

# Program Schedule

Seven Days of Workshop

on

## ABCs of Infra-Red Spectroscopy, Nuclear Magnetic Resonance Spectroscopy, Electron Paramagnetic Resonance Spectroscopy, and Gaussian (ABCs-2022)

1-8 August 2022

Venue: Conference Hall,  
Department of Chemistry, Manipur University

### Day 1 : 1 August 2022 (Monday)

9:00 AM – 9:30 AM : Registration and Tea

9:30 AM – 10:05 AM : Inaugural Programme

Chief Guest **Prof. N. Lokendra Singh**  
*Vice-Chancellor, Manipur University*

Guests of Honour **Prof. K. Yugindro Singh**  
*Dean, School of Mathematical & Physical Sciences*

**Prof. Laitonjam Warjeet Singh**  
*Director, R&D Cell, MU*

President **Prof. Okram Mukherjee Singh**  
*Head, Department of Chemistry, MU*

High Tea (10:05 AM – 10:30 AM)

### Day 1: 1 August 2022 (Monday)

#### Technical Session 1: Lectures on NMR Spectroscopy – I

Venue: Conference Hall, Department of Chemistry, MU

10:30 AM – 11:30 AM : L01 **Principles of NMR and Chemical Shifts**  
Prof. Laitonjam Warjeet Singh, MU

11:30 AM – 12:30 PM	: L02	<b>Theoretical Background of NMR</b> Prof. Homendra Naorem, MU
12:30 PM – 1:30 PM	: L03	<b>Instrumentation of NMR Spectrometer</b> Dr. Chandi Charan Malakar, NIT Manipur

Lunch Break (1:30 PM – 2:30 PM)

### Technical Session 2: Hands-on Training on NMR Spectroscopy – I

Venues: Conference Hall & Instrument Room 1, Department of Chemistry, MU

2:30 PM – 5:00 PM	: H01	Instructor: Dr. Keisham Surjit Singh, MU  Technical Support: 1. Dr. Th. Prasanta Singh 2. Dr. Lokendrajit Nahakpam
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## Day 2 : 2 August 2022 (Tuesday)

### Technical Session 3: Lectures on NMR Spectroscopy – II

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 10:30 AM	: L04	<b>NMR in Organic Synthesis</b> Prof. O. Mukherjee Singh, MU
10:30 AM – 11:30 AM	: L05	<b>Applications of NMR in Natural Products</b> Prof. L. Warjeet Singh, MU
11:30 AM – 12:30 PM	: L06	<b>Applications of <math>^1\text{H}</math> &amp; <math>^{13}\text{C}</math> NMR for Characterization of Azo-Carboxylate Ligands and their Organometallic Compounds</b> Dr. Keisham Surjit Singh, MU

Lunch Break (12:30 PM – 2:00 PM)

### Technical Session 4: Hands-on Training on NMR Spectroscopy – II

Venues: Conference Hall & Instrument Room 1, Department of Chemistry, MU

2:00 PM – 5:00 PM	: H02	Instructor: Dr. Keisham Surjit Singh, MU  Technical Support: 1. Dr. Th. Prasanta Singh 2. Dr. Lokendrajit Nahakpam
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### Day 3 : 3 August 2022 (Wednesday)

#### Technical Session 5: Lectures on IR Spectroscopy – I

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 10:30 AM	: L07	<b>Vibrational Spectroscopy</b> Dr. Thongam Gomti Devi, MU
10:30 AM – 11:30 PM	: L08	<b>Instrumentation of IR Spectrophotometer</b> Dr. Thongam Joymati Devi, MU
11:30 PM – 12:30 PM	: L09	<b>Structural Elucidation of Compounds</b> Dr. Nagarajan S., NIT Manipur

Lunch Break (12:30 PM – 2:00 PM)

#### Technical Session 6: Hands-on Training on IR Spectroscopy – I

Venues: Conference Hall & Instrument Room 1, Department of Chemistry, MU

2:30 PM – 5:00 PM	: H03	Instructor: Dr. Thongam Joymati Devi, MU Technical Support: 1. Dr. Lokendrajit Nahakpam 2. Ms. Ng. Florence
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### Day 4 : 4 August 2022 (Thursday)

#### Technical Session 7: Lectures on EPR Spectroscopy – I

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 11:00 AM	: L10	<b>Electron Spin Resonance (ESR) Spectroscopy</b> Prof. R. K. Lonibala, MU
11:00 AM – 12:30 AM	: L11	<b>Instrumentation of EPR Spectrometer</b> Dr. Mithun Roy, NIT Manipur

Lunch Break (12:30 PM – 2:00 PM)

#### Technical Session 8: Hands-on Training on EPR Spectroscopy – I

Venues: Conference Hall & EPR Room, Department of Chemistry, MU

2:00 PM – 5:00 PM	: H04	Instructor: Prof. R. K. Hemakumar Singh, MU Technical Support: 1. Dr. N. Shantibala Devi
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**Day 5 : 5 August 2022 (Friday)**

**Technical Session 9: Lectures on EPR Spectroscopy – II**

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 11:00 AM : L12 **Applications of ESR Spectroscopy**

Prof. R. K. Bhubon Singh, MU

11:00 AM – 12:30 AM : L15 **Creation of Gaussian Input Files**

Dr. Francis A. S. Chipem, MU

Lunch Break (12:30 PM – 2:00 PM)

**Technical Session 10: Hands-on Training on EPR Spectroscopy – II**

Venues: Conference Hall & EPR Room, Department of Chemistry, MU

2:00 PM – 5:00 PM : H05 Instructor: Prof. R. K. Hemakumar Singh, MU

Technical Support:

1. Dr. N. Shantibala Devi

**Day 6 : 6 August 2022 (Saturday)**

**Technical Session 11: Lectures on Gaussian – I**

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 11:00 AM : L14 **Theoretical Formulation of Electronic Structure Theory**

Dr. Shagolsem Lenin Singh, NIT Manipur

11:00 AM – 12:30 AM : L15 **Creation of Gaussian Input Files**

Dr. Francis A. S. Chipem, MU

Lunch Break (12:30 PM – 2:00 PM)

**Technical Session 12: Hands-on Training on Gaussian – I**

Venues: Computer Laboratory, Department of Computer Science, MU

2:00 PM – 5:00 PM : H06 Instructor & Technical Support: Dr. Francis A. S. Chipem, MU

**Day 7 : 8 August 2022 (Monday)**

### **Technical Session 13: Lectures on Gaussian – II**

Venue: Conference Hall, Department of Chemistry, MU

9:30 AM – 11:00 AM	: L16	<b>Analysis of Gaussian Output Files</b> Dr. Francis A. S. Chipem, MU
11:00 AM – 12:30 AM	: L17	<b>Applications of Gaussian in Physical, Chemical &amp; Biological Research</b> Dr. Thongam Gomti Devi, MU

Lunch Break (12:30 PM – 1:30 PM)

### **Technical Session 14: Hands-on Training on Gaussian – II**

Venues: Computer Laboratory, Department of Computer Science, MU

1:30 PM – 4:30 PM	: H07	Instructor & Technical Support: Dr. Thongam Gomti Devi, MU
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Tea Break (4:30 PM – 4:45 PM)

4:45 PM – 5:15 PM	:	Valedictory Function
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