विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

GOA UNIVERSITY

SCHOOL OF CHEMICAL SCIENCES (SCS)

ORGANISES

GOA UNIVERSITY CRYSTALLOGRAPHY WORKSHOP - 2024 (GUCW-II)

TWO-DAYS NATIONAL LEVEL WORKSHOP ON MATERIALS CHARACTERIZATION USING POWDER X-RAY DIFFRACTION

Funded by:

DST-PURSE

Dates: 23rd & 24th OCTOBER 2024

Venue: Chemistry Auditorium, School of Chemical Sciences (SCS), Block E, Goa University, Taleigao Plateau, Goa 403206 India

ABOUT GOA UNIVERSITY

Goa University was established under the Goa University Act of 1984 (Act No. 7 of 1984) and commenced operations on 1st June 1985. The University took over the enhanced role of the Centre of Post-Graduate Instruction and Research (CPIR) which was set after the liberation of Goa by India in December 1961, by the University of Bombay (now Mumbai), in June 1962. Since 1985 Goa University has offered graduate and post-graduate studies and research programs.

SCHOOL OF CHEMICAL SCIENCES (SCS)

The establishment of the School of Chemical Sciences took place by transforming one of the existing and oldest (established in 1965 as a part of Centre for Post-Graduate Instruction and Research of the then Bombay University) department (of Chemistry) into a School. The School is currently located in the faculty block E since April 2013, with modern infrastructure, conducive for quality education and research in Chemistry. The School (formerly Department of Chemistry) earlier had Organic, Inorganic, Physical and Analytical Chemistry as distinct streams and since AY 2019-20, the Biochemistry has been added as its fifth stream. The research at this School has been recognized by the award of projects to the individual faculty members and also receiving handsome grants from the University Grants Commission (UGC) and the Department of Science & Technology (DST), Govt. of India in their prestigious programs like UGC-SAP and DST-FIST. The School of Chemical Sciences has various modern sophisticated instruments required for state-of-the-art research.

PATRON

Prof. Harilal B. Menon

Hon. Vice-Chancellor, Goa University

Workshop Coordinator

Dr. Hari K. Kadam

Co-Coordinators

Dr Prajesh S. Volvoikar

Dr Kiran T. Dhavskar

Organising Committee

Prof. Vidhyadatta M. S. Verenkar
(Dean, SCS)

Prof. Rajendra S. Gad
(Goa University DST-PURSE Coordinator)

Prof. Kaustubh R. S. Priolkar

Prof. Sunder N. Dhuri

Dr. Digamber G. Porob

Dr. Rupesh E. Patre

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INVITED SPEAKERS

Dr Tapas Kumar Mandal
(IIT Roorkee)

Dr Diptikanta Swain
(ICT-IOC Bhubaneswar)

Dr. Digamber Porob
(Goa University)

Dr. Elaine T. Dias
(Goa University)

ABOUT THE WORKSHOP

The primary objective of this workshop is to provide in-depth knowledge and hands-on training on powder X-ray diffraction techniques. Common crystallographic softwares like WinPLOTR and Fullprof will be used for hands-on training in indexing, whole powder pattern fitting, and Rietveld refinement. Multi phase Rietveld refinement and magnetic structure refinement will also be covered.

The structure of the workshop is intended to be very interactive with lectures followed by (or along with) hands-on sessions. Hands-on sessions are designed to learn the concepts by solving problems of different complexity levels (simple to advanced).

REGISTRATION

Online Registration is compulsory.

Registration Fees:

Rs. 500/- for PG & PhD students of affiliated colleges of Goa University.

Rs. 1,000/- for the teachers of affiliated colleges of Goa University.

Rs. 1,000/- for PG & PhD students of all other institutes not affiliated to Goa University.

Rs. 2,000/- for the teachers of all other institutes not affiliated to Goa University.

Rs. 3,000/- for participants from Industry.

Rs. NIL for students and teachers of Goa University

Rs. 5,000/- for spot registration in all above categories after last date of registration.

Payment should be done only after receiving acceptance email for participation.

Last Date for Registration is 07/10/2024

CLICK HERE FOR REGISTRATION FORM

The number of participants is limited to 100

IMPORTANT INFORMATION TO PARTICIPANTS

This workshop is mainly intended for Post-Graduate and Ph.D students in chemistry, physics and related fields of material sciences who have basic knowledge of crystallography.

The workshop is also open to interested faculty members of the University, institutes, and colleges, as well as from the industry.

Participation is confirmed only after receiving confirmation email from the workshop organizing team.

All Participants should carry their own laptop with atleast 30 min battery backup.

Participants will work on preloaded software on their laptop. Download and installation instructions will be communicated after registration.

Refreshments and lunch will be provided on both the days.

Outstation participants will have to make their own arrangements for accommodation and travel.

Participants must strictly adhere to the workshop timings.

Attendance for all sessions is mandatory to receive the certificate of participation.

Day 1: Wednesday, 23rd OCTOBER 2024

9:30 - 10:00am	**Registration**
10:00 - 10:30am	**Inaugural session**
10:30 - 11:00am	TEA BREAK
11:00 - 1:00pm	**Technical Session - i (Dr. Digamber G. Porob)** **Introduction to Powder X-ray Diffraction and Data Collection Strategies**
1:00 - 2:00pm	LUNCH
2:00 - 3:30pm	**Technical Session - ii (Dr. Tapas K. Mandal)** **Indexing of Powder Diffraction Pattern - Hands on Training Using WinPLOTR**
3:30 - 4:00pm	TEA BREAK
4:00 - 5:30pm	**Technical Session - iii (Dr Diptikanta Swain)** **Whole Powder Diffraction Pattern fitting – Hands on Training Using WinPLOTR - Fullprof Suite**

Day 2: Thursday, 24th OCTOBER 2024

9:30 – 11:00am	**Technical Session - iv (Dr Diptikanta Swain)** **Introduction to Rietveld Refinement - Hands on Training Using WinPLOTR - Fullprof Suite**
11:00 – 11:30am	TEA BREAK
11:30 – 1:00pm	**Technical Session - v (Dr Elaine T. Dias)** **Magnetic Structure refinement and Multi Phase Rietveld Refinement – Hands on Training**
1:00 - 2:00pm	LUNCH
2:00 - 3:30pm	**Technical Session - vi (Dr. Tapas K. Mandal)** **Structural elucidation of powder samples by combining X-Ray, Electron diffraction and TEM Techniques**
3:30 - 4:00pm	TEA BREAK
4:00 - 5:00pm	**Technical Session - vii (Dr Diptikanta Swain)** **Use of Powder Diffraction with other techniques**
5:00 - 5:30pm	**Valedictory** **Q&A, Concluding remarks and Feedback from participants**