

## **X-ray Crystallographic – Interdisciplinary Research**

J. SHASHIDHARA PRASAD

*Ph.D., CPhys, FInstP*

Vice-Chancellor, Sri Sathya Sai Institute of Higher Learning

Vidyagiri, Prasanthi Nilayam 515 134

Ananthpur Dist. Andhra Pradesh, INDIA

### **Abstract**

X-ray crystallography is the only technique which reveals the structure of materials at atomic level. This is very important for understanding the physical properties, activities of pharmaceutical, superionic, biological materials, biological function, and evolution. The structure helps in tailoring/modification of the materials for any application by getting insight into structure-activity correlation. A large number of crystal and molecular structure studies have been made on drug molecules, superionics, mesogens and small peptides. The power of the technique is illustrated by interesting examples which have been carried out in the national single crystal diffractometer facility.