



**27<sup>TH</sup> SUMMER INSTITUTE IN NATURAL SCIENCES AND MATHEMATICS**  
**COLLEGE OF SCIENCE**  
**UNIVERSITY OF THE PHILIPPINES BAGUIO**



awards this

# **CERTIFICATE OF PARTICIPATION**

to

**Jean Aristonet W. Leyson**

for participating in the

**27<sup>TH</sup> SUMMER INSTITUTE IN THE NATURAL SCIENCES AND MATHEMATICS:**

*"Upgrading Senior High School Science And Mathematics Education: Content And Competency Part 2"*  
with the subtheme *"Strengthening Senior High School and Tertiary Mathematics Instruction 3.0"*

with the following topics:

Plenary 1: "Some Topics for Undergraduate and Senior High School Research in Mathematics";


Plenary 2: "Time Delays in Macroeconomic Models and Queueing Theory"; and

Track C: Differential Equations,

held via Online Conferencing Platforms on April 6 to 8, 2022.

*Given this 18<sup>th</sup> day of April 2022 at University of the Philippines Baguio,  
Baguio City, Philippines.*

  
**Meiji T. Bagangao**  
Chairperson, SINSM 2022

  
**Dymphna N. Javier, Ph.D.**  
Dean, College of Science

## **27<sup>th</sup> SINSM**

Mathematics and  
Computer Science Cluster

### **PLENARY 1**

"Some Topics for Undergraduate  
and Senior High School Research  
in Mathematics"

### **PLENARY 2**

"Time Delays in Macroeconomic  
Models and Queueing Theory"

### **TRACK A**

PRE-CALCULUS AND BASIC CALCULUS

- Conic Equations
- Mathematical Induction
- Applications Involving Absolute Extrema
- Solutions of Right Triangles and
- Law of Sines and Cosines

### **TRACK B**

GENERAL MATHEMATICS AND STATISTICS

- Inverse Functions, Exponential and Logarithmic Functions and Equations
- Logical Fallacies and Tautologies
- Correlation and Regression Analysis
- Probability Distributions

### **TRACK C**

DIFFERENTIAL EQUATIONS

- Introduction to Systems of Differential Equations and Some Applications
- Control and Observation of LTI Systems
- Parameter Estimation: Calibrating Models with Data

### **TRACK D**

TOOLS AND CONCEPTS IN COMPUTING

- Web Programming
- Introduction to Moodle and Moodle Server Setup
- Introduction to Agent-based Modeling of Disease Dynamics 2.0
- An Overview on Learning Management System