

# Monday 6th July 2009

8:45am	REGISTRATION: Information Desk, Foyer C Block Lecture Theatre Complex			
	<b>Chair: Jenni Adams</b> <b>PLENARY SESSIONS – Lecture Theatre C2</b>			
8:45am	Opening of Conference - <b>Dr Rod Carr</b> , University of Canterbury, Vice Chancellor			
9:00am	<b>Paul Callaghan</b> (Alan MacDiarmid Professor of Physical Sciences) - <i>Transforming New Zealand's prosperity: the remarkable opportunity for physics.</i>			
10:00am	<b>Richard Watts</b> - <i>Where is the Physics in Medicine?</i>			
10:30am	<b>Chair Peter Cottrell</b> Morning Tea			
11:00am	<b>Fred Watson</b> - <i>Spaghetti Astronomy - Revealing the Universe with Optical Fibres</i>			
12:00pm	<b>Adrian McDonald</b> - <i>Climate change: a physics perspective</i>			
12:20pm	<b>IYPT Summary and Challenge Initiation</b>			
12:30pm	Lunch			
	<b>RESEARCH</b>	<b>Lecture Theatre C2</b>	<b>PHYSIKOS Session 1</b>	<b>Copper Top</b> <b>PHYSIKOS Session 2</b> <b>COM 002</b>
1:30pm	<b>Chair: Grant Williams</b>		1:30pm	<b>Chair: Nathan Mehrrens</b>
	<i>C Murray Bartle - Optimising calibration body materials used to establish accuracy of neutron/gamma and xray/xray dual-beam methods for composition measurement in industry</i>			<i>Francis Bryden - Myths and Misconceptions in Physics</i>
1:50pm	<i>Nicola Winch - Light Scattering in Glass Ceramic X-ray Imaging Plates</i>			<i>Des Duthie - Learn from my mistakes on teaching students to learn from theirs</i>
2:10pm	<i>Musaed Almalki - Gadolinium Concentration Analysis in Brain Phantom by X-Ray Fluorescence</i>	2:00pm	<i>Catherine Low - Misconceptions 2</i>	
2:30pm	<i>Chris Varoy - Structural and Scintillation Properties of Variants of Ba1-xCexCl2+x Ceramics</i>	2:20pm	<i>Steve Chrystall - Space Exploration and Astronomy in the Physics classroom</i>	
2:50pm	<i>Rafidah Zainon - Spectroscopic x-ray computed tomography imaging of plaque and arteries using the Medipix detector</i>			<i>Michael Cree - Revisiting puck momentum conservation experiments with a modern machine vision system</i>
3:10pm	Afternoon Tea			
3:40pm	<b>Chair: Murray Bartle</b>		3:40pm	<b>Chair: Colin Bell</b> <b>COM 101</b> <b>Chair: Alison Adams</b> <b>COM 002</b>
	<i>Adam Hyndman - Growth and Characterisation of Cobalt Doped Titanium Dioxide Films</i>		<b>COM 101</b>	<i>Matt Harris - FutureInTech: Applications of Statics</i>
4:00pm	<i>Jidi Sun - Implementation of 2-Step intensity modulated arc therapy</i>		4:10pm	<i>Phil Hunter (Senior Design Engineer, Eaton Corporation) - Future in Tech Applications of AC theory.</i>
4:20pm	<i>Peter Murmu - Rare earth doping of zinc oxide for spintronic applications</i>		4:25pm	
4:40pm	<i>My T. Do - Femtosecond spectrally resolved four-wave mixing study of population and coherence dynamics of carotenoids</i>		4:40pm	<i>Denis Burchill - Physics Teachers' views of practical work</i>
5:00pm	<i>Sebastiampillai Raymond - Optically Stimulated Luminescence in RbMgF3 and RbCdF3 doped with Eu2+ or Mn2+</i>		5:10pm	

## Tuesday 7th July 2009

	<b>Chair: David Housden</b>		<b>Lecture Theatre C2</b>				
9:00am	<b>Gorazd Planinšič – Project Laboratory</b>						
10:00am	<b>Haggis Henderson - How to give your science lessons a good kick in the arts</b>						
10:30am	<b>Morning Tea</b>						
	<b>Chair: Alison Adams</b>		<b>Lecture Theatre C2</b>				
11:00am	<b>John Campbell – The making of the Rutherford documentary</b>						
11.30am	<b>Kerry Parker - How to get our students to learn physics rather than just gain credits</b>						
12:00pm	<b>Lunch</b>						
12:30pm	<b>NZIP AGM</b>						
	<b>RESEARCH</b>	<b>Lecture Theatre C2</b>		<b>PHYSIKOS Session 1</b>	<b>Copper Top</b>	<b>PHYSIKOS Session 2</b>	<b>COM 002</b>
1:30pm	<b>Chair: Malcolm Ingham</b>		1:30pm	<b>Chair: Gillian Turner</b>		<b>Chair: Colin Bell</b>	
	Peter D. McDowall and Mikkel F. Andersen – <i>A Novel Laser Frequency Stabilization Scheme for Atom Interferometry Experiments</i>			Denis Burchill, - Workshop: <i>The Good, the Bad and the UV</i>		Cris Ardouin (Senior Scientific Advisor, National Radiation Laboratory) – <i>FutureInTech, Applications of radioactivity</i>	
1:50pm	Richard Graham – <i>Scale Factor Corrections in Ring Laser Gyroscopes</i>		2:00pm	Lyall Prestidge – <i>NCEA</i>			
2:10pm	Jibu Stephen – <i>Magnetotransport and Magnetisation Study of Sr<sub>2</sub>FeMoO<sub>6</sub> and Br<sub>2</sub>FeMoO<sub>6</sub></i>		2.15pm				
2:30pm	Kent Hogan – <i>Urban Micro Wind installations – a viable distributed Generation approach in windy Wellington</i>		2:30pm,	Des Duthie – another chance to see.....		<b>VAULT</b> Neil Riley – <i>Livewire Learning – an interactive web-based NZ curriculum focussed software program</i>	
3.00pm	<b>Afternoon Tea</b>						
3.30pm	<b>Chair: Gillian Turner</b>			<b>Chair: Catherine Low</b>		<b>Copper Top</b>	<b>Chair: COM 101</b>
3.30pm	Russell Bisset and P. B. Blakie – <i>Quasi-condensation and coherence in the quasi-two-dimensional trapped Bose gas</i>		3.30pm	IDEA SHARING		Dave Thrasher – <i>Quick, efficient and easy feedback to students and parents using mail-merge</i>	
3.50pm	Grant Williams – <i>Magnetotransport and Magnetization Study of SrFeOx</i>						
4.10pm	Stefaan Janssens – <i>Photostability and ground state bleaching studies of zwitterionic chromophores</i>		4:15pm				
4.30pm	Geoff Willmott, Industrial Research Limited – <i>Nanopore Physics</i>		4:30pm	Steve Chrystall – <i>Alternating Current – Keeping it warm and fuzzy</i>		<b>VAULT</b> Charmaine Nelson - <i>LEARNZ virtual field trip programme</i>	

# Wednesday 8<sup>th</sup> July 2009

	<b>Chair: Steve Chrystall</b>	<b>Lecture Theatre C2</b>
9:00am	<b>Don Pettit - NASA</b>	
10:00am	<b>Simon Brown - <i>Size makes a difference: why nanoscale particles are different to larger particles</i></b>	
10:30am	<b>Morning Tea</b>	
	<b>Chair: Roger Reeves</b>	
	<b>MORNING SESSION ONE</b> Location: Lecture C2	<b>MORNING SESSION TWO</b> Location: Copper Top
11:00am	<b>Joan Gladwyn - <i>Careers in Physics</i></b>	<b>Les Black - <i>Datalogging in Physics</i></b>
11:30am	<b>Rod Paton - <i>A High School Physics teacher's view of first year engineering</i></b>	
12:00pm	<b>Richard Duke - <i>Review of engineering programmes in New Zealand</i></b>	
12:30pm	<b>Lunch</b>	
	<b>RESEARCH</b> Lecture Theatre C2	<b>PHYSIKOS Session 1</b> Copper Top
	<b>PHYSIKOS Session 2</b> <del>Lecture Theatre C3</del>	
1.30pm	<b>Chair: Cather Simpson</b>	<b>1.00pm Chair: Veronica Cahyadi</b>
	<b>Dr Gillian M. Turner - <i>What can Abel Tasman's Compass teach us about Earth's Core?</i></b>	<b>Gorazd Planinsic - <i>Making "invisible" visible</i></b>
1.50pm	<b>Stephanie Hickford - <i>Cascade Analysis in IceCube</i></b>	
2.10pm	<b>Keleigh Jones - <i>Resolving sea ice microstructure using cross borehole resistivity tomography</i></b>	
2.30pm	<b>Jennifer Kirchoff - <i>Utilizing Dopants to Study Complex Liquid Crystal Phases</i></b>	<b>2:30pm</b>
2.50pm	<b>Giles Reid - <i>The Strangeness of Supernova Neutrinos</i></b>	<b>3.00pm</b>
3.10pm		<b>Kent Hogan, Des Duthie and Kerry Parker - <i>IYPT fight</i></b>
3:30pm	<b>Afternoon Tea and Prize Giving</b>	