



NATIONAL INSTITUTE OF PHYSICS
COLLEGE OF SCIENCE
University of the Philippines
Diliman, Quezon City 1101 Metro-Manila
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December 12, 2024

Dr. Wilson O. Garcia
Director
National Institute of Physics
C.S., U.P. Diliman, Quezon City

Dear Dr. Garcia:

Below is the official action of the panel members in the undergraduate thesis defense of Mr. Clarence loakim T. Sy. The defense of the thesis entitled "**CLASSROOM LEARNING DYNAMICS USING A CELLULAR AUTOMATA SPATIOTEMPORAL MODEL COMPARING PEER INSTRUCTION AND TRADITIONAL INSTRUCTION**" was held in NIP R211 on Thursday, 12 December 2024, 10:30 A.M.

Panel Members

Andrei Espencer M. Ordonio, B.Sc.
Instructor of Physics
National Institute of Physics
C.S., U.P. Diliman, Quezon City

Rating
PASSED FAILED

[Signature]

Ranzivelle Marianne L. Roxas-Villanueva, Ph.D.
Professor of Physics
Institute of Physics
C.A.S., U.P. Los Baños, Los Baños

[Signature]

Johnrob Y. Bantang, Ph.D. (Adviser)
Associate Professor of Physics
National Institute of Physics
C.S., U.P. Diliman, Quezon City

[Signature]

The rating is therefore passed.

Sincerely yours,

[Signature]
CRISTINE DLR VILLAGONZALO, Dr.rer.nat.
Deputy Director for Academic Affairs, NIP

PLEASE POST

PLEASE POST

NATIONAL INSTITUTE OF PHYSICS
College of Science
University of the Philippines
Diliman, Quezon City

ANNOUNCEMENT OF THE UNDERGRADUATE THESIS SEMINAR

of

CLARENCE IOAKIM T. SY

on

**CLASSROOM LEARNING DYNAMICS USING A CELLULAR AUTOMATA SPATIOTEMPORAL
MODEL COMPARING PEER INSTRUCTION AND TRADITIONAL INSTRUCTION**

In partial fulfillment of the requirements for the degree of

Bachelor of Science in Applied Physics

On Thursday, 12 December 2024, 10:30 AM, NIP R211

THESIS ADVISER

JOHNROB Y. BANTANG, Ph.D.

Associate Professor of Physics

National Institute of Physics

C.S., U.P. Diliman, Quezon City

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Instructor of Physics

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THESIS PANEL MEMBER


RANZIVELLE MARIANNE L. ROXAS- VILLANUEVA, Ph.D.

Professor of Physics

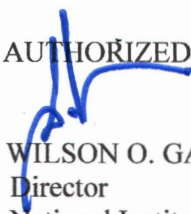
Institute of Physics

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ENDORSED BY:


CRISTINE D.R. VILLAGONZALO, Dr.rer.nat.
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AUTHORIZED BY:


WILSON O. GARCIA, Ph.D.
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