



**PMMMNMTT  
Scheme**



**MHRD  
Govt. of India**

सत्यमेव जयते

## *A One Week Workshop On*

### *Teaching and Learning of Molecular Biology and Enzymology through Hands-on Experience*

**18<sup>th</sup> – 23<sup>rd</sup> September, 2018**

## **Call for Registration and Participation**

### **Coordinators:**

**Dr. Prakash Saudagar**

**Dr. K. Divakar**

**Dr. R. Satish Babu (TLC-Core Team Member)**

### **Organized by**

**Department of Biotechnology  
in association with  
Teaching-Learning Centre  
National Institute of Technology  
Warangal – 506 004, India.**



### **Overview of the workshop:**

Molecular biology and Enzymology continue to make major strides and are rapidly advancing due to their major role in biomedical and pharmacological applications. Some information can be obtained at home even by being without any expensive resources, whereas many skills have to be learnt at the bench. Molecular biology is a subject, in which there is an inherent lag in teaching and learning of the concepts due to lack of exposure and opportunity to learn by hands-on experience. Faculty need to update and reorient themselves to meet the rapidly changing professional and scientific needs of the stakeholders. This workshop focuses on teaching several basic concepts, including recombinant DNA, plasmids, restriction enzymes, primer design, enzyme assay methods, inhibition kinetics for enzymes as drug targets and provides hands on training in the techniques practiced in molecular biology and enzymology. Both theoretical knowledge and hands-on training of skills by experts in the field will provide an in-depth understanding of basic methods in molecular biology and enzymology.

### **Objectives of the Workshop:**

- To impart effective teaching/learning methodologies of molecular biology and enzymology through hands-on experience.
- To educate the participants on the methods in molecular biology and enzyme kinetics through hands on experience.
- To motivate young minds and build confidence in them to take up teaching as a profession in molecular biology, enzymology and related areas.

### **Topics in the Workshop:**

- Principles and methods of technical teaching and learning
- Basic principles and Hands-on training on
  - Molecular biology: Primer design, PCR, Electrophoresis, Sequence submission and analysis.
  - Enzymology: Enzyme assay methods, Enzyme Inhibition kinetics, Kinetic characterization of enzyme drug targets (IC<sub>50</sub>, kinetic constants).
- Biosafety regulation/guidelines
- Funding opportunities for infrastructure development

**Note:** Experiments related to the above topics will be demonstrated and the participants will be given opportunity to perform experiments in a team.

### **Resource Persons:**

Faculty members from IITs, NITs, Centrally funded Institutes and Universities and will deliver lectures and demonstrate the experiments.

### **Registration is open to:**

- Faculty members of Institutions of higher education in Science, Engineering and Pharmacy who teach life sciences.
- Research Scholars aspiring for academic positions in the areas of biotechnology, pharmacology and related interdisciplinary areas.

### **How to Apply:**

Eligible candidates may apply by submitting the scanned copy of the filled-in registration form (attached with this mail/ brochure) by **Email to: [nitwmbe2018@gmail.com](mailto:nitwmbe2018@gmail.com) on or before 30-08-2018**. As the programme is conducted in a workshop mode with hands-on sessions, the number of participants in the workshop is limited to 35. **Candidates are advised to apply early to avoid disappointment.**

### **Selection and Intimation:**

Upon the receipt of the registration form, the applicants will be selected based on their teaching aspirations and research interest relevant to the workshop. **Selected applicants will be intimated through E-mail on or before 01-09-2018.**

### **Payment of Registration Fee:**

After receiving the intimation about the selection, the applicant has to send registration fee in the form of a Demand Draft in favour of “**Director research, NITW**” payable at Warangal, on or before **09-09-2018**. Only after receiving the proof of payment of registration fee from the participants through E-mail, they will be sent confirmation of their participation through E-mail immediately.

### **Accommodation:**

Accommodation for the outstation participants will be provided upon request in the Institute Visitors Block or International Students Hostel.

**Note:** Participants are encouraged to bring their own laptops (OS: Windows 7 or superior version)

### Registration Fee:

Category of participants	Local participants (With working lunch)	Residential participants (accommodation, breakfast, lunch, dinner included)
Faculty	Rs. 750/-	Rs. 1,500/-
Research Scholars	Rs. 400/-	Rs. 800/-

**Note:** Registration fee for Faculty and Students of SC/ST category is **half of the amounts** mentioned above as applicable.

### About Warangal:

Warangal is the second largest city of the new state of Telangana. It is situated at a distance of 140 km from the state capital Hyderabad (Nearest Airport). It is well connected by Rail (Kazipet Junction is two km away and Warangal Station is 12 km away) and by Road (NH 202). Warangal is renowned for its rich historical and cultural heritage. It was the seat of erstwhile Kakatiya dynasty. It is a seat of tourist attractions with a number of historical monuments like Thousand Pillars Temple, Warangal Fort, Bhadrakali Temple, Ramappa Temple and Laknavaram Lake located in a radius of 30 kms.



### About NIT Warangal:

National Institute of Technology Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 31 post-graduate programmes besides doctoral programmes. About 5000 students across the country and about 500 international students study on the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure in the form of state of the art library, seminar halls, guest houses and research laboratories.

### Teaching-Learning Centre of NIT Warangal:

The Teaching-Learning Centre (TLC) is established at NIT Warangal with grants from the MHRD, GOI under the scheme, 'Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching' (PMMMNMTT). Many senior and young faculty members across various departments of the Institute are associated with this center as members of the Core-Team. One of the important objectives of the center is to conduct training programs for Aspiring, Newly Inducted and In-Service faculty in Science and Engineering disciplines. Other activities of the TLC include preparation of e-learning materials, offering courses on-line, curriculum development, carrying out research in pedagogy and integrating ICT into teaching-learning process.

### Web link for the workshop

<https://sites.google.com/view/nitw-mbe-2018>

### Brief profile of the Department of Biotechnology:

The Department of Biotechnology was established in the year 2006 with B.Tech program in Biotechnology. It also offers doctoral program in Biotechnology. The Department has highly motivated, experienced and young faculty members carrying out research in key areas of biotechnology. At present 24 PhD scholars are carrying out their research work under the guidance of faculty in the department. The department has sophisticated instruments such as RT-PCR, HPLC, GC etc.. The department has already executed research projects and at present it has 10 research projects funded by DBT/DST/ICMR/CSIR, Govt. of India.



**For any queries regarding this workshop, please contact any one of the following coordinators.**

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**Teaching and Learning of Molecular Biology and Enzymology through**  
**Hands-on Experience**

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**REGISTRATION FORM**

Name : \_\_\_\_\_

Date of Birth : \_\_\_\_\_

Place of Birth: Village/Town/City: \_\_\_\_\_ Tick as applicable (Rural/Urban)

District \_\_\_\_\_ State: \_\_\_\_\_

Gender (Put a  $\sqrt$  Mark) :  Male  Female

Category (Tick as applicable) : **Open / OBC / SC / ST / PWD**

Qualification : \_\_\_\_\_

Designation : \_\_\_\_\_

Organization/Institution : \_\_\_\_\_

No. of Years of Teaching/Research Experience: \_\_\_\_\_

Area of research : \_\_\_\_\_

Pl. write how this workshop is beneficial to you: \_\_\_\_\_

Address for Correspondence: \_\_\_\_\_

Mobile(s) No.: \_\_\_\_\_

E-mail(s) ID: \_\_\_\_\_

Accommodation (Put a  $\sqrt$  Mark):  Required  Not Required

**Declaration by the Applicant**

If selected, I agree to abide by the rules and regulations of the workshop/training programme and shall attend all the sessions.

Date: \_\_\_\_\_ Signature of the Applicant

Recommended and Forwarded

Office Seal

Signature of the Head of the Department/ Institution