



5th International Conference on Recent Trends in Materials and Devices (ICRTMD-2019)

18th – 19th December 2019

DAY-1 18th December (Wednesday)

Registration: 0900 – 1000 Hrs (F-2 Foyer)

Inaugural Session: F-2 Auditorium; Time 1000-1115 Hrs

Tea Break: 1115-1130 Hrs (High Tea)

Plenary Session – I (F-2 Auditorium) (1130-1230 Hrs)

Plenary Talk Chairperson: Prof. Rajiv Sharma, Former Secretary SERB GoI		
Plenary Talk I (1130–1200Hrs)		
PL1: Shiv K. Sharma, Professor, University of Hawaii		
<i>Advances in Standoff Raman and Laser-Induced Breakdown Spectroscopy for material characterizations</i>		
Plenary Talk II (1200- 1230 Hrs)		
PL2: Nishikant Sonwalkar, President and CEO, Sun Density Inc. Venture Development Center, Boston		
<i>Design and Development of Photonic Crystals for Optoelectronic Applications</i>		

Technical Session I (1230-1330 Hrs)

Physical /Chemical Sciences-I (F-3 Seminar Hall) Invited Lectures 30 min each	Physical /Chemical Sciences-II (F-2 Auditorium) Invited Lectures 30 min each	Mathematical / Statistical Sciences (F-1 MDP Hall) Invited Lectures 30 min each
Chairperson: Dr. SK Varshney	Chairperson: Dr. Bhuvanesh Gupta	Chairperson: Dr. Suresh Chandra
IT1: Kedar Singh Professor, JNU, New Delhi <i>Charge Carrier Dynamis in Core/Shell Quantum Dots</i>	IT3: Baban Kumar Bansod Principal Scientist, CSIR-CSIO, Chandigarh <i>Water Quality: Sensor, System and Sustainability</i>	IT5: P.K. Kapur ACIR, Amity University <i>Testing and Release Time Problem in Software Reliability</i>
IT2: Bipin Kumar Gupta Senior Scientist, NPL, New Delhi <i>Development of Strategic Materials for Societal Benefits</i>	IT4: Gionni Marchetti Scientist, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia <i>A Bayesian Approach to the Naming Game Model</i>	IT6: Kapil Sharma Professor & Chairperson, Dept of Mathematics, South Asian University <i>Orthogonal Spline Collocation Methods for Reaction Diffusion Problems</i>

Lunch Break: 1330– 1415 Hrs

Technical Session II (1415-1615 Hrs)

Physical /Chemical Sciences-I (F-3 Seminar Hall) Invited Lectures 30 min each	Physical /Chemical Sciences-II (F-2 Auditorium) Invited Lectures 30 min each	Mathematical / Statistical Sciences (F-1 MDP Hall) Invited Lectures 30 min each
Chairperson: Prof. Shiv Kumar Sharma	Chairperson: Prof. LM Bhardwaj	Chairperson: Prof PK Kapur
IT7: A. M. Biradar Emeritus Scientist, NPL, New Delhi <i>Liquid crystal materials and the displays thereof</i>	IT11: Anchal Srivastava Professor, BHU <i>Wonders of Atomically Thin Materials: Graphene & Beyond</i>	IT15: Suresh Chandra, IIT Delhi <i>Mathematics Behind Machine Learning</i>
IT8: Mushaid Husain VC, M. J. P. Rohilkhand University, Bareilly	IT12: VK Jain Distinguished Scientist & Professor, Amity Institute of Renewable and Alternative Energy <i>Applications of Plasmonic Nanoparticles on Solar Energy Generation and Harvesting</i>	IT16: Deepa Sinha Dept of Maths, South Asian University, New Delhi <i>Online Social Network using Signed Graphs</i>
IT9: Swapan Ghosh Nova Surface-Care Centre Pvt. Ltd, Mumbai <i>Functional Coating materials</i>	IT13: Yashveer Singh Dept of Chemistry, IIT Ropar <i>Biomaterials for Drug Delivery and Antibacterial Applications</i>	IT17: Vijay Gupta NSIT, New Delhi <i>Recent Developments on Convergence of Integral Type Operators</i>
IT10: Sameer Sapra Professor, IIT Delhi <i>Forming Type-II Hybrid nanoheterostructures with different lattice structures for optoelectronic applications</i>	IT14: Jai Prakash Dept of Physics, AMU <i>Liquid crystal beyond displays</i>	IT18: Brijesh Kumar Jha PDDPU Gandhi Nagar <i>Exploring the World of Neurodegenerative Diseases in View of Calcium Signaling using Mathematical Models</i>

Tea Break: 1615-1630 Hrs

Technical Session III (Oral and Poster Presentation (1630 – 1730 Hrs))

Poster Presentation (F2 Foyer) / Poster to be displayed by 1:00 PM for day 1

<u>Physical /Chemical Sciences-I</u> (F-3 Seminar Hall) 10 min each	<u>Physical /Chemical Sciences-II</u> (F-2 Auditorium)10 min each	<u>Mathematical / Statistical Sciences</u> (F-1MDP Hall) 10 min each
Chairperson: Dr. Monika Khurana	Chairperson: Dr. Baban Kumar Barmod	Chairperson: Dr. Vijay Gupta/ Dr. Shiv Kumar Kaushik
OP1: Samrat Mukherjee Dept of Physics, NIT Patna <i>Disordered surface spins induced massive exchange bias in single phase Sm^{3+} ions substituted nickel ferrite NP</i>	OP6: Akanksha Khare Center of Material Sciences, University of Allahabad <i>Gold Nano-particles doped Discotic Liquid Crystal for printed electronic device application</i>	OP10: Mahesh Kumar Jayaswal Banasthali Vidhyapeeth, Rajasthan <i>Learning Effect on Inventory Model for Deteriorating Imperfect Quality Items with Trade-Credit Financing</i>
OP2: Meenal Gupta Dept of Physics, Sharda University <i>Prospective of polymer and carbon based electrode materials in Supercapacitor</i>	OP7: Subhra Das Amity University Haryana, Gurgaon <i>Synthesis and Characterization of Nano-alloy for thermal applications</i>	OP11: Kunal Shah Chimanbhai Patel PGICA, Ahmedabad <i>Continuous review inventory model with lost sale reduction and ordering cost dependent on lead time for the mixtures of distributions</i>
OP3: Yogesh Kumar Dept of Physics, ARSD College, DU <i>Compact and Stable Thin Films oxide and carbon based materials for High performance Supercapacitors</i>	OP8: Devendra Pratap Mishra Department of APSH, Rajkiya Engineering College, Ambedkar Nagar <i>Optical Investigation of ZnO nanostructures synthesized by sol-gel method</i>	OP12: Sweta Dahiya SRM University, Sonipat <i>Two Warehouse Inventory Model for Deteriorating Items with Fixed Shelf-Life Stock-Dependent Demand and Partial Backlogging</i>
OP4: Vishal Singh Chandel Department of APSH, Rajkiya Engineering College, Ambedkar Nagar <i>Thermal Analysis of Cu Doped Sodium Hexa-Titanate ($\text{Na}_2\text{Ti}_6\text{O}_{13}$)</i>	OP9: Nidhi Yaduvanshi Dept of Physics, JSSATE, Noida <i>Optical Properties of Amorphous $\text{Se}_{90}\text{In}_{10-x}\text{Ag}_x$ using Tauc and Urbach Model</i>	OP13: Manoranjitham . G SRM University, Sonipat <i>A Two Warehouse Inventory model by approach of credit policy for Deteriorating Items with price and stock –dependent under the conditions of partial backlogging</i>
OP5: Subrata Pal Shriram Institute for Industrial Research, Delhi <i>Modification of Wood Pulp for the enhancement of Water Absorbency and antibacterial efficacy by radiation induced grafting with various quaternary ammonium-based monomers for hygiene applications</i>		OP14: Gajendra Pratap Singh JNU New Delhi <i>Using Graph Theory to Analyze Protein-Protein Interaction Network in R-Programming</i>
		<ul style="list-style-type: none"> 5 Skype Presentations

DAY-2 19th December 2019 (Thursday)

Plenary Session – II (F-2 Auditorium) (0930-1030 Hrs)

Chairman: Prof. Satyendra Mishra

Plenary Talk I (0930–1000Hrs)

PL3: Prabhat Ranjan

VC, DY Patil University, Pune

Technology Vision 2035 and Material Sector Roadmap

Plenary Talk II (1000- 1030 Hrs)

PL4: SK Dhawan

Emeritus Scientist, NPL

Waste Plastic Management-Solutions and Issues

Tea Break: 1030-1045 Hrs

Technical Session IV: (1045-1245 Hrs)

Physical /Chemical Sciences-I

(F-3 Seminar Hall) Invited Lectures 30 min each

Chairperson: Dr. Ajay Gupta

IT19: Satyendra Mishra

Director, Institute of Chemical Technology, Jalgaon

Functionalization of Graphene Oxide: Characterization and its Effect on Various Properties of Polymer Composites

IT20: Sudhir Chandra

ECE Department, Bennett University

RF Sputtering: a Low-cost Tool for Microelectronics-MEMS Device Prototyping and Sensor Research

IT21: Deepak Kumar

Faculty of Weapon Tech., Vadodara

Modern trends in fabricating flexible gel polymer electrolytes for rechargeable Sodium/Magnesium batteries

IT22: Amarjeet Kaur

Professor, Delhi University

Role of covalent attachment between organic-inorganic phases for highly efficient smart window application

OP15: Ravi Kant Tripathi (10 min)

DS Kothari Fellow, BBRAU, Lucknow

Ball-Milled mechanical exfoliations of layered MoS₂ quantum nanosheets from their bulk counterpart

Physical /Chemical Sciences-II

(F-2 Auditorium) Invited Lectures 30 min each

Chairperson: Prof DK Avasthi

IT23: Pooja Devi

Senior Scientist, CSIR-CSIO, Chandigarh

Waste to Wealth Approach for Clean Energy Solution and Environmental Remediation

IT24: Shri Singh

Banaras Hindu University

Phase Transitions in Liquid Crystals: Application and Development of Thermodynamic Model

IT25: Manu Vashishtha

Dr. BR Ambedkar Institute of Technology, Port Blair

Effect of Nature of Brine solution and naphthenic Acid on the Interfacial Properties of Crude Oil

OP16: Shelly Singh (10 min)

CSIO Chandigarh

Synthesis and Characterization of TiO₂ nanostructures/Biohybrid Electrodes for Catalytic Water Splitting and Quantification of Hydrogen produced.

OP17: Arti Maan (10 min)

Shriram Institute for Industrial Research, Delhi

Studies on Rheological Properties of Magneto-rheological Fluid as a function of Particle Size and Concentration

Mathematical / Statistical Sciences

(F-1 MDP Hall) Invited Lectures 30 min each

Chairperson: Prof CB Gupta

IT26: Ashok Kumar Singh

Principal Biostatistician, Covance Clinical

Development Services

Biostatistics in Clinical Research

IT27: C. K. Jaggi

Professor, Department of Operational Research,

University of Delhi

Supply Chain Management: To be Faster and Smarter

IT28: P.C. Jha

Former Head, Department of OR, DU

DMAIC approach for continuous process improvement

OP18: Nasir Khan

Amity University, Madhya Pradesh, Gwalior

Friction Stir Welding of Aluminium 6061 Alloy: A Case Study

OP19: Aakanshi Gupta

ASET, GGSIPU, New Delhi

Empirical Study on Code Smells Evolution using Agile Methodology in Open Source Projects

OP20: Sonia Shivhare

Amity University Madhya Pradesh Gwalior

Handling and Scheduling of inner-city lagoon water through numerical index and multivariate statistics

OP21: Rashmi

ASET, GGSIPU, New Delhi

Comparative Design Analysis of Animal Detection Algorithms using Neural

Lunch: 1245-1330 Hrs

Poster Presentation (F2 Foyer): 1300-1415 Hrs

Technical Session V (1415-1615 Hrs)

<u>Physical /Chemical Sciences-I</u> <i>(F-3 Seminar Hall) Invited Lectures 30 min each</i>	<u>Physical /Chemical Sciences-II</u> <i>(F-2 Auditorium) Invited Lectures 30 min each</i>	<u>Mathematical / Statistical Sciences</u> <i>(F-1 MDP Hall) Invited Lectures 30 min each</i>
Chairperson: Prof Anchal Srivastava	Chairperson: Dr. VK Jain	Chairperson: Prof PC Jha
IT29: PK Singh Professor and Head, Dept of Physics, Sharda University <i>Ionic liquid doped solid polymer electrolyte for dual energy applications</i>	IT33: P.K. Bhatnagar Emeritus Professor, Delhi University <i>Review of various approaches to increase the performance of OLEDs in terms of External Quantum efficiency, extraction efficiency and turn on voltage up to the year 2019</i>	IT36: C B. Gupta The LNM IIT, Jaipur <i>First Birth Interval: Some Recent Evidences from Rajasthan</i>
IT30: DK Avasthi Professor, Amity Centre for Advance Research and Innovation <i>Nanostructures for Diverse Applications</i>	IT34: BS Sikarwar Director, ASET, AUUP <i>Thermal Management of High Energy Pulsating Laser Device</i>	IT37: M.S. Kadyan Dept of Statistics, Kurukshetra Univ. <i>Performance Analysis of Dairy Industrial System Models</i>
IT31: Monika Khurana Associate Professor, Ansal University, Gurugram <i>Effect of Gold NPs incorporated into dipalmitoylphosphatidyl choline membranes</i>	IT35: Thakur Prasad Yadav Dept of Physics, BHU <i>Facile preparation of novel and active 2D nanosheets of Quasicrystals for hydrogen production and hydrogen storage</i>	IT38: Sudhanshu Aggarwal Indian National Science Academy <i>A 3-Neighborhood Approach in Complex Systems for Reliability Optimization</i>
IT32: Ambuj Tripathi Sc G, IUAC, New Delhi 		IT39: Parmil Kumar Dept of Statistics, University of Jammu <i>Survival Function of Exponential-Lomax Distribution using Classical and Bayesian Approaches under Progressive Censoring</i>

VALEDICTORY FUNCTION (F2-Auditorium): 1615-1700 Hrs

High Tea: 1700-1730 Hrs

Total Plenary Talks: 04

Invited Talks: 39

Oral Presentations: 21

Skype Presentations: 05