

INVITATION

It gives me a great pleasure to invite you to the 3rd international Workshop entitled, “X-ray Crystallography in Structural biology”, to be held in Dr. Panjwani Center for Molecular medicine and Drug Research, International Center for Chemical and Biological Sciences, Karachi, during October 8-10, 2018.



Since 1957, the year of the first report of the structure of myoglobin determined on the basis of X-ray crystallography.

The technique is working as an anchor for structural biology to explore the secrets of life by observing biomolecules, and their complexes at level of atomic resolution. The structural knowledge obtained on the basis of X-ray diffraction data has greatly facilitated the development of modern medicine. In last few decades, structural biology studies, based on structures obtained through X-ray crystallography, has provided important mechanistic insights in every discipline of experimental biology, including vaccine development, enzyme production and understanding of mode of action, drug discovery process, agriculture, etc.

This workshop will introduce young researchers/ students/ faculty members with the application of X-ray diffraction technique in the field of structural biology and the art of growing protein crystals, collection and processing of diffraction data, and protein structure model building, refinement, and molecular modeling.

For this important workshop, we have invited renowned structural biologists and chemists, working at the interface of chemistry and biology, as resource persons together with local experts working in same field in order to provide the best basic and advanced knowledge and hands-on training.

Prof. Dr. M. Iqbal Choudhary, *H.I., S.I., T.I.*

Director
International Center for Chemical and
Biological Sciences (ICCBS)
University of Karachi,
Karachi-75270
Pakistan

WHO SHOULD ATTEND?

The students, researchers and faculty members working in chemical, physical, bioinformatics and biological sciences, and wish to understand structure's refinement on the basis of diffracted data, and the interactions of ligands with proteins are invited to participate in the workshop.

Only 50 participants will be selected on the basis of relevance of the workshop to their studies and research area.

OBJECTIVES

- To build the knowledge base about the linkage between single-crystal X-ray Diffraction technique, and molecular biology
- To build the capacity of young scholars to work at the interface of chemistry and biology
- To learn different techniques to grow crystals of proteins
- To learn selection of good quality crystals, mounting and data collection on in-house X-ray diffractometer
- To learn data solution to construct 3D structures of proteins on the basis of X-ray diffraction data

WORKSHOP CONTENTS

The program includes:

Lectures

- Basic concepts of Single-crystal X-ray Diffraction technique and structural biology
- Applications of X-ray diffraction technique in the fields of structural biology and drug discovery
- Modern structural biology techniques, including NMR crystallography

Hands-on training

- Growth of protein crystals
- Selection, mounting and data collection of protein crystals on Bruker D8 Venture
- Data reduction and structure solution of proteins on the basis of diffracted data

DEADLINES TO MEET	
Symposium Date	October 8-10, 2018
Registration deadline	July 31 st , 2018
Accommodation Request	August 30 th , 2018
Registration Fee	Rs. 5,000/- for students*
<i>*(Cost includes Lectures, Literature, Lunch, and Tea)</i>	Rs. 8,000/- for faculty members*

ADVISORY COMMITTEE

Prof. Dr. Atta-ur-Rahman, *FRS, N.I., H.I., S.I., T.I.*, Pakistan

Prof. Dr. Samar Hassnain, Liverpool, UK

Prof. Dr. Kauser Abdulla Malik, *N.I., H.I., S.I., T.I.*, Pakistan

Prof. Dr. rer. nat. Dr. Sc. Christian Betzel, DESY, Germany

ORGANIZING SECRETARY

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FOR CORRESPONDANCE

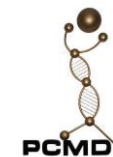
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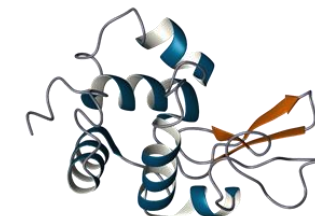
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3rd International Workshop on X-Ray Crystallography in Structural Biology

October 8-10, 2018



**Under the Auspices of
National Committee of Crystallography**

Organized by

**Dr. Panjwani Center for Molecular Medicine and Drug Research
(PCMD)**

X-Ray Diffraction Users Group of Pakistan (XRD-PAK)

Venue

**Dr. Panjwani Center for Molecular Medicine and Drug Research
(International Center for Chemical and Biological Sciences)
University of Karachi, Karachi-75270, Pakistan**