

Report on
Faculty Development Program
Statistical Analysis for Research: Techniques and Software
November 21–26, 2024

The **Faculty Development Program (FDP)** on *Statistical Analysis for Research: Techniques and Software* was organized by **AIU-Integral University – Academic & Administrative Development Centre (AIU-IU-AADC)** in collaboration with the **Department of Business Management** under the **aegis of HRDC**, Integral University, Lucknow. The FDP was held from November 21 to 26, 2024, the program aimed to enhance participants' understanding of advanced statistical techniques and tools essential for high-quality research. The program was convened by **Dr. Rajiv Ranjan**, Dean of Integral Business School, whose vision and expertise were instrumental in its success. Dr. Ranjan also played a pivotal role as a resource person and delivered an impactful session during the valedictory ceremony.

The program commenced on **Day 1 (November 21, 2024)** with **Dr. Rajiv Ranjan's** engaging session on experimental design, highlighting its importance in management and social science research. He elaborated on advanced techniques such as Instrumental Variables (IVs), Regression Discontinuity (R-D) designs, and Parity Matching. Later, **Ms. Padmaja Priyadarshini B.N.**, a renowned statistician, led two insightful sessions on statistical software, emphasizing data cleaning and preprocessing techniques essential for accurate analysis.

On **Day 2 (November 22, 2024)**, the focus shifted to foundational statistical methods. **Dr. Shayamala** introduced participants to descriptive statistics, covering measures of central tendency and dispersion. This was followed by **Dr. Subhasri R.'s** session on data visualization, where participants learned to create histograms, boxplots, and scatter plots. The day concluded with **Dr. Azarudheen S.'s** session on hypothesis testing basics, introducing p-values, confidence intervals, and t-tests, which are critical components of inferential statistics.

Day 3 (November 23, 2024) featured two comprehensive sessions by **Dr. Arun Mittal** on ANOVA (Analysis of Variance). He discussed its applications in group mean comparisons and the interpretation of results. In the subsequent sessions, **Prof. Masood H. Siddiqui** delved into multiple regression analysis, emphasizing model assumptions such as normality and homoscedasticity, which are vital for robust data interpretation.

The focus on practical tools continued on **Day 4 (November 24, 2024)** with **Dr. Thiyaugu Suri's** interactive sessions on JAMOV, a free statistical software. Participants were introduced to its capabilities for data analysis, making statistical techniques more accessible. Later, **Dr. Divya R. Panjwani** explained non-parametric tests such as the Mann-Whitney and Kruskal-Wallis tests, offering insights into handling non-normal data effectively.

The final day, **Day 5 (November 25, 2024)**, began with a session by **Prof. Prabhat Mittal** on time series analysis, covering trends, seasonality, and forecasting methods. This was followed by **Dr. Anoop Pandey's** session on cluster analysis, where participants explored techniques like K-means and hierarchical clustering. The concluding technical session, led by **Prof. Rajiv Pandey**, introduced advanced statistical models, specifically logistic regression for binary outcomes.

The program concluded with a valedictory session on **Day 6 (November 26, 2024)**, graced by the presence of **Dr. Rajiv Ranjan**, Dean, Integral Business School and **Dr. Zishan Raza Khan**, Deputy Director, HRDC, and Nodal Officer of AIU-IU-AADC. Both speakers commended the Department of Business Management for its dedicated efforts in organizing the program and emphasized the importance of statistical tools in enhancing the quality of academic research.

Participants expressed overwhelming satisfaction with the program, highlighting the relevance of the topics covered and the expertise of the resource persons. The event was convened by Dr. Rajiv Ranjan, with Dr. Zishan Raza Khan serving as the Nodal Officer. The co-conveners, Dr. Nazia Akhlaq and Dr. Divya R. Panjwani, provided invaluable support, ensuring the program's resounding success.

A glimpse of FDP is as follows:

