

5th International Conference

10th Anniversary
NanoPlasm²⁰²⁴

Frontiers in Plasmonics and Nano-Photonics
June 17-21, 2024 - Grand Hotel San Michele (Italy)

Detailed Program

For this 5th edition, NanoPlasm2024 has chosen to be green and eco-sustainable.
Please consider in this same spirit to download the Abstract Book only via the
QR code without printing it



NanoPlasm2024 Abstract Book

Sunday, June 16

All day long Participants arrival and Registration (afternoon)
19:00-20:15 Welcome Reception
20:15 Dinner

Monday, June 17

Session Chair: G. Strangi

08:30 - 08:45 Opening Ceremony
08:45 – 09:15 **Mark Brongersma**, Stanford University, *Light manipulation with atomically-thin metasurfaces.*
09:15 – 09:45 **Hatice Altug**, Ecole Polytechnique Federale de Lausanne, *Nanophotonic Metasurfaces for Biosensing, Spectroscopy and Bioimaging.*
09:45 – 10:15 **Mario Silveirinha**, University of Lisbon, *Chiral-gain quantum optics.*
10:15 – 10.45 Coffee Break

Session Chair: A. De Luca

10:45 – 11.15 **Harald Giessen**, University of Stuttgart, *Plasmonic Twistronics: Discovery of Plasmonic Skyrmion Bags.*
11:15 – 11:45 **Onofrio M. Marago**, Istituto per i Processi Chimico-Fisici CNR-IPCF, *Optical forces for environmental and space applications.*
11:45 – 12:15 **Michele Celebrano**, Politecnico di Milano, *Free-space interferometric routing of upconverted light by dielectric metasurfaces.*
12:15 – 16:00 Lunch

Session Chair: R. Grange

16:00 – 16:30 **Vladimir M. Shalaev**, Purdue University, *Extreme Space-Time Optics.*
16:30 – 17:00 **Maria A. Vincenti**, University of Brescia, *Tailoring tunability at the nanoscale: from phase-change materials to iontronic approaches.*
17:00 – 17:30 **Nicolò Maccaferri**, Umeå University, *Ultrafast collapse of molecular polaritons in plasmonic photoswitch-nanoantennas.*
17:30 – 18:00 Coffee Break and Posters Sessions

Session Chair: O. M. Maragò

18:30 – 19:00 **Carlo Forestiere**, University of Naples "Federico II", *Operative Approaches to Macroscopic Quantum Electrodynamics in Dispersive Dielectric Objects.*
19:00 – 19:30 **Cesare Soci**, Nanyang Technological University, *Strong light-matter interactions in dielectric metasurfaces.*
20:15 Dinner

Tuesday, June 18

Session Chair: A. Polman

- 08:30 – 09:00 **Andrea Alu**^{*}, City University of New York, *Extreme wave control with space-time metamaterials.*
- 09:00 – 09:30 **Giulio Cerullo**, Politecnico di Milano, *Femtosecond Switching of Strong Light-Matter Interactions in 2D Semiconductor Microcavities.*
- 09:30 – 10:00 **Filippo Capolino**, University of California Irvine, *Scattering and Forces Induced by Optimally Chiral Light-Matter Interaction.*
- 10:00 – 10:30 Coffee Break

Session Chair: H. Giessen

- 10:30 – 11:00 **Yeshaiah S. Fainman**, University of California San Diego, *Chip-scale Nanophotonic Technologies and Applications.*
- 11:00 – 11:30 **Rachel Grange**, ETH Zurich, *Solution derived nanomaterials for nonlinear metasurfaces and photonic crystals.*
- 11:30 – 12:00 **Alexander Kildishev**, Purdue University, *Multipole Expansion Centers: Multiplicity and Uniqueness.*
- 12:00 – 16:00 Lunch

Session Chair: R. Quidant

- 16:00 – 16:30 **Albert Polman**, NWO Institute AMOLF, *Plasmon interferometry using high energy electrons.*
- 16:30 – 17:00 **Daniele C. Struppa**, Chapman University, Orange (CA), USA, *Analyticity and Supershift.*
- 17:00 – 18:00 Elevator Pitch Session
- 18:00 – 19:30 Coffee Break and Posters Session
- 20:15 Dinner

Wednesday, June 19

Session Chair: E. Yablonovitch

- 08:30 – 09:00 **Alexandra Boltasseva**, Purdue University, *Transdimensional Materials: From Tailorable Photonics to New Physics.*
- 09:00 – 09:30 **Romain Quidant**, ETH Zurich, *Revisiting biosensing with digital holography.*
- 09:30 – 10:00 **Georgia T. Papadakis**, ICFO, *Thermal radiation control with crystallographic phase changes and extreme anisotropies.*
- 10:00 – 10:30 Coffee Break

Session Chair: A. Boltasseva

- 10:30 – 11:00 **Franco Nori**, RIKEN and University of Michigan, *Topological non-Hermitian origin of surface Maxwell waves.*

11:00 – 11:30	Maria Kafesaki , University of Crete and FORTH, Greece, <i>Dynamically controllable polarization laser employing chiral metamaterials.</i>
11:30 – 12:00	Guillermo Acuna , University of Fribourg, <i>DNA nanotechnology for nanophotonics.</i>
12:00	Lunch
All afternoon long	Cultural Event with Dinner

Thursday, June 20

Session Chair: E. Hu

08:30 – 09:00	Nikolay Zheludev , University of Southampton, <i>“Matter-to-life transition” in photonics.</i>
09:00 – 09:30	Antonio Ambrosio , Istituto Italiano di Tecnologia, <i>Near-field spectroscopy of Polaritons in 2D materials.</i>
09:30 – 10:00	Giuseppe Strangi , Università della Calabria, <i>Fano Resonance Optical Coatings</i>
10:00 – 10:30	Coffee Break

Session Chair: N. Zheludev

10:30 – 11:00	Gennady Shvets , Cornell University, <i>Inverted reflection-mode chemical imaging of live cells using bio-photonic metasurfaces.</i>
11:00 – 11:30	Francesco De Angelis , Istituto Italiano di Tecnologia, <i>Ultrafast Raman sensing of small molecules by plasmonic nanopores.</i>
11:30 – 12:00	Duncan Sutherland , iNANO, Aarhus University, <i>Multivalency Studied at the Single Molecule Level via Plasmon Enhanced Fluorescence.</i>
12:00 – 16:00	Lunch

Session Chair: M. Brongersma

16:00 – 16:30	Harry Atwater , California Institute of Technology, <i>Active Metasurfaces in Space and Time.</i>
16:30 – 17:00	Jacob Khurgin , Johns Hopkins University, <i>Nonlinear index beyond the perturbative limit: far less than meets the eye.</i>
17:00 – 17:30	Lucia Petti , Institute of Applied Sciences and Intelligent Systems - ISASI, CNR, <i>Fractal Plasmonic Molecules for Multi-Sensing: SERS platform for SARS-CoV-2 detection.</i>
17:30 – 18:00	Coffee Break and Posters Session

Session Chair: M. Kafesaki

18:00 – 18:30	Javier García de Abajo , ICFO-Institut de Ciències Fòniques, <i>Plasmonics in ultrathin metal films.</i>
18:30 – 19:00	Giulia Tagliabue , LNET - EPFL, <i>Unraveling Hot Carrier Processes for Advancing Plasmonic Energy Devices.</i>

19:00 – 19:30 **Uriel Levy**, HUJI, *Recent progress in active metasurfaces.*
19:30 Awards: “Daniela Pucci” Prize and Nanophotonics De Gruyter Awards
20:15 Dinner

Friday, June 21: Capasso’s Day

Session Chair: N. Engheta

08:30 – 09:00 **Federico Capasso**, Harvard University, *Recent advances in metaoptics: from science into smartphones*
09:00 – 09:30 **Evelyn Hu**, Harvard University, *Nano-Photonic Emitters for Quantum Applications: Mapping and Control of “Defect” Emitters.*
09:30 – 10:00 **David Miller**, Stanford University, *Finding and Counting Channels with Waves.*
10:00 – 10:30 Coffee Break

Session Chair: A. Alu'

10:30 – 11:00 **Michael Berry**, University of Bristol, *Geometric phases old and new.*
11:00 – 11:30 **Jerome Faist**, ETH Zurich, *Engineering single particles states and interactions in the Quantum Hall effect through vacuum field in metamaterial cavities*
11:30 – 12:00 **Carlo Sirtori**, ENS, Université PSL, CNRS, Sorbonne Université, Université Paris Cité, *Coherent detection of the temporal trace emitted by frequency modulated comb lasers.*
12:00 – 16:00 Lunch

Session Chair: F. Capasso

16:00 – 16:30 **Eli Yablonovitch**, UC Berkeley, *Onsager does Optimization (for Free); Progress in Physics-Based Optimization Circuits.*
16:30 – 17:00 **Miriam S. Vitiello**, NEST, National Research Council CNR-NANO and Scuola Normale Superiore, *Compact terahertz harmonic generation in the Reststrahlenband in nanophotonic graphene resonators and quantum cascade lasers comprising a graphene plasmonic grating.*
17:00 – 17:30 **Nader Engheta**, University of Pennsylvania, *4D Optics.*
17:30 – 20:15 Closing Ceremony and Drink
20:15 Gala Dinner