisting and Cooperating Light-Matter Interaction Regimes in a Polaritonic Photovoltaic System
16:20 - 16:40	D. Werner	A unified theory for loop antennas and its applications across the electromagnetic spectrum
16:40 - 17:00	A. Veltri	Gain enhanced, spherically symmetric plasmonic nanoparticles: from quasi-static to Mie in the time domain
17:00 – 17:40	<i>Coffee Break & POSTER SESSION</i>	
<i>NOMA Flavor</i>		<i>Chair: A. Berdin</i>
17:40 - 18:00	K. Singer	Discerning the painter's hand: machine learning on 3d topographic images
18:00 - 18:20	G.E. Lio	Strain-adjustable reflectivity of polyurethane nanofiber membrane for thermal management applications
18:20 - 18:40	R. Asquini	Photonic devices with periodic nanostructures and plasmonic metasurfaces
18:40 - 19:00	D. Garoli	Plasmonic Photochemical Process for Preparation of Metallic Nanopore Arrays
19:00 - 19:20	K. Matczyszyn	Studies of luminescent carbon nanodots as myelin dopants
20:15 - 21:45	<i>Dinner</i>	

WEDNESDAY, June 7th 2023
CULTURAL TRIP

- 1) 7.30: departure from Grand Hotel San Michele, Cetraro.
- 2) 8.45: Arrival in Morano Calabro. To welcome us, a cascade of houses clinging to the hill, with the ancient Medieval castle at the top. The visit begins right from the fortress and then continues to the village, and to the Collegiate of the Magdalene. Conclusion with an aperitif in the village.
- 3) 12.30: Transfer to Civita.
- 4) 13.00: arrival in Civita and lunch in a typical restaurant of the Albanian tradition.
- 5) 15.15: guided tour of Civita, an Albanian village counted among the most beautiful in Italy.
- 6) 18,15: Departure from Civita
- 7) 19.30: arrival in GHSM.
- 8) 20:15 – 21:45 – BBQ and Pizza Dinner



Morano: Landscape



Morano: The Castle



Morano: Collegiata



Civita: Landscape



Civita: Alleys



Civita: The devil's bridge

THURSDAY, June 8th 2023		
<i>Chair: Y. Fainman</i>		
9:00 – 9:30	KL: N. Zheludev	Picophotonics and Continuous Time Crystals
<i>Biophotonics</i>		
9:30 – 9:50	P. Jorge	Strategies for enabling optical tweezers as a tool for environmental monitoring and biomedical applications
9:50 – 10:10	F. Zorzi	Raman spectroscopy-based method for high throughput analysis of whole blood assays
10:10 – 10:30	L. De Sio	White light thermoplasmonics for healthcare applications
10:30 – 11:00	<i>Coffee Break</i>	
<i>Nonlinear Optics/Materials</i>		<i>Chair: M. Belej</i>
11:00 – 11:20	V. Shalaev	Near-Zero-Index Materials for Nonlinear Optics and Beyond
11:20 – 11:40	M. Huttunen	Towards Nonlinear Hybrid Lattice-Waveguide Structures
11:40 – 12:00	A. Miniewicz	Marangoni Bursting Mystery in Growth of DCNP Nonlinear Optical Nanocrystals
12:00 – 12:20	M. Cronin-Golomb	On nonlinear optical beam propagation modelling
12:20 – 12:40	J. Khurgin	What power does it take to modulate refractive index today and in the foreseeable future?
13:00 – 15:30	<i>Lunch Break</i>	
<i>Chair: K. Singer</i>		
15:30 – 16:00	KL: D. Psaltis	Optical Diffraction Tomography using MaxwellNet
<i>Photosensitive processes</i>		
16:00 - 16:20	A. Shishido	Scanning Wave Photopolymerization: Molecular Alignment Technology for Designing Optical Functions
16:20 - 16:40	F. Riboli	Reconfigurable physical unclonable functions made with light responsive materials
16:40 - 17:00	D.E. Lucchetta	Exploring Light-Induced Rotational Speed Changes in Thin Photomobile Films: Insights from Acoustic Levitation
17:00 – 17:40	<i>Coffee Break & POSTER SESSION</i>	
<i>Holographic & nanostructures</i>		<i>Chair: F. Zorzi</i>
17:40 - 18:00	G. Cipparrone	High fidelity vectorial holography via broadband laser: towards a scale-up of ultra-compact optical platforms
18:00 - 18:20	M. Saphiannikova	Modeling of Photoinduced Grating Growth on Preoriented Azopolymer Films
18:20 - 18:40	T. Woliński	Nanoparticles-doped photonic liquid crystal microstructures for tunable devices applications
18:40 - 19:00	J. Glückstad	A New Dynamic Holographic Light Sculpting Modality
20:15 - 21:45	<i>Gala Dinner</i>	

FRIDAY, June 9th 2023		
<i>Chair: A. Miniewicz</i>		
9:00 – 9:30	KL: I. Ledoux-Rak	Nonlinear plasmonic nanostructures for quadratic nonlinear optics
<i>NOMA Flavor</i>		
9:30 – 9:50	J. Grenzer	Ultra-High-Speed X-ray Imaging of Laser-Driven Processes
9:50 – 10:10	P. Karpinski	Optical manipulation of resonant nanoparticles for thermal and rheological measurements
10:10 – 10:30	B. Zappone	Tuning and coupling cavity modes in the surface forces apparatus (SFA)
10:30 – 11:00	<i>Coffee Break</i>	
<i>Liquid Crystals: Applications</i>		
<i>Chair: A. Ferraro</i>		
11:00 – 11:20	V. Chigrinov	VIRTUAL LECTURE: Nanosize Azodye Layers for Liquid Crystal Photoaligning and Photopatterning
11:20 – 11:40	Y. Lin	Electrically Tunable Liquid Crystal Lenses with Seamless Progression of Lens Power via Nematic Liquid Crystals
11:40 – 12:00	T. Galstian	Electrically tunable large aperture lenses using nematic liquid crystals
12:00 – 12:20	E. Serabyn	Liquid Crystal Polymer Optics in Astronomy
12:20 – 12:40	A. Mazzulla	Core-shell mesogenic-metallic particles: photonics and optomechanics applications
13:00 – 15:40	<i>Lunch Break</i>	
<i>Plasmonics/Antennas</i>		
<i>Chair: V. Caligiuri</i>		
15:40 - 16:00	C. De Angelis	Image processing with nonlocal nonlinear metasurfaces
16:00 - 16:20	D. Zografopoulos	Bound states in the continuum in near infrared silicon slot metasurfaces
16:20 - 16:40	M. Celebrano	Interferometric routing of upconverted light by dielectric metasurfaces
16:40 - 17:00	G. Strangi	Hyperbolic Metasurfaces in Biophotonics
17:00 – 17:40	<i>Coffee Break & POSTER SESSION</i>	
<i>NOMA Flavor</i>		
<i>Chair: I.C.Khoo</i>		
17:40 - 18:00	X. Ni	Scalable metasurface fabrication and integration for flat optics devices
18:00 - 18:20	A. Berdin	Digital holographic microscopy for photolithographic surface patterning
18:20 - 18:40	F. Jonsson	Nonlinear Chiro-optics. Chiro-optical Parametric Amplification and Oscillation
18:40 – 19:10	KL: C. Flytzanis	Ultrafast nonlinear phonon response of few-layer hexagonal boron nitride (h-BN)
19:10 – 19:20	CLOSING REMARKS	
20:15 - 21:45	<i>Calabrian Dinner and Dancing Night</i>	