



## ACTIVITY DESIGN

**Title** : "Frontiers in Theoretical and Experimental Physics"

**Participants** : Department of Physics, and Interested VSU Students and Employees

**Date** : March 11, 2024 (Monday)

**Venue** : Virtual Watch Party via Zoom (Department of Physics located at the 1<sup>st</sup> Floor of the Old Library Bldg., VSU)

**Rationale**

Physics is a fundamental science that deals with studying matter, energy, and their interactions. Two of the most important fields of physics are theoretical and experimental physics. Theoretical physics employs mathematical models to explain the complex interactions of natural phenomena. On the other hand, experimental physics design experiments and utilizes advanced tools to probe natural phenomena.

Over the years, these physics fields have significantly contributed to advancing our understanding of the universe and the world around us. Moreover, many of the technologies invented are all rooted in breakthroughs made by physicists. These technologies have changed how we live and provided us comfort in many different ways.

Despite these significant contributions and key discoveries by physicists, little is known about the current research of Filipino theoretical and experimental physicists in the country.

In order to understand these two exciting fields of physics and inspire young and future physicists, this conference entitled "**Frontiers in Theoretical and Experimental Physics**" is necessary. The event will allow the participants to learn more about recent theoretical and experimental physics techniques. Furthermore, the conference will greatly benefit the participants, helping them grow professionally and build more networks.

### Objectives

At the end of the conference, participants will be able to:

1. Learn more about the recent techniques in theoretical and experimental physics;
2. Improve their understanding of the interdisciplinary nature of physics;
3. Build networks.

### Methodologies/Strategies

1. Discussion/ Lecture of topics on theoretical physics.
2. Discussion/ Lecture of topics on experimental physics.



## Resources Needed

### A. Manpower Requirements

Overall Supervision

Activity Coordinators

Technical Staff

### B. Supplies and Materials

General Description	Unit	Qty./Size
Bond papers	ream	2
Tarpaulin	pcs	1
Envelope	pcs	50
Ballpen	pcs	50
ID Card Holder with Sling	pcs	50

### C. Facilities and Equipment

1. Internet connectivity
2. Laptop/computer/printer
3. LCD Projector
4. Sound System

## Expected Outcome

Participants are expected to actively interact in the conference. Takedown notes for future reference and applies them in their respective research endeavors and instruction.

## Estimated Budget

Particulars	Cost in peso (Php)
Supplies and Materials (e.g., booklet, envelope, ballpen, pencil, among others)	PhP 5,000.00
Tarpaulin Printing	PhP 1,000.00
Snacks (50 pax x 2 (AM and PM) x 1 day x P80.00)	PhP 8,000.00
Lunch (50 pax x 1 day x P200.00)	PhP 10,000.00
<b>TOTAL</b>	<b>PhP 24, 000.00</b>

Prepared by:

**REV RHIZZA L. AURE**  
Head, DPhys

Availability of funds:

**ALICIA A. FLORES**  
Budget Officer

*note: Lunch excluded*



Noted by:

  
**MA. THERESA P. LORETO**  
Dean, CAS

Recommending Approval:

  
**EDGARDO E. TULIN**  
Vice President, OVPAF

Approved:

  
**DANIEL LESLIE S. TAN**  
OIC-President

## PROGRAM OF ACTIVITIES

### Frontier in Theoretical and Experimental Physics

March 11, 2024 – Monday

DAY/TIME	ACTIVITY	RESPONSIBLE PERSON
8:00 AM	OPENING	
	<b>TOPICS</b>	<b>SPEAKERS</b>
	Exploration in Black Hole Physics	Dr. Ian Vega
	Data-Driven Astrophysics: Decoding Signals from the Cosmos	Dr. Reinabelle C. Reyes
	Particles Physics: Using the LARGEST Machines to Study the Tiniest Things	Dr. Marvin M. Flores
	Near-Threshold Phenomena in Nuclear and Hadron Spectroscopy	Dr. Denny Lane B. Sombillo
	Entraining Time Crystals in a Quantum Gas	Dr. Jayson G. Cosmos
	Terahertz Radiation: Generation and Application	Dr. Elmer S. Estacio
	Structure Light: From the Lab to the Sky	Dr. Nathaniel P. Hermosa II
	Questing for Room-Temperature Superconductivity by High Pressures	Dr. Takahiro Matsuoka
5:00 PM	CLOSING	

(\*This should include the date, time, opening, closing and the topics to be discussed)