

APPLIED MATHEMATICS COLLOQUIUM

Date: Friday, October 17, 2014

Time: 2:30 – 3:30 p.m.

Location: Middlesex College Room 204

Supintegrability in Classical and Quantum mechanics

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Abstract:

We outline the basic ideas of classical and quantum superintegrability using the Kepler problem as an illustrative guide. The notion of polynomial algebra arises naturally from this. The extension of these ideas to classical/quantum systems which admit symmetries which are of higher order than 2 is examined and understandable proofs that we have indeed discovered such systems are given. Some discussion of future problems and their possible solution are also presented.

This is joint work with:

- Willard Miller, University of Minnesota
- Jonathan Kress, University of New South Wales
- Sarah Post, University of Hawaii
- George Pogosyan, Yerevan State University

About the Speaker:

Ernie Kalnins was the second PhD student to graduate in Applied Mathematics at UWO (1972); and earlier obtained an MSc in Applied Mathematics (1968) at UWO.

Recently a paper of Ernie's won best paper prize for Journal of Physics A for 2012:

<http://www.waikato.ac.nz/news-events/media/2012/07/waikato-professor-wins-journal-of-physics-a-best-paper-prize.shtml>