S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR
Chemical and Biological Sciences

14th May,2024 **4.00 PM** **FERMION**

SPEAKER
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TITLE OF THE TALK
Bond that Pays Dividends and Assign Identity

ABSTRACT

We are talking about H-bond where dividend is linked to the gain of certain physicochemical properties due to recovery of intermolecular H-bonds. A full recovery of the damaged H-bond network then connects to solvent identity. Let me remind you that the destructive ability of H-bond was fully displayed in 1912 when Titanic, the ship, was sunk after being hit by a monstrous iceberg. Our experimental and computational research involving H-bonded systems in the last ten years or so has made several important observations that connected dramatic modification of several solvent properties to a partial compromise of the intermolecular H-bond network structure. The systems ranged from simple aqueous alcoholic solutions 1 to as complex as deep eutectic solvents 2-4 and binary azeotropes. 5

In my talk, some of these interesting results would be presented and discussed.

References

1. Narayan Chandra Maity, Atanu Baksi , Kajal Kumbhakar, Ranjit Biswas, J. Photochem. Photobiol., A: Chemistry 2023, 439, 114600.

2. Jayanta Mondal, Dhrubajyoti Maji and Ranjit Biswas, J. Chem. Phys. 2024, 160, 084506.

3. Dhrubajyoti Maji and Ranjit Biswas, J. Chem. Phys. 2023, 158, 174503 (2023).

4. R. Biswas & coworkers, J. Phys. Chem. B. 2015, 119, 8063.

5. Shrestha Chowdhury, Pradip K. Ghorai, Narayan C. Maity, Kajal Kumbhakar, and Ranjit Biswas, J. Phys. Chem. B 2023, 127, 8417.