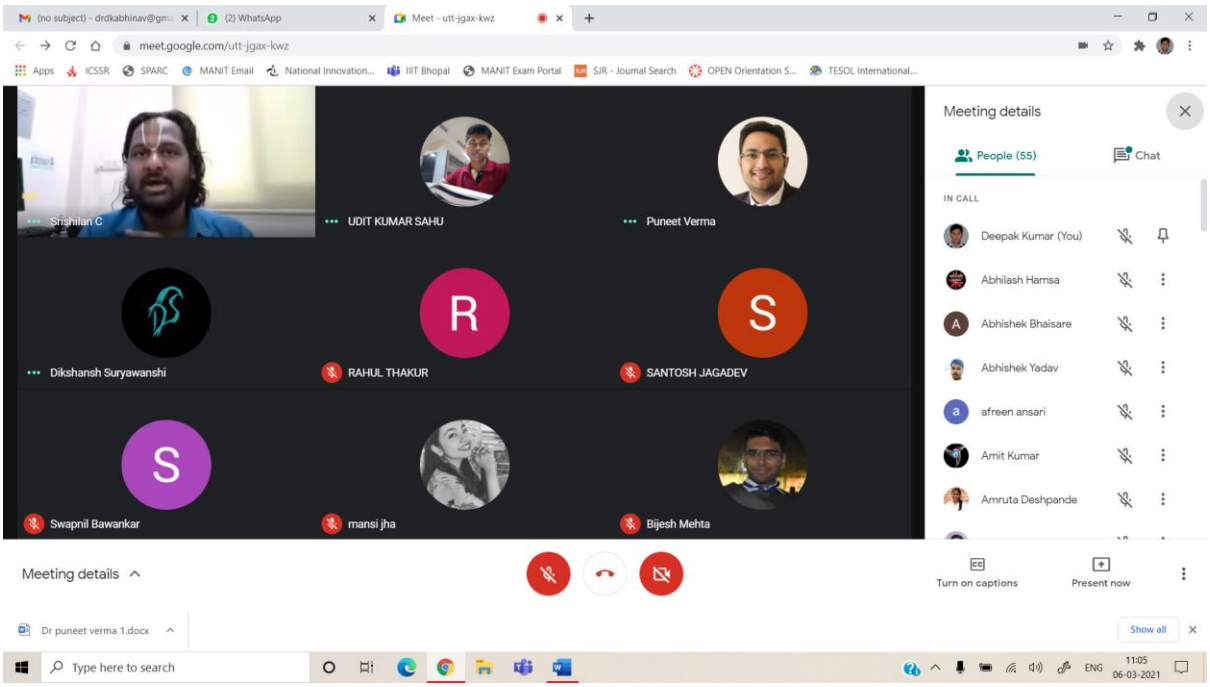
Title: **Advanced Research Methods Workshop** Duration:- 5Days (6-10th March 2021)

Department: **Energy Centre**

A five-day national workshop on "Advance Research Methods" was conducted by the Department of Energy Centre in association with the Department of Humanities and Social Sciences and the Department of Materials and Metallurgical Engineering of MANIT Bhopal. The workshop started on March 6, 2021 and ended on March 10, 2021. Dr. Gaurav Dwivedi, Dr. Deepak Kumar and Dr. Mangesh Lodhe were the coordinators of the workshop. Around 167 participants including faculty members from different reputed institutes registered for the workshop and participated enthusiastically.

The workshop started with inauguration and Dr. Puneet Verma, Air Quality Scientist, from Brisbane, Australia was the chief Guest of the Workshop. In his inaugural speech, Dr. Verma spoke on how teaching and research are interconnected. He also shared his research experiences with the participants and motivated them. The inauguration was followed by a talk on "Introduction to research" by Dr. Sri Silan from IIT Jammu. Dr. Ali abbas, Senior Assistant Professor in MITS Andhra Pradesh spoke on "CFD as a research tool" in the afternoon session.

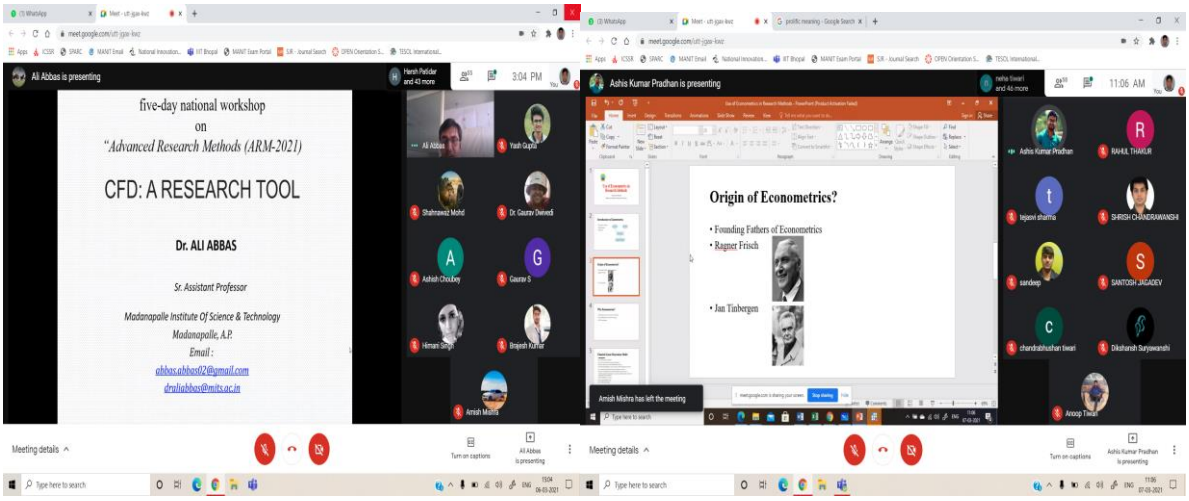


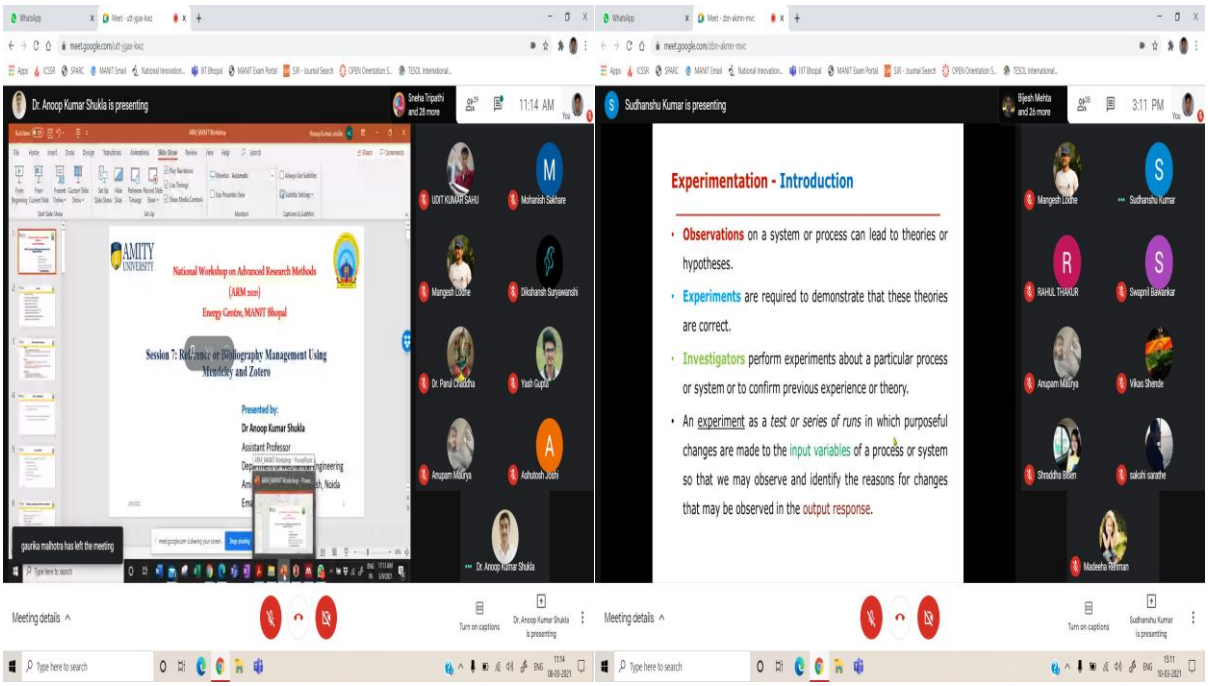
On the second day of the workshop, Dr. Ashis Pradhan, Assistant Professor, Department of HSS, MANIT Bhopal and and Dr. Narendra Gajbiye, Assistant Professor, Department of Mechanical Engineering, MANIT Bhopal spoke on the topic "Use of Econometrics in Research Methods" and "Latex" respectively. Dr. Tiju Thomas, Associate Professor of IIT Madras spoke on the topic "Academic writing for Research Professionals". In the afternoon session of the third day of the

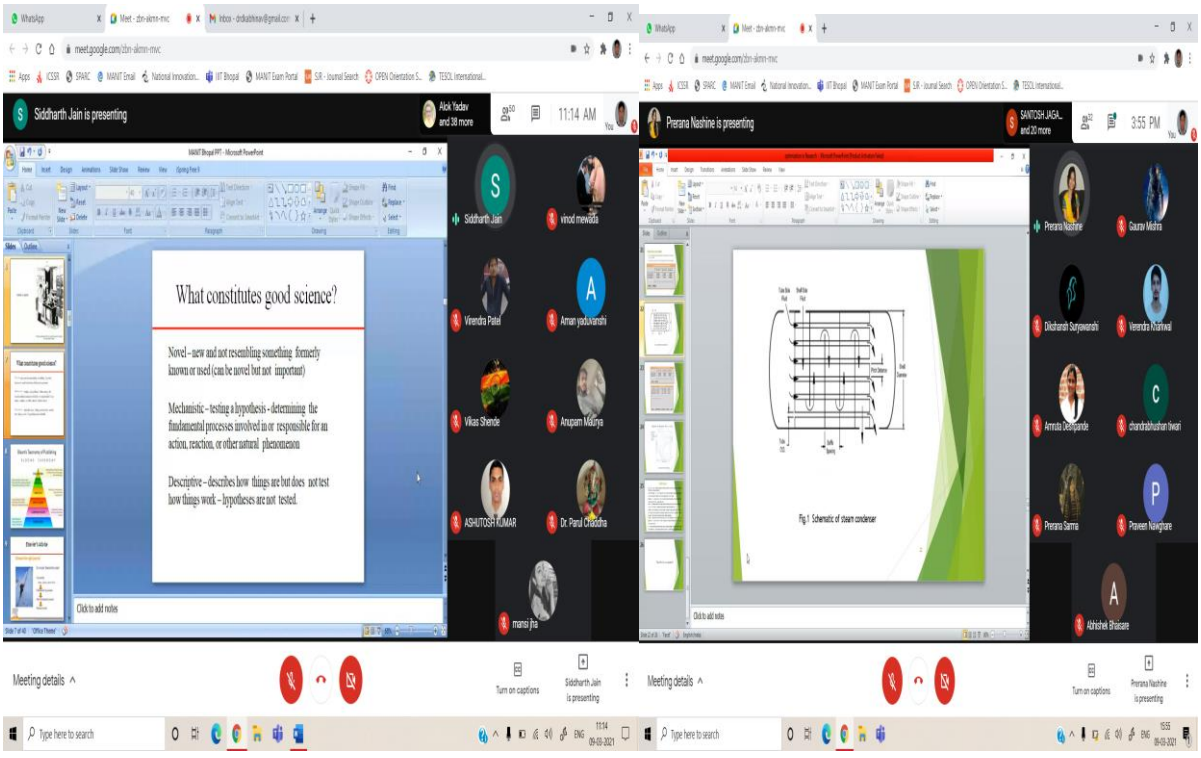
workshop, Dr. Anoop Shukla, Assistant Professor, Department of Mechanical Engineering, Amity University, Noida discussed on “Mendeley and Zotero”. The fourth day of the workshop, Dr. Siddharth Jain and Dr. Prerna Nashaine spoke on Optimization Technique and Optimization in Research. And the fifth day of the workshop, Dr. Kali Prasad from IIT Madras spoke on MATLAB which was followed by a talk on Experimental Methods in Research by Dr. Sudhansu Kumar, Assistant Professor, Department of Mechanical Engineering, MANIT Bhopal. Every day, a separate session was dedicated for Question-Answer and Discussion. The five-day workshop ended with the feedback from the participants on March 10, 2021.

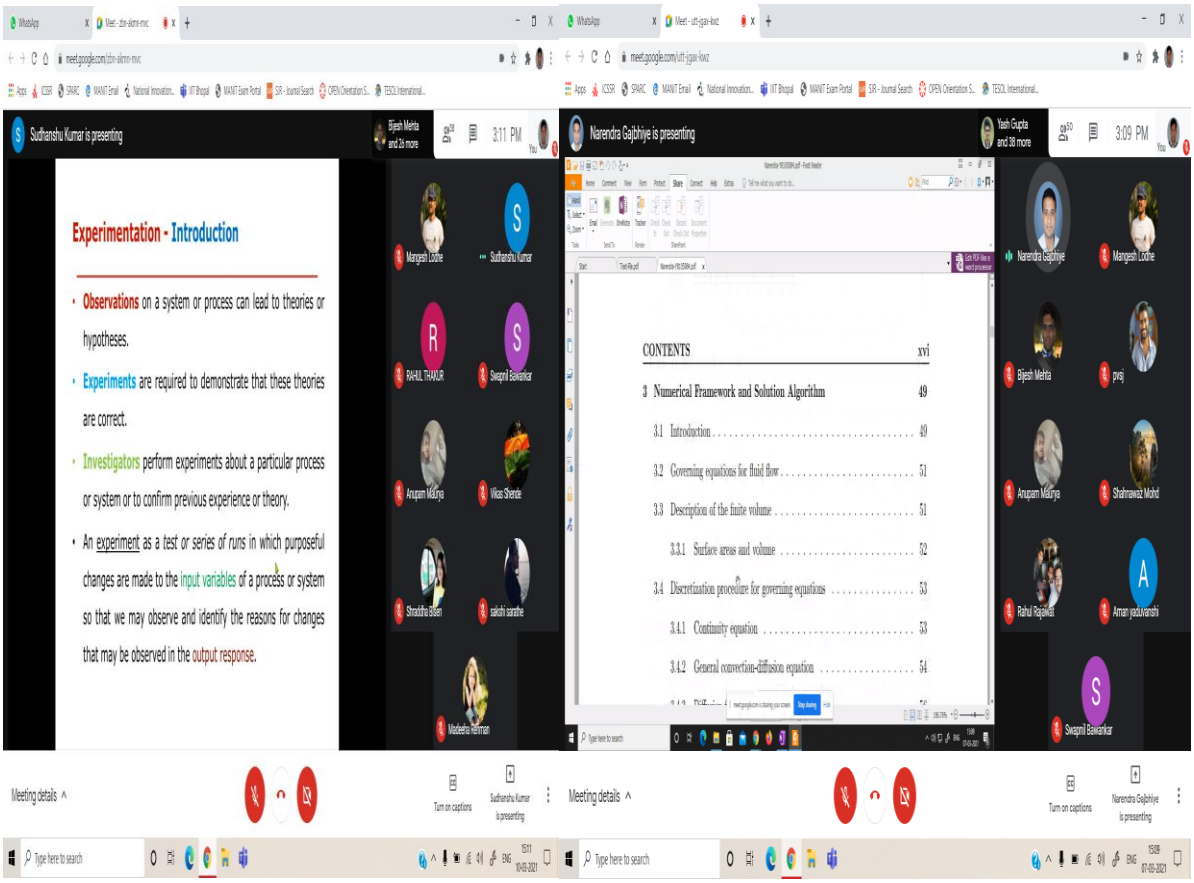
The workshop, during the five days, provided the participants a though knowledge of the research process and of latest data analysis tools and techniques used in various disciplines of research. The participants were practically exposed to the main components of a research framework i.e., problem definition, research design, data collection, ethical issues in research, report writing, and presentation. The sessions of the workshop were designed in such a way that they tried to cater to the needs of the participants from diverse fields by providing them theoretical as well as practical knowledge on research tools and techniques.

A few photos of the workshop:




Dr. Anoop Kumar Shukla is presenting
AMITY UNIVERSITY
National Workshop on Advanced Research Methods (ARM 2021)
Energy Centre, MANIT Bhopal
Session 7: Reference or Bibliography Management Using Mendeley and Zotero
Presented by:
Dr Anoop Kumar Shukla
Assistant Professor
gaurika malhotra has left the meeting
Sudhanshu Kumar is presenting
Experimentation - Introduction
Observations on a system or process can lead to theories or hypotheses.
Experiments are required to demonstrate that these theories are correct.
Investigators perform experiments about a particular process or system or to confirm previous experience or theory.
An experiment as a test or series of runs in which purposeful changes are made to the input variables of a process or system so that we may observe and identify the reasons for changes that may be observed in the output response.


Siddharth Jain is presenting
What constitutes good science?
Novel - new and not resembling something formerly known or used (can be novel but not important)
Mechanistic - testing a hypothesis - determining the fundamental processes involved in or responsible for an action, reaction, or other natural phenomenon
Descriptive - describes how things are but does not test how things work - hypotheses are not tested.
Prerana Nashine is presenting
Fig 1 Schematic of steam condenser



List of Participant

Name	College
Aamir bohra	Maulana Azad National Institute of Technology, Bhopal
ABHINANDAN KUMAR	Maulana Azad National Institute of Technology, Bhopal
Abhishek Kumar	Maulana Azad National Institute of Technology, Bhopal
Abhishek Mishra	Maulana Azad National Institute of Technology, Bhopal
Abhishek Nagar	Maulana Azad National Institute of Technology, Bhopal
Abhishek Yadav	Maulana Azad National Institute of Technology, Bhopal
Adarsh gaurav	Maulana Azad National Institute of Technology, Bhopal
Aditya Dhakad	Maulana Azad National Institute of Technology, Bhopal
ADITYA KUMAR JATAV	Maulana Azad National Institute of Technology, Bhopal
Aditya Mohan	Maulana Azad National Institute of Technology, Bhopal

Aditya Sharma	Maulana Azad National Institute of Technology, Bhopal
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Ajay Meena	Maulana Azad National Institute of Technology, Bhopal
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Akanksh Mamidala	Maulana Azad National Institute of Technology, Bhopal
Akash Kumar	Maulana Azad National Institute of Technology, Bhopal
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Aman Kumar	Maulana Azad National Institute of Technology, Bhopal
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Amit Kumar Paswan	Maulana Azad National Institute of Technology, Bhopal
Aniruddha Mitra	Maulana Azad National Institute of Technology, Bhopal
Anit rajak	Maulana Azad National Institute of Technology, Bhopal
Anjali Prasad	Maulana Azad National Institute of Technology, Bhopal
Ankit Dixit	Maulana Azad National Institute of Technology, Bhopal
Ankit kusamya	Maulana Azad National Institute of Technology, Bhopal
Ankita Jangid	Maulana Azad National Institute of Technology, Bhopal
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Anmol Shukla	Maulana Azad National Institute of Technology, Bhopal
Anoop Tiwari	Maulana Azad National Institute of Technology, Bhopal
Anshita Sachan	Maulana Azad National Institute of Technology, Bhopal
Anuja Ingale	Maulana Azad National Institute of Technology, Bhopal
Anupam Maurya	Maulana Azad National Institute of Technology, Bhopal
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Aruna Ekka	Maulana Azad National Institute of Technology, Bhopal
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charumitra sharma	Maulana Azad National Institute of Technology, Bhopal
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Kartikeya Mishra	Maulana Azad National Institute of Technology, Bhopal
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Mansi panwar	Maulana Azad National Institute of Technology, Bhopal
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Priyanshu Adarsh	Maulana Azad National Institute of Technology, Bhopal
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Shubham nagar	Maulana Azad National Institute of Technology, Bhopal
Shyamsunder	MNIT, Jaipur
Sneha Tripathi	Banasthali Vidyapith
Srishti Prasad	Maulana Azad National Institute of Technology, Bhopal
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Swapnil R Bawankar	Maulana Azad National Institute of Technology, Bhopal
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Udit Kumar Sahu	Maulana Azad National Institute of Technology, Bhopal
Vaibhav garg	Maulana Azad National Institute of Technology, Bhopal
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Vankayala Harish	Maulana Azad National Institute of Technology, Bhopal
Verendra singh kharkwal	Maulana Azad National Institute of Technology, Bhopal
Vikas Shende	Maulana Azad National Institute of Technology, Bhopal
Vikash kumar	Maulana Azad National Institute of Technology, Bhopal
Vinit Jain	Maulana Azad National Institute of Technology, Bhopal
VINOD MEWADA	Maulana Azad National Institute of Technology, Bhopal
VIRENDRA PATEL	Maulana Azad National Institute of Technology, Bhopal

Vishal Sharma	Maulana Azad National Institute of Technology, Bhopal
Yash Gupta	Maulana Azad National Institute of Technology, Bhopal
Prerana Sarma	CKB Commerce College
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Rohan Chandra	St. Xavier's College
Rupali Shilpkar	Maulana Azad National Institute of Technology, Bhopal
Sagar Tapdiya	Maulana Azad National Institute of Technology, Bhopal
Sai Babu Chanda	Maulana Azad National Institute of Technology, Bhopal
Sakshi Dwivedi	Maulana Azad National Institute of Technology, Bhopal
Sakshi Sarathe	Maulana Azad National Institute of Technology, Bhopal
SAMEER SONI	Maulana Azad National Institute of Technology, Bhopal
SANDEEP	Maulana Azad National Institute of Technology, Bhopal
Sandeep Kumar Jhade	Maulana Azad National Institute of Technology, Bhopal
Sandeep Tripathi	Maulana Azad National Institute of Technology, Bhopal
Santosh Jagadev	Maulana Azad National Institute of Technology, Bhopal
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Savyasanchi Shukla	Maulana Azad National Institute of Technology, Bhopal

Shahnawaz Mohd	Kashmir Government Polytechnic College
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Shantam Warkad	Maulana Azad National Institute of Technology, Bhopal
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Yash Gupta	Maulana Azad National Institute of Technology, Bhopal
Chittiveli Noor Mohammed Parvez	Maulana Azad National Institute of Technology, Bhopal
Parul Chaddha	S.S.D.P.C. GIRLS (P.G) COLLEGE, Roorkee, Uttarakhand