

Parthapratim Munshi, Assistant Professor, Department of Chemistry, School of Natural Sciences representing India at the Science Review Committee of the ORNL Neutron Sciences Directorate and receives research grant from DST

Dr. Parthapratim Munshi, Assistant Professor, Department of Chemistry, School of Natural Sciences, has been appointed as the Science reviewer of the Oak Ridge National Laboratory's (ORNL) Neutron Sciences Directorate (NScD) for a period of three years (2014 - 2017). Dr. Munshi from Shiv Nadar University is the only Indian representative in the committee that has members from the USA and few from UK, Australia, Germany, Denmark etc.

The Science Review Committee (SRC) consists of neutron scattering scientists as well as scientists in associated fields from around the world. These reviewers are the heart of a peer-reviewed evaluation process. Dr. Munshi is representing Single-Crystal Diffraction committee, with both small molecule and macromolecular expertise. As a part of the committee, Dr. Munshi's role is to closely scrutinizing the proposals received by ORNL, NScD for their scientific merit. Dr. Munshi also plans to extend his collaboration with the ORNL to perform neutron experiments in the area of his research.

Dr. Munshi's group has already secured a neutron beam time grant worth ₹ 20 Lakhs from Australian Govt. to perform neutron experiment using single-crystal neutron diffraction instrument, KOALA at the Bragg Institute, Australian Neutron Science and Technology Organization (ANSTO), Sydney, Australia.

Recently, Dr. Munshi has also been awarded a three-year research grant of more than 55 Lakhs by Science and Engineering Research Board (SERB), India Govt. under the Extra Mural Research Funding (Individual Centric) scheme. The project title is "*Quantitative Studies of Hydrogen Bonding and Electrostatic Interaction Energies in Proteins: Insights from Advanced Charge Density Analysis*".

Dr. Munshi's research involves the extraction of physical, chemical and biological information by studying hydrogen bonds and intermolecular interactions in small molecules, amino acids and proteins using high-resolution X-ray, synchrotron and neutron diffraction data. His research group aims at exploiting the charge density technique for (i) *quantitative studies of hydrogen bonding and electrostatic interaction energies in proteins* (ii) *small molecule drug-design* and (iii) *exploring charge-transfer mechanisms in organic non-linear optical materials with polymorphic character*.