

The International Conference on Hybrid Photonics and Materials

The Cultural Centre former Ursuline School, Naxos, Greece, 30 September – 4 October 2019



PROGRAMME

	MONDAY 30 September '19	TUESDAY 01 October '19	WEDNESDAY 02 October '19	THURSDAY 03 October '19	FRIDAY 04 October '19
09:00-09:30	OPENING				
09:30-10:00	Yoshihisa Yamamoto	Jacqueline Bloch	Malte Gather	Jonathan Finley	Barbara Pietka
10:00-10:30	Cristiano Ciuti	Peter Kirton	Eric Bittner	Patrick Knueppel	Nina Voronova
10:30-11:00	Helmut Katzgraber	Michiel Wouters	Tim Liew	Nir Davidson	Zakari Denis (15')
11:00-11:30	COFFEE BREAK		<i>free time to go to hotels and change before lunch</i>	COFFEE BREAK	CLOSING
11:30-12:00	Xavier Porte Parera	Alberto Amo	LUNCH 12:00-13:30	Jerome Faist	DRINKS RECEPTION
12:00-12:30	Jan Klaers	Luis Vina		Giacomo Scalari	
12:30-13:00	Said Rodriguez	Jacek Szczytko		Alessandro Tredicucci	
13:00-14:30	LUNCH		EXCURSION With dinner	LUNCH	
14:30-15:00	Alexander Lvovsky	Simone De Liberato		Martin Weitz	
15:00-15:30	Alireza Marandi	Alberto Bramati		Francois Dubin	
15:30-16:00	Ryan Hamerly	Mete Atature		Alexey Akimov	
16:00-16:30	COFFEE BREAK			COFFEE BREAK	
16:30-17:00	Daniele Sanvitto	Dimitris Angelakis		Kevin Satzinger	
17:00-17:30	Steven Mathey	Yoseob Yoon	Sophia Economou		
17:30-18:00	Edwin Barnes				

Day 1 - HPM 2019 - MONDAY, 30 September '19

08:30-09:00	Arrival to The Cultural Centre former Ursuline School, Naxos, registration			
09:00-09:30	HPM 2019 Official Opening	Dimitris Lianos	Mayor of Naxos	
		Natalia Berloff	University of Cambridge, UK / SkolTech, Russia	
	Presentation Title	Presenter	Affiliation	Chair
09:30-10:00		Yoshihisa Yamamoto	Stanford University	Natalia Berloff
10:00-10:30	Recent advances on photonic quantum simulators	Cristiano Ciuti	Université Paris-Diderot	
10:30-11:00	Quantum Inspired Optimization	Helmut Katzgraber	Microsoft	
11:00-11:30	COFFEE BREAK			
11:30-12:00	Greedy Reinforcement Learning in Large Photonic Neural Networks	Xavier Porte Parera	Université of Franche-Comté	Pavlos Lagoudakis
12:00-12:30	Coupled photon Bose-Einstein condensates: when condensation becomes a computation	Jan Klaers	University of Twente	
12:30-13:00	Critical phenomena with interacting photons in driven-dissipative micro-cavities	Said Rodriguez	AMOLF	
13:00-14:30	LUNCH			
14:30-15:00	Simulator of the coherent Ising machine as a powerful combinatorial optimization tool	Alexander Lvovsky	University of Oxford	Cristiano Ciuti
15:00-15:30	Networks of Optical Parametric Oscillators: From Ising Machines to Quantum Photonic Engineering	Alireza Marandi	California Institute of Technology	
15:30-16:00	Connectivity and Benchmarking Quantum Annealers	Ryan Hamerly	MIT	
16:00-16:30	COFFEE BREAK			
16:30-17:00	Artificial fields in polariton platforms	Daniele Sanvitto	CNR	Pavlos Savvidis
17:00-17:30	Activating new universality with the Kibble Zurek mechanism	Steven Mathey	University of Cologne	
17:30-18:00	Achieving high-precision control of spin-photon interfaces	Edwin Barnes	Virginia Tech	

Day 2 - HPM 2019 - TUESDAY, 01 October '19

	Presentation Title	Presenter	Affiliation	Chair
09:30-10:00	Spin-orbit coupling and gap solitons in polariton lattices	Jacqueline Bloch	CNRS- Paris Saclay University	Alberto Amo
10:00-10:30	Modelling organic polaritons from weak to strong coupling	Peter Kirton	Atominstitut, TU Wien	
10:30 -11:00	Phase ordering in polariton and photon condensates	Michiel Wouters	University of Antwerp	
11:00-11:30	COFFEE BREAK			
11:30-12:00	Photonic Landau levels in polariton lattices	Alberto Amo	Universite de Lille-CNRS	Jacqueline Bloch
12:00-12:30	One dimensional polariton couplers	Luis Vina	Universidad Autonoma de Madrid	
12:30-13:00	Synthetic Hamiltonians and spin-orbit engineering in tunable birefringent microcavities	Jacek Szczykto	University of Warsaw	
13:00-14:30	LUNCH			
14:30-15:00	Cavity-mediated bound excitons	Simone De Liberato	University of Southampton	Luis Vina
15:00-15:30	Quantum fluids of light in polaritons and atomic vapours	Alberto Bramati	Sorbonne Universite	
15:30-16:00	Optical control of an electron-nuclear hybrid spin system	Mete Atature	University of Cambridge	
16:00 –16:30	COFFEE BREAK			
16:30-17:00	Quantum advantage with generic analog quantum simulators and applications in condensed matter and machine learning	Dimitris Angelakis	Technical University of Crete	Mete Atature
17:00-17:30	Enhanced thermalization of exciton-polaritons in optically generated potentials	Yoseob Yoon	University of California, Berkeley	

Day 3 - HPM 2019 - WEDNESDAY, 02 October '19

	Presentation Title	Presenter	Affiliation	Chair
09:30-10:00	Strong light-matter coupling for reduced photon energy losses in organic photovoltaics	Malte Gather	University of St Andrews	Alberto Bramati
10:00-10:30	Quantum Spectroscopy with entangled photons	Eric Bittner	University of Houston	
10:30-11:00	Artificial life and quantum neural networks based on exciton-polariton lattices	Tim Liew	NTU	
	<i>Free time to go to hotels, leave laptops and change for the afternoon programme</i>			
12:00-13:30	LUNCH at Dal Professore			
14:00	Guided Tour around Naxos by bus			
18:00	Supper in <i>Apiranthos</i>			
20:00	Return to Chora, Naxos			

Day 4 - HPM 2019 – THURSDAY, 03 October '19

	Presentation Title	Presenter	Affiliation	Chair
09:30-10:00	Trapping excitons in monolayers and heterostructures of atomically-thin semiconductors	Jonathan Finley	Technical University of Munich	Jerome Faist
10:00-10:30	Polaron-Polaritons in 2D electron systems	Patrick Knueppel	ETH Zurich	
10:30-11:00	Simulating XY spins with coupled lasers	Nir Davidson	Weizmann Institute of Science	
11:00-11:30	COFFEE BREAK			
11:30-12:00	Engineering and probing vacuum fields with metamaterials	Jerome Faist	ETH Zurich	Jonathan Finley
12:00-12:30	Vacuum field controlled magnetotransport and upper branch broadening in Landau polaritons with metallic cavities	Giacomo Scalari	ETH Zurich	
12:30-13:00	Perspectives for polariton lasing and quantum vacuum emission from intersubband plasmons	Alessandro Tredicucci	Universita Di Pisa	
13:00-14:30	LUNCH			
14:30-15:00	Irreversible coherent splitting of light by cooling	Martin Weitz	The University of Bonn	Giacomo Scalari
15:00-15:30	Equation of State and Universality of Two-dimensional Dipolar Excitons	Francois Dubin	Sorbonne University - CNRS	
15:30-16:00	Toward quantum simulation with Thulium atom	Alexey Akimov	Texas A&M University	
16:00 –16:30	COFFEE BREAK			
16:30-17:00	Engineering a superconducting quantum computer	Kevin Satzinger	University of California, Google	Francois Dubin
17:00-17:30	Spin-photon interfaces for quantum computing and quantum communication	Sophia Economou	Virginia Tech	

Day 5 - HPM 2019 - FRIDAY, 04 October '19

	Presentation Title	Presenter	Affiliation	Chair
09:30-10:00	Next generation of photonic spin hall based devices	Barbara Pietka	University of Warsaw	Sophia Economou
10:00-10:30	2D electron gas mediated photon Bose condensation	Nina Voronova	National Research Nuclear University MEPhI	
10:30-10:45	Permanent directional heat currents in lattices of optomechanical resonators	Zakari Denis (15')	Université Paris-Diderot	
11:00-11:30	Closing remarks			
11:30-12:30	Drinks reception			