

SPS MARCH MEETING 2022

RECENT DEVELOPMENTS IN QUANTUM OPTICS AND QUANTUM INFORMATION

28 - 29 MARCH 2022

SCHOOL OF PHYSICAL SCIENCES, JNU

ZOOM link : Meeting ID: 917 6241 3612 Passcode: 288308

DAY 1 (28 MARCH, 2022)

Inaugural Session (11 : 00 am – 12 : 30 am) ; Venue – SPS Seminar Room ; Moderator – Dr. Poonam Mehta		
11:00 am – 11:05 am	Felicitation of the dignitaries	
11:05 am – 11:15 am	Welcome Address by Prof. Kedar Singh, Dean, SPS, JNU	
11:15 am – 11:25 am	Address by the Chief Guest, Prof. Achanta Venugopal, Director, National Physical Laboratory, New Delhi	
11:25 am – 11:35 am	Presidential Address by Prof. Santishree Dhulipudi Pandit, Honorable Vice Chancellor, JNU	
11:35 am – 11:40 am	Vote of Thanks by Dr. Amit Rai	
HIGH TEA in SPS Lawn (11:40 am – 12:10 pm)		
Session 1 (2 : 00 pm – 3 : 30 pm) ; Chair – Prof. R. Rajaraman		
2:00 pm – 2:45 pm	Prof. Prasanta K Panigrahi, IISER Kolkata	Supersolidity in ultracold atoms and photons
2:45 pm – 3:30 pm	Prof. Saikat Ghosh, IIT Kanpur	Quantum coherence, synchronization and metrology with an ensemble of cold atoms
BREAK (3:30 pm – 3:40 pm)		
Session 2 (3 : 40 pm – 5 : 10 pm) ; Chair – Prof. Sanjay Puri		
3:40 pm – 4:25 pm	Prof. Tarak Dey, IIT Guwahati	Atomic vapour based waveguiding and polarization rotation control of vector beams
4:25 pm – 5:10 pm	Prof. Aditi Sen De, HRI, Prayagraj	Quantum thermal machines
BREAK (5:10 pm – 5:20 pm)		
Session 3 (5 : 20 pm – 6 : 05 pm) ; Chair – Prof. Kedar Singh		
5:20 pm – 6:05 pm	Prof. S. Lakshmi Bala, IIT Madras	Extracting information from Optical Tomograms

DAY 2 (29 MARCH, 2022)

Session 1 (10 : 00 am – 11 : 30 am) ; Chair – Prof. Debashis Ghoshal		
10:00 am – 10:45 am	Prof. Apoorva Patel, IISc, Bengaluru	Quantum Algorithms
10:45 am – 11:30 am	Prof. Anantha Lakshmi, HCU, Telangana	Coherent Control in Cavity Optomechanics
BREAK (11 : 30 am – 11 : 40 am)		
Session 2 (11 : 40 am – 1 : 55 pm) ; Chair – Prof. Subhasis Ghosh		
11:40 am – 12:25 pm	Prof. Urbasi Sinha, RRI, Bengaluru	Photonics Quantum Science and Technologies
12:25 pm – 1:10 pm	Dr. Devendra Mishra, BHU, Varanasi	Quantum enhanced super-sensitivity of Mach-Zehnder interferometry using two-channel detection
1:10 pm – 1:55 pm	Prof. Achanta Venugopal, NPL	Single photon emitters based on metamaterials
LUNCH BREAK (1 : 55 pm – 3 : 00 pm)		
Session 3 (3 : 00 pm – 3 : 45 pm) ; Chair – Prof. Satyabrata B. Patnaik		
3:00 pm – 3:45 pm	Dr. Grzegorz Rajchel-Mieldzioc, ICFO, Spain	Brief history of quantum entanglement since Euler
BREAK (3 : 45 pm – 4 : 40 pm)		
Session 4 (4 : 40 pm – 5 : 40 pm) ; Chair – Prof. Manish Kumar		
4:40 pm – 5:10 pm	Dr. Shahnoor Ali, SPS, JNU	Optomechanically induced optical non-reciprocity based on qubit coupled mechanical resonator in a double optical cavity system
5:10 pm – 5:40 pm	Dr. Rohit, SPS, JNU	Phase transitions in multiferroics : a renormalization group study
BREAK (5 : 40 pm – 6 : 45 pm)		
Session 5 (6 : 45 pm – 8 : 30 pm) ; Chair – Dr. Pawan Kumar Kulriya		
6:45 pm – 7:30 pm	Dr. Amit Rai, SPS, JNU	Non-classical light in photonic lattices
7:30 pm – 8:15 pm	Prof. Gautam Vemuri, Indianapolis University, USA	Non-Markovian, Parity-Time Symmetric Dynamics in Coupled Lasers
8:15 pm – 8:30 pm	Valedictory Session	