

Circular for Workshop on  
“Structure Determination by Single Crystal X-ray Diffractometer”

Central Instrumentation Facility (CIF) in collaboration with Interdisciplinary School (IDS) is organizing workshop on “Structure Determination by Single Crystal X-ray Diffractometer”. The workshop will be conducted from 25<sup>th</sup> March, 2019 to 30<sup>th</sup> March, 2019 between 10.30 am to 5.30 pm at Central Instrumentation Facility, Savitribai Phule Pune University, Pune.

The number of participants for the program is limited to fifty. The participants will be selected on first come first serve basis. Selected candidates will be informed by an email. Interested candidates can register for the program through the link given below.

**Online Registration Form:** <https://form.jotform.me/90572595957474>

**Registration Deadline:** 20<sup>th</sup> March 2019.

**Venue:** Central Instrumentation Facility (CIF),  
Behind Department of Chemistry  
Savitribai Phule Pune University,  
Pune- 411007

**Date:** 25<sup>th</sup> March 2019 to 30<sup>th</sup> March 2019 **Time:** 10.30AM to 05.30PM

**Contact Details:**

**Prof. Avinash S. Kumbhar, Director CIF, SPPU (Coordinator)**

**Mrs. Archana S. Patil**

Email: [sxd.cif@unipune.ac.in](mailto:sxd.cif@unipune.ac.in)

[cif@unipune.ac.in](mailto:cif@unipune.ac.in)

Ph. 020- 25601442 Extn.: 24



# Workshop

On

*Structure Determination by Single  
Crystal X-ray Diffractometer*

**March 25<sup>th</sup> to 30<sup>th</sup> 2019  
10.30am to 5.30pm**

At

*Central Instrumentation Facility (CIF)  
Savitribai Phule Pune University,  
Pune.*

*In Collaboration with*

*Interdisciplinary School (IDS)*

## **WHO SHOULD ATTEND**

- Scientists, engineers and researchers from manufacturing, service and government Organizations including R&D laboratories.
- Students at all levels (BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical institutions.
- Technicians interested to learn handling of X-ray diffractometer and applications of single crystal X-ray diffraction studies.

## **OVERVIEW OF THE COURSE**

X-ray crystallography is a scientific method used to determine the arrangement of atoms of a crystalline solid in three dimensional form. This is also a most favoured technique for structure elucidation of both chemical and biological interest including structure of proteins and biological macromolecules. The course aims to take a step forward to unravel the mysteries of this fascinating technology.

This course is organized in two modules that should be taken together.

- Module A: Crystallographic experiment, data collection, solution and refinement.
- Module B: Special techniques and problems in crystallography like disorder, twinning will be emphasized.

The topics in the module include X-ray diffraction, reciprocal lattice, crystal systems, space groups, structure factors, Fourier synthesis, phase problem, refinement by least square, challenges in crystallographic refinement and publishing crystal data.

## **CENTRAL INSTRUMENTATION FACILITY(CIF) :**

Advanced scientific research demands need for state-of-the-art sophisticated instrumentation support in order to work in high priority research area. To cater the need of researchers in different areas, the Central Instrument Facility (CIF) was established at the Savitribai Phule Pune University (SPPU), Pune in the year 2014 with the support from the university fund. The CIF, SPPU houses sophisticated analytical instruments which are operated and maintained by a dedicated and qualified group of Scientists and Engineers. This facility is extended to all the researchers from universities, academic institutes, national research institutes, defense institutes, and industries in Maharashtra.

## **SPEAKER:**



**Prof. Ray J. Butcher** is a renowned crystallographer and Professor in Inorganic and Structural Chemistry at the Howard University, USA. He received B.Sc.(Hons.) degree in Chemistry in 1968 and a Ph.D. in X-ray Crystallography from the University of Canterbury, New Zealand in 1974. He spent two years (1974-1976) as Instructor at the University of Virginia

and further one year as Post-doctoral Fellow (1976-77) at Georgetown University, Washington DC before he joined Howard University as Assistant Professor in 1977, Associate Professor in 1982 and Professor in 1997. He received Sigma Xi Visitors Medal for Outstanding Research at the University of Virginia in 1997. He served several places around the world as Visiting Professor, Visiting Scientist, NASA Fellow, Fulbright International Scholar, etc. He has been Co-Editor of Acta Crystallographica Section E, an International Journal in the field of X-ray Crystallography and also editor of special issue in 2007. He has been awarded FulbrightNehru Fellow at IIT Bombay during 2009-10 and Visiting Professor at the same place from December 2012 to January 2013. He has rare distinction of publishing more than 1100 research papers covering all aspects of chemistry and biology.

## **COURSE CO-ORDINATOR:**

Prof. Avinash S. Kumbhar  
Director , CIF,  
SPPU, Pune

## **CONTACT PERSON:**

Mrs. Archana S. Patil  
CIF,  
SPPU, PUNE.

Phone: 020 - 25601442 Extn.:24

Email: [sxd.cif@unipune.ac.in](mailto:sxd.cif@unipune.ac.in)  
[cif@unipune.ac.in](mailto:cif@unipune.ac.in)

## **COURSE DETAILS**

### **Module A:**

X-ray Structure Determination : March 25 - March 27, 2019

### **Module B:**

Problems in Crystallography : March 28 - March 30, 2019

Number of participants for the workshop will be limited to fifty.

## **REGISTRATION FEE**

Registration is free and will be through online form only. Other mode of registration will not be entertained. Attendance for all six days is compulsory to become eligible for certificate.

For online form click

<https://form.jotform.me/90572595957474>

Note: Lunch, Dinner, Accommodation is not included.