

SKILL DEVELOPMENT PROGRAMME

A WEBINAR ON

Application of Artificial Intelligence (AI) in Advanced Bioprocessing



CSIR-NIIST
THIRUVANANTHAPURAM

APPLY ONLINE :
<http://sdp.niist.res.in>

DATE:
27th September 2024

COURSE FEE:
Rs. 400/-



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OBJECTIVE OF THE COURSE:

- (1) The objective of the workshop is to orient the participants in the realm of different machine learning tools in Bioprocess development, modelling and optimization.
- (2) Creating AI pipe lines for Bio Applications”

TOPICS COVERED

Mapping predictors to response in complex bioprocess – Use of artificial neural network in process modelling and optimization – Example case study with workflow

- Experimental design
- Model selection- Multiple linear regression to ANN
- ANN architecture and hyperparameters – tuning using GA
- ANN model development
- Process optimization GA-ANN
- Multi-objective optimization
- Overview of AI pipeline
- Challenges
- AI pipeline in Bio processes

COURSE BENEFIT

The participants can quickly integrate or re-wire the workflow in their relevant projects.

- Demonstration of the exercise in inhouse code
- – offers flexibility and ease of refinements, amendments to specific requirement
- Understand the work-flow of process modelling and its use in dynamic bioprocess optimization
- The participants will understand what is an AI pipeline
- Participants will familiarise the required tools and technologies
- The participants can understand practical

RESOURCE PERSONS:

Dr.Biswanath Mahanty, MTech, PhD

PhD(IIT Guwahati), Postdoc (University of Ulsan, South Korea)
Associate professor, Department of Biotechnology, Karunya University

Mr. Rajesh Pillai

Founder and CEO, Bayesian Ways
18 years experience in Data Analytics, Machine Learning and Decision Sciences

COURSE COORDINATOR:

DR. PINAKI DEY
(Senior Scientist, CSIR-NIIST)

<https://www.niist.res.in/english/academics/csir-skill-initiative>