# The Hybrid Photonics and Materials Conference 2026 - Paros

| Day 1 - HPM 2026 - MONDAY, 28 September 2026 | | | | |
|---|---|---|---|---|
| 08:15-08:45 | Registration | | | |
| 08:45-09:00 | HPM 2026 Official Opening | | | |
| **Time** | **Presentation Title** | **Presenter** | **Affiliation** | **Chair** |
| 09:00-09:30 | Ghost state of light | Rodriguez Said Rahimzadeh-Kalaleh | AMOLF | Jacqueline Bloch |
| 09:30-10:00 | Room-Temperature Spin Polarized Polariton Transport and Mode Locking in Perovskite Waveguides | Barbara Pietka | University of Warsaw | |
| 10:00-10:30 | The quest for exciton-polariton devices based on large bandgap inorganic semiconductors | Guillaume Malpuech | Institut Pascal, CNRS and University Clermont Auvergne | |
| 10:30-11:00 | Non-Perturbative Electrodynamics on Simplicial Meshes: Applications from Circuit QED to Relativistic Field Theory | Hakan Tureci | Princeton University | |
| 11:00-11:45 | **COFFEE BREAK** | | | |
| 11:45-12:15 | Making physical machines learn | Florian Marquardt | Max Planck Institute for the Science of Light | Natalia Berloff |
| 12:15-12:45 | Unstored prototype recall with a coherent Ising machine | Hiroki Takesue | Basic Research Laboratories, NTT, Inc. | |
| 12:45-13:15 | Tackling the hard cases – bosons in fully-frustrated lattices | Ulrich Schneider | University of Cambridge | |
| 13:15-15:00 | **LUNCH** | | | |
| 15:00-15:30 | Universal scaling laws in the coherence decay of 2D polariton condensates | Jacqueline Bloch | CNRS / Paris-Saclay University | Barbara Pietka |
| 15:30-16:00 | Lattice quantum electrodynamics of a molecular emitter in a topological gap | Alberto Amo | CNRS - University of Lille | |
| 16:00-16:30 | Engineering Spin and Topology of Perovskite Exciton Polaritons | Rui Su | Nanyang Technological University | |
| 16:30-17:15 | **COFFEE BREAK** | | | |
| 17:15-17:45 | KPZ scaling in one-dimensional photon condensates | Michiel Wouters | Universiteit Antwerpen | Alberto Amo |
| 17:45-18:15 | The 30 year journey to make an electrically driven polymer laser | Ifor Samuel | University of St Andrews | |
| 18:15-20:00 | **Welcome drinks reception** | | | |

# The Hybrid Photonics and Materials Conference 2026 - Paros

| Day 2 - HPM 2026 - TUESDAY, 29 September 2026 | | | | |
|---|---|---|---|---|
| **Time** | **Presentation Title** | **Presenter** | **Affiliation** | **Chair** |
| 09:00-09:30 | Variational multi-Gaussian phase-space dynamics of open quantum bosonic systems | Cristiano Ciuti | Université Paris Cité | Vincenzo Savona |
| 09:30-10:00 | Complex networks in quantum states of spins and light | Lincoln Carr | Colorado School of Mines and ISTA | |
| 10:00-10:30 | Ultrafast properties of mid-infrared intersubband polaritons: engineering the polariton-polariton interaction | Jean-Michel Manceau | University Paris Saclay (C2N) | |
| 10:30-11:00 | Reservoir-mediated condensate attraction: vorticity oscillations, self-trapping, and supersolidity | Anton Nalitov | Moscow Institute of Physics and Technology | |
| 11:00-11:45 | **COFFEE BREAK** | | | |
| 11:45-12:15 | The cost of quantum advantage: magic and entanglement in quantum algorithms and noisy quantum circuits | Vincenzo Savona | Ecole Polytechnique Fédérale de Lausanne | Cristiano Cuiti |
| 12:15-12:45 | Polaritonic machine learning: generative modelling from theory to experiment | Oleksandr Kyriienko | University of Sheffield | |
| 12:45-13:15 | Strong light-matter coupling in organic semiconductors for efficient lasers, LEDs, and optical filters | Malte Gather | University of Cologne | |
| 13:15-15:00 | **LUNCH** | | | |
| 15:00-15:30 | Quantum and classical processing with photonic quantum machine learning | Michał Matuszewski | Center for Theoretical Physics, Polish Academy of Sciences | Pavlos Savvidis |
| 15:30-16:00 | Liouvillain exceptional points diagnose quantum synchronization in polariton condensate | Paul Eastham | Trinity College Dublin | |
| 16:00-16:30 | **COFFEE BREAK** | | | |
| 18:00-23:00 | **Bus tour to Naoussa and conference dinner – until 23:00** | | | |

**Day 3 - HPM 2026 - GUIDED TOUR OF PAROS AND DINNER IN PARIKIA - WEDNESDAY, 30 September 2026 - 10:00-22:00**

# The Hybrid Photonics and Materials Conference 2026 - Paros

| Day 4 - HPM 2026 - THURSDAY, 1 October 2026 | | | | |
|---|---|---|---|---|
| **Time** | **Presentation Title** | **Presenter** | **Affiliation** | **Chair** |
| 09:00-09:30 | Landau polaritons and cavity-driven attractive interactions in single and bilayer graphene | Giacomo Scalari | ETH Zurich | Nir Davidson |
| 09:30-10:00 | Non-linear intersubband polaritonic devices: a versatile platform for frequency combs and ultra-fast lasers in the mid-IR | Raffaele Colombelli | Centre de Nanosciences et de Nanotechnologies | |
| 10:00-10:30 | Electrically Tunable Spin-Orbit Coupled Photonic Potentials in Liquid Crystal Microcavities | Jacek Szczytko | University of Warsaw | |
| 10:30-11:00 | Resonant Control of Polariton Time Crystals | Alejandro Fainstein | Instituto Balseiro and Centro Atómico Bariloche | |
| 11:00-11:45 | **COFFEE BREAK** | | | |
| 11:45-12:15 | Laser arrays with complex coupling have complex bands | Nir Davidson | Weizmann Institute of Science | Giacomo Scalari |
| 12:15-12:45 | Optical neural networks in the quantum domain | Alexander Lvovsky | University of Oxford | |
| 12:45-13:15 | Coherence and Critical Scaling of a Quantum Gas of Photons | Martin Weitz | University of Bonn | |
| 13:15-15:00 | **LUNCH** | | | |
| 15:00-15:30 | Multiphoton Spatial Correlations | Fabrice Laussy | ICMM | Paul Eastham |
| 15:30-16:00 | Computing with an optomechanical oscillator | David Pedro Garcia | Material Science Institute - Madrid | |
| 16:00-16:30 | Polariton Waveguides | Daniel Sanvitto | Istituto di Nanotecnologia – CNR Nanotec | |
| 16:30-17:00 | Quantized nonlinear soliton transport via topological boundary mode instabilities | Oded Zilberberg | University of Konstanz | |
| 17:00-17:45 | **COFFEE BREAK** | | | |

# The Hybrid Photonics and Materials Conference 2026 - Paros

| Day 5 - HPM 2026 - FRIDAY, 2 October 2026 | | | | |
|---|---|---|---|---|
| **Time** | **Presentation Title** | **Presenter** | **Affiliation** | **Chair** |
| 09:00-09:30 | Pushing the Physics of GaAs/AlGaAs Polariton Microcavity Structures | David Snoke | University of Pittsburgh | Dario Ballarini |
| 09:30-10:00 | Dimensionality-Dependent Bistability and Bogoliubov Correlations in Polariton Quantum Fluids | Alberto Bramati | Sorbonne University and CNRS | |
| 10:00-10:30 | Teaching Tensor Networks to Design Quantum Photonic Integrated Circuits | Mathias Van Regemotel | Hewlett Packard Enterprise | |
| 10:30-11:00 | A silicon photonics quantum circuit empowered by photonic quantum memristors | Alessio Baldazzi | University of Trento | |
| 11:00-11:45 | **COFFEE BREAK** | | | |
| 11:45-12:15 | Driven-dissipative phase transition in a dense ensemble of saturable absorbers | Dimitrios Trypogeorgos | CNR Nanotec | David Snoke |
| 12:15-12:45 | Dynamical universality in a driven quantum fluid of light | Dario Ballarini | CNR-NANOTEC | |
| 12:45-13:15 | Cost-Efficient Deterministic Strain Engineering of Quantum Emitters in Two-Dimensional Semiconductors | Snezana Lazic Knezevic | Universidad Autónoma de Madrid | |
| 13:15-15:00 | **LUNCH** | | | |
| 15:00-15:30 | Superconducting coupled-cavity arrays as structured photonic baths for quantum electrodynamics | Pasquale Scarlino | EPFL, HQC | Natalia Berloff |
| 15:30-16:00 | Rotating polariton ring-shaped spin domains | Nina Voronova | National Research Nuclear University MEPhI | |
| 16:00-16:30 | Instance-wise count certificates for heuristic and analogue optimisers | Jona Nagerl | University of Cambridge | |
| 16:30-17:15 | **COFFEE BREAK** | | | |
| 17:15-17:45 | Optical Implementation of Equilibrium Propagation Using Spatial Photonic Ising Machines | Daniele Veraldi | Sapienza, University of Rome | Pavlos Savvidis |
| 17:45-18:15 | Thermal Squeezed States For Training Of Polariton Neural Network | Matteo Gadani | Laboratoire Kastler Brossel - Sorbonne Universite | |
| 18:15 | **Conference closing session and wine reception** | | | |