ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)

on

"Cutting-Edge Innovations in Protein Science: From Bioprocessing to Computational Modeling"

(24th June – 5th July, 2025)

Organized by

Electronics & ICT Academy, NIT Warangal (HUB) *in association with*

E&ICT Academy, NIT Andhra Pradesh (SPOKE)

(Sponsored by Ministry of Electronics and Information Technology (MeitY), GoI)

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 Programme's (FDPs) in standardized courses and emerging areas of Electronics, Information Communication Technologies, Training and Consultancy Services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for Technical Incubation and Entrepreneurial Activities.

This FDP is designed to address research innovations in Bioprocess Engineering and Protein Science. This course will help to encourage various professionals/ research scholars/ students/ academicians towards research and for their academic quality improvement program. This course will offer a unique opportunity to all the participants in the relevant topics in advancement in Upstream and Downstream Bioprocessing and monitoring and control concepts; metagenomics of culturable and unculturable microbes for identification of potential novel molecules and adaptation mechanism; Protein Engineering and Computational approaches to study protein structure-function relationship and its applications; AI/ML based Modelling and Optimization of Bioprocess and Simulation and Scale up studies for the commercialization of products from lab to industry.

Structure-function relationships and modification of proteins are crucial in biopharmaceuticals, industrial enzymes, and bio-based materials. Integrating computational approaches of AI-driven protein design and machine learning models enhances the protein engineering by predicting protein stability, folding, and interactions, streamlining Bioprocess Engineering, and Optimizing upstream (strain selection, media design) and downstream processes. The synergy of these fields accelerates the development of high-yield, cost-effective, and sustainable bioprocesses, benefiting industries like food, pharmaceutical, and environment.

Objectives: FDP aims at giving scope for future research on,

- Advances in Upstream and Downstream Bioprocessing
- Metagenomics of Culturable and Unculturable Microbes
- Computational Approaches of Protein Engineering
- Applications in Racemic mixture resolution, Food, Nutrition, Environments, etc.
- AI and ML-based modelling and Optimization of Bioprocess and Simulation
- Advancements in Spectroscopy for Process Monitoring

Resource Persons:

Experts in the concerned field from both Industries and academicians from IITs/NITs are invited to deliver lectures in the programme along with experts of NIT Andhra Pradesh.

Eligibility:

The program is open to scholars/academicians in India. Industry personnel working in the concerned/allied discipline can also attend.

How to Apply:

Participants are required to fill the online registration form, by clicking on the following link: https://forms.gle/rbgHpWytJPUsXxXDA. The participants need to pay registration fee and payment receipt needs to be uploaded in the above registration form.

Registration Fee Particulars:

Faculty / Research Scholars	750 /-
Industry Participants	2,250 /-

Participants need to pay the Registration Fee Online using the following online transfer details:

Account Name	Electronics & ICT Academy NITW
Account No	62423775910
IFSC Code	SBIN0020149
Bank	State Bank of India
Branch	NIT(REC) Warangal

Important Dates:

Last date for Application with Fee	**17.05.2025**
Selection List by Email	**18.05.2025**

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 100 (Hundred). The list of selected participants will be intimated through e-mail. Candidates will be issued a satisfactory certificate on successful completion of the course.

About National Institute of Technology, Warangal:

National Institute of Technology, Warangal is the first among 17 RECs set up as a 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, M. Tech programs of NIT Warangal are NBA accredited.

About National Institute of Technology, Andhra Pradesh:

National Institute of Technology Andhra Pradesh is the youngest (31st) institution among the chain of NITs started by the Government of India. It was established in 2015 at Tadepalligudem in the state of Andhra Pradesh. With the support of MoE the institute started functioning in its 174 acres permanent campus. Presently, the institute offers B. Tech, and Ph.D. programs.

Coordinators

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