



FACULTY OF SCIENCE

SCHOOL OF BASIC SCIENCES

**International Conference
on**

**Recent Advances in Material Science and Computational
Techniques (RAMSACT)**

November 24-26, 2021

Event Report

International Conference on Recent Advances in Material Science and Computational Techniques
(RAMSACT)

Title: RAMSACT

Date: November 24-26, 2021

Venue: Virtual mode on MS Teams

Conference Organisers: School of Basic Sciences, Faculty of Science

Conveners: Dr Ashima Bagaria, Dr. Devershi Pallavi Bhatt

Co-Conveners: Dr. Kalpna Sharma, Dr Abhijit Singh, Dr. Rahul Srivastava

Conference Website: <https://ramsact.in/>

1. **Introduction of the Event:** International Conference on Recent Advancements in Materials Science and Computational Techniques (RAMSACT) is a platform with the goal of bringing together prominent academic scientists, researchers, and research scholars to exchange and share their experiences and research findings on all aspects of Multifunctional Materials and Computational Techniques.
2. **Objective of the Event:** Its aim is to provide a premier interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered, and solutions adopted in the fields aligned with the conference theme. RAMSACT aims to provide an appropriate forum, where high quality and exceptional knowledge exchange can take place among students, academics, and industry researchers.
3. **Beneficiaries of the Event:** Researcher from academia, government bodies, healthcare and industry, research scholars and students of MUJ and outside, faculty members.
4. **Details of the Chief Guest:** Dr. Shekhar Chintamani Mande, Secretary Govt. of India, DSIR and Director General CSIR.
5. **Speakers and topics of Keynotes (7nos.)**
 - i. Prof. B. R. Mehta, IIT Delhi
Talk Title: Understanding 2D- 3D interfaces for thermoelectric, photoelectrochemical and environment sensor applications
 - ii. Dr. Mahesh Kumar, IIT Jodhpur
Talk Title: Advancement of 2D materials-based gas sensors
 - iii. Prof. Vikas Pareek, Mahatma Gandhi Central University, Bihar
Talk Title: Covid-19 Pandemic and Emerging Technical Challenges
 - iv. Dr. Mario Jose Divan, National University of La Pampa, Argentina
Talk Title: Challenges Around Data Collection Systems for IoT-based Outpatient Monitoring
 - v. Prof. Arun Sharma, D. G., North East Centre for Technology Application and Reach

Talk Title: Moving Toward Industry Through Science & Technology to Become Self-Reliant

- vi. Dr. Thom Ives, UL Prospector, USA
Talk Title: Supervised Machine Learning Methods In Python
- vii. Dr. V. G. Sathe, UGC-DAE-CSR, Indore
Talk Title: Detection of Femtometer scale displacement in single crystals using polarized Raman spectroscopy: Invention of a new method

6. Speakers and topics of Invited Talks (14nos.)

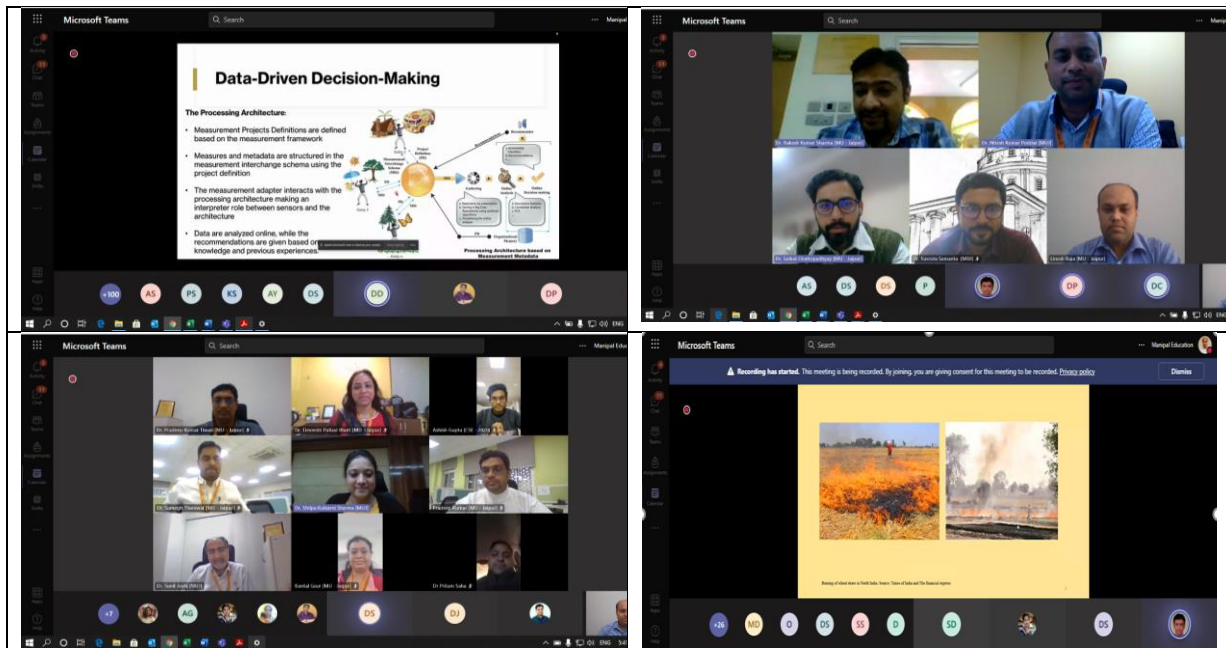
- i. Dr. Rakesh Sharma, Manipal University Jaipur
Talk Title: Valorization of Lignocellulosic Biomass
- ii. Dr. Dharmendra Tripathi, National Institute of Technology, Uttarakhand
Talk Title: "Transmission of COVID-19 in Viscous Medium: Mathematical Modelling"
- iii. Dr. Devendra Jain, Maharana Pratap University of Agriculture and Technology
Talk Title: Agrlturally Important Nano-materials: Green Synthesis and Applications
- iv. Dr. Kiran Shankar Hazra, INST, Chandigarh, Punjab
Talk Title: New possibilities of Nanostructured 2D materials
- v. Dr. K. P. Misra, Manipal University Jaipur
Talk Title: Doped Semiconductor Nanostructures: Sol-Gel Synthesis and Their Characteristics
- vi. Dr. Shanta Dhar, University of Miami
Talk Title: Accessing Intracellular Targets for Therapeutic Gain in Major Diseases
- vii. Dr. Pradeep Kumar Tiwari, Manipal University Jaipur
Talk Title: Quality of Service Drive Cloud Computing using Resource Management Mechanism
- viii. Dr. Ashish Kumar, Manipal University Jaipur
Talk Title: Behavioral Availability Optimization of Physical Processing Unit in Sewage Treatment Plants Using Nature Inspired Algorithms
- ix. Dr. Akhil Agrawal, Central University Rajasthan
Talk Title: Development of BcEOR technology for enhanced oil recovery
- x. Dr. Praveen Surolia, Manipal University Jaipur
Talk Title: Pesticides removal through photocatalytic degradation
- xi. Dr. Aniruddha Mondal, NIT Durgapur
Talk Title: Naostructure based photo detector
- xii. Dr. Sanjay Singh, IIT BHU
Talk Title: Precursor effects in magnetic shape memory alloy
- xiii. Dr. Purnandu Parhi, Ravenshaw University, Cuttack
Talk Title: Cerium Oxide a Potential candidate in Photocatalysis and Electrocatalysis
- xiv. Dr. Abhishek Sharma, Manipal University Jaipur
Talk Title: Multi-layered Modelling Techniques in Chemical Sector: System Design and Economic Evaluation

6. **Brief Description of the event:** RAMSACT-2021 was inaugurated Nov 24, 2021, at Manipal University Jaipur. This online conference is a joint activity of various departments under the school of basic sciences. In his presidential address Prof. G. K. Prabhu told that teaching, research and extension activities are the essential dimensions of any university and materials research and computational techniques both are catering to all three dimensions. The chief guest of the conference Dr. Shekhar Chintamani Mande, Secretary Govt. of India, DSIR and Director General CSIR, emphasized upon reduction of the carbon emission and elaborated how materials research is playing pivotal role in this direction. Talking about

the ongoing pandemic COVID-19 he said that it has given us the power of working together. The other authorities of the university, Prof. N. N. Sharma, Pro-president, Dr. Nitu Bhatnagar, Registrar, Prof. A K Mukhopadhyay, Dean, Faculty of Science, Prof. Lalita Ledwani, Director, School of Basic Sciences and Dr. Ashima Bagaria, head Physics department and convener of the conference, also shared their views on the theme of the conference. The inaugural session ended with the vote of thanks by convener and head Department of Computer Applications, Dr. Devershi Pallavi Bhatt. After inauguration on the first day November 24 there were two sessions in the I session there were 3 Keynotes and in the II session 5 invited talks and Oral Presentations. On November 25 there were two sessions in the I session there were 2 Keynotes and 4 invited talks and in the II session 3 invited talks and Oral Presentations. On the last day of the conference November 26 there were one session in which there were 2 Keynotes and 2 invited talks followed by the Valedictory session. The three-day international conference had a galaxy of speakers giving away 7 keynote lectures, 14 invited talks. The conference also attracted 45 oral presentations from the research scholars and postdocs that will be published as full-length papers in AIP Conference Proceedings. The conference witnessed e-networking on various research domains. The organizers concluded on the note to come back again with another interdisciplinary event in 2022.

7. Photographs of the event:





8. Brochure or creative of the event

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| <p>About Us</p> <p>MANIPAL UNIVERSITY JAIPUR (MUJ) Manipal group in education is a name to reckon with not just in India, but the world over. The seeds of its magnificent growth were sown back in 1952 by Padma Shree Late Dr. Yash Pal. Manipal University Jaipur is the 10th university established in 2011 by Manipal Global Education Services. Manipal Global Education Services (MGES), a part of Manipal Education and Medical Group (MEMG) is a leading international provider of high-quality higher education services. Manipal University Jaipur is the first university in the state of Rajasthan accredited as A+ (3.28 grade) by NAAC. The vision of the University is to be a "Global Leader in Higher Education and Human Development". MUJ offers a wide spectrum of career-oriented programs in different disciplines like Engineering, Science, Management, Law, Arts, Journalism and maintains the Manipal University's legacy of providing quality.</p> <p>About the Conference</p> <p>Recent Advances in Materials Science and Computational Techniques (RAMSACT) is a platform with the goal of bringing together prominent academic, scientists, researchers, and research scholars to exchange and share their experiences and research findings on all aspects of Multifunctional Materials and Computational Techniques. It also provides a premier interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered, and solutions adopted in the fields aligned with the conference theme. RAMSACT aims to provide an appropriate forum, where high quality and exceptional knowledge exchange can take place among students, academics, and industry researchers.</p> <p>Registration Fee</p> <p>For more details regarding registration fee, please visit of the conference website: http://www.ramsact.in/</p> | <p>International/National Advisory Committee</p> <ul style="list-style-type: none"> Dr Mahesh Kumar, Associate Professor, IIT Jaipur Dr Sheela Oberoi, Associate Professor, Department of Biochemistry and Molecular Biology, University of Miami Dr Kamesh S. Sathya, IISc-GATEWAY Director, Centre Prof. R. R. Mathia, Professor, IIT Delhi Dr Mohitkumar Bhatnagar, Assistant Professor, BIT Durgam Dr Kiran Shankar Raiza, Assistant Professor (Scientist-D), INST, Chandigarh Dr Jay Sheela, Scientist, IIT, India Dr Jaagpreet Singh, Assistant Professor, IIT BHU Dr Dhan Dhan, Head and Scientist, ISI, Princeton, United States Dr Anas Sawani, Distinguished Professor of Elect. & Comp. Eng., Assistant Dean for Research, College of Engineering, Poly and Virginia State Professor, Iowa State University Ames, IA Dr Vikas Parash, Professor & Head, Mahatma Gandhi Central University, Mirzapur, India Dr K V Ragh, Sr. Professor, Computer science and IT, Former IIT & Director, IITD, Dr. Babasaheb Ambedkar Maharashtra University, Amravati, Maharashtra Dr Maria Jose Dixon, Professor and Head, Data Science Research Group, National University of La Plata, Argentina Dr Garbhajna Kumar, Department of Preventive, Government Medical College, Karnal, Uttar Pradesh, India Dr Surendra Kumar, Head, Department of Nanomaterials, IITM, Savitribai Phule Pune University, Maharashtra, India Dr Ravindra Kishore, Research Scientist, Department of Medicine, NYU Medical Center, NY, USA Dr Ramesh Kumar, Associate Professor, Centre for Interdisciplinary Research in Basic Science, Janta Mills Institute, New Delhi Dr Prasad P. Bhatnagar, Manipal University, Canada <p>Important Dates</p> <ul style="list-style-type: none"> Last date for Abstract submission: 25th Sept, 2021 Acceptance of Abstract submission: 1st Oct, 2021 Last date for paper submission: 25th Oct, 2021 <p>Publication</p> <p>All papers will be subjected to peer review and will be published in Scopus Indexed Journals/Proceedings.</p> <p>Paper Submission Link: https://www.ramsact.in/</p> <p>Contact: Dr Sakar Chaturvedi, sakar.chaturvedi@manipal.edu Dr Laxmi Raj, laxmi.raj@manipal.edu</p> | <p>MANIPAL UNIVERSITY JAIPUR</p>  <p>International Conference</p> <p>Recent Advances in Material Science and Computational Techniques (RAMSACT)</p> <p>http://ramsact.in</p> <p>November 24-26, 2021</p> <p>Organized by School of Basic Sciences, Manipal University Jaipur Jaipur Airport Express Highway, Culture Nagar, Nagar DVI Text Plaza, Jaipur, Rajasthan-302007</p> | <p>Conference Theme Areas:</p> <p>TRACK 1 Theme: Nanomaterials for Multifunctional Applications</p> <p>Subthemes:</p> <ul style="list-style-type: none"> Research in Functional and Multifunctional Nanomaterials Hybrid Nanomaterials Shape Memory Materials Advances in Multiferroic and Magnetoelastic, Nanomaterials and Applications Environment Nanomaterials and Applications Energy Harvesting via Smart Nanomaterials Nanomaterials for Superconductivity Flexible Nanomaterials for nano-electronics Biological Nanomaterials Nanotechnology for Agriculture, Biomedicine, Tissue engineering, Biomedicine New Materials and Processing Technology Energy 2D Layered Nanomaterials Nanomaterials for sensors and actuators Theory and simulation of nanomaterials <p>TRACK 2 Theme: Mathematical and Statistics Sciences</p> <p>Sub Themes:</p> <ul style="list-style-type: none"> Algebra Analysis Computational Fluid Dynamics and Solid Mechanics Fuzzy Set Theory and Graph Theory Optimization Theoretic and Optimization Techniques Chromography Mathematical Modeling Numerical analysis and Non-Linear Differential Equations Geometric Fractals Theory Optimal Functions and Fractional calculus Statistical Inference Group Theory Stochastic Process Distribution Theory Fractal Theory Combinatorics and Combinatorial Mechanics Space Dynamics Information Theory | <p>TRACK 3 Theme: Computer Applications Teach: Computational Techniques for Intelligent Health Care Services</p> <p>Subthemes:</p> <ul style="list-style-type: none"> Health Care Recommendation System Medical Imaging for Health Care Machine Learning Model for Automated Medical Diagnosis Soft Computing Techniques for Medical Assistance IoT Personalized Health Care System Detection and Prediction <p>TRACK 4 Theme: Recent Advancements in the Application of Chemistry in Bio and Nanomaterials</p> <p>Subthemes:</p> <ul style="list-style-type: none"> Energy Conversion and Storage Multifunctional and Smart Materials Natural and Bio-Materials Environmentally benign and Sustainable Chemistry Theoretical and Computational Chemistry Materials in Drug Discovery, Development and Delivery Nano and Composite Materials General Applications of Materials <p>TRACK 5 Theme: Fundamental and upcoming advances in Bioscience and Biotechnology</p> <p>Subthemes:</p> <ul style="list-style-type: none"> Cancer biology Diversity of plants Traditional medicine Genomics and proteomics Food and beverages Microbial ecology Nanotechnology and nanomedicine Biophysics Biopolymers Vitamins and vaccines Molecular engineering Transgenic technology Water/waste treatment Solid waste management Structural Biology Bioinformatics | <p>CHIEF PATRON Dr. K. Ramaswamy Chairman, MUJ</p> <p>PATRON Dr. G. R. Prabhu President, MUJ</p> <p>CO PATRONS Dr. Anil Bhatnagar Registrar, MUJ</p> <p>CONFERENCE CHAIRS Dr. Lakshmi Lakshmi Dean Faculty of Science, MUJ, Department of Basic Science, MUJ</p> <p>CONVENERS</p> <p>Dr. Ashish Bagaria HOD Department of Physics</p> <p>Dr. Devesh Palani Bhatt HOD Department of Computer Applications</p> <p>CO-CONVENERS</p> <p>Dr. Abhishek Singh, HOD, Department of Bioscience Dr. Rahul Shrivastava, HOD, Dept. of Chemistry Dr. Rajesh Sharma, HOD, Department of Mathematics and Statistics</p> <p>ORGANIZING SECRETARIES</p> <p>Dr. Anil Joshi, Dept. of Mathematics and Statistics Dr. Anamika Jain, Dept. of Mathematics and Statistics Dr. Vinodra Singh Chauhan, Dept. of Mathematics and Statistics Dr. Vinish Kumar Poddar, Dept. of Bioscience Dr. Akhendra Dabas, Dept. of Bioscience Dr. Anoop Kumar Sharma, Dept. of Physics Dr. Sankar Chaturvedi, Dept. of Physics Dr. Saranya Samanta, Dept. of Chemistry Dr. Rakesh Kumar Singh, Dept. of Chemistry Dr. Laxmi Raj, Dept. of Computer Applications Dr. Shipra Sharma, Dept. of Computer Applications Dr. Prashant Kumar Tiwari, Dept. of Computer Applications</p> |
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9. Link of MUJ website: <https://jaipur.manipal.edu/muj/news-events/events-list/recent-advances-in-material-science-and-computational-techniques.html>