

### About MNIT Jaipur

Malaviya National Institute of Technology (MNIT), Jaipur is one of the premier NIT, situated at central location in Jaipur city and spread over 325 acres of ample area. The Institute was established in 1963 as a joint venture of the Government of India and Government of Rajasthan. The college was inspired by the legendary educationist and freedom fighter Pt. Madan Mohan Malaviya and thus named as Malaviya Regional Engineering College (MREC). The Institute was upgraded to a National Institute of Technology and was declared deemed university on June 26, 2002 and later emerged as an 'Institute of National Importance' defined by MHRD. Since then, the Institute started offering B.Tech. (Bachelor of Technology) degree instead of B.E (Bachelor of Engineering) degree.

### About Materials Research Centre (MRC)

The Materials Research Centre aims to harness the talent resources of MNIT for promoting interdisciplinary research in appropriate materials technologies. It has been created with an objective of providing a central facility of latest and advanced analytical instruments for research in the application areas of physical, environmental, chemical, allied and interdisciplinary sciences and Technology.

### Scope of the Program

Nuclear magnetic resonance (NMR) is one of the most versatile instruments for elucidation of structure of compounds. ECS 400 MHz (JEOL) NMR spectrometer is a 2- channel console with a flexible broad band RF performance. Majorly it is capa-

ble of providing spectra of a variety of NMR- active nuclei such as  $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{19}\text{F}$ , etc and metals like Sn, Cu in distinct chemical environments without any time delay. NMR has revolutionized the practice of chemistry & medicine by providing fast, non destructive & non-invasive means for the observation of matter from the atomic to the macroscopic scale.

### Aim of the Program



The content and quality of this training program is designed in a manner that a trainee will readily meet the laboratory research and industrial requirements. The training program is divided into two parts: (1) Theoretical exposure and (2) Practical demonstration. During the training, ample time will be provided for detailed know how of the working of the instrument so that the participants become well versed with all the practical aspects of its functioning. After the training, the trainees will understand the principles, methodology and importance of NMR, will be able to understand the basic and advanced principles behind NMR technique, will be confident to predict simple and complex spectral peaks in NMR and finally should be able to interpret the molecular structure and spatial arrangement of atoms by NMR both chemical and biological. This intensive training will acquaint the individuals with the detailed intricacies of NMR and equip them with the knowledge of structure elucidation of a molecule as they synthesized it.

### Training Module for Five Days

**Faculty : Prof. N. Suryaprakash, NMR Research Centre, Indian Institute of Science, Bangalore 560012**

**Day 1: Time 09:00 AM -4:00 PM** - Theoretical session on introduction to NMR, its basic principle and its applications in various fields followed by lab session.

**Day 2: Time 10:00 AM -4:00 PM** - Theoretical session on the types of NMR, Chemical shift, and Coupling constant of NMR, basic mode of operation of NMR (Electromagnetic radiation resonance with magnetic nuclear spin quantum number) followed by lab session.

**Day 3: Time 10:00 AM -4:00 PM** -Theoretical session on 1D, 2D, Homo and heteronuclear techniques, analysis of NMR spectra of different nuclei, relaxation mechanism followed by lab session.

**Day 4: Time 10:00 AM -4:00 PM** - Theoretical session on polarization transfer techniques, like, INEPT, DEPT, APT, HSQC, TOCSY, NOESY, DOSY, HMBC, Chemical applications, biological applications, like protein structure etc., followed by lab session.

**Day 5: Time 10:00 AM - 4:00 PM**

Multiple Quantum NMR, High Resolution NMR in solids and Chemical and Biological Applications of NMR followed by valedictory function.

### Registration

Please send the completed registration form at the following email ID:

[rgupta.chy@mnit.ac.in](mailto:rgupta.chy@mnit.ac.in) ; [officemrc@mnit.ac.in](mailto:officemrc@mnit.ac.in)

For further details contact at:

09549657317; 9549654854; 8875567999

## Registration Form

### FIVE DAY INTENSIVE TRAINING PROGRAM ON

**“Basics to Advanced NMR :Theory & Practice”**

(July 3<sup>rd</sup> - July 7<sup>th</sup>, 2017)

Name .....  
(In Block Letters)

Designation .....

Organization .....

Academic Qualification .....

Specialization .....

Mailing address .....

.....

.....

Contact No. ....

E.mail .....

Accommodation Required Yes/No

Details of Registration Fee-

DD no..... Date .....

Bank Name .....

Amount .....

Date .....

Signature of Applicant

Signature of Sponsoring Authority with seal

## Organizing Committee

### Patron

Prof. UdayKumar Yaragatti  
Director, MNITJ

### Coordinators

Dr. K. Sachdev  
Head, MRC  
Dr. Ragini Gupta  
Dr. Amit Singh

### Student Coordinators

Mitlesh Kumari  
Yachana Jain  
Shobhit Dwivedi  
Neeru Sharma  
Satyaveer Singh

## Participation

The workshop is aimed for post graduate students, research scholars and faculty members/scientists. Pre-Final and final-year students may also apply for the workshop. The number of seats are limited. Interested candidates are requested to apply for the registration by emailing the details in prescribed format.

### Registration fees

Faculty members	-	INR 5,000
Industry Person	-	INR 10,000
Student	-	INR 3000

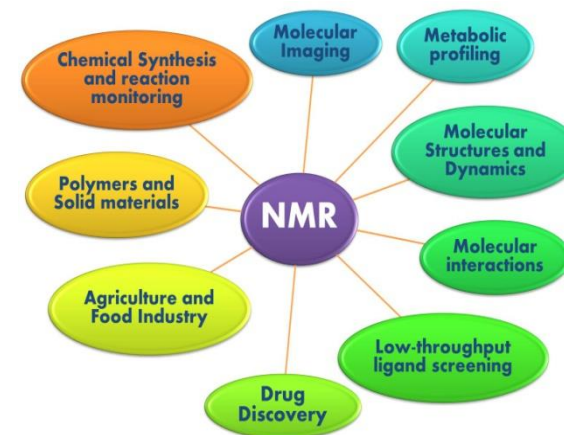
### Important information

Accommodation and Travelling expenses are to be borne by the participants /sponsoring agency. Limited accommodation on actual charges may be available at MNIT Guest house. A request for this need is to be made in advance. Working lunch will be provided by organizers.

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**Organized by**

**Materials Research Centre**



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Jaipur  
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Website: [www.mnit.ac.in](http://www.mnit.ac.in)