



AMITY
UNIVERSITY
—RAJASTHAN—

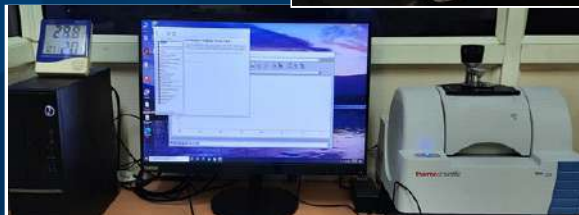
HANDS ON TRAINING

PROGRAM ON TECHNIQUES IN MODERN BIOTECHNOLOGY

Organized by: _____

Amity University Rajasthan, Jaipur

11th – 17th October, 2022 | **REGISTER:** <https://bit.ly/3vnhWti>
(Last date for Registration: 1st October, 2022)



SPONSORED By



सत्यमेव जयते

विज्ञान एवं प्रौद्योगिकी विभाग

**DEPARTMENT OF
SCIENCE & TECHNOLOGY**

Under

SYNERGISTIC TRAINING PROGRAM UTILIZING THE SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE (STUTI)

Registration QR | For More Information



+919289394650 | dststuti@amity.edu

LEADERSHIP



Dr. Ashok K. Chauhan
Founder President
Ritnand Balved Education Foundation
Chairman, AKC Group of Companies



Dr. Aseem Chauhan
Chancellor
Amity University Jaipur,
Rajasthan



Dr. Nitin Batra
CEO
Amity Institute of Training
and Development



Prof. (Dr.) Rakesh Bhatnagar
President (Vice-Chancellor),
Amity University Jaipur,
Rajasthan

ADVISORY BOARD

CHIEF ADVISOR



Dr. W. Selvamurthy

D.Sc., FAMS, FABMS, FIMSA, FIANS, FIAY
President - Amity Science, Technology &
Innovation Foundation (ASTIF),
Director General - Amity Directorate of
Science & Innovation
Chancellor, Amity University Chhattisgarh,
and Chair Professor for Life Sciences

ADVISORS



Prof. S. L. Kothari

FBS, FISPM, FNAAS, FNASc,
Distinguished Professor of Biotechnology,
Vice-President, Amity Science,
Technology & Innovation Foundation (ASTIF)
Amity University Rajasthan, Jaipur



Prof. Amit Jain,

Director, Amity Business School
Pro-President,
Amity University Rajasthan, Jaipur



Prof. Vinay Sharma,

Director,
Amity Institute of Biotechnology
Dean Research,
Amity University Rajasthan, Jaipur



Prof. G. K. Aseri,

Director,
Amity Institute of Microbial Technology
Provost,
Amity University Rajasthan, Jaipur



Prof. Jagdish Prasad,

Coordinator,
Amity School of Applied Sciences,
Amity University Rajasthan, Jaipur

ORGANIZING TEAM



Dr. Vinod Singh Gour
Associate Professor and
Coordinator FIST
Amity Institute of Biotechnology,
Amity University, Jaipur



Dr. Umesh Kumar Dwivedi
Associate Professor
Amity Institute of Applied Science
Amity University, Jaipur



Dr. Himanshu Gogoi
Assistant Professor,
Amity Institute of Microbial Technology,
Amity University, Jaipur



Dr. Kumar Sambhav Verma
Assistant Professor
Amity Institute of Biotechnology
Amity University, Jaipur

STUTI COORDINATORS



Brig. R K Sharma
Director
Amity Institute of Training
& Development



Shafali Kashyap
Assistant Director - Amity Foundation for
Science Technology and Innovation Alliances
Research Associate

AMITY PMU - PROJECT MANAGEMENT TEAM



Avinash Chauhan
Research Associate



Harjinder Kaur
Project Assistant



Digvijay Upraity
Project Staff



Research & Innovation Driven University

AMITY UNIVERSITY

Project Management Unit

Amity University Uttar Pradesh (AUUP) has been awarded the STUTI program as a Project Management Unit (PMU) by the Department of Science & Technology (DST) to conduct 07 days of residential hands-on training on the state-of-the-art equipment, fully sponsored by DST.

Amity Education Group is India's largest education group having 10 Indian Universities and 14 International Campuses with a strong focus on research & innovation in the diverse areas of Science & Technology. Amity University aims to become the ideal platform for scientists, researchers, and academicians to transform their ideas into success and develop their potential. Bringing together this vast community of scholars for cutting-edge research, Amity University is committed to impacting the development and global image of India in research and innovation.

Amity education group has more than 6000 strong distinguished faculty members trained in reputed National & International research Institutes. We have more than 40 brilliant Scientists from diverse places across the globe who have received various prestigious fellowships like DBT/India Alliance Wellcome Trust Early Career Fellowship, DBT Ramalingaswami Fellowship, SERB-Ramanujan Fellowship, DST-Inspire Faculty Fellowship to name a few. These highly qualified Bright Brains are mentoring more than 100 blooming brains who are pursuing their Ph.D. with prestigious fellowships.

Amity research ecosystem includes world-class research infrastructures with high computing facilities and Scanning Electron Microscope, FT-IR, High-Performance Liquid Chromatograph, Gas Chromatograph, Fermenter, etc. funded by various national and international grants. Centres of Excellence have been established in niche areas of Science & Technology. In addition, more than 12 research clusters in areas of great national and international importance are effectively functioning to act as a force multiplier in the Amity Group.



Amity University Rajasthan, Jaipur having its campus at Kant Kalwar, is one of the reputed Educational and Research Institutions sponsored by Ritnand Balved Education Foundation, the umbrella body of all Amity Institutions. The university was established in the State of Rajasthan, by an Act of the State Legislature in 2007 and is recognized by University Grants Commission (UGC) under section 2 (f) of the UGC Act of 1956. Amity University Rajasthan is a NAAC accredited and NIRF ranked leading research and innovation driven university. It is considered a pioneer in the field of higher learning and offers doctoral, postgraduate and undergraduate degrees in sectors ranging from Engineering, Biotechnology, Architecture, Management, Mass Communication, Law, Humanities, Psychology to unique programs in Microbial Technology, Bio-informatics, Clean Technology, Ocean Atmospheric Sciences and Converging Technologies, to name a few.





सत्यमेव जयते

विज्ञान एवं प्रौद्योगिकी विभाग DEPARTMENT OF SCIENCE & TECHNOLOGY

SYNERGISTIC TRAINING PROGRAM UTILIZING
THE SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE

The Scheme 'Synergistic Training program Utilizing the Scientific and Technological Infrastructure' (STUTI) is intended to build human resource and knowledge capacity through open access to S&T Infrastructure across the country. As a complement to the various schemes of DST funding for expansion of R&D Infrastructure at academic institutions, the STUTI scheme envisions a hands-on training program and sensitization of the state-of-the-art equipment as well as towards sharing, while ensuring transparent access to S&T facilities.

HIGHLIGHTS *OF THE PROGRAMME*

The aim of this 7-day training is to equip participants with the basic knowledge and skills required to function in molecular and cellular biology laboratory. The participants will experience hands-on training on DNA extraction, electrophoresis, Realtime Polymerase Chain Reaction (RT-PCR), fluorescent microscopy, AKTA start, FT-IR, plant tissue culture and fermentation technology.

The training program includes lectures by eminent scientist who are using these advanced facilities and pursuing high end research.



OBJECTIVE OF TRAINING

To build human resource and its knowledge capacity through open access S & T Infrastructure across the country through hands-on training programs by:

- Enhancing awareness of equipments and application of state-of-the-art equipments
- Sharing while ensuring transparent access of S&T facilities funded by DST

WHO SHOULD ATTEND?

The training is organized to enhance the practical skills of Post Graduate Students, Research Scholars, Faculty Members from Universities/Colleges, Scientists Post-Doctoral Researchers and industry people Who are working in mutidisciplinary and translational research in various organizations

Eligibility:

- a. Person of Indian Origin
- b. Min. Qualification should be Post Graduation (Science) or B.Tech. (Technology)
- c. Professor /Scientist / Post-Doctoral Fellows / PhD Fellow / Industry person who are actively involved in R&D

WHY SHOULD YOU ATTEND?

Discover state of the art R&D infrastructure and facilities funded by DST and held by various R&D institutions / Universities in the country.

- Gain hands-on experience of research through latest S&T equipment and facilities.
- Design experiments by selecting appropriate/ alternate equipment for the various experiments.
- Connect with the R&D Organisations / Universities / Private Sector facilities / Start-ups/ MSMEs involved in research & development.

COST OF THE PROGRAM

This training is sponsored by DST STUTI program and registration is free.

For domestic travel of participants and faculty, the reimbursement **for A/C train ticket or Deluxe Bus (only for outstation candidates/faculty) will be provided.**

Depending upon the availability in the Amity University, accommodation would be provided on single/double occupancy basis.

Accommodation request should be made at least 10 days before the commencement of the training program.

ABOUT FIST

AMITY JAIPUR

Amity University Rajasthan Jaipur has been awarded two DST FIST programs in Amity Institute of Biotechnology and Amity Institute of Microbial Technology. With the financial assistance of the above-said FIST project, AUR has procured a plant growth chamber, FTIR spectrophotometer, Fluorescent Microscope, and real-time PCR at Amity Institute of Biotechnology. The procurement of HPLC, Bioreactor, and establishment of the walk-in cold room is under process. Besides the said facility AUR has working labs and dedicated advanced research lab facilities also. During the training program, the facilities will be used to enhance the skills of the trainees.

FLUORESCENCE MICROSCOPE

The fluorescent microscope is used to detect fluorescence in the cells which are stained with fluorescent dyes. These dyes may have specific binding to particular molecule type, so we can use this microscopy to detect presence of certain molecules in the cells and localize them also.



FTIR SPECTROPHOTOMETER

FTIR spectrophotometer is used to detect the functional groups and bond types in any compound. This technique is very effective in understanding interaction between various types of molecules and surface also.

PLANT GROWTH CHAMBER

In plant growth chamber we can control temperature, humidity and light and we can simulate various environmental conditions to grow the plants and maintain them to study various morphological or biochemical parameters.



FERMENTER

Fermenter has the facility to control dissolved oxygen, stirring and maintenance of pH in the medium. So we can optimize the growth conditions for fermentation process for an organism under study viz bacteria or fungi.



REAL-TIME- PCR THERMALCYCLER



REAL-TIME- PCR THERMALCYCLER

Real time PCR thermal cycler is used to quantify and compare expression of genes in given cells. The equipment can be useful to study the melting curve of protein.

AKTA-START

AKTA _Start is used to purify the protein of the interest from a mixture of protein. It can work on the basis of different principle of chromatography like affinity and size exclusion.



LEARNING OUTCOMES OF THE PROGRAM

After successful completion of the training the trainees will be able to:

- Purify protein from a mixture of protein using AKTA chromatography and analyze protein using SDS PAGE.
- Use fermenters for the production of bacterial/fungal biomass and their concerned products.
- Apply FTIR spectroscopy in understanding the structures of the biomolecules and their interactions.
- Use a microscope for the measurement of microscopic objects.
- Carry out experiments related to plant tissue culture.

REGISTRATION/ APPLICATION

Participants are required to apply for the training program online at <https://bit.ly/3vnhWti> or scan the QR code provided at the end.

The application deadline is

1st October, 2022

SELECTION OF THE PARTICIPANTS

The applications will be scrutinized by the STUTI training program selection committee and the decision of the committee will be final. Selected candidates will be informed through e-mail. The seats in the training program are limited.

AMITY UNIVERSITY RAJASTHAN JAIPUR

TENTATIVE STUTI PROGRAM

DATE: 11TH TO 17TH OCTOBER, 2022

HANDS ON TRAINING PROGRAM ON TECHNIQUES IN MODERN BIOTECHNOLOGY

Day I (11 October 2022)

9.30 AM	Registration and inauguration
10.30 AM	Protein purification by Dr. Sandeep Srivastava, Associate Professor, Manipal University, Jaipur
11.30 AM	Tea Break
11.45 AM	INSPIRE lab visit
12.30 PM	Lunch
1.15 - 5.15 PM	Hands on fluorescent microscopy and micrometry by Dr. Vinod Singh Gour, Associate Professor, Amity University Rajasthan, Jaipur

Day II (12 October 2022)

9.30 AM	Bioreactors and their application in Biofuel Dr. Piyush Parkhe, Assistant Professor, Amity University Chhattisgarh Raipur.
10.30 AM	Fermentation technology: Dr. Alka Vyas, Professor and Head, S. S. in Microbiology, Vikram University, Ujjain (M.P.)
11.30 AM	Tea Break
11.45 AM	Commercial scale micropropagation by Dr. Sumita Kachhwaha, Professor, Department of Botany, University of Rajasthan, Jaipur
1.00 PM	Lunch
2.00 to 5.00 PM	Hands on Bioreactors (Fermentation) by Dr. Deepansh Sharma and Dr. S. S. Lakhawat, Assistant Professors, Amity University Rajasthan, Jaipur

Day III (13 October 2022)

10.00 AM	Basics of microscopy by Dr. Harish Vyas, Professor, Department of Botany, Govt. Kalidas Girls College, Ujjain (MP)
11.00 AM	Tea Break
11.15 AM	Practical aspects of protein purification by chromatography by Dr. Nagender Singh, Associate Professor and Head, Department of Biotechnology Gautam Buddha University in Greater Noida
12.15 to 1.00	Electrophoresis and applications in biology by Dr. Vinay Sharma, Professor and Dean (Research), Amity University Rajasthan, Jaipur
1.00 PM	Lunch
2.00 to 5.00 PM	Hands on recombinant Protein purification by ACTA HPLC Part I by Dr. Sanket Kaushik, Assistant Professor Amity University Rajasthan, Jaipur

AMITY UNIVERSITY RAJASTHAN JAIPUR

TENTATIVE STUTI PROGRAM

DATE: 11TH TO 17TH OCTOBER 2022

HANDS ON TRAINING PROGRAM ON TECHNIQUES IN MODERN BIOTECHNOLOGY

Day IV (14 October 2022)		Visit to Jaipur: Explore Science
Day V (15 October 2022)		
10.00 AM	Fluorescent Microscopy by Dr. Pankaj Goyal, Associate Professor and Head. Department of Biotechnology, Central University, Kishangarh	
10.45 AM	Tea Break	
11.00 AM	Lab Visit I	
11.45 AM	Hands on plant tissue culture (Stock solution preparation)	
1.00 PM	Lunch	
2.00 to 5.00 PM	Hands on recombinant Protein purification by ACTA HPLC Part II by Dr. Vijay Srivastava, Assistant Professor, Amity University Rajasthan, Jaipur	
Day VI (16 October 2022)		
10.00 AM	Spectrophotometry and its application in biotechnology-I Dr. Prakash Chandra Mondal, Department of Chemistry, IIT, Kanpur	
11.00 AM	Spectrophotometry and its application in biotechnology-II Dr. Harish, Department of Botany, MLS University, Udaipur	
12.00 noon	Bioinoculants for environmental mitigations by Dr. G. K. Aseri, Professor and Dean (Academics), Amity University Rajasthan, Jaipur	
1.00 PM	Lunch	
2.00 to 5.00 PM	Hands on FTIR spectroscopy by Dr. Kumar Sambhav Verma, Assistant Professor, Amity University Rajasthan, Jaipur	
Day VII (17 October 2022)		
10.00 AM	Data analysis in life science by Dr. Jagdish Prasad, Professor, Amity University Rajasthan, Jaipur	
11.30 AM	Tea Break	
11.45 AM	Hands on plant tissue culture practice (Media preparation)	
1.00 PM	Lunch	
2.00 PM	Hands on plant tissue culture practice (Inoculation)	
4.00 to 5.00 PM	Valedictory session	



AMITY
UNIVERSITY
—RAJASTHAN—

For More details and Queries about the Programme

Contact Number : +91 9289394650

Email : dststuti@amity.edu

**For More details about the FIST facility at
Amity University Rajasthan, Jaipur**

**Dr. Vinod Singh Gour, Associate Professor,
and Coordinator - FIST**

Contact Number : +919414914732

Email : vkgaur@jpr.amity.edu

**Registration
QR**



**For More
Information**

