



## Online ISU Algebra Seminar

**Date and Time:** September 15, 2022 from 1:00 pm to 1:50 pm

**Speaker:** Gaywalee Yamskulna, Ph. D. (Illinois State University)

**Title:** A survey talk on a study of  $\mathbf{N}$ -graded vertex algebras

**Abstract:** In this talk, I will first describe algebraic structure of  $\mathbf{N}$ -graded vertex algebra  $V = \bigoplus_{n=0}^{\infty} V_n$ . Next, we will discuss a study of  $\mathbf{N}$ -graded vertex algebras when  $\dim(V_0)=1$ . After that I will focus on a study of representation theory of  $\mathbf{N}$ -graded vertex algebras  $V$  such that  $\dim(V_0) \geq 2$ . In addition, I will talk about vertex algebras associated with vertex algebroids that are non-Lie cyclic Leibniz algebras.

This talk is based on joint work with C. Barnes, E. Martin, G. Seelinger, and J. Service.

**About Speaker:** Dr. Yamskulna graduated from Chulalongkorn University, Thailand in 1996 with a bachelor's degree in mathematics, and from the University of California at Santa Cruz (UCSC) in 2001 with a Ph.D. in Mathematics. Throughout her undergraduate and graduate education (1992- 2001), Dr. Yamskulna was supported by a Fellowship from the Development and Promotion of Science and Talents Projects which is one of the most prestigious fellowships awarded by the Government of Thailand. Dr. Yamskulna also received a Graduate Fellowship from the Fields Institute in Fall 2000. Before joining the ISU mathematical sciences faculty in Fall 2004, Dr. Yamskulna was a Postdoctoral Fellow at the Mathematical Sciences Research Institute, Berkeley, in Spring 2002 and a Visiting Assistant Professor at the State University of New York at Binghamton from Fall 2001 to Spring 2004. Currently, Dr. Yamskulna is a full professor and the interim chair of Mathematics Department. Her research interest is in representation theory of (super) vertex algebras. She is particularly interested a study of representation theory of  $\mathbf{N}$ -grade vertex algebras, and the Mathieu Moonshine conjecture.

### Zoom Room Information

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