



## 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*

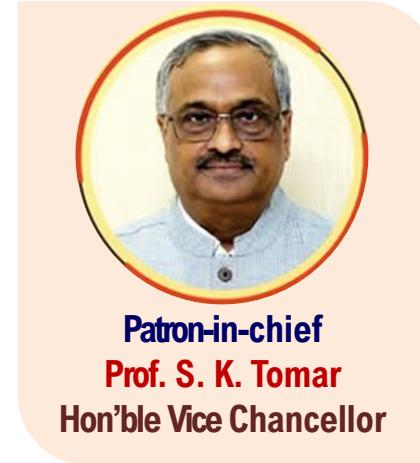
Dr. Zaheri leads a research initiative under the Maitri Research Grant, aimed at fostering collaborations between Australian and Indian industries in advanced manufacturing, renewable energy, and energy transition. His work involves engaging with industry partners, academic institutions, and government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

**Registration link:** <https://forms.gle/2B24D76EZNcN9fiq8>

**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.