AMITY UNIVERSITY
UTTAR PRADESH

AMITY INSTITUTE OF NANO-TECHNOLOGY

## E - WORKSHOP FOR SKILL DEVELOPMENT ON

# ENERGETIC BEAM TECHNOLOGY: FROM MATERIALS ENGINEERING TO DIAGNOSTICS

**Date: 21st to 25th June 2021**

**Link to attend the workshop: https://amityuni.live/89123814056**


## PROGRAM - SCHEDULE

### Day 1: Monday: 21st June 2021

| Time | Speakers |
|---|---|
| 09.45-09.50 AM | **Inaugural Session**<br>**Welcome by Dr. Richa Krishna,** Coordinator<br>Lighting of Lamp and Saraswathi Vandana |
| 09.50-09.55 AM | Welcome Address by **Prof. O.P. Sinha,** Actg. Director and Head, AINT |
| 09.55-10.00 AM | Address by **Prof. Sunita Rattan**, Dean, S&T , AUUP, Noida |
| 10.00-10.10 AM | Blessings by **Prof. (Dr.) Balvinder Shukla** (Honourable Vice Chancellor, Amity University, Uttar Pradesh) |
| 10.10-10.15 | Address by **Dr. W. Selvamurthy**, President, AISTF, AUUP, Noida |
| 10.15-10.20 | Address by **Dr. Rajiv Sharma**, Director General, |
| 10.20-10.30 | Few Thoughts by **Founder President, Dr. Ashok K Chauhan*** |
| 10.30-10.35 | Vote of Thanks – Monika Joshi |
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| Technical Session | |
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| 10:40 AM – 11: 35AM (45+10 min) | D. Kanjilal, Inter University Accelerator Centre, New Delhi<br>Energetic Beams for the benefit of mankind |
| 11:35AM – 12:30 PM (45+10 min) | D. Bhattacharya, BARC, Mumbai<br>*X-ray absorption Spectroscopy with Indus-2 Synchrotron Source* |
| 12.30PM – 01.00PM (25+05 min) | S N Bera, ACSM, Amity University Uttar Pradesh, Noida<br>*Development of a Low Energy Ion Accelerator for Tailoring of Properties of Thin Film Nanostructures* |
| **01.00 PM – 01:45 PM** | **Lunch** |
| 01.45 PM – 02.40 PM (45+10 min) | F. Bautier, Università di Genova, Italy<br>*Large-area functional nanophotonics in self-organised media* |
| 2:40 PM – 03.35 PM (45+10 min) | F. Krok, Jagiellonian University, Krakow, Poland<br>*Tuning the structural and electronic properties of TiO2(110) surface via repeated sputtering and annealing* |
| 03.35 PM – 4:30 PM (45+10 min) | T. Som, Institute of Physics, Bhubaneshwar<br>*Nanoscale functionalization of ion-induced nanostructured semiconductor surfaces* |
| 04:30 PM – 05.00 PM (25+05 min) | Gagan Sharma, ACSM, Amity University Uttar Pradesh<br>*Investigation of structural, magnetic, and electronic properties of ferromagnetic films using synchrotron-based techniques* |
| 05.00PM-05.30PM | Summary and Assessment |

## Day 2: Tuesday: 22 June 2021

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| 10:00 AM – 10:55 AM (45+10 min) | B. Rout, University of North Texas, Denton, Texas, USA<br>*Materials analysis and modifications at the micro-nano scale using energetic ion beams* |
| 10.55 AM – 11.50 AM (45+10 min) | P.K. Bajpai, Guru Ghasidas Viswavidyalaya, Bilaspur<br>*Synergistic ion beam irradiation as a tool for controlled material modification* |
| 11.50AM – 12.45PM (45+10 min) | Mukesh Ranjan, Institute of Plasma Research, Ahmedabad<br>*Nano-patterning for Sensing and Surface Wettability* |
| 12.45PM- 01.15PM (25+05 min) | Indra Sulania, Inter University Accelerator Centre, New Delhi<br>*Nanostructuring by ion beams: and some application* |
| **01.15 PM- 02.00 PM** | **Lunch** |
| 2:00 PM – 02.55PM (45+10 min) | Christina Trautmann, GSI, Germany<br>*Material science with GeV ion beams* |
| 02.55 PM – 03.50 PM (45+10 min) | Yogendra K. Mishra, University of Southern Denmark<br>*Functional Applications of ZnO Tetrapods Nanomaterials* |
| 03.50PM- 04.35PM (35 +10min) | A.Tripathi, Inter University Accelerator Centre, New Delhi<br>*Ion beam induced annealing in carbon-based nanostructures* |
| 04.35PM-05.20PM (35 +10min) | Pratap Sahoo, National Institute of Science Education and Research (NISER) Bhubaneswar<br>*Material Modification by Ion Beam* |
| 05.20PM – 05.50 PM | Summary and assessment |

## Day 3: Wednesday 23rd June 2021

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| 10:00 AM – 10:55 AM (45 +10min) | Yukio Yamada-Takamura Japan Advanced Institute of Science & Technology, Japan<br>*Towards experimental realization of a new 2D flat band material* |
| 10.55 AM – 11.50PM (45 +10min) | B.R. Mehta, Indian Institute of Technology, Delhi<br>*Application of 2D materials and devices* |
| 11.50AM – 12.45 PM (45 +10min) | Ajay Gupta, University of Petroleum and Energy Studies, Dehradun<br>*Ion-beam patterning for controlled magnetic anisotropy in 1D and 2D nanostructures* |
| 12.45 PM -01.15PM (25+5min) | Shilpa Tripathi, RRCAT, Indore<br>*Nanomaterial's research using Indus Synchrotron radiation facility* |
| **01.15 PM – 02.00 PM** | **Lunch** |
| 2:00 PM – 02.55 PM (45 +10min) | Hans Hofsass, Universität Göttingen, Göttingen, Germany<br>*Ultra-low energy ion implantation of 2D materials* |
| 02.55PM- 03.50 PM (45 +10min) | B. Sundaravel, IGCAR, Kalpakkam<br>*Ion beam modification of Nanomaterials* |
| 03.55PM – 04.40PM (35 +10min) | T. Mohanty, Jawaharlal University, New Delhi<br>*Controlled surface electronic modification of 2D materials by irradiation engineering* |
| 04.40 PM-05.25PM (35 +10min) | Aloke Kanjilal, Shiv Nadar University, Noida<br>*Ion beam dosimetry of self-patterned alumina films* |
| 05.25 PM – 06.00PM | Summary and assessment |

## Day 4: Thursday 24th June 2021

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| 10:00 AM – 10.55 AM (45 +10min) | Mrinmay Mukhopadhyay, SINP, Kolkata<br>*X-ray scattering study of structural arrangement of Spectrin in lipid membrane* |
| 10.55AM – 11.50 AM (45 +10min) | Ashish Kr. Agarwal, RRCAT, Indore<br>Synchrotron X-ray imaging techniques for material characterisation |
| 11.50AM – 12.45PM (45 +10min) | Abhay Despandey, SAMEER, Mumbai<br>*Cancer Therapy using Accelerators: Photons, Electrons, and Ions* |
| 12.45PM- 01.15PM (25 +05min) | Soma Banik, RRCAT, Indore<br>*Photoemission studies on spintronic materials using Indus Synchrotron* |
| **1:15 PM – 2:00 PM** | **Lunch** |
| 02.00PM-02.55PM (45 +10min) | Aurelian Debelle, Universite Paris Saclay, France<br>*Combining experimental and computational efforts to uncover the mechanisms of microstructural changes in irradiation materials* |
| 02.55 PM- 03.50 PM (45 +10min) | Aurelie Gentils, CNRS, *JANNuS-Orsay,* Université Paris-Saclay, France<br>*Nuclear materials study at JANNuS-Orsay ion accelerators and in situ Transmission Electron Microscopy facility* |
| 03.50 PM – 04.45 PM (45 +10min) | Santanu Ghosh, IIT Delhi, New Delhi |

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| | *Energetic Ions in nano structuring of materials for magnetic and electronic application and study radiation stability near nuclear reactor core* |
| 04.45 PM – 05.30 PM (35 +10min) | Dr. Pawan Kulriya, JNU, New Delhi<br>*Role of composition and microstructure on the radiation stability of nuclear ceramic* |
| 5:30 PM- 06.00PM | Summary and assessment |

**Day 5: Friday 25th June 2021**

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| 10.00AM-10.55AM (45 +10min) | R. J. Chaudhary, UGC DAE CSR, Indore<br>*Materials Characterization using Indus Sources* |
| 10.55 AM- 11.50 AM (45 +10min) | Mukul Gupta, UGC DAE CSR, Indore<br>*Thin film deposition using sputtering and characterization using synchrotron radiation* |
| 11.50AM – 12.45PM (45 +10min) | Prasanta Karmakar, VECC, Kolkata<br>*Nano-patterning at surface and near surface by energetic ion beam* |
| **12.45 PM- 02.00 PM** | **Lunch** |
| 02.00PM – 02.45 PM (35 +10min) | S. Amirthapandian, IGCAR, Kalpakkam<br>Role of defects on the thermoelectric properties of the nanostructured bismuth telluride |
| 02.45 PM – 03.15 PM (25 +05min) | Sumlay Roy, Delhi University, Delhi<br>Investigation of periodic layered structures using X-rays |
| 03.15 PM – -03.45 PM (25 +05min) | Kavita Sharma, ACSM, Amity University, Uttar Pradesh<br>*In situ investigation of $L1_0$ transformation kinetics in FePt based systems* |
| 03.45 PM- 04.15PM | Summary and assessment |
| 04.15PM-05.00PM | Concluding Ceremony |

## Registration to workshop:

The participants will have to register online to receive e- certificates of participation on successful completion of the programme.

**Registration Link**: https://forms.office.com/r/VWvmQ81PEj

**Link to attend the workshop:** https://amityuni.live/89123814056

## Rules for e-Certification:

1. Registration is compulsory for the participants.
2. Overall Minimum 90% attendance is mandatory for e-certificate.
3. All the self- assessment activities to be attempted and submitted for evaluation.

Note: Only e-certificates will be awarded and send through respective e-mails after 02 weeks of the last date of workshop.

## Program Coordinators:

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| Dr. Richa Krishna<br>rkrishna@amity.edu | Dr. Monika Joshi<br>mjoshi@amity.edu |

## Program Director:

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