



ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON

COMPUTATIONAL BIOLOGY

(Interdisciplinary)

(13th July – 22nd July 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 Computational biology and its allied fields. Computational Biology is a broad interdisciplinary field that involves developing and applying data-analytical and theoretical methods. It amalgams biology, chemistry, mathematics, statistics, bio physics, evolution, genetics, and computer science. By applying all these fields, one can create theoretical methods, mathematical models, simulation techniques, etc. With the pace at which research and development are growing, the involvement of computational methods has become highly significant. Computational Biology has found applications in anatomy, bio modelling, ecology, evolutionary biology, genomics, and much more. It makes the understanding of biological concepts easier and testable.

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:

- Networks and Network Analysis studies,
- Network analysis tools
- Introduction to Databases and their algorithms
- Bio informatics
- Computer aided drug design
- Computational systems biology
- Computational Neurobiology
- AI and ML in Biology
- Genomics, proteomics, metabolomics
- Analyzing gene expression data
- Gene Ontology, pathways, gene set enrichment analysis

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/-

Industry Participants: Rs.2250/-

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/5HqefYsfng3vf3La9>

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 "Computational Biology" (Inter-disciplinary), sponsored by Electronics & ICT Academy during 13th July – 22nd July, 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/5HqefYsfng3vf3La9>

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,
priya@aubit.edu.in

Important dates:

Last date for submission of
Application : 11/07/2022

Selection by e-mail : 12/07/2022

Duration : 13/07/2022
to
22/07/2022

Address for Correspondence

Dr. G. Annapoorani, M.Tech., Ph.D
Head of the Department

Department of CSE & IT
University College of Engineering
BIT Campus
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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

Dr. G. Annapoorani
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University College of Engineering
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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
13.07.2022	<i>Introduction to Bioinformatics (1)</i> Dr. Perugu Shyam, NITW	<i>Introduction to Bioinformatics (2)</i> Dr. Perugu Shyam, NITW	Artificial Intelligence for Bioinformatics Dr. U. Srinivasulu Reddy, NITT	<i>Biological Databases and Datamining</i> Dr. Perugu Shyam, NITW
14.07.2022	<i>Computer Aided Drug Design: Docking</i> Michael Gromiha, IITM	<i>Introduction to Computational Systems Biology (1)</i> Anbumathi P, NITW	Research Opportunities and Challenges in Bioinformatics using Artificial Intelligence Dr. U. Srinivasulu Reddy, NITT	<i>Artificial Intelligence and its role in Bioinformatics</i> Dr. Perugu Shyam, NIT Warangal
15.07.2022	<i>Artificial Intelligence and its role in Bioinformatics</i> Dr. Perugu Shyam, NITW	<i>Introduction to Computational Systems Biology (2)</i> Anbumathi P, NITW	Machine Learning Techniques for Bioinformatics - Part -1 Dr. U. Srinivasulu Reddy, NITT	<i>Biological Databases and Bioinformatics tools and software's</i> Dr.M.Balakrishnan, Principal Scientist, ICM Division, ICAR-NAARAM, Hyderabad
16.07.2022	<i>Basics of molecular interactions in medicinal chemistry and Drug design</i> Devandra, NIPER	<i>Case studies in Computational Systems Biology</i> Anbumathi P, NITW	<i>Molecular Docking and its applications (1)</i> Dr. Perugu Shyam, NITW	<i>Molecular Docking and its applications (2)</i> Dr. Perugu Shyam, NITW
17.07.2022	<i>NCS and Data Analysis (1)</i> Dr. Perugu Shyam, NITW	<i>NCS and Data Analysis (2)</i> Dr. Perugu Shyam, NITW	Machine Learning Techniques for Bioinformatics - Part - 2 Dr. U. Srinivasulu Reddy, NITT	<i>Bioinformatics in Agriculture – Challenges and Opportunities</i> Dr.M.Balakrishnan, Principal Scientist, ICM Division, ICAR-NAARAM, Hyderabad
18.07.2022	<i>Computer Aided Drug Design: Screening</i> Michael Gromiha, IITM	<i>Computational Systems Biology Model: Hands on</i> Anbumathi P, NITW	Applications for AI & ML for Motif Discovery Dr. U. Srinivasulu Reddy, NITT	<i>Sequence Alignment and Phylogenetic study with hands on session</i> Dr.M.Balakrishnan, Principal Scientist, ICM Division, ICAR-NAARAM, Hyderabad
19.07.2022	<i>Computer Aided Drug Design: QSAR</i> Michael Gromiha, IITM	<i>Basics of QSAR and its applications in Pharmaceutical Science research</i> Devandra, NIPER	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S1</i> Dr.Srivatsan, IBAB	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S2</i> Dr.Srivatsan, IBAB
20.07.2022	<i>Gene Ontology, Pathways and Gene set enrichment analysis(1)</i> Onkara Perumal. P, NITW	<i>Gene Ontology, Pathways and Gene set enrichment analysis(2)</i> Onkara Perumal. P, NITW	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S3</i> Dr.Srivatsan, IBAB	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S4</i> Dr.Srivatsan, IBAB
21.07.2022	<i>Network analysis tools (1)</i> Dr. A.Jenefa, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Network analysis tools (2)</i> Dr. A.Jenefa, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S5</i> Dr.Srivatsan, IBAB	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S6</i> Dr.Srivatsan, IBAB
22.07.2022	<i>Learning in Computational Biology with PyWeka (1)</i> Dr. D. Asir Antony Gnana Singh, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Learning in Computational Biology with PyWeka (2)</i> Dr. D. Asir Antony Gnana Singh, UCE, BIT Campus, Anna University, Tiruchirappalli	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S7</i> Dr.Srivatsan, IBAB	<i>Hands on sessions on studying gene expression, pathways and protein interaction networks with R/Bioconductor studies – S8</i> Dr.Srivatsan, IBAB