2019-2020

Invited talk: "Nanostructured materials for Energy storage applications"

Date: October 31st, 2019 **Time:** 10:00 -12:00

Speaker: Dr. Dinesh Rangappa, Professor, VIAT, Muddenahalli, Chikkaballapur

Department of Chemistry organised talk on October 31st, 2019 with a special invited talk "Nanostructured materials for Energy storage applications" by Dr. Dinesh Rangappa, Professor, VIAT, Muddenahalli, Chikkaballapur was held in the seminar hall, BMSIT for the first year BE Students. After a short welcoming address from our Departmental Head Dr. Ramakrishnappa. T. Resource person Dr. Dinesh Rangappa, delivered a presentation about the introduction, properties, importance and energy storage and environment applications of Nanostructured materials.

The development of nanotechnology in the past two decades has generated great capability of controlling materials at the nanometre scale and has enabled exciting opportunities to design materials with desirable electronic, ionic, photonic, and mechanical properties. This development has also contributed to the advance in energy storage, which is a critical technology in this century. In this article, we will review how the rational design of nanostructured materials has addressed the challenges of batteries and electrochemical capacitors and led to high-performance electrochemical energy storage devices. Four specific material systems will be discussed: i) nanostructured alloy anodes for Li-batteries, ii) nanostructured sulphur cathodes for Li-batteries, iii) nanoporous open framework battery electrodes, and iv) nanostructured electrodes for electrochemical capacitors.