



RANKED 15<sup>th</sup> BY NIRF (2022)



सत्यमेव जयते  
Department of  
Science & Technology  
GOVERNMENT OF INDIA



# HANDS-ON TRAINING ON ADVANCED IMMUNOTECHNIQUES

September 7th to 13th, 2022

Venue : Bharathiar University, Coimbatore

Sponsored by  
DST STUTI Scheme

## Organized by

Department of Biotechnology, Bharathiar University, Coimbatore  
and  
JSS Academy of Higher Education and Research, Mysuru

## In association with

Department of Science and Technology (DST),  
Government of India

<b>A+</b>	<b>34<sup>th</sup></b> (University Category)	261-270	201-250 Top 5 in INDIA	5 Stars for Excellence	E-LEAD E-Learning Excellence for Academic Digitalisation (E-LEAD) certification 2021	351-400 93 in INDIA 1 <sup>st</sup> in INDIA	70 in the WORLD 1 <sup>st</sup> in INDIA	101-200 SDG 3 - Good Health in Wellbeing 2 <sup>nd</sup> in INDIA	1 <sup>st</sup> in the Asia Pacific ACPE certified Pharm.D Program	2022 Band "Excelent"
2022   JSS Medical College - 34 <sup>th</sup> ★ JSS Dental College & Hospital - 12 <sup>th</sup> ★ JSS College of Pharmacy, Mysuru - 8 <sup>th</sup> ★ JSS College of Pharmacy, Ooty - 6 <sup>th</sup>										



## ABOUT THE ORGANIZATIONS

The Bharathiar University was established at Coimbatore by the Government of Tamilnadu in February 1982 under the Bharathiar University Act, 1981 (Act 1 of 1982). The University has 39 Departments, offering 54 post-graduate programs besides offering M.Phil. and Ph.D. programs. The University is an affiliating University. The jurisdiction of the University covers the districts of Coimbatore, Erode, Tirupur, and The Niligiris with 133 affiliated colleges. Several of the colleges affiliated to the University have been awarded Star College status and have consistently ranked among top 20 colleges in the country. With a dedicated team of faculty with vast experience in teaching and research and dedicated and experienced administrative members, the University has emerged as one of the strong pillars of higher education in this region. The National Assessment and Accreditation Council have accredited the University with an 'A' Grade. Times Higher Education Young Universities World Ranking ranked the University in the range of 201 to 250. We stand at 15th rank under the category of University and 22nd among the top 100 institutions in the MoE's National Institute Ranking Framework's (NIRF) ranking. The state-of-the-art facilities available for faculty members and scholars, nurture a culture of research in cutting-edge areas. Our University is a partner in the MHRD National Knowledge Network. Through UGC - Infonet, and Infilbnet a collection of physical and electronic resources is available. The Intellectual Property Rights Cell of Bharathiar University protects the rights of inventions of faculty and young researchers in the University. The DRDO-BU-Center for Life Sciences was established in Bharathiar University as a joint venture by DRDO, Ministry of Defence, Government of India, as an autonomous research institute to pursue basic and applied research. Bharathiar University Centre for International Affairs (BU-CIA) facilitates admission of international students through study in India (MoU) and Indian Council for Cultural Relations (MEA). BU-CIA operates in liaison with the Association of Indian Universities, the Association of Commonwealth Universities, and Shastri Indo Canadian Institute.

## The Department of Biotechnology, Bharathiar University

The Department of Biotechnology at Bharathiar University was established in the year 1990 with 2 faculties exclusively for research. In 2001, post-graduate programmes were started, M.Sc. Industrial Biotechnology followed by M.Sc. Biotechnology in the subsequent year. Currently there are 8 faculty members and one Ramalingaswami



re-entry fellowship Assistant Professor in the Department, who are involved in teaching and research activities. In addition to fields such as plant transgenics; biopharming; cancer therapeutics and medical microbiology, research labs with next-generation research fields like genome editing technologies, translational genomics and proteomics, reproductive immunology and regenerative medicine were newly established. All the faculty are continuously receiving extramural research grants from various funding agencies like DST, DBT, DRDO, UGC, ICMR, UKIERI, TANSCH, TNSCST etc. Department is known for its high-quality publications and consultancy work in the area of molecular authentication of the herbal plants and their products to the reputed herbal industries. Due to these inclusive rapid growths, DST-FIST (Level - II; 2nd term) and UGC-SAP DRS-1 (2nd term) are supporting the department continuously for establishing and maintaining the high-end research and student laboratory infrastructure facilities. More recently, in 2020, DBT (Govt. of India) has awarded the national level PG programme, M.Sc. Medical Biotechnology, with funding support to run the programme. For this programme, in the academic year 2022-23, ten students are selected through Graduate Aptitude Test in Biotechnology (GAT-B) entrance exam and 18 students are admitted under the Tamil Nadu State quota. The students who have passed out have secured places in PhD programmes in highly reputed institutions such as AIIMS, IISER, NCCS and got placements in highly reputed biotechnology industries.

## **JSS ACADEMY OF HIGHER EDUCATION & RESEARCH, MYSURU**

JSS Academy of Higher Education & Research (JSS AHER), formerly known as JSS University, was established in the year 2008 with four constituent colleges - JSS Medical College and Hospital, JSS Dental College and Hospital, JSS College of Pharmacy, Mysuru, and JSS College of Pharmacy, Ooty. In addition, JSS AHER has taken initiatives to enhance community health education and outreach activities by establishing departments of Water and Health (2011) and Health System Management Studies (2012). To expand our horizons in the field of Basic Health Science, the Faculty of Life Sciences with many basic and applied science departments was also initiated in the year (2013). JSS Mahavidyapeetha has been a guiding force providing support and encouragement to the JSS AHER and its initiatives. JSS AHER has embarked on the international path through strategic initiatives and collaborations. These globalization efforts over the years have provided the students of JSS AHER and the healthcare professionals with an 1800-beds super-specialty tertiary care hospital, Mysuru. The hospital caters to a population of three million people from all over Karnataka and India. This rich clinical environment along with dedicated faculty and physicians enables students and trainees to enhance their experience and professional development



## DEPARTMENT OF SCIENCE & TECHNOLOGY (DST), GOI

The Department of Science and Technology (DST) is a department within the Ministry of Science and Technology in India. It was established in May 1971 to promote new areas of science and technology and to play the role of a nodal department for organizing, coordinating, and promoting scientific and technological activities in the country. It gives funds to various approved scientific projects in India. It also supports various researchers in India to attend conferences abroad and go for experimental works. The Scheme 'Synergistic Training program Utilizing the Scientific and Technological Infrastructure' (STUTI) is intended to build human resources and its 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.

## ABOUT THE WORKSHOP

A wide variety of diagnostic techniques which are used to measure and characterize the specific host immune responses elicited by the presence of antigens are collectively termed as immuno techniques. There are immense varieties of immunotechniques used for separating and characterizing various macromolecules. Some of the immunotechniques such as enzyme-linked immunosorbent assay (ELISA), flow cytometry and immunohistochemical analysis are used extensively by researchers investigating humoral and cellular immune responses to antigens. These techniques help to analyze the antigen-antibody interactions and identify particular protein in biological samples.

This workshop will provide hands-on training on Immunoblotting; Immuno cytometric analysis such as ELISA and Flow cytometry; and immunohistochemical staining. Practical exposure to immuno-based assays will equip budding scientists on constructing their experimental strategies across diverse research areas. In addition, the workshop

will provide training on isolation and quantification of protein samples, SDS-PAGE analysis, guidance in selection and dilution of antibodies, trouble shooting in transfer techniques and cell preparations for flow cytometry based cell cycle analysis. Participants will also acquire practical knowledge on basic techniques in mammalian cell culture handling, passaging and harvesting of adherent cells and protein isolation from cells.

The programme is designed to provide laboratory experience along with indispensable theoretical knowledge that would help and inspire students and young minds to carry out advanced research. Keeping this in mind, the workshop includes talks by professionals from leading companies involved in providing instrumental and technical research support globally. Resource persons from leading manufacturers like BD Biosciences, BioTek etc. will deliver expert talks covering the application and advancements in immunotechniques. In summary, this DST-STUTI sponsored 7-days workshop is a well-designed package to train the participants in the areas of immunotechniques useful in molecular biology experiments.

### **Key Objectives:**

- To provide practical exposure to the participants to concept, skills and tools of molecular biology and immunology.
- Equip the researchers from other allied disciplines with the knowledge and trouble shooting skills to successfully apply immunotechnique approaches in their research.
- Introduce to the instrumentation and operation of sophisticated instruments such as Multimode- Microplate reader, Flow-cytometer and their potential application in advanced immunological studies.
- To provide a hands-on experience in performing Flow-cytometry, ELISA, Western blotting and Immunohistochemistry assays.

### **WHO CAN ATTEND**

The workshop is open to Faculty/ research scholars/ postgraduate students working in the field of Biochemistry, Molecular Biology and Biotechnology from all institutes, colleges, and universities.

### **REGISTRATION PROCEDURE**

Participants can register for this workshop by filling up the given google form. They should upload the resume, recent passport size photo along with a write-up (minimum 100 words) describing their interest in participation. The number of participants to this event is limited to 30 and the selection will be based on competence of the participants to the theme of the workshop. Postgraduate students and research scholars who wish to apply for the workshop should submit a letter of recommendation from their respective higher authority. There will be no registration fees. Food and accommodation will be provided by the organizers as permissible under the DST STUTI grant rules.

## Chief Patrons

Col. Prof. Dr. P. Kaliraj, Hon'ble Vice-Chancellor, Bharathiar University

Dr. Surinder Singh, Vice-Chancellor, JSS Academy of Higher Education & Research

## Patrons

Dr. K. Murugavel, Registrar i/c, Bharathiar University

Dr. B. Manjunatha Registrar, JSS Academy of Higher Education & Research

## DST STUTI PMU Coordinator

Dr. Prashant Vishwanath, MBBS.,MD.,PhD Director (Research) & IQAC Coordinator

JSS AHER, Mysore

## RESOURCE PERSONS

### External Experts

- Bhavani Gokulkumar, Application analyst, BD Bioscience, Chennai.
- Ajay Deepak, Field Application Specialist, Bio-Rad, Chennai
- Mohan Babu, Technical Engineer, Microplate Reader, MediSpec, India
- Prabhu Meganathan, Hybrinomics Llife Science and Diagnostics, Bangalore

### Dept. of Biotechnology, Bharathiar University, Coimbatore

- Dr. V. Thirunavukkarasu, Associate professor
- Dr. S. Velayuthaprabhu, Assistant professor
- Dr. M. A. Shibu, Assistant professor

## ORGANIZING SECRETARIES

- Dr. V. Thirunavukkarasu, Associate professor, Dept. of Biotechnology, Bharathiar University, Coimbatore
- Dr. Kiran Kumar M.N, Assistant professor, Dept. of Biotechnology & Bioinformatics, JSS AHER, Mysore

## ORGANIZING MEMBERS

- Dr. S. Velayuthaprabhu, Assistant professor, Dept. of Biotechnology, Bharathiar University, Coimbatore
- Dr. M. A. Shibu, Assistant professor, Dept. of Biotechnology, Bharathiar University, Coimbatore

## CONVENER

- Dr. Dhanya B.E, Project Co-Ordinator  
DST-STUTI Program, JSS AHER, Mysore

Scan & Register



## JSS Academy of Higher Education & Research

(Deemed to be University)

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