

ADVANCED CHARACTERIZATION TECHNIQUES IN CONDENSED MATTER

Under the aegis of

***DST- 'Synergistic Training program Utilizing the Scientific and
Technological Infrastructure' (STUTI)***

in association with

Amity University, Jaipur

17-23 January 2023



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



Organized by:

Department of Physics

BITS PILANI Pilani, Rajasthan, 333031



BITS Pilani
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Program Schedule

Day- 1 (Tuesday)

17-01-2023

8:30 am - 9: 00 am	Reporting of Participants and Registration
9: 00 am – 9: 10 am	Welcome and Formal inauguration
9: 10 am – 9: 20 am	Welcome address by Convenor, Prof Raj Kumar Gupta
9: 20 am – 9: 30 am	Address by Prof Sudhirkumar Barai, Director BITS PILANI, Pilani Campus
9:30 am – 9 :40 am	Address by the Chief Guest: Prof K. A. Suresh
9: 40 am- 9: 50 am	Address by Prof Rakesh Choubisa, Head of Department, Physics
10 :00 am – 10:10 am	Vote of Thanks: Prof Manjuladevi. V
10: 10 am – 10: 45 am Tea Break	
Session Chair -Prof Raj Kumar Gupta	
10: 45 am – 12: 00 pm	Keynote talk by Prof K. A Suresh RRI Bangalore
12: 00 pm- 1:00 pm	Keynote talk by Prof Shantanu Pal IISER Mohali
1:00 pm- 2:00 pm Lunch	
2: 30 pm: 5: 00 pm	Hands on Training for XRD-1

Day- 2 (Wednesday)

18-01-2023

Session Chair – Prof. Navin Singh	
Invited talk -1 <u>9: 30 am – 11:00 am</u>	“X-ray Diffraction and X-ray Reflectometry - Applications to thin films and multilayered heterostructures” Prof Sujeet Chaudhary, IIT Delhi
11: 00 am – 11: 30 am Tea Break	
<u>11: 30 am – 1:00 pm</u>	Hands on Training for XRD-2
1:00 pm- 2:00 pm Lunch	
<u>2: 30 pm: 5: 00 pm</u>	Local tour of BITS Campus

Day -3 (Thursday)

19-01-2023

Session Chair – Prof. Anshuman Dalvi	
Invited talk -1 <u>9: 30 am – 11:00 am</u>	“Probing electronic structure using photoelectron spectroscopy technique.” Prof Ram Janay Chaudhary, UGC-DAE, Indore
11: 00 am – 11: 30 am Tea Break	
Invited talk -2 <u>11: 30 am – 12: 30 pm</u>	“Electron microscopy and probe microscopy, fundamentals and some characterization techniques” Prof K.A Suresh, RRI Bangalore
12:30 pm- 1:30 pm Lunch	
<u>2: 30 pm: 5: 00 pm</u>	Hands on Training for Xray Photoelectron Spectroscopy

Day-4 (Friday)

20-01-2023

Session Chair: Prof Manjuladevi V	
Invited talk -1 <u>9: 30 am – 10:30 am</u>	“Raman and Photoluminescence Spectroscopy: Theory, Instrumentation, Properties and Opportunities.” Prof Sandeep Dhara, IGCAR, Kalpakkam
10: 30 am – 11: 00 am Tea Break	
Invited talk -2 <u>11: 00 am – 12: 30 pm</u>	“Surface Probe Microscopy (SPM) and Coupled Systems with Raman and Photoluminescence Spectrometer” Prof Sandeep Dhara, IGCAR, Kalpakkam
12:30 pm- 1:30 pm Lunch	
<u>2: 30 pm: 5: 00 pm</u>	Hands on Training for Raman and Photoluminescence Spectroscopy

Day-5 (Saturday)

21-01-2023

Session Chair: Prof Rakesh Choubisa	
Invited talk -1 <u>9: 30 am – 11:00 am</u>	“Nanocomposite Thin Films for SPR based Sensing.” Prof Rahul Singhal, MNIT, Jaipur
11: 00 am – 11: 30 am Tea Break	
Invited talk -2 <u>11: 30 am – 12: 30 pm</u>	"Scanning Electron Microscopy: Introduction to Applications" Prof Umesh Kumar Dwivedi, Amity University Jaipur
12:30 pm- 1:30 pm Lunch	
<u>2: 30 pm: 5: 00 pm</u>	Hands on Training for Physical Vapor Deposition

Day – 6 (Sunday)

22-01-2023

Session Chair: Prof. Subhashis Gangopadhyay	
Invited talk -1 <u>9: 30 am – 10:30 am</u>	"Fundamentals of thin-film deposition techniques and device fabrication" Prof Suchandal Pal, CSIR-CEERI
10: 30 am – 11: 00 am Tea Break	
Invited talk -2 <u>11: 00 am – 12: 00 pm</u> Invited talk -3 <u>12:00 pm -1:00 pm</u>	"Ultrathin films and Applications" Prof Raj Kumar Gupta, BITS-PILANI "DNA in crowded environment" Prof Navin Singh, BITS-PILANI
1:00 pm- 2:00 pm Lunch	
<u>2: 30 pm: 5: 00 pm</u>	Hands on training for Dielectric Spectroscopy and Scanning Probe microscopy

Day – 7 (Monday)

23-01-2023

Session Chair: Prof. Raj Kumar Gupta	
Invited talk -1 <u>9: 30 am – 10: 30 am</u>	"Application of Liquid Crystals" Prof Manjuladevi V, BITS-PILANI
Invited talk -2 <u>10:30 am -11:30 am</u>	"Metal oxide nanostructures: Growth, properties and sensing applications" Prof Subhashis Gangopadhyay, BITS-PILANI
11: 30 am – 12: 00 pm Tea Break	
Invited talk -2 <u>12: 00 pm – 1: 00 pm</u>	"Batteries versus Supercapacitors" Prof Anshuman Dalvi, BITS-PILANI
1:00 pm- 2:00 pm Lunch	
<u>2: 00 pm: 3:30 pm</u>	Hands on Field emission scanning electron microscopy (FESEM)
<u>4:00 pm – 5:00 pm</u>	Valedictory session