



TRAINING/WORKSHOP/ORIENTATION PROPOSAL

Title : "White Noise Analysis and Its Applications"

Participants : BS Applied Physics Students, Interested VSU Students and Faculty, and Other Participants

Date and Time : 9:00 A.M. – 12:00 P.M.
1:30 P. M. - 4:00 P. M.
February 3, 2022 (Thursday)

Venue : ZOOM

Rationale

Big data analytics is the often complex process of examining big data to uncover information (Chai, 2021). This method used advanced analytic techniques against very large, diverse big data sets to reveal patterns and trends that are difficult or impossible to process using traditional methods. To date, big data analysis has gained considerable attention because of the volume of data available, the velocity of the data (the fast rate at which data is received), variety of data present, value, and veracity.

One of the most robust techniques in analyzing big data is white noise analysis. White noise analysis is a flexible and efficient theoretical framework in infinite dimensions or dimension-free formulations originated by T. Hida in 1975 (Bernido and Carpio- Bernido, 2015). This mathematical approach is based on Hida calculus which illustrates a different type of differential and integral calculus for Gaussian processes in terms of the time derivative of Brownian motion referred to as white noise (Hida, 1982; Hida et al., 1990; Bernido and Carpio- Bernido, 2015).

Recently, a Feynmann integral approach in calculating the probability density function (PDF) was introduced by Bernido and Carpio- Bernido (2015) and has been applied to several stochastic systems that exhibit memory (Violanda et al., 2019; Aure et al., 2019; Elmar et al., 2021). However, not all are familiar with this approach in analyzing big data.

Thus, a symposium on using white noise analysis is necessary. The said event will introduce the participants on the white noise analysis stochastic approach. In addition, the symposium will allow the participants to learn and listen about the white noise stochastic approach and its recent applications in big data analysis.

Objectives

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

1. Enhance their knowledge and understanding of big data;
2. Learn about the white noise stochastic approach; and
3. Meet experts in the given field.

Methodology/Strategy

Discussion of topics on white noise analysis and its applications.

Resources Needed:

The resources needed in this webinar are the following:

- 1) internet connectivity
- 2) laptop/computer

- 3) Zoom platform
- 4) Resource Speakers

Expected Outcome:

Participants are expected to interact in the symposium on white noise analysis actively. Takedown notes for future reference and apply them in their respective research endeavors and instruction.

Estimated Budget:

Particulars	Cost in peso (Php)
Prizes (PhP 1000.00)	1000.00
Plaques (PhP 1500.00 per speaker x 6)	9000.00
Supplies and Materials (e.g., certificates, program, among others)	2000.00
Snacks (PhP 60.00 per head x 30 participants x 2 (A. M. and P. M.))	3600.00
Lunch (PhP 200.00 per head x 30 participants)	6,000.00
TOTAL	PhP 21,600.00

Prepared by:

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Availability of funds:

LOUELLA C. AMPAC
Director of Finance

Noted:

MA. THERESA P. LORETO
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Recommending Approval:

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