Notice of a *Free Public Lecture* presented jointly by the

Australian Institute of Physics (SA branch)

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

Meetings	Dr David Hartley	(08) 8303 5839	dhartley@physics.adelaide.edu.au	Fax: (08) 8303 4380
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and by the **National Institute for Theoretical Physics**

and the **Centre for the Subatomic Structure of Matter**

at **7:30 pm, Wednesday 9th December 1998**

in the **Flentje Lecture Theatre,**

Plaza building, University of Adelaide

"Supercomputer Experiments with Quarks and Gluons"

by **Dr Greg Kilcup**

Ohio State University

Abstract:

Over the course of the past three decades, theoretical physicists have erected an elegant framework which provides an understanding of the interactions between the smallest particles ever discovered. It is commonly believed that this so-called Standard Model of particle physics is not the last word, and that something even more elegant must lie underneath to describe the universe around us. In this talk I will explain how the pursuit of such theories has led one community of physicists to perform large scale numerical simulations involving hundreds of billions of arithmetic operations every second over periods of months to years. These simulations push the limits of existing supercomputers, and in some cases have motivated research groups to build their own supercomputers. This presentation will use computer animations to visualize quarks and gluons at work.

Biography:

Gregory Kilcup is an Associate Professor of Physics at the Ohio State University (Columbus, Ohio). Educated at Yale and Harvard, Prof. Kilcup is a leader in the field of numerical quantum field theory. Among his distinctions are being named an Outstanding Junior Investigator and a Presidential Young Investigator.

Notes: Contact for Greg Kilcup is Dr Derek Leinweber, ph: (08) 8303 3423,
email: dleinweb@physics.adelaide.edu.au.

Greg Kilcup is in Adelaide for a workshop at the CSSM.

Please help to publicize this lecture by display of the notice above. AIP members are invited to have dinner together with delegates from the CSSM workshop in the Equinox restaurant (Union building, the University of Adelaide) from 6 pm on the evening of the lecture. Please book for the dinner with Ms Tanya Weir on (08) 8303 5996, or with the AIP-SA secretary, by noon on Tuesday 8th December.