



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

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

DEPARTMENTAL SEMINAR

Chemical, Biological & Macro-Molecular Sciences

22st September'2021

12.00PM

Meeting Link

SPEAKER

Dr. Prashant Chandra Singh , Associate Professor, IACS Kolkata

TITLE OF THE TALK

Understanding of the interfacial water near to the membrane during complex biological process using vibrational Sum frequency generation spectroscopy technique

ABSTRACT

Interface is a thin boundary between two mediums and the properties of the molecules at the interface is distinctly different. Membrane is an important biological interface where several complex biological processes such as neurotransmitter signaling, proton transportation and fibrillation of the disordered protein takes place. Interfacial water near to the membrane plays an important role in these processes, however, difficult to measure it solely due to the lack of the surface selective techniques. Vibrational sum frequency generation (VSFG) is a surface selective and sensitive technique which provides the IR signal of interfacial water molecules. In this presentation, I will show the uniqueness to the VSFG technique to understand the role of membrane and interfacial water in few complex biological processes.

References

- 1) Biswajit Biswas , Subhadip Roy , Jahur Alam Mondal , Prashant Chandra Singh, *Angew Chem Int Ed Engl* 2020, 7;22731-22737.
- 2) Sunipa Sarkar , Prashant Chandra Singh , *J Phys Chem Lett* 2020 Dec 3;11:10150-10156
- 3) Biswajit Biswas , Prashant Chandra Singh *Phys. Chem. Chem. Phys.*, 2021,23, 14764-14769

HOST FACULTY

Dr. Suman Chakrabarty

Associate Professor & Seminar Coordinator, CHEMICAL, BIOLOGICAL & MACRO-MOLECULAR SCIENCES
