



Training-Workshop on Application of Advanced Regression Models in Analysis of Diverse Datasets

456 Hotel

Baguio City, Philippines

Speaker:

Dr. John Vianne B. Murcia

February 26, 2026	Day 1: Fundamentals and Applications of Linear and Logistic Regression Models
8:30 – 9:00 AM	Registration and Preliminaries Registration, Invocation, and Introduction of Speaker
9:00 – 10:30 AM	Session 1: Foundations of Regression Models Lecture: Simple and Multiple Linear Regression Introduction to linear regression: Assumptions, diagnostics, and interpretation. Applications in predicting continuous outcomes using diverse datasets. Subtopic: Introduction to Non-Parametric Quantile Regression When and why to use quantile regression for non-linear relationships.
10:31 – 12:00 PM	 Hands-On Session: Implementing Linear and Quantile Regression in Open-Source Software Dataset import and preparation. Running regression models and interpreting results. Diagnosing and visualizing regression outputs.
12:00 – 1:00 PM	Lunch Break
1:00 – 2:30 PM	Session 2: Logistic Regression Models for Categorical Outcomes Lecture: Binary, Ordinal, and Multinomial Logistic Regression Understanding logistic regression for binary outcomes. Extending to ordinal and multinomial logistic regression for multi-class problems. Applications in diverse datasets, such as healthcare, education, and social sciences.
2:31 – 5:00 PM	Hands-On Session: Implementing Logistic Regression Models in Open-Source Software Running binary, ordinal, and multinomial logistic regression. Evaluating model fit (e.g., AIC, confusion matrix) and interpreting coefficients. Predicting probabilities and visualizing outputs.



February 27, 2026

Day 2: Hierarchical and Count Regression Models

8:45 – 9:00 AM

Registration and Preliminaries

Recap of Day 1 and setting expectations for Day 2.

9:00 – 10:30 AM

Session 3: Hierarchical Regression Models with Moderating Effects

Lecture: Interaction and Moderating Effects in Regression
Understanding hierarchical regression and its applications.
Incorporating interaction terms and moderating variables in regression analysis.
Practical examples in behavioral sciences and policy research.

10:31 – 12:00 PM

Hands-On Session: Implementing Hierarchical Models in Open-Source Software

Building hierarchical regression models.
Adding interaction effects and visualizing moderation results.
Interpreting R-squared changes and the significance of interactions.

12:00 – 1:00 PM

Lunch Break

1:00 – 2:30 PM

Session 4: Count Regression Models for Event Data

Lecture: Poisson and Negative Binomial Regression
When to use count regression models for event data.
Understanding overdispersion and choosing between Poisson and Negative Binomial models.
Real-world applications in public health, criminology, and more.

2:31 – 4:30 PM

Hands-On Session: Implementing Count Regression Models in Open-Source Software

Running Poisson and Negative Binomial regression.
Assessing model fit and interpreting rate ratios.
Visualizing count data and creating actionable insights.

4:31 – 5:00 PM

Awarding of Certificate

February 28, 2026

Day 3: Free Day/Departure of Participants