



BMS

INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

DEPARTMENT OF CHEMISTRY

“Strategic Advancement in Multifunctional Materials (SAMM-2020)”

A 5-day Faculty Development Programme

From 11th February to 15th February 2020

Department of Chemistry, BMSIT&M

Inauguration:

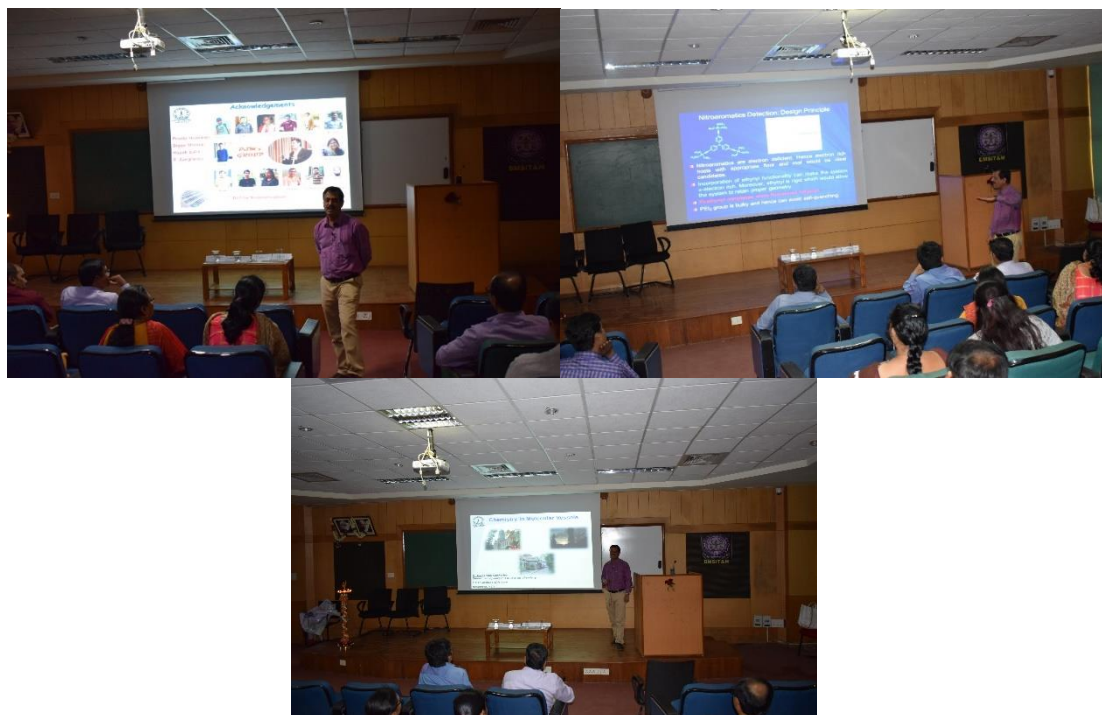
The FDP was started by conducting an inauguration function on 11th Feb, 2020 at 10:30 am in Seminar Hall, BMSIT&M. The function was presided by chief guest Prof. Partha Sarathi Mukherjee, Dr. Mohan Babu G. N Principal and HoD Chemistry Dr. Ramakrishnappa T. For taking the blessings of Goddess Saraswathi, invocation song was sung by our student from first year. HoD welcome the gathering with his welcome speech. Chief guest and Principal Sir were welcomes with a bouquet of flowers. Supramolecular Chemistry. Keynote address was delivered by Prof. Partha Sarathi Mukherjee, followed by the presidential remarks by the Principal Sir. The inaugural function was concluded with vote of thanks and National Anthem.



Partha Sarathi Mukherjee, IISc Bangalore: (Date: 11.02.2020; Session: 11:00 am to 1.00 pm)

Self-sorted synthesis of nanoscopic organic cages:-

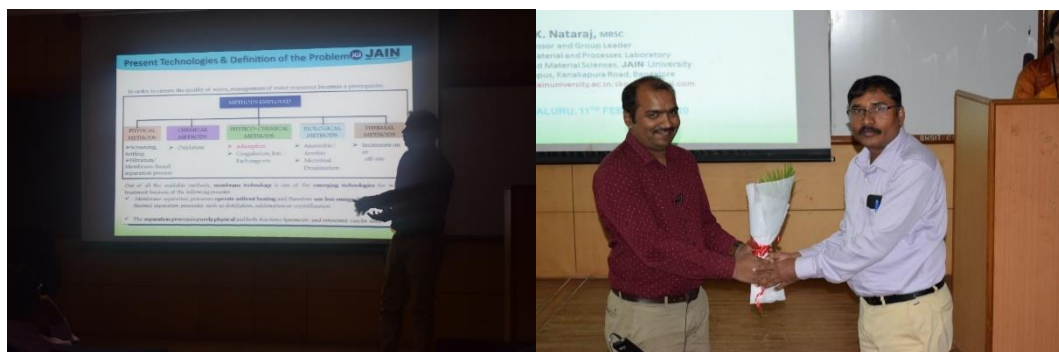
Self-sorting is a well-established synthetic protocol in biological world. It is defined as a spontaneous association through mutual recognition of complementary building units into a well-defined ordered architecture, within a random reaction mixture. In order to understand such nature's own process in a better way immense efforts have been paid off in last few decades to construct several artificial architectures utilizing non-covalent interactions. On the contrary, hitherto covalent self-sorted systems are very few in the literature. It can be shown that unprecedented self-sorting of three-dimensional nanoscopic organic cages driven by the dynamic imine bond. We have further established that such self-sorting process can be regulated by supramolecular interaction especially by H-bonding.



Dr. Nataraj, CNMS, Jain University: (Dated: 11.02.2020; Session: 2:00 pm to 4:00 pm)

Membrane based water filtration:

The talk is based on essential components of Forward Osmosis (FO) process. It involves the membrane, draw solution and the recovery technique. These three conditions made it economically viable. FO can potentially replace the Nanofiltration and Reverse osmosis process for wide range of applications where dewatering or selectively removing solvent and/or concentration is essential.



Dr. Nagappa, Pollution Control Board, Karnataka (Date: 12.02.2020; Session: 10:30 am to 12.30 pm)

Air and Water Pollution Control:

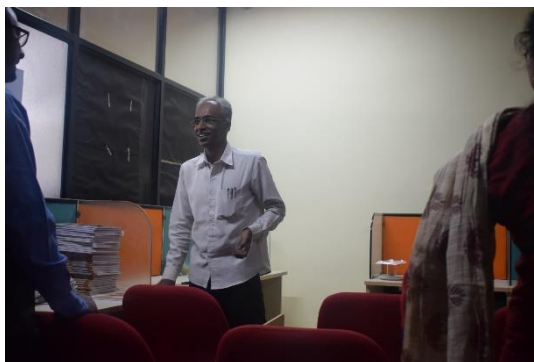
Environmental pollution has many facets, and the resultant health risks include diseases in almost all organ systems. So the talk was based on the hazards of various harmful components causing pollution and they can be controlled by using multifunction materials.



Dr. T. N. Ramesh, Tumkur University: (Dated: 11.02.2020; Session: 2:00 pm to 4:00 pm)

X-Ray crystallography and material characterization:

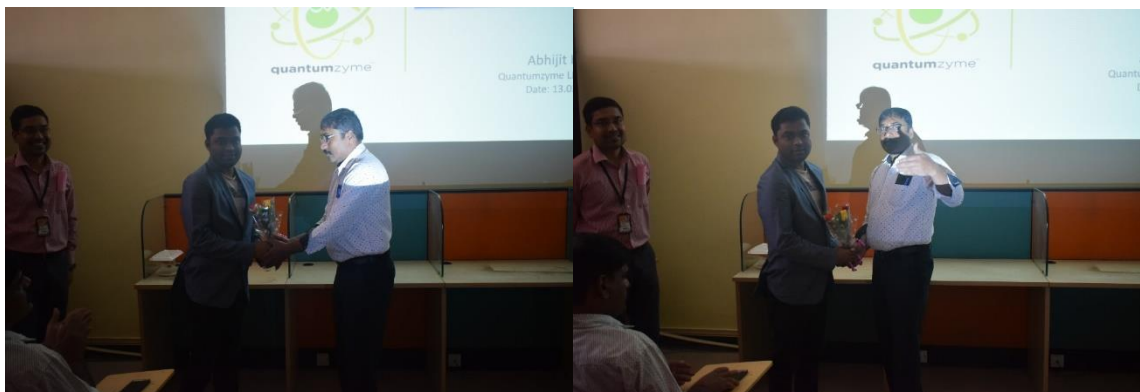
X-ray crystallography (XRC) is the experimental science determining the atomic and molecular structure of a crystal, in which the crystalline structure causes a beam of incident **X-rays** to diffract into many specific directions. Firstly the basic principle related to the concept was delivered and then how it is useful for determination of the properties of the material is discussed.



Dr Abhijit Kayal, Quantazyme, Bangalore (Date: 13.02.2020; Session: 10:30 am to 12.30 pm)

In-Silico Enzyme Engineering: Example of some real life:

The talk was solely based on designing enzymes using computational approach. How the designing of enzyme can help in binding the substrate and to obtain desired products? The scale up approach was also highlighted in this approach.



Dr Sindrilla Dutta Banik Quantazyme (Date: 13.02.2020; Session: 2:00 pm to 4.00 pm)

Bio-catalysis:

The talk was based on Bio-catalysis. How the bio-catalyst is used to get desired products is presented on the basis of Computation Approach. The resource person also talked about molecular docking approach.



Purna Pragna Research Center Visit (Date: 14.02.2020)

The day was planned for Purna Pragna Research Center visit. The programme started with Presentation by **Dr. Ganapati Shanbhag** a faculty member in the Research Institute, who gave a in detail presentation about research activities in the campus. Afterthat, there was a lab visit, where many research scholars and the faculty members were demonstrating the various instruments and their applications.



Dr. Kantharaju, Ranichannama Univ. Belgum (Date: 15.02.2020; Session: 10:00 am to 12.00 pm)

Materials for biological Applications:

The talk was solely based on protein and peptides. How various types of drugs are synthesised based on amino acids. What is the mechanism of the drug applicability is also discussed?



Vote of Thanks: (12:15 pm)

Lastly Dr. Bincy Rose Vergis gave the vote of thanks.



HoD Chemistry