

**Submittee:** Ursula Whitcher

**Date Submitted:** 2014-08-06 11:00

**Title:** PIMS Undergraduate Workshop in Supersymmetry

**Event Type:** Conference-Workshop

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**Location:**

University of British Columbia, Vancouver

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**Dates:**

May 25-31, 2014

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**Topic:**

Adinkras and the mathematics of supersymmetry

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**Methodology:**

Lectures; problem sessions; student poster presentations; public lecture by S. Jim Gates; graduate school panel.

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**Objectives Achieved:**

The workshop introduced a group of outstanding undergraduate students to current research in mathematical physics, and fostered a community of mathematicians and physicists interested in promoting interdisciplinary undergraduate research.

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**Scientific Highlights:**

Student comments include "The actual event was an amazing learning and networking opportunity and I am very grateful that I was given the chance to partake in it," and "I was amazed by the quality of my fellow students at the workshop. There could not have been a better group of young math/physicists to spend a week working and playing with."

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**Organizers:**

Whitcher, Ursula, Department of Mathematics, University of Wisconsin-Eau Claire; Doran, Charles, Department of Mathematics, University of Alberta.

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**Speakers:**

S. Jim Gates (Physics, University of Maryland) and Stefan Mendez-Diez (Mathematics, University of Alberta) taught a mini-course on the physics of supersymmetry. Kevin Iga (Mathematics, Pepperdine) taught a mini-course on the mathematics of supersymmetry. Charles Doran (Mathematics, University of Alberta) presented on supersymmetry and Riemann surfaces. Ursula

Whitcher (Mathematics, University of Wisconsin-Eau Claire) gave technical presentations on the Sage computer algebra system and creating posters in LaTeX. Dagan Karp (Mathematics, Harvey Mudd College) moderated a panel on graduate school in the U.S. and Canada.

S. Jim Gates also gave a public lecture, "From the Adinkras of Supersymmetry to the Music of Arnold Schoenberg", with the following abstract:

The concept of supersymmetry, though never observed in Nature, has been one of the primary drivers of investigations in theoretical physics for several decades. Through all of this time, there have remained questions that are unsolved. This presentation will describe how looking at such questions one can be led to the 'Dodecaphony Technique' of Austrian composer Schoenberg.

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**Links:**

<http://people.uwec.edu/whitchua/supersymmetry/>

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