



**PMMNMTT
Scheme**



**An Online Faculty Development
Programme
On**

**Recent Trends in Computer
Simulations for applications in
Biotechnology: Teaching and
Learning Strategies**

17th – 21st August 2020

Call for Registration and Participation

Coordinators:

**Dr. Soumya Lipsa Rath
Dr. R. Satish Babu**

Organized by

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



Overview of the workshop:

In recent times, computer simulations have become an indispensable part of natural, mechanical and human systems. It is being increasingly used in various disciplines to explore and get new insights into technology and also for understanding the systems which are too difficult for analytical solutions. In biological sciences, simulations have helped in deciphering information on the nature and binding characteristics of organic and inorganic molecules, the mode of interaction of biomolecules, protein folding, binding energetics and many more. They have proven to be a blessing by saving time and resources that are invested in lab experiments. This workshop focuses on teaching the basic concepts and theories that are involved in the development of the field of Computer simulations, Quantum Mechanics and Molecular mechanics for compounds. Participants can also learn about the different tools and software involved in classic molecular dynamics simulations and listen to a few examples of advanced techniques which are currently implemented for studies. The workshop will help the participants to update their basic knowledge and scientific know-how and to align themselves with the changing practices and scientific needs.

Objectives of the Workshop:

- To train the participants on the basic strategies of teaching of Statistical Thermodynamics and its implication in biological systems.
- To validate the knowledge in the area of Quantum Chemistry and Molecular Mechanics for applications in biological sciences.

- To heighten the skills and knowledge of participants in basic and advanced Molecular Dynamics Simulation techniques and its application for effective laboratory training.
- To empower the teaching and learning capabilities of the participants with emphasis on improvisation of their teaching skills of advanced topics of computer simulations for application in life sciences.

Topics in the Workshop:

- Statistical Thermodynamics
- Quantum and Molecular Mechanics (QM/MM)
- Principle of Molecular Dynamics Simulation
- Classic and Advanced Molecular Dynamics Simulations Techniques
- Principles and methods of technical teaching and learning management system

Resource Persons:

Eminent researchers and faculty members from IITs, IISc, NITs, Centrally funded Institutes and Universities will deliver the lectures.

Registration is open to:

- Faculty members of higher education Institutions in both Science and Engineering institutions who work and teach life sciences and pharmacology.
- Research Scholars aspiring for positions in technical teaching in the areas of biotechnology and related interdisciplinary areas.

How to Apply:

Eligible candidates may register by using the following link:
<https://forms.gle/9pYGEwq3SPeCP57B7>. The programme is conducted online. The number of participants in the workshop is limited to 50.

Registration Fee:

Category of participants	Registration Fee
Faculty	Rs. 600/-
Research Scholars	Rs. 400/-

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

Bank Details:

Registration fee can be **remitted On-line / NEFT** to the Bank Account given below. Local participants may also pay the registration fee in cash to the Coordinators in the Department of Biotechnology.

Account Name	DIRECTOR Research, NIT WARANGAL
Account Number	62266262236
Bank	State Bank of India
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC code	SBIN0020149

Brief profile of the Department of Biotechnology:

The Department of Biotechnology commenced with B.Tech program in Biotechnology (2006), also offers M.Tech and doctoral program in Biotechnology. The Department has highly motivated, experienced faculty members carrying out research in key areas of biotechnology. At present 18 PhD scholars are carrying out their research work under the guidance of faculty in the department. Currently the department has more than 10 research projects funded by DBT/DST/ICMR/CSIR, Govt. of India and also one international High Performance Computing consortium Project on Covid19.

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 20 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' (PMMMNTT). 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.

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 Lankavaram Lake located in a radius of 30 kms.



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

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