



CMDAYS 2023

Website: www.tezu.ernet.in/cmdays/

31st National Conference on CONDENSED MATTER PHYSICS **CONDENSED MATTER DAYS**

22-24 January 2024

Email: cmdays2023@tezu.ernet.in
cmdays2023@tezu.ac.in

Organized by
Department of Physics
Tezpur University
Napaam, Tezpur, Assam
784028



Program Schedule CMDAYS 2023

DAY – 1 (22/01/2024)		
Time	Schedule	
1:30 – 2:30 PM	Registration	Venue : Council Hall
2:30 – 3:10 PM	Opening Ceremony	Venue : Council Hall
3:10 – 3:30 PM	HIGH TEA	
SESSION 1: Quantum Technology and Beyond		Venue : Council Hall
Session Chair: Sanjib Sabhapandit		Title of the Talk
3:30 – 4:30 PM	S. R. Jain BARC, Mumbai	Tilings, Tessellations, and Quantum Coding
4:30 – 5:30 PM	H. P. Goswami GU	Ergotropy of incoherent quantronic energy transfers
5:30 – 5:50 PM	S. Nilakash Singh TU	Quantum Chaos and the arrow of time
5:50 – 6:00 PM	TEA BREAK	
SESSION 2: Quantum Localization		Venue : Council Hall
Session Chair: S. R. Jain		
6:00 – 6:30 PM	Utpal Roy, IIT, Patna	Quantum Simulation of Localized Matter Waves and Applications
6:30 – 7:30 PM	P. K. Panigrahi, IISER, Kolkata	The story of Supersolid Phase of Matter
7:30 – 9:00 PM	DINNER	Venue : Community Hall

DAY – 2 (23/01/2024)		
SESSION 3: Active Matter Physics		Venue : Council Hall
Session Chair: S. R. Jain		Title of the Talk
9:00 – 9:45 AM	Sanjib Sabhapandit RRI, Bengaluru	Noval features of direction reversing active Brownian particle
Session Chair : Sanjib Sabhapandit		
9:45 – 10:20 AM	Vijay Kumar Krishnamurthy, ICTS, Bengaluru	Curvature induced waves in polar flock
10:20 – 10:55 AM	Prasad Parlekar TIFR, Hyderabad	Turbulence in a dense suspension of polar active swimmers
10:55 – 11:20 AM	Tapan Adhyapak IISER, Tirupati	Active-flow coupled dynamics of non-axisymmetric, flexible microswimmers

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Chairman : Prof. Pritam Deb
Convenors : Dr. Ritupan Sarmah
Dr. Diana Thongjaomayum

Venue : Department of Physics
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11:20 – 11:30 AM	TEA BREAK	
SESSION 4: Functional Materials and Applications		Venue: Council Hall
<i>Session Chair: Vijay Kumar Krishnamurthy</i>		
11:30 – 12:00 PM	Ujjal K. Gautam IISER, Mohali	<i>Sillen Aurivillius phases for energy harvesting applications</i>
12:00 – 12:30 PM	Santanu K. Maiti ISI, Kolkata	<i>Magnetic helix- A new possibility to explore</i>
12:30 - 1:00 PM	Sunil Kumar IIT, Delhi	<i>Ultrafast THz pulses from transient currents in metallic heterostructures</i>
1:00 – 1:30 PM	Abhijit Hazarika IICT, Hyderabad	<i>Colloidal Metal Halide Perovskites Nanocrystals: Post-synthetic Alloying for Composition Tuning beyond Thin Film Perovskites</i>
1:30 – 2:30 PM LUNCH BREAK		Venue: Community Hall
<i>SESSION 5 and SESSION 6 Will be Inaugurated by Prof. V. S. Chauhan, Ex-Chairperson UGC, NAAC</i>		
Session 5: Science Exploration Session (2:30 – 4:00 PM) Venue: Community Hall <i>Session Chair: Vijay Kumar Krishnamurthy, Prasad Perlekar, J. P. Borah, Jayanta Barman, Santanu K. Maity</i>		Session 6: Atmanirbhar Bharat Session (2:30 – 4:00 PM) Venue: Community Hall <i>Session Chair: Sunil Kumar, Nayan Moni Kakoty, Abhijit Hazarika, Tapan Adhyapak</i>
Poster Session		Innovation Exhibition
Session 7 : Women in Condensed Matter Physics		Venue : Council Hall
<i>Session Chair: Santanu K. Maity</i>		
4:00 – 4:25 PM	Munima B. Sahariyah IAAST, Guwahati	<i>Helium Clustering and role of vacancy in CuZr alloy</i>
4:25 – 4:50 PM	Swastibrata Bhattacharjya BITS, Goa	<i>Linear carbon chain: A promising material for new generation low dimensional devices</i>
4:50 – 5:15 PM	Bulumoni Kalita Dibrugarh University	<i>Modification of electronic properties of MgO monolayers for desired applications</i>
5:15 – 5:40 PM	Manasi Buzar Baruah CIT, Kokrajhar	<i>Photocatalyst: Eminent Material to address Waste Water Issue</i>
5:40 – 6:10 PM	Rumi De IISER, Kolkata	<i>Survival dynamics of a prey swarm under a predator attack</i>
6:10 - 6:30 PM	TEA BREAK	
6:30 – 7:15 PM	V. S. Chauhan Ex. Chairperson UGC	SPECIAL LECTURE
7:30 – 9:00 PM	VC's DINNER	Venue: Community Hall

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DAY – 3 (24/01/2024)		
SESSION 8: Quantum Manybody Physics		Venue: Council Hall
Session Chair: Tapan Chandra Adhyapak		Title of the Talk
9:00 – 9:30 AM	Sumilan Banerjee IISc, Bangalore	Semiclassical limit of a measurement-induced phase transition
9:30–10:00 AM	Amal Medhi IISER, Trivandrum	Neural-network quantum state (NQS) based variational wavefunction for strongly correlated electron system
10:00 – 10:30 AM	Rangeet Bhattacharyya IISER, Kolkata	Cascaded dynamics of a periodically driven dissipative dipolar system
10:30 – 11:00 AM	S. D. Kaushik, UGC-DAE, Mumbai	Probing magnetism in novel materials through neutron diffraction
11:00 – 11:15	TEA BREAK	
SESSION 9: Tezpur University Alumni Session		Venue: Council Hall
Session Chair: Shyamal Kumar Das		
11:15 – 11:35 AM	J. P. Borah NIT, Nagaland	Transition metal alloys as sustainable alternatives to rare earth permanent magnets applications
11:35 – 11:55 AM	Nayan Moni Kakoty TU	Prosthetic Hand: Commercial versions vis-à-vis TU Bionic Hand
11:55 – 12:15 PM	Biplob Mondal TU	Chemiresistive Gas Sensor: Prospects and Challenges
12:15 – 12:35 PM	Biraj Kumar Kakati TU	Microwave Assisted Synthesis of Heteroatom Doped Activated Carbon from Samanea Saman Biomass for Zinc-ion Supercapacitors
12:35 – 12:55 PM	Subasit Borah, IIIT, Manipur	From Academia to Action: The Trailblazing path of research to market demand
12:55 – 1:15 PM	Biswajit Borah Universidad Andres Bello, Santiago, Chile	Supersonic thermal plasma expansion method for synthesis of lithium-based core shell nanoparticles
1:15 – 1:35 PM	Nirmal Mazumdar MAHE, Manipal	Polarization resolved second harmonic generation (SHG) microscopy for investigating macromolecules
1:35 – 2:30 PM LUNCH BREAK		Venue: Community Hall
Session 10: Poster Session (2:30 - 3:30 PM) (PARALLEL SESSION)		Community Hall
Session Chair: J.P. Borah, Jayanta Barman, Sunil Kumar, Tapan Adhyapak, Prasad Parlekar		
Session 11: Doctoral Symposium (2:30 – 3:30 PM) (PARALLEL SESSION)		
Venue: Council Hall		

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Session chair: Shyamal Kumar Das		
2:30 – 2:45 PM	Talk-1 Susmita Baruah	<i>Investigation of electrochemical properties of PEDOT-PSS based composite electrode towards electrochemical sensing</i>
2:45 – 3:00 PM	Talk-2 Sanat Kumar Gogoi	<i>Modification of Electronic Structure Properties due to Oxygen Vacancies in monoclinic Zirconia</i>
3:00 – 3:15 PM	Talk-3 Krishna Priya Hazarika	<i>Comprehensive scrutiny on the Role of Dipolar Interactions in Biopolymer coated Eu doped Magnetite Nanoparticles</i>
3:15 – 3:30 PM	Talk-4 Arnab Kanti Karan	<i>Improved Conductivity through Barrier Inhomogeneity Modification via TiO₂ Nanoparticle Integration in Sunset Yellow Dye-Based Schottky Diode</i>
Session 12 : Industry-Academia Session		Venue: Council Hall
Session Chair: Subasit Borah		
3:30 - 4:00 PM	Abhijit Chandra Roy IIT Kanpur	<i>Medical robotics: The Next Generation Health Care</i>
4:00 – 4:20 PM	Madhulekha Gogoi, Knowledgepei Pvt Ltd, CSIR NEIST, Jorhat	<i>Nanomaterials for scientific societal responsibility (SSR)</i>
4:20 – 4:40 PM	Satyabrat M Buzar Baruah, LG Electronics India Bengaluru	<i>Current trends in Machine Learning: Navigating the Evolving Landscape</i>
4:40 – 5:00 PM	Rajib Biswas TU	<i>Intensity modulated inexpensive sensing schemes in translational research domain</i>
5:00 – 5:20 PM	Nayanmoni Gogoi TU	<i>Engineering Multifunctional Molecular Magnetic Materials</i>
Session 13 (Young Scientist) *for selected posters		
Session Chair: Nayanmoni Gogoi		
5:40 – 5:50 PM	YT-1	Central Committee Meeting (5:30 – 6:30PM)
5:50 – 6:00 PM	YT-2	
6:00 – 6:10 PM	YT-3	
6:10 – 6:20 PM	YT-4	
6:20 – 6:30 PM	YT-5	
VALEDICTORY SESSION (6:30 - 7:00 PM)		Venue: Council Hall
END OF CMDAYS 2023		

- The program schedule is dynamic which may change slightly depending on unavoidable external factors

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