



Alex Rubinov Memorial Oration 2016

“Symmetry through Geometry”

Professor Nalini Joshi AO FAA FRSN FAustMS

Abstract:

The search for symmetries is an extraordinarily important area of mathematics. In this talk, we provide a new perspective on the corresponding problem for difference equations, by using a simple, beautiful geometric structure revealed in our recent study. The objects of this study are partial difference equations that arise as discrete versions of famous mathematical models. These discrete systems consist of equations fitted together in a self-consistent way on a square, a 3-cube or an N-dimensional cube. By using the beautiful geometric structure of space-filling polytopes, we show how to find their unexpected symmetry reductions.

Biography:

Professor Nalini Joshi is a Georgina Sweet Australian Laureate Fellow in the School of Mathematics and Statistics in the Faculty of Science, The University of Sydney.

She is an Officer of the Order of Australia for distinguished service to mathematical science and tertiary education as an academic, author and researcher, to professional societies, and as a role model and mentor of young mathematicians.

Nalini has had a distinguished career and besides her research in ordinary differential equations and dynamical systems, she has served the mathematical community in a number of roles. She actively lobbies to reduce gender gap in mathematics.

Please note: This talk is for a general audience, no mathematics background is necessary, and will be followed by questions from the audience.

All are welcome and encouraged to attend!



Thursday 3 November 2016
6.00pm

**Y016 Lecture Theatre, Y Building,
Mt Helen Campus**

All welcome

**Each year an oration to commemorate the
life of Prof Alex Rubinov is held to
celebrate his contribution to the
University as founding Director of the
Centre for Informatics and Applied
Optimisation.**

A light supper is provided following the oration.
Please RSVP to Helen Wade, 5327 6314 or
h.wade@federation.edu.au for catering purposes.