

# Organic and Related Solids

## Foreword

Organic solid state is a fascinating area of current research. The design of such solids follows the well laid principles based on inter-molecular interactions and establishes the relationships between the structures of a molecular solid and its properties. The term '*Crystal Engineering*' is now well-established in the understanding of such organic solids. Many different types of solid state networks are known in which all varieties from the molecular crystals based on simple organics to coordination polymers that incorporate both inorganic and organic components are accommodated. The coordination bonds between the metal centers and organic moieties are important in the design of hybrid compounds, while hydrogen bonds hold the prime position in the molecular recognition in many organic solids. It is also possible that a hydrogen bond can be used along with coordination bonds for gaining good structural control. By using such subtle interactions, considerable progress has been made in the design of solids with desired properties.

In this Special Issue, several topics such as organic reactions in the solid state, structural aspects of molecular solids, crystal engineering, polymorphism and co-crystals, mechanical and electrical property correlations with organic structures, open framework and two-dimensional structures are described. In addition, charge density analysis from both the experimental as well as theoretical studies that leads to a basic understanding of inter-molecular interactions is also discussed.

This Special Issue focusing on the organic and related solids has eleven articles. The issue is based on the lectures delivered during the Indo-Russian Workshop on Organic and Organometallic Solids at Novosibirsk, Russia during 28 September 2009 to 1 October 2009 supported by the Department of Science and Technology (DST) and the Russian Foundation for Basic Research (RFBR). The wide range of topics covered in this issue reflects the current trends in research in the area of organic and related solids.

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(Guest Editor)