

Report on
**One Day Workshop on Enabling Statistical Discovery for Pharmaceutical
Sciences through JMP**

19 November 2020

The inaugural function of One Day Workshop on Enabling Statistical Discovery for Pharmaceutical Sciences is organized by the Department of Pharmaceutics, JSS College of Pharmacy, Ooty (JSSCPO), a Constituent College of JSS Academy of Higher Education & Research, Mysuru, and the Institution's Innovation Council (IIC) of JSSCPO was held 19 November 2020.

Dr. S.P. Dhanabal, Principal, JSSCPO, has invited the speaker, Mr. Muralidhara, Academic Ambassador, JMP, and delivered the welcome address.

Dr. Karri V V S Narayana Reddy, Lecturer, Department of Pharmaceutics, gave the workshop's genesis and highlighted the importance and need of statistics in research.

Dr. K. Gowthamarajan, Professor and Head, Department of Pharmaceutics, introduced the speakers to the delegates.

The sessions begin with an introduction about JMP by Dr. Muralidhara, Academic Ambassador, JMP. Dr. Muralidhara has explained to the students about Statistical Data Analysis, Design of Experiments, Survival, and Stability using JMP software.

Session 1 – Data Visualization and Basic Statistical Data Analysis

Dr. Muralidhara initiated the scientific session; he delivered a talk on Statistical Data Analysis, followed by a detailed description of data with graphical representation. The selection and execution of statistical model based on available data such as Test of Normality, Hypothesis Testing, One-Sample to Test, Comparing Two Means, Chi-Square Test, One-Way ANOVA (Analysis of Variance), Two Factor ANOVA. The speaker demonstrated all these methods, and parallelly students have practiced the same using the JMP software provided before the session.

Session 2 – Correlation and Regression

After the demonstration on the basics of statistics, Session 2 was started by the speaker with a glimpse on Correlation, Simple Linear Regression: Multiple Linear Regression: Fitting the Multiple Linear Regression Model. The speaker has demonstrated the models mentioned above, and delegates followed the same. The specific time duration was provided for clarifying the doubts raised by delegates. The speaker has clarified all the delegates' doubts and had a good interaction with the students and staff. The speaker has also provided website links to learn more about statistics that all the delegates found very useful, including the staff.

Session 3 – Design of Experiments using JMP

After the lunch break, Session 3 started introducing the Design of Experiments and its present importance in the pharmaceutical industry. The speaker has also provided different examples of commercial products that were standardized using the Design of Experiments. The session was followed by a detailed description and demonstration of Classical Designs, Custom Designs, Formulation Design, Simulation, and Optimization. The speaker has performed the custom design and simulations with detailed examples.

Session 4 – Quality, Survival, and Stability

After the tea break, the speaker has demonstrated various Control Charts used for the optimization of a process and obtaining Design space. The graphical representation and interpretation of preclinical survival data using the JMP software. The formulation stability and shelf life were assessed using the JMP software. The students have actively participated and enjoyed the hands-on session using the JMP software.

Seventy-nine delegates from various pharmacy disciplines have participated in this workshop.

A total of 110 delegates have participated in the workshop and actively utilized the workshop.

The seminar was concluded with a vote of thanks by Dr. Karri V V S Narayana Reddy.



Figure 1. Students are practicing on JMP software and analyzing various statistics.

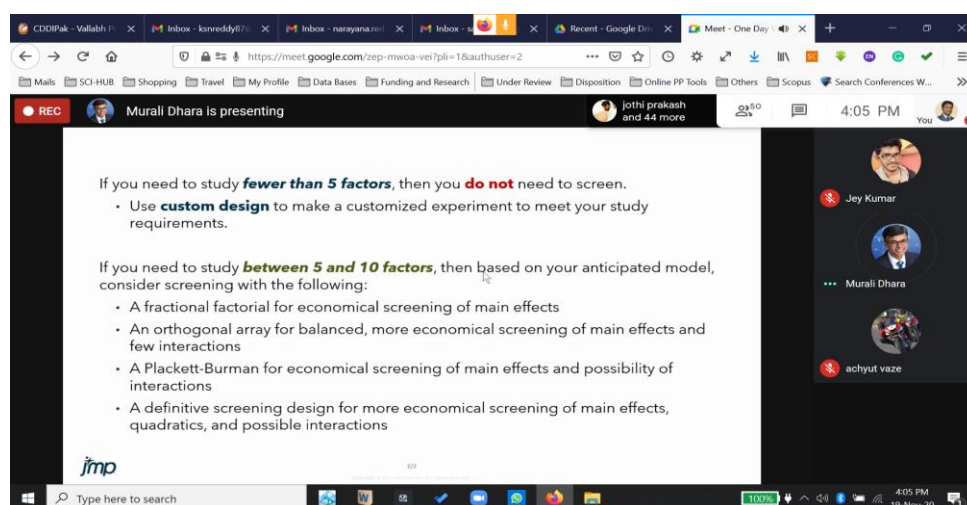


Figure 2. Snapshot of Students attending the workshop online