



**ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)
ON
RECENT TRENDS IN BIOINFORMATICS
(Interdisciplinary)**

(26th Aug – 04th Sep 2022)

Organized by

E & ICT Academy, National Institute of Technology, Warangal.

in association with

University College of Engineering, BIT Campus

Tiruchirappalli – 620 024



Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

About the FDP:

This faculty development program (FDP) is devoted to address the need of technological developments in Biotechnology and its allied fields. Bioinformatics is an interdisciplinary field that develops methods and software tools for understanding biological data, in particular when the data sets are large and complex. Bioinformatics now entails the creation and advancement of databases, algorithms, computational and statistical techniques, and theory to solve formal and practical problems arising from the management and analysis of biological data, particularly DNA, RNA, and protein sequences. This FDP is intended to provide an insight on Bioinformatics and its trends in various fields with hands-on experience.

Major Course Contents:

- ✓ Basics of Bioinformatics
- ✓ Sequence of analysis
- ✓ Biological databases and data mining
- ✓ Data analysis for biology
- ✓ Artificial Intelligence for Bioinformatics
- ✓ Machine Learning Techniques for Bioinformatics
- ✓ Bio inspired algorithms for Bioinformatics
- ✓ Biological Big data and data analytics
- ✓ Molecular Docking in Structure-based Drug Discovery: Applications and Challenges
- ✓ Bioinformatics tools and Software tools for Bioinformatics – Hands on training
- ✓ Applications of Bioinformatics
- ✓ Case Studies

Faculty conducting this program:

The program will be conducted in online mode by the faculty members from NIT Warangal in association with University College of Engineering (BIT Campus) Tiruchirappalli, Tamil Nadu – 620 024; Academicians in the concerned field from Indian Institute of Technology (IIT)/ National Institute of Technology (NIT)/ Institute of Bioinformatics and Applied Biotechnology (IBAB) are invited to deliver lectures in the program. Speakers from industries are also expected to deliver as part of the course.

Eligibility:

This program is open to faculty of Engineering Colleges and other allied disciplines in India. Industry personnel working in the concerned /allied discipline can also attend.

Registration Fee Particulars:

The fee is to be paid either in the form of DDs or online transfer using the following details

Faculty and Research Scholars	Rs.750/-
Industry Participants	Rs.2250/-
Online Transfer Details	
Account Name: Electronics & ICT Academy NITW	
IFSC: SBIN0020149	
Account No: 62423775910	

How to apply:

Participants are required to fill the online registration form by clicking on the following link:

<https://forms.gle/rLGhjGGgDGCdZwns8>

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 60 (sixty). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

Important dates:

Last date for submission of Application: 24/08/2022
 Selection by E-mail :25/08/2022
 Duration :26/08/2022
 to
 04/09/2022

About NIT Warangal:

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

About UCE BIT Campus:

University College of Engineering, BIT Campus, Tiruchirappalli, has been established by the Government of Tamil Nadu as a 'Technical Institution' at Tiruchirappalli. The BIT institution is one of the constitution college of Anna University, Chennai.



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Date/Period	03.30 PM to 04.30 PM	04.40 PM to 05.40 PM	05.50 PM to 06.50 PM	07.00 PM to 08.00 PM
26.08.2022	Introduction to Bioinformatics (1) Dr Perugu Shyam, NITW	Introduction to Bioinformatics (2) Dr Perugu Shyam, NITW	Artificial intelligence for Bioinformatics Dr. U. Srinivasulu Reddy, NITT	Introduction to Bioinformatics (3) Dr Perugu Shyam, NITW
27.08.2022	Basics of Chemoinformatics: Challenges, Structure, Databases and Tools (1) Devendra, NIPER	Basics of Chemoinformatics: Challenges, Structure, Databases and Tools (2) Devendra, NIPER	Bioinspired algorithms for Bioinformatics Dr. U. Srinivasulu Reddy, NITT	Biological databases and data mining Dr Perugu Shyam, NITW
28.08.2022	<i>Exploratory session on Bioinformatics with Biopython (1)</i> Dr. D. Asir Antony Gnana Singh, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Exploratory session on Bioinformatics with Biopython (2)</i> Dr. D. Asir Antony Gnana Singh, UCE, BIT Campus, Anna University, Tiruchirappalli	Machine Learning Techniques for Bioinformatics -part 1 Dr. U. Srinivasulu Reddy, NITT	Biological Databases and Bioinformatics tools and software's Dr.M.Balakrishnan, Principal Scientist, ICM Division, ICAR-NAARAM, Hyderabad
29.08.2022	Sequence analysis Michael Gromiha, IITM	Introduction to AI and ML (1) Dr Perugu Shyam, NITW	Bioinformatics in Agriculture –Challenges and Opportunities Dr.M.Balakrishnan, Principal Scientist, ICM Division, ICAR-NAARAM, Hyderabad	Introduction to AI and ML (2) Dr Perugu Shyam, NITW
30.08.2022	Big data and data analytics Michael Gromiha, IITM	Introduction to BIG data Dr Perugu Shyam, NITW	Machine Learning Techniques for Bioinformatics -part 2 Dr. U. Srinivasulu Reddy, NITT	Biological Big data analysis Dr Perugu Shyam, NITW
31.08.2022	Software tools for Bioinformatics Michael Gromiha, IITM	NGS data and data analysis (1) Dr Perugu Shyam, NITW	Sequence Alignment and Phylogenetic study with hands on session Dr.M.Balakrishnan	NGS data and data analysis (2) Dr Perugu Shyam, NITW
01.09.2022	Molecular Docking in Structure-based Drug Discovery: Applications and Challenges (1) Devendra, NIPER	Molecular Docking in Structure-based Drug Discovery: Applications and Challenges (2) Devendra, NIPER	Data analytics for biology - Hands on training in R – S1 Dr.Srivatsan, IBAB	Data analytics for biology - Hands on training in R – S2 Dr.Srivatsan, IBAB
02.09.2022	Introduction to Computational Systems Biology Anbumathi P, NITW	Case Studies in Computational Systems Biology (1) Anbumathi P, NITW	Data analytics for biology - Hands on training in R – S3 Dr.Srivatsan, IBAB	Data analytics for biology - Hands on training in R – S4 Dr.Srivatsan, IBAB
03.09.2022	Case Studies in Computational Systems Biology (2) Anbumathi P, NITW	Computational Systems Biology Hands on Trials Anbumathi P, NITW	Data analytics for biology - Hands on training in R – S5 Dr.Srivatsan, IBAB	Data analytics for biology - Hands on training in R – S6 Dr.Srivatsan, IBAB
04.09.2022	<i>Network analysis tool:Cytoscape (1)</i> Dr. A.Jenefa, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Network analysis tool:Cytoscape (2)</i> Dr. A.Jenefa, UCE, BIT Campus, Anna University, Tiruchirappalli	Data analytics for biology - Hands on training in R – S7 Dr.Srivatsan, IBAB	Data analytics for biology - Hands on training in R – S8 Dr.Srivatsan, IBAB