

## **Training Programme in “Basics of Cell Culture and Cell-based Assays”**

CCMB offers a training course in “Basics of cell culture and cell-based assay”s to generate human resources that are employment-ready for the requirements of modern clinical pathology centers and hospitals. CCMB also proposes value addition by providing customized assistance to the hospitals to set up their tissue culture facility and integrate with surgery departments in creating much-needed cell culture models of disease. This course envisages development of a long-term relationship between CSIR-CCMB and hospitals, which will lead to a sustained flow of advanced information and training from CCMB to hospitals in the form of trained personnel who would draw on CCMB’s 35 years of experience in the areas of advanced cell biology. The program targets students and employees from government labs/Institutes, Hospitals, Pathology Laboratories, Tissue Banks, Industries, Universities in setting up a fully functional tissue culture laboratory after personnel have been trained.

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|------------------------------------|---|---|
| <b>Duration</b>                    | : | 4- weeks  |
| <b>No. of seats</b>                | : | 15  |
| <b>Education Qualifications</b>    | : | M.Sc., M.Tech, M.Pharm., B.Tech., B.V.Sc., MBBS, B.Pharma |
| <b>Age group</b>                   | : | 21-45 years (relaxation for SC/ST/OBC as per GOI rules)   |
| <b>Date of Commencement</b>        | : | 14 <sup>th</sup> August - 9 <sup>th</sup> September 2018  |
| <b>Venue of the Course</b>         | : | iHub, Annexe-II, CSIR-CCMB                                |
| <b>Course Fee</b>                  | : | Rs. 35,000/- (self/sponsored)                             |
| <b>Residential/non-residential</b> | : | Residential (accommodation provided)                      |

**Sponsorship:** Established public/private sectors are welcomed to sponsor candidates of their interest.

### **Training Curriculum:**

- Good cell culture practice including safety procedures, exposure to facilities, equipment, reagents preparation, storage and handling, principles of aseptic techniques i.e. how to use Class II safety cabinets
- Media preparation, cell line maintenance, passaging, freezing and recovery, standard and custom-based culture conditions, cryopreservation & cell banking
- Sterility and microbial contamination tests and removal, appropriate disposing of materials, waste control & management
- Manipulation of primary and established cell lines under various experimental conditions (mitogenic stimulation, exposure to cellular stresses and major signal transduction inhibitors/drug candidates)

- Transient transfection of mammalian cells, strategies to develop stably transfected cells, transgene expression of wild type and mutant proteins; immunofluorescence analysis – Microscopy
- Cell-based assays, viability, proliferation and cell cycle analysis using FACS, angiogenesis, anchorage-independent growth analysis, invasion assays using 3D culture system, *In vitro* scratch wound healing/migration analysis, drug efflux activity assay, cell death analysis
- Discussion and trouble-shooting

#### **Salient Features of the Training:**

- 25% theory and 75% practical sessions as per the course curriculum.
- Hand-out information on practical modules
- Tutorials (personal attention)
- Lectures are assisted with multimedia aids
- Case studies
- Group discussions
- Central facility visits within the laboratory
- Evaluation by assignments and weekly exams
- certification on successful completion of the course