

**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>



**E- WORKSHOP FOR SKILL DEVELOPMENT ON
ENERGETIC BEAM TECHNOLOGY:
FROM MATERIALS ENGINEERING TO
DIAGNOSTICS**

Amity Institute of Nanotechnology, Amity University, Uttar Pradesh, India is India's first Institute of Nanotechnology education in Bachelor and Master level. Research is in its core heart and thus awarded DST- FIST twice. Recently, we have commissioned 50 KeV Ion implanter at Amity University AUUP, Noida, India. As further step, we are organizing a 5 days virtual workshop from 21st to 25th June 2021. This workshop is expected to be a common platform to present, discuss and exchange innovative research ideas in the emerging field of nanotechnology. For young researchers and student, it will be an opportunity to hear and learn from renowned speakers in this field. Also, it will provide an interface between industry and academia to develop relevant technology to meet the social demands nanoscience & nanotechnology.

For further details, please visit www.amity.edu/aint

OBJECTIVE : This workshop is targeted to create awareness about energetic beam technology which can be successfully utilised for precise control of size, structure and morphology of nanomaterials. Photon beams, on the other hand, can be used to advanced characterization, ultimately leading to sophisticated device fabrication for various applications. This workshop will also provide an employability skills for Industry 4.0 and entrepreneurship.

Theme

- ❖ Nano-structuring by energetic beams
- ❖ Radiation damage in materials for nuclear reactor/tokamak/space device
- ❖ Material modification by energetic beams
- ❖ Surface engineering by energetic beams
- ❖ Material Characterization using synchrotron radiation
- ❖ Ion beam Therapy
- ❖ Simulate of radiation damage and therapy

- Eminent Speakers**
- | | |
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| Prof. Yukio Yamada, JAIST, Japan | Prof. T. Som , IOP, Bhubaneswar |
| Prof. Christina Trautmann, GSI, Germany | Prof. S. Ghosh, IIT Delhi |
| Prof. A. Gentils, CNRS, France | Prof. P. K. Bajpai, Bilaspur |
| Prof. S. Fascko, HZD, Dresden, Germany* | Dr. Ambuj Tripathi , IUAC, Delhi |
| Dr. A. Delselle, C2NISM, France | Dr. MUKESH Ranjan, IPR, Ahmadabad |
| Prof. F. Krok, JU, Krakow, Poland | Dr. S. Amirthapandian, IGCAR, Kalpakkam |
| Prof. B. Rout, UNT, USA | Dr. Tanuja, Mohanty, JNU, Delhi |
| Prof. Francesco Buatier de Mongeot, Univ. of Genova, Italy | Dr. P. K. Sahoo, NISER, Bhubaneswar |
| Prof. Y. K. Mishra, SDU, Denmark | Dr. R. J. Chaudhary, UGC-DAE CSR, Indore |
| Prof. Hans Hofsaess, Göttingen, Germany | Dr. Mukul Gupta, UGC-DAE CSR, Indore |
| Prof. A. C. Pandey, IUAC, Delhi* | Dr. Indra Solania, IUAC, Delhi |
| Dr. D. Kanjilal, IUAC, Delhi* | Dr. Soma Banik, RRCAT, Indore* |
| Prof. Ajay Gupta, UGC-DAE CSR, Indore | Dr. Shilpa Tripathi, RRCAT, Indore, |
| Prof. B. R. Mehta, IIT Delhi | Dr. Pawan Kulariya, JNU, New Delhi |
| Dr. D. Bhattacharya, BARC, Mumbai | Dr. Ashish Kr. Agrwal, RRCAT |
| | Dr. Minamoy Mukharjee, SINP, Kolkata |

FREE Registration

<https://forms.office.com/r/VWvmQB1PEj>

E-certificate to participants*

Link to Join the workshop
<https://amityuni.live/89123814056>



PROGRAM - SCHEDULE

Day 1: Monday: 21st June 2021

Time	Speakers
09.45-09.50 AM	Inaugural Session Welcome by Dr. Richa Krishna, Coordinator 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

Technical Session	
10:40 AM – 11: 35AM (45+10 min)	D. Kanjilal, Inter University Accelerator Centre, New Delhi Energetic Beams for the benefit of mankind
11:35AM – 12:30 PM (45+10 min)	D. Bhattacharya, BARC, Mumbai <i>X-ray absorption Spectroscopy with Indus-2 Synchrotron Source</i>
12.30PM – 01.00PM (25+05 min)	S N Bera, ACSM, Amity University Uttar Pradesh, Noida <i>Development of a Low Energy Ion Accelerator for Tailoring of Properties of Thin Film Nanostructures</i>
01.00 PM – 01:45 PM	Lunch
01.45 PM – 02.40 PM (45+10 min)	F. Bautier, Università di Genova, Italy <i>Large-area functional nanophotonics in self-organised media</i>
2:40 PM – 03.35 PM (45+10 min)	F. Krok, Jagiellonian University, Krakow, Poland <i>Tuning the structural and electronic properties of TiO₂(110) surface via repeated sputtering and annealing</i>
03.35 PM – 4:30 PM (45+10 min)	T. Som, Institute of Physics, Bhubaneswar <i>Nanoscale functionalization of ion-induced nanostructured semiconductor surfaces</i>
04:30 PM – 05.00 PM (25+05 min)	Gagan Sharma, ACSM, Amity University Uttar Pradesh <i>Investigation of structural, magnetic, and electronic properties of ferromagnetic films using synchrotron-based techniques</i>
05.00PM-05.30PM	Summary and Assessment

Day 2: Tuesday: 22 June 2021

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

Day 3: Wednesday 23rd June 2021

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

Day 4: Thursday 24th June 2021

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

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

Day 5: Friday 25th June 2021

10.00AM-10.55AM (45 +10min)	R. J. Chaudhary, UGC DAE CSR, Indore <i>Materials Characterization using Indus Sources</i>
10.55 AM- 11.50 AM (45 +10min)	Mukul Gupta, UGC DAE CSR, Indore <i>Thin film deposition using sputtering and characterization using synchrotron radiation</i>
11.50AM – 12.45PM (45 +10min)	Prasanta Karmakar, VECC, Kolkata <i>Nano-patterning at surface and near surface by energetic ion beam</i>
12.45 PM- 02.00 PM	Lunch
02.00PM – 02.45 PM (35 +10min)	S. Amirthapandian, IGCAR, Kalpakkam 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 Investigation of periodic layered structures using X-rays
03.15 PM – 03.45 PM (25 +05min)	Kavita Sharma, ACSM, Amity University, Uttar Pradesh <i>In situ investigation of L1₀ transformation kinetics in FePt based systems</i>
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:

<p>Dr. Richa Krishna rkrishna@amity.edu</p>	<p>Dr. Monika Joshi mjoshi@amity.edu</p>
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Program Director:

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