



CSIR Integrated Skill Initiative

Mode of Training:

Offline program (physical presence required)

Schedule:

07-18th
February, 2022

No. of seats: 12
(10 min.)

Course fees:

15000/- (regular)
& 20000/-
(sponsored)

Resource persons from CSIR-NIIST:

1. Dr. Rajeev K Sukumaran,
Sr. Pr. Scientist
2. Dr. Madhavan Nampoothiri K.
Sr. Pr. Scientist
3. Dr. Ramesh Kumar N,
Pr. Scientist
4. Dr. Binod Parameswaran
Pr. Scientist
5. Dr. P.A. Balakumaran,
Scientist

Introduction:

The recombinant DNA technology have been identified as an essential and important subject area of applied biological sciences. A microbial engineer works on the biological, chemical and engineering aspects of biotechnology, manipulating microbes and developing new applications for microbes. Industries focus on recombinant DNA technology for production of valuable bioproducts used in medicine, agriculture, textile and environment. Fundamentals of genetic engineering are essential for the development of a microbial strain with particular application in biotech industries. For construction of a genetically modified organism parameters like origin of DNA, gene isolation, plasmid, promoter, host etc. should be well understood. This program focuses on the methodology to generate genetically modified microbe through recombinant DNA technology.

Topics to be covered:

Theory sessions:

1. Overview of gene cloning – prokaryotic and eukaryotic; 2. PCR – principles and optimization strategies ; 3. Cloning vectors – plasmids, BAC, YAC, shuttle vectors and expression vectors; 4. Common host organism and tools used for genetic engineering; 5. Recombinant protein production; 6. Concept of metabolic engineering

Practical sessions:

1. Primer designing & Gene amplification by PCR 2. Plasmid DNA isolation; 3. Restriction digestion of DNA and ligation; 4. Transformation of recombinant construct; 5. Screening of positive clones by PCR and confirmation of recombinant strain

Eligibility

B.Sc. In any Biological Sciences/B. Tech in Biotechnology, Biochemical /Chemical Engineering; M.Sc in any Biological Sciences/M Tech in Biotechnology, Biochemical /Chemical Engineering; Ph.D Scholars in any biological science/Biotechnology

Job Opportunities:

Research Scientist/Associate Scientist/Research Executive/Technical Officer in R&D facility of Biotech industries. Augmentation of Skills for Biotechnology R&D in Academics; Biotech companies involved in enzyme and protein production, R&D Institutions

The participants will receive a Certificate & Course material (soft copy)

Interested candidates may contact: Dr. P.A. Balakumaran, Scientist, CSIR-NIIST

Email: balakumaranpa@niist.res.in Phone: 0471-2535587; Mob: 9840051941

Apply online:
<http://sdp.niist.res.in>

Payment mode:
Online

