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Areas of research interest

Our research group is interested in developing new organic functional materials for application in molecular electronics. This would involve the extensive use of synthetic organic chemistry techniques and characterization techniques. The research topics that we would focus on are:

Organic Electronic Materials:

Synthesise new π -conjugated polyacene/heteroacenes and to study their properties. These materials would be utilized to fabricate devices for organic light emitting diodes, photovoltaic devices and thin film transistors. NMR, IR, UV-Vis, Fluorimeter, cyclic voltammetry, X-ray, DSC, TGA and several microscopic techniques would be utilized to study the physical and chemical characteristics of these organic materials.

Optoelectronics:

Semiconducting organic materials having conduction and/or luminescent properties would be utilized in photonic and electronics applications. Thin layer deposition, morphological studies, device fabrication and testing would be performed on all the new materials being developed within the group.

Other areas of research interest include, self-assembly of polycyclic aromatic compounds and biodegradation of toxicants.

Ongoing Projects: CSIR and UGC-MRP

Publications: International: 73; National: 08; Book Chapters: 06; Patent : 01; PhDs Supervised: 06

Selected Publications

- *RSC Adv.* **2015**, **5**, 20351-20356.
- *J. Electron. Mater.* **2015**, **44**, 4000-4005.
- *New J. Chem.* **2014**, 1573-1580.
- *Journal of Luminescence* **2014**, 387–393.
- *J Colloid Interface Sci.* **2013**, **393**, 377-383.
- *Supramolecular Chemistry* **2012**, **4**, 238-246.
- *Nano Research* **2012**, **5**, 903 – 916.
- *Angew. Chem. Int Ed.* **48**, **2009**, 1970 -973.
- *J. Phy. Chem. C* **113**, **2009** 21169–21176.
- *Angew. Chem. Int Ed*, **47**, **2008**, 6994-6998.