

Alex Rubinov Memorial Oration 2016

Symmetry through Geometry

Professor Nalini Joshi AO FAA FRSN FAustMS

Abstract: Symmetry is an essential part of our description of the world. The quality of being made up of exactly similar parts facing each other is all around us: one day reflects another and the days fill out the year in the same way that similar hexagonal compartments fill out a honeycomb. The mathematical description of symmetries is built from only two operations: reflections and translations. In two dimensions, these give rise to triangular, hexagonal and square tilings. But in higher dimensions, many more tiling patterns are available.

How do we go between higher dimensional tilings and two dimensional ones? We will explore the link between these ideas and two major theories in mathematical physics.

Biography:

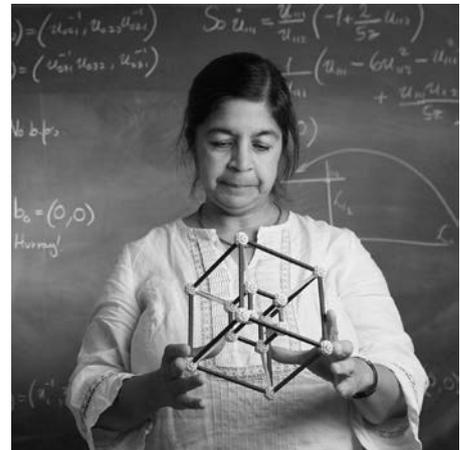
Professor Nalini Joshi is a Georgina Sweet Australian Laureate Fellow in the School of Mathematics and Statistics in the Faculty of Science, The University of Sydney.

She was appointed 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 the 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.**