



**S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**

Block JD, Sector III, Salt Lake, Kolkata 700 106



DEPARTMENTAL SEMINAR

Chemical and Biological Sciences

20th October, 2022

4.00 PM

ONLINE / FERMION

SPEAKER



Dr. Shreyasi Chattopadhyay

MRSC

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TITLE OF THE TALK

**Exsolution: approach for emergent nanoparticles towards
photo/electro catalysts designing**

ABSTRACT

To address the ever-increasing demand of global energy consumption and environmental challenges, research on renewable green energy conversion technologies is occupying the frontline. Exsolution is a sophisticated method to grow smart catalysts with improved reactivity. Exsolution enables high activity of metal catalyst with a very dilute amount of metal doping, which makes its real-life application more feasible by reducing the cost associated with the metal catalyst. In a ABO_3 perovskite structure, changing stoichiometry or creating A or B site defects by incorporating cations with different valance and size can allow successful development of new classes of catalysts for efficient energy conversion such as photo-water splitting, alkaline water electrolysis, SOFCs etc. The family of titanate perovskites with supported metal NPs is promising for various energy conversion processes because of structural stability. Overall, this presentation will highlight the concept behind exsolution and the use of this approach towards titanate based catalysts.

HOST FACULTY

Dr. Pradip S Pachfule

ASSISTANT PROFESSOR, CHEMICAL and BIOLOGICAL SCIENCES
