



## “Workshop on Basic Research Tools”

Dates: 20-24<sup>th</sup> January 2020

Venue: Seminar Hall, Department of Physics

**Who can participate?** Ph. D. students, Undergraduate & Post-graduate students of MNIT Jaipur **only**, who are interested in learning about necessary tools used for research writing in the broad areas of physics, materials chemistry, materials science, and engineering.

**Aim and scope of the workshop:** To conduct quality research utilizing modern tools for handling research data in the most efficient manner, this workshop aims to provide the resources and know-how training to the research students. The workshop will deal with the problems of the collection of data, organizing, compilation, presentation, and other research-related problems which the students and research scholars confront during their research work. The questions like how to develop the framework for scientific writing, which methodology to follow, which citation tool should be used for citing published resources, how the research work of other researchers could be quoted without plagiarism and copyright issues, what are the different referencing styles which could be followed and how these could be utilized and presented in thesis or reports? etc., faced by the researcher during his/her research work will be addressed in this workshop. Participants are advised to bring their own laptop computers. Further information will be provided before/during the training sessions.

This workshop is an attempt to provide answers for queries of the scholars and make their research work easier, more scientific, need-based, and genuine.

The workshop will include 2 hours' theory component and 2-3 hours of an exercise/assignment component (as needed) each day on the related topics. Tentative time schedule of the workshop is as follows:

| Date/Time                     | Title/Topic                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 20. 01. 2020<br>(3:00-5:00pm) | Basic Introduction to Research and writing Scientific Research Papers using Microsoft Word with Reference Manager/Mendeley & Grammarly |
| 21. 01. 2020<br>(3:00-5:00pm) | Resources and Tools for Literature Survey;<br>Making Research Presentations in Microsoft PowerPoint & use of EndNote                   |
| 22. 01. 2020<br>(3:00-5:00pm) | Basics of Research Ethics;<br>Introduction to LaTeX/MikeTeX for Thesis/Manuscripts & Presentations                                     |
| 23. 01. 2020<br>(3:00-5:00pm) | Citation, h-Index, Impact factor and Copyright Issues;<br>Error Analysis and Data Processing using gnuplot                             |
| 24. 01. 2020<br>(3:00-5:00pm) | Sources of Information for Scientific Research writing & Plagiarism Issues;<br>Data Analysis using Microsoft Excel and Origin          |

**There are no participation fees, and the maximum number of participants is limited to 40 students only. The participants will be selected based upon their statement-of-purpose filled in the registration form. A performance report/certificate will be issued to the successful candidates.**

Contact: [mnit.phy@gmail.com](mailto:mnit.phy@gmail.com)

**[Register Here](#)**

**Before 15-01-2020**

**Also, check the details of upcoming workshops on the next page.**



## Details of Upcoming Workshops

Dates: January-April 2020

Venue: Seminar Hall, Department of Physics

**Aim and scope of the workshops:** Below mentioned workshops will focus on the essential tools for experimental research in the broad areas of physics, material science, chemistry, and other allied streams. Training sessions on scientific writing tools like MS-Word, Excel, PowerPoint, Grammarly, Reference Manager, Mendeley, LaTeX, gnuplot and analytical techniques like XRD, SEM, TEM, STM and AFM will be conducted. These tools and techniques are widely used in experimental research in various streams of science and engineering. Details of the fabrication methods for nanomaterials and thin films are considered crucial for the design and development of new devices. Cyclic voltammetry is generally used to study the electrochemical properties of an analyte in a solution. LabVIEW is a powerful tool for customization of the experimental setups for efficient data acquisition and data analysis. The scope of these workshops includes basic and working knowledge on various characterization techniques along with lectures, tutorials, demonstrations and hands-on experience on some of these techniques.

On successful completion, the student will be able to compile reports/manuscripts based upon the analysis of his own/standard data using these technique(s).

Each workshop will include 2 hours' theory component and 2-3 hours of an exercise/assignment component (as needed) each day on the related topics.

### Tentative schedule of the workshops:

| S. No. | Name of the activity                                | Duration                  | Registration links                   |
|--------|-----------------------------------------------------|---------------------------|--------------------------------------|
| 1.     | Workshop on Basic Research Tools                    | 20-24 January, 2020       | <a href="#">Registration open.</a>   |
| 2.     | Workshop on Nanomaterials and Thin Film Fabrication | 27-31 January, 2020       | Registration will open on 10.01.2020 |
| 3.     | Workshop on X-ray diffraction                       | 10-14 February, 2020      | Registration will open on 10.01.2020 |
| 4.     | Workshop on Electrochemical Techniques              | 17-21 February, 2020      | Registration will open on 17.01.2020 |
| 5.     | Workshop on Electron Microscopy                     | 16-20 March, 2020         | Registration will open on 16.02.2020 |
| 6.     | Workshop on Programming with LabVIEW                | 30 March – 03 April, 2020 | Registration will open on 29.02.2020 |
| 7.     | Workshop on AFM and STM                             | 06–10 April, 2020         | Registration will open on 06.03.2020 |

**There will be no participation fees for all these workshops. The participants will be selected based upon their statement-of-purpose filled in the registration form. A performance report/certificate will be issued to the successful candidates.**

For further details please contact: [mnit.phy@gmail.com](mailto:mnit.phy@gmail.com)

### Co-ordinators:

Prof. Kanupriya Sachdev, Dr. Srinivasa Rao N., Dr. Subhayan Mandal, Dr. Kamendra Awasthi, Dr. Manoj Kumar, Dr. Anirban Dutta, and Dr. Debasish Sarkar