



ALUMNI UPDATE

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AUGUST 2009

Free Public Talk

Why is there something instead of nothing? Why are there so many different elementary particles? Past Nobel Laureates in Physics have presented theoretical insights that give us a deeper understanding of what happens far inside the tiniest building blocks of matter.

Dr Kevin Varvell, leader of the School's High Energy Physics Group who works on the Large Hadron Collider (LHC), will give an entertaining overview of the science behind 2008's Nobel Prize in Physics. This free talk will be held in the Slade Lecture Theatre, School of Physics, Physics Road, Camperdown campus, University of Sydney at 6.30pm Thursday 20 August. To book your place call (02) 9351 3472 or email: outreach@physics.usyd.edu.au



Eureka!

School of Physics researchers Professor Marcela Bilek, an ARC Federation Fellow and Professor David McKenzie, an ARC Professorial Fellow along with Professor Cristobal dos Remedios and Professor Anthony Weiss are finalists in the Australian Research Council (ARC) prize for interdisciplinary research for their work combining physics and biology to create technology that binds active biomolecules to any synthetic surface. Marcela (above right) currently heads a number of large interdisciplinary projects focusing on the modification of surfaces to optimise their interactions with biomolecules. She has discovered a new organic surface structure, which is capable of immobilising proteins using robust covalent bonds without the need for chemical linkers.

These recently patented surfaces, created by energetic ion impacts on polymers or by the deposition of organic species with energetic ion bombardment, also have the desirable property of allowing the proteins to retain their bioactivity over extended periods. This combination of properties makes these surfaces ideal candidates for applications in biosensors, diagnostic array chips and implantable body parts. We wish Marcela and David the best of luck for success in the Eureka Prizes, to be awarded on 18 August.

The School of Physics Foyer has been recently been refurbished. In a ribbon cutting ceremony, Dr Roy Allen, Physics Museum benefactor and physicist, was pleased to see not only the sandstone restored and blue ceiling gleaming but more importantly that several of the Physics Museum objects also figure prominently. Elegantly displayed in contemporary cases they show off not just their interest as scientific experimental equipment but also their beauty as unique items. When next visiting the School of Physics make sure you stop and have a look at these fascinating objects.

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ISA: Gets the Green Gong

The **NSW Government's Green Globe Awards** are given annually to NSW organisations showcasing outstanding achievement in the sustainable use of natural resources, and leadership in tackling climate change. The Integrated Sustainability Analysis (ISA) research team in the School of Physics was awarded the Green Globe Public Sector Sustainability Award for the development of a new assessment tool for organisations to calculate their ecological footprint. ISA team members Professor Manfred Lenzen, Dr Christopher Dey (right) and Dr Joy Murray have made a huge contribution to sustainability in NSW and globally by making the measuring of the carbon footprint of a business or organisation much easier by inputting data to a computer program to devise truly sustainable strategies and outcomes that benefit the environment, economy and society. Calculate your carbon footprint visit: www.isa.org.usyd.edu.au/



ISS2009 Alumni

The 35th **Professor Harry Messel International Science School – Genes to Galaxies** was a great success. While scholars (below - photographs all courtesy of ISS2009 house-parent Karen Palmer) enjoyed the science lectures, activities and events they especially enjoyed meeting each other. All 140 science enthusiasts soon formed fast friendships with many tears shed and contacts given on the last day. We look forward to our newest ISS alumni staying in touch with us to let us know how they're doing post-ISS. It was great to see so many of our alumni pack The Great Hall at the ISS2009 Gala Reception. Images will soon be on the Science Foundation for Physics website for your viewing pleasure – visit: www.physics.edu.au/foundation Podcasts of the ISS2009 lectures will soon be available from the ISS 2009 website: <http://www.scienceschool.usyd.edu.au/history/2009/> If you're interested in hearing ABC's Triple J Radio interview ISS2009 guest speakers, Dr Karl Kruszelnicki and Professor Jill Tarter, Director of SETI, visit: www.abc.net.au/science/drkarl/scienceontriplej/



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