

Notice of a **FREE PUBLIC LECTURE** presented



by the **Australian Institute of Physics (SA branch)**

<http://www.physics.adelaide.edu.au/aip-sa>

aip-sa@physics.adelaide.edu.au

Ph: (08) 8201 2093 or (08) 8277 7036 (a.h.)

Fax: (08) 8201 2905

Post: AIP-SA secretary, c/o SoCPES, Flinders University, GPO Box 2100, Adelaide SA 5001

in conjunction with the **Women-In-Physics Group**

The Claire Corani Memorial Lecture

being the South Australian lecture in the

2006 AIP Women-in-Physics Lecture Tour

at **7:30 pm** on **Wednesday 1st November 2006**

in **Union Hall** at the **University of Adelaide**

“Light, Particles, Action”

by **Professor Deborah Kane**
Physics Department,
Macquarie University



Abstract:

We bask in direct light from the sun most days. It warms us and enables us, with the use of our own sophisticated optical imaging system (the eye and brain), to see the world. But, we don't expect to move boulders with sunbeams. However, when we replace the sun with a pulsed laser beam; scale the boulder down to a micro- or nano-sized particle sitting on a surface; things change significantly. Come and hear about laser/particle/surface interactions, laser cleaning, laser/particle micro- and nano-patterning and how micro- and nano-optics can be very different than our understanding of optics on the macro-scale (such as our own eye/brain system, microscopes, telescopes, cameras etc). The science described is fascinating in its own right but also has technological application in areas such as semiconductor fabrication, manufacturing industries, and art & cultural heritage conservation.

Biography:

Deb M Kane has a Personal Chair in Physics and an international profile in the areas of

1. Semiconductor laser physics
2. Laser cleaning and surface modification
3. Development of Novel Ultra Violet and Vacuum Ultraviolet (UV/VUV) sources and their application to surface cleaning/treatments.

This broad range of research areas spans pure and applied physics, basic, strategic, and directly industrially relevant research (she is the co/author of >170 refereed journal publications and monographs). In addition to her contribution to research, Deb M Kane has served as Head of the Department of Physics at Macquarie University, contributes fully as a university teacher, and is a dedicated and regular contributor to outreach programs including most recently the 2006 Siemens Science Experience, HSC Enrichment Day, and school visits. In addition she applied successfully for funding, organised and led the “Young Women and Physics Residential Schools” held at Macquarie University in all years 1990-1996.

The Claire Corani awards will be presented at the meeting.