



# ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON

## RECENT TRENDS IN BIO INFORMATICS

(Inter-disciplinary)

(26<sup>th</sup> Aug – 04<sup>th</sup> 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.

### Eligibility:

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

### 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:

This 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)/ National Institute of Pharmaceutical Education and Research (NIPER)/Institute of Bioinformatics and applied Bio technology (IBAB), Indian Council for Agricultural Research (ICAR) are invited to deliver lectures in the program. Speakers from industries are also expected to deliver as part of the course.

### 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/-

### Bank Account 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.

### 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

## Registration Form:

1. Name:
2. Designation:
3. Institution:
4. Email:
5. Mobile No:
6. Payment Details:
7. Address for correspondence:
8. Educational qualification:
9. Subjects taught for:
10. No. of refresher Course/  
workshops attended:
11. Experience in years  
Teaching:    Research:    Industry:
12. Do you belong to

SC       ST

## Declaration:

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the coordinators in case I am unable to attend the course.

Date:

Signature of the Applicant

## Sponsorship Certificate

Dr. /Mr. /Ms.....  
is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on "Recent trends in bio informatics" (Inter-disciplinary), sponsored by Electronics & ICT Academy during 26<sup>th</sup> Aug – 04<sup>th</sup> Sep, 2022.

Signature of Head of Institution  
(with seal)

## Registration:

It is requested to all the delegates, after completion of the application form, all the payment details, a Screenshot of the payment, and scanned application form has to be uploaded in the following online registration link.

### Online registration link:

<https://forms.gle/rLGhJGGgDGCdZwns8>

For more details about Electronics & ICT Academy, NIT, Warangal, please visit:

<https://nitw.ac.in/eict>

For more enquiries please contact:

[annapoorani@aubit.edu.in](mailto:annapoorani@aubit.edu.in),  
rkavitha.autt@gmail.com

## 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

## Address for Correspondence

**Dr. G. Annapoorani, M.Tech., Ph.D**  
**Head of the Department**  
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University College of Engineering  
BIT Campus  
Anna University  
Tiruchirappalli – 620 024  
Tamilnadu

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Mobile: 9942320137

## Organizing Committee:

### Chief Patron

**Dr. R. Velraj**  
**Hon'ble Vice Chancellor**  
Anna University, Chennai.

### Patrons

**Dr. G. Ravikumar**  
**Registrar i/c**  
Anna University, Chennai.

**Dr. P. Hariharan**  
**Director**

Centre for Constituent Colleges  
Anna University, Chennai.

**Dr. P. Vanaja Rajan**  
**Director, CFD**  
Anna University, Chennai.

**Dr. V. Adaikkalam**  
**Additional Director, CFD**  
Anna University, Chennai

### Chair

**Dr. T. Senthilkumar**  
**Dean**  
UCE, BIT Campus  
Tiruchirappalli – 620 024

### Coordinators

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ON

## Recent Trends in Bioinformatics (Interdisciplinary)

(26<sup>th</sup> August – 04<sup>th</sup> September 2022)

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**Tiruchirappalli – 620 024**



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