



# J. C. BOSE UNIVERSITY OF SCIENCE & TECHNOLOGY, YMCA, FARIDABAD

(Established by Haryana State Legislative Act No. 21 of 2009 & Recognized by UGC Act 1956 u/s 22)

Accredited 'A+' Grade by NAAC


## DEPARTMENT OF CHEMISTRY

### Organized Seminar on

“Role of Long-Duration Energy Storage in the Energy Transition – Open opportunities for Australia and India”

<b>Name of Department/ Section/ cell conducting the activity</b>	<b>Department of Chemistry</b>
<b>Date of conduct</b>	<b>Feb. 13, 2025</b>
<b>Activity Coordinator/Convener</b>	<b>Dr. Anurag Prakash Sunda</b>
<b>Amount Spent</b>	<b>Rs. 7500</b>
<b>Funding/ grant from (University/ Industry/ UGC/ AICTE/ DST/ TEQIP/ Outside Society/ agency/others (mention))</b>	<b>University</b>
<b>Target audience</b>	Faculty Members and Students (UG, PG, BTech)
<b>No. of beneficiaries</b>	75+
<b>Outside guests</b>	<b>Dr. Manickam Minakshi</b> Associate Professor of Energy, Murdoch University, Australia  <b>Dr. Damoon Zaheri</b> Research Coordinator, Maitri Research Grant, Murdoch University, Australia
<b>Any other information</b>	<a href="#">Facebook Link</a>
<b>Activity Links</b>	

### Flyer




## J. C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY, YMCA, FARIDABAD, HARYANA, INDIA

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**Department of Chemistry**  
Invites participation for Seminar on

### “Role of Long-Duration Energy Storage in the Energy Transition – Open opportunities for Australia and India”




**Dr. Damoon Zaheri**  
*Research Coordinator, Maitri Research Grant, Murdoch University*

Dr. Zaheri leads a research initiative under the Maitri Research Grant, aimed at fostering collaborations between Australian and Indian industries in advanced manufacturing, renewable energy, and energy transition. His work involves engaging with industry partners, academic institutions, and government agencies to drive innovation and commercialization in sustainable energy solutions.



**Dr. Manickam Minakshi**  
*Associate Professor of Energy, Murdoch University*

Dr. Minakshi is an Academic Chair for the Renewable and Sustainable Energy Program at Murdoch University. He is an Associate Professor within the School of Engineering and Energy. He lectures energy-related units and does research in mapping efficient and novel electrode materials for energy storage systems.



**Patron-in-chief**  
**Prof. S. K. Tomar**  
Hon'ble Vice Chancellor

**Thursday, 13<sup>th</sup> Feb. 2025 10:30 a.m. Onwards**  
**SB-803: CV Raman Science Block**

**Organizing Chair:**  
**Dr. Ravi Kumar**  
Chairperson, Chemistry

**Advisor:**  
**Prof. Neetu Gupta**  
Dean, Faculty of Sciences

**Convener:**  
**Dr. Anurag Prakash Sunda**  
Asst. Prof., Chemistry

**Abstract:** Energy storage in electrochemical hybrid capacitors involves fast faradaic reactions such as an intercalation mechanism observed in batteries, or a redox process occurring at a solid electrode surface at an appropriate potential. Hybrid sodium-ion electrochemical capacitors bring the advantages of both the high specific power of capacitors and the high specific energy of batteries, where activated carbon serves as a critical electrode material. The charge storage in activated carbon arises from an adsorption process rather than a redox reaction and is an electrical double-layer capacitor. Advanced carbon materials with interconnecting porous structures possessing high surface area and high conductivity are the prerequisites to qualify for efficient energy storage.

### Pics of the event



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### REPORT SUMMARY

**Topic:** The seminar focused on the role of long-duration energy storage in the energy transition, specifically highlighting opportunities for collaboration between Australia and India.

**Speaker:** Dr. Manickam Minakshi, Associate Professor of Energy at Murdoch University, was the main speaker. He emphasized innovation and industry partnerships in long-duration energy storage to maximize the use of renewable energy. He discussed using biomass to create effective carbon electrode materials to improve electrode performance. He also discussed the applications of Lithium-ion batteries and alternatives.

**Collaboration:** Dr. Damoon Zaheri, Research Coordinator, Maitri Research Grant, Murdoch University, discussed potential industry-academic collaborations between India and Australia.

**University Support:** Vice-Chancellor Prof. Sushil Kumar Tomar emphasized the Indian government's focus on renewable resources and how the seminar could strengthen ties between Australia and India for new research initiatives.

**Attendees:** Around 100 participants attended the seminar.

**Benefits:** The seminar provided students and scholars with insights into the latest research ideas in energy and technological advancements related to smart material applications.

**Gratitude and Encouragement:** Dr. Ravi Kumar thanked the speakers and encouraged students to participate in exchange programs.

**Faculty Presence:** Prof. Neetu Gupta, Prof. Amlendu Pal, and faculty from the Chemistry Department attended the event.

**Acknowledgement:** Dr. Anurag expressed gratitude to the university for its support in conducting the seminar.

**Promotion of event on social media:** [Facebook Link](#)



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## LIST OF FACULTY MEMBERS AND STUDENTS ATTENDED THE PROGRAMME

Prof. Amlendu Pal	Faculty	Chemistry	
Dr. Ravi Kumar	Faculty	Chemistry	
Dr. Bindu Mangla	Faculty	Chemistry	
Dr. Sita Ram	Faculty	Chemistry	
Dr. Sandeep Kumar	Faculty	Chemistry	
Dr. Vinod Kumar	Faculty	Chemistry	
Dr. Shilpa Behl	Faculty	Chemistry	
Dr. Vishas Khurana	Faculty	Chemistry	
Dr. Bhawana Uttam	Faculty	Chemistry	
Dr. Anurag	Faculty	Chemistry	
Dr. Aman Joshi	Faculty	Physics	
Mahak	23001322025	Chemistry	B. Sc.
Kajal Kumari	23001322018	Chemistry	B. Sc.
Himani	23001322009	Chemistry	B. Sc.
Aryan Soni	23001322002	Chemistry	B. Sc.
Indu	23001322010	Chemistry	B. Sc.
Devesh	23001322006	Chemistry	B. Sc.
Priyanka Parida	23001322038	Chemistry	B. Sc.
Simran	23001322049	Chemistry	B. Sc.
Ishani Grover	23001322011	Chemistry	B. Sc.
Raj Gaurav Adarsh	23001751034	Chemistry	M. Sc.
Anjali	22001321003	Physics	B. Sc.
Vanshika	23001322060	Chemistry	B. Sc.
Sehwag Kumar	22001321037	Physics	B. Sc.
Dimple	22001322013	Chemistry	B. Sc.
Moni	22001322035	Chemistry	B. Sc.
Diksha	22001322012	Chemistry	B. Sc.
Deepak Kumar	22001322010	Chemistry	B. Sc.
Vishal	22001322062	Chemistry	B. Sc.
Deepika Kushwaha	22001322011	Chemistry	B. Sc.
Adarsh Attri	23001322001	Chemistry	B. Sc.
Sahdev	23001322044	Chemistry	B. Sc.
Gargi Sharma	22001322014	Chemistry	B. Sc.
Shruti	22001322051	Chemistry	B. Sc.
Pragya	22001322040	Chemistry	B. Sc.
Chanchal Chaudhary	23001751010	Chemistry	M. Sc.
Vanshika Rawat	23001751050	Chemistry	M. Sc.
Kajal Chandila	23001322017	Chemistry	B. Sc.