

## COURSE - II ADVANCE TRAINING FOR FOOD & BEVERAGE INDUSTRY

**The overall goal of the training program in biotechnology** can lead to a multitude of careers in botany, genetics, medicine and biotechnology. While entry-level positions can be achieved with a bachelor's degree, greater levels of education afford more opportunities - specifically with regards to research and teaching opportunities.



### Scope of training :

- Research & Development
- Molecular Diagnostic Lab
- Food & Beverage Industry
- Pharmaceutical Industry
- Herbal & Nutraceuticals Industry
- Forensic Labs

### Advantage -

- Industry Oriented Design
- Spirit of the training is to make you employable
- Rigorous Hands on Learning
- Capacity Building
- State of art research facility
- Flexibility of Time & Working Hours

### Note :

1. Kindly Clear All doubts regarding Research Facilities, Training Syllabus , Boarding, Lodging etc.
2. After satisfaction from all informations , initiate your process and get registered.
3. We will send bank details after receiving of your documents.
4. Admission Fee once paid is non-refundable and non transferable under any circumstances.
5. We do not guarantee the issuing VISA after the above payment, which is solely the decision of VISA officer in Indian Consulate in your country.

## TRAINING SYLLABUS

### UNIT – 1 : FOOD LAB SAFETY , STANDARDS , REGULATORY AND SOP'S

Law of Food Safety and Standards Food Products Regulatory Bodies Standard Operating Procedures in Food Analysis

### UNIT – 2 : QUALITY CONTROL AND QUALITY CHECKS IN FOOD MICROBIOLOGY

Quality Control Checks in Food Microbiology - New Methods , Comparison of Plate Counts , Duplicate Analysis , Sterility Check : Procedural Blank , Media Blank , Field Blank , Positive & Negative Control Cultures Total Coliform Analysis in Food & Documentation of Coliform Data.

### UNIT - 3 : HANDS ON LEARNING ON MICROBIOLOGY TECHNIQUES

Aerobic Mesophilic Plate Count – Preparation of Food homogenate , Dilution , Pour Plating , Incubation , Counting Colonies , Calculation , Result Analysis. Analysis of Aciduric Flat Sour Spore Formers in Food

### UNIT 4 : DETECTION OF FOOD PATHOGENS BY PCR TECHNOLOGY

**Introduction to PCR** , Primer Designing & Selection , PCR Optimization & Troubleshooting , PCR Run for Reactions , Analysis of PCR Results Detection of Food Pathogens by PCR

### UNIT 5 : DETECTION OF FOOD PATHOGENS BY REAL TIME PCR TECHNOLOGY

**Real Time PCR Technology** – Introduction to Real Time PCR , Primer Designing for Real Time PCR , Application of Real Time PCR in Food Genetics , Real Time PCR Run For Food Samples , Data Analysis

## FOOD CHEMISTRY & RESEARCH

### UNIT – 6 : QUALITY CONTROL AND QUALITY ASSURANCE

**Quality Control Checks in Water** - Physical and Chemical Analysis , Initial Method Validation , On Going Method Validation , Laboratory Blanks , Duplicate Determinations , Calibrations , Q.C. Calculations , Q.C. Charts etc. Operation and Calibration of Meters : pHMeter (Hanna , Thermo ) , Conductivity Meter , Dissolved Oxygen Meter , Spectrophotometer , Pipettes , Turbidity Meter etc.

### UNIT 7 - LEARNING ON HPLC , GC , SPECTROSCOPY AND OTHER TECHNIQUES

**Analysis of Food Samples by HPLC** – Basics of HPLC - Sample Preparation , Gradient Making , Parts of HPLC , Troubleshooting and Maintenance , Operating Procedure of HPLC , Run the sample in HPLC . Data Analysis

**Analysis of Food Samples by Gas Chromatography** – Basics of GC - Sample Preparation , Parts of GC , Troubleshooting and Maintenance , Operating Procedure of GC , Run the sample in GC , Data Analysis

### **Analysis of Food Samples by Spectroscopy –**

Basics of Spectroscopy - Sample Preparation , Calibration and Calibration Curve , Recovery Percentage etc. Analysis by Thin Layer Chromatography – Sample Preparation , Solvent Selection , Spray Selection , Visualisation and analysis of TLC bands.

### UNIT 8 - Biochemical Assay For Food Analysis

Analysis of Fat , Protein , Carbohydrate , Lipids , Sugars , Vitamins etc.

**Analytical Method** – HPLC , GC , Spectroscopy and other biochemical methods.

### **UNIT 9 – Analysis of Adulteration in Food Products**

Analysis of adulteration in Fat & Oils Analysis of adulteration in Pulses Adulteration in Vegetables

**Analytical Method** – HPLC , GC , Spectroscopy and other biochemical methods.

### **WHO MAY JOIN ?**

**Indian** Aspirants From Biotechnology , Microbiology , Biochemistry , Life Science , Chemistry , Pharmacy ,Forensic Science , Food Science etc.

**Fee Structure** : USD 1,500 /-

**Duration** : 250 Hours ( 20 to 30 Days ) **Timings** : Monday - Saturday ( 8 A.M to 8 P.M )

### **HOW TO APPLY –**

#### **Details of For Registration :**

1. Valid Passport
2. Filled **Registration form** with photograph ( Given in Last Page of Brochure )
3. Recommendation letter from Head of the Institution
4. Any Identity card issued by the Institution or Govt.
5. **Send all documents at** : [info@allelelifesciences.com](mailto:info@allelelifesciences.com) for issuance of the invitation letter and pay registration fee ( USD 50 ) through Bank or wire Transfer
6. Send approval letter of your institution and valid VISA at : [info@allelelifesciences.com](mailto:info@allelelifesciences.com)
7. **Pay Training Fee USD 1500** through Bank or Wire Transfer or at the first day of joining the training program in India

## Registration Form

Name of Training Program :

Expected Date of Joining :

Candidate Details :

Name: .....

Father's Name: .....

Address : .....

Contact No : .....

Email: .....

Institution : .....

Qualification : .....

### TERMS & CONDITIONS

1. The admission to training / internship programs will be confirmed after the payment of registration fee along with documents.
2. The registration fee deposited is completely non refundable.
3. The industrial training fee includes the cost of chemical , reagents and study material costs.
4. I will deposit the service charges as decided by the company at the time of joining date of training program.
5. Students have to bear their own boarding/lodging /conveyance charges. We facilitate students in finding proper paying guest arrangements.
6. The trainees will have to bring their own lab coat and wear them all the time in the campus.
7. Trainees are selected on first come first serve basis
8. Trainees will maintain adequate discipline inside the lab premises.
9. Company will not be responsible for any medical, legal issues during the internship tenure and FRRO Registration in India.

### DECLARATION

I \_\_\_\_\_ from \_\_\_\_\_  
hereby declare that all statement/information given in the application form are true to the best of my knowledge and belief . I will strictly abide by the norms/lab etiquette during the training

Signature

Place: \_\_\_\_\_

Date: \_\_\_\_\_

**For office use only**

## Instruments Capabilities

**Our State of art facility** is located in Industrial Area of Noida (NCR) . The lab / research facility is Total : 6000 Sq Feet

<b>Affymatrix &amp; Agilent Microarray Platform</b>	Gene Expression Studies, Biomarker, Sequencing
<b>Real Time PCR ( ABI )</b>	Gene Expression, Sequence Detection
<b>PCR ( ABI, Biorad , Eurofins ) - 5 in numbers</b>	Amplification of nucleic acids
<b>Bioanalyser &amp; Spectrophotometer</b>	Quantification of Nucleic Acids
<b>Gel Documentation System</b>	Visualisation of Nucleic Acids, PCR Products etc.
<b>Electrophoresis &amp; Power Supply ( Biorad ) - 7 Sets</b>	Separation of Nucleic Acids & Other Arrays
<b>DNA Concentrator ( Thermo Speedvac )</b>	Nucleic Acid Extraction
<b>Centrifuge, High Speed Centrifuge - 8 Nos</b>	Sample Preparation
<b>PCR Station and other accessories</b>	

<b>Biorad Profinia Affinity Chromatography</b>	Affinity Chromatography - IMAC, GST, Antibody
<b>Biorad Biologic Low Pressure Chromatography</b>	Size Exclusion, Ion Exchange, Affinity etc.
<b>Preparative HPLC ( Thermo ) , Agilent 1100</b>	Bulk Protein Purification & Analysis
<b>GE Amersham 2-D Electrophoresis System</b>	Protein Characterisation
<b>Immunoblot, SDS-PAGE , Biorad HV Powerpac</b>	Visualisation of Nucleic Acids, PCR Products etc.
<b>Mass Spectrometry , ELISA, Immunoassay</b>	Protein Identification
<b>Cryo Preservation Facility &amp; Common Facility</b>	Sample Storage & Preparation

<b>Agilent HPLC System - PDA, FLD &amp; ECD Detector</b>	Separation and analysis of molecules
<b>Agilent GC with FID &amp; FPD Detectors</b>	Separation and analysis of molecules
<b>Thermo Prep HPLC with Dual Pump &amp; UV-Vis</b>	Bulk Purification & Analysis
<b>Shimadzu GC with FID &amp; NPD Detector</b>	Separation and analysis of molecules
<b>Triple Quad GC-MS System ( Agilent )</b>	Analysis of Semi Volatile & Volatile Compound
<b>LC-MS-MS ( API Sciex )</b>	Analysis of Non Volatile Compound
<b>Varian Carry Spectrophotometer</b>	Analytical Tool for various purpose
<b>Thermo Helios Spectrophotometer</b>	Analytical Tool for various purpose

Vacuum Rotary Evaporator ( Buchi )	Sample Preparation

**Other Analytical Chemistry Equipments :**

Refractometer , Flame Photometer ( Toshniwal), Karl Fisher Titrator (Sistrionics), Potentiometer, Polarimeter , Tintometer ,Viscometer , Kjeldahl Distillation Unit , Kjeldahl Digestion Unit , Ion Selective for Fluoride Analysis ( Thermo Orion ) , Nephelometer , Soxhlet Extraction , Rotatory Vaccum Evaporator with chiller , etc.



**Microbiology & Cell Culture Facility :** Vertical Laminar Air Flow ( 4x2x2) , Horizontal Laminar Air Flow ( 2x2x2) B.O.D. Incubator ( Julabo ) , CO2 Incubator ( Jauan ) , Orbital Incubator Shaker, UV Chamber , Incubator, Colony Counter , Colorimeter , Muffle Furnace , Hot Air Oven , Desiccators, Binocular Microscopes and , Lypholizer

**Biochemistry / Organic Synthesis Chemistry Lab :** Spectrophotometer ( Thermo Heleus Alpha ) , Analytical Balance ( Sartorius ) , Ph Meter ( Thermo Orion ) , Ion Selective (Thermo Orion) , Conductivity Meter ( Thermo Orion ) , Dissolved Oxygen Meter ( Thermo Orion ) , Turbidity Meter, Autoclaves, Hot Air Oven , Hot Plate , Magnetic Stirrers , Pipette Washer , Shaking Machine , Water Bath , Colorimeter , Flame Photometer , etc.

**Lab Water Purification :** Millipore Milli Q System



**Clinical Biology Lab** : Haematology Analyser , Automatic Immunoassay, Haematology HPLC Biorad Variant II

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