



## **Online Certificate Course on Molecular Biology Techniques**

*Organized by:*

**COMSTECH Secretariat, Islamabad in Collaboration with the International Center**

**for Chemical and Biological Sciences (ICCBS) Karachi, Pakistan**

**January 11-12, 2021**



Molecular biology is an important area of interest for scientists working in various disciplines including structural biology, genetics, biochemistry, and biotechnology etc. Molecular biology plays important roles in understanding formations, actions, and regulations of various parts of cells which can be used to efficiently targets new drugs, diagnose diseases, and understand the physiology of the cell. This two-day online certificate course comprised of lectures followed by training sessions on “Basic concepts and techniques in molecular biology”. The course is designed to teach the basic skills of molecular biology to participants from all scientific disciplines those have little or no previous experience in molecular biology hands on work. It is also an ideal course for those who would like to consolidate their current, basic skill level and to further polish their handling skills.

### **WHO SHOULD ATTEND?**

The course is designed for the large group of audience including graduate students, scientists, research scholars, and medical doctors those have interest to work at molecular level in related fields of molecular biology. People from variety of disciplines and academic backgrounds including Molecular Biology, Biochemistry, Genetics, and Biotechnology can get benefit from this workshop.

### **WORKSHOP CONTENT**

The program includes a series of online lectures and hands-on sessions on the following topics;

- Basic Cloning Requirements
- Polymerase Chain Reaction
- Agarose Gel Electrophoresis
- Extraction of DNA from Agarose Gel
- Cloning and Expression Vectors
- Preparation and Purification of Plasmid DNA
- Restriction Digestion
- Ligation
- Transformation in Bacterial Cells
- Expression and Purification

### **VENUE**

Time: Jan 11, 2021, 12:00 PM Islamabad, Karachi, Tashkent

Join Zoom Meeting

<https://us02web.zoom.us/j/82538415428?pwd=Nld0TGJaUINyRWZ4V3gyTGhvODdYQT09>

Meeting ID: 825 3841 5428

Passcode: 317300

Time: Jan 12, 2021 10:00 AM Islamabad, Karachi, Tashkent

Join Zoom Meeting

<https://us02web.zoom.us/j/89263556753?pwd=UTd0RlJaODIEN1dvWGx4VUVwNXlyxUT09>

Meeting ID: 892 6355 6753

Passcode: 639724

### **WORKSHOP PROGRAM** (Pakistan Standard Time)

#### **Day One**

12:00-12:05 **Inauguration Ceremony**

12:05-12:10 Recitation of the Holy Quran

12:10-12:20 Welcome Address by Prof. Dr. M. Iqbal Choudhary

12:20-13:30 Lecture 1 entitled, "General Molecular Biology Lab Techniques: Cloning, Restriction Digestion, Ligation, Transformation"

13:30-14:30 Practical Session (***Polymerase Chain Reaction (PCR), Agarose Gel Electrophoresis, DNA Extraction***)

#### **Day Two**

10:00-12:00 Practical Session 2 (***Plasmid Prep, Restriction Digestion, Ligation, Transformation***)

11:00-12:00 Practical Session 3 (Protein Expression)

12:00-12:15 **Closing Ceremony**

### **REGISTRATION PROCESS**

Register at: <https://forms.gle/8L1dGf5mMfzsPpA97> . Kindly fill the form and submit it before 8<sup>th</sup> January, 2021. Registered participants will receive e-certificates.

### **CONTACT PERSON**

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