



Alumni & Friends Newsletter

The School of Physics

Issue 4, July 2006



THE UNIVERSITY OF
MELBOURNE

Our students

We are pleased to report an increase in the student numbers of the Physics research community. This year, we have 28 Honours and Postgraduate Diploma students (including 9 females) and 20 additional postgraduates enrolled in Masters and PhD programs, all increases from last year. In total that amounts to 115 Honours and Postgraduates studying in the School.

It is pleasing to see a large percentage (nearly 60%) of last year's Honours cohort have chosen to continue with postgraduate studies.

We extend our congratulations to new students who have received the

following research scholarships, recommendations and prizes.

Tracy Slatyer - Grimwade Scholarship (and who has since been offered the prestigious Menzies Scholarship for study at Harvard University)
John-Paul Goldby - Dixon Research Scholarship in Physics
Nadia Davidson - Professor Kernot Research Scholarship in Physics, The Ramm Prize in Experimental Physics
Melissa Makin - John Tyndall Scholarship
Alistair Stacey - EM & JF Ward Prize for Experimental Physics
Adrian D'Alfonso - Ernst & Grace Matthaei Scholarship
Jayne Thompson - William Sutherland

Prize

Grace Liu - TF Ryan (Roentgen) Prize
Chun-Hsu Su - Bryan Scholarship
Christoph Hofmann - Best Honours talk 2005
Jay Bourke - Best Honours talk 2005



BBQ for Honours 2005. Chris Chantler awards best Honours talks to Jay Bourke (in red) and Christoph Hofmann

Student Profile

Nadia Davidson, PhD candidate, has won the Ramm Prize for best experimental work performed by an Honours student in 2005. She has also received the Professor Kernot scholarship for 2006. While in Honours, as a member of the Experimental Particle Physics (EPP) group, she worked on the feasibility of detecting supersymmetric dark matter with the ATLAS experiment at the

Large Hadron Collider. She continues her research studying detector signatures to discover supersymmetric processes.

Nadia plans to travel to CERN in Geneva this year and looks forward to analysing real data from the ATLAS experiment. It is hoped that New Physics beyond the Standard Model may be seen for the first time.



Nadia Davidson, EPP group

Thank you

The School gratefully acknowledges the generosity of Emeritus Professor Tony Klein, former Head of the School (1987-96), Victor and Fleur Spitzer and Naomi Kaldor. A trust fund has been set up in support of the Klein Scholarship for "the most creative research in experimental physics".

Indeed, the School continues to thank contributions from all benefactors especially to those families responsible for the scholarships and prizes mentioned above. In this environment of declining government funding for universities, we are increasingly dependent on philanthropic support to

ensure that all of the best and brightest students are encouraged to study at the best Physics School in Australia and enjoy the best research experience possible.

The Centre Launch

For those who were able to attend the opening of the ARC Centre of Excellence for Coherent X-ray Science led by Professor Keith Nugent, we are sure you will agree that it was a great evening. Hosted at the magnificent Ian Potter gallery, Vice-Chancellor Prof Glyn Davis formally opened the event recalling the early efforts of Adelaide



Back (L-R): Phillip Urquijo, Scott Findlay, Dr Rotha Yu, Adrian Mancuso, Dr Garth Williams. Front (L-R): Paul Fraser, Lachlan Whitehead, Clare Henderson

physicists WH and WL Bragg, the father-and-son Nobel Prize winners who discovered the X-ray scattering in crystals which later paved the way for Watson and Crick to decode the structure of DNA. It was a nice link, as Keith Nugent's Centre represents an innovative multi-disciplinary, inter-institutional research effort that aims



Prof Geoffrey Taylor, Vice-Chancellor Prof Glyn Davis, Prof Keith Nugent, Dr Michael Barber (CSIRO), Prof Leann Tilley (La Trobe), Prof Margaret Clayton (ARC)

to develop new approaches for high-resolution imaging of membrane proteins and molecular structures. We must also congratulate Keith on being re-awarded his Federation Fellowship for a further 5 years. It is great result for him and the School.



Dr Trevor Smith (Chemistry), A/Prof Ann Roberts (Optics), Robyn Sloggett (Cultural Material Conservation), A/Prof Rob Scholten (Optics)

Research

Academics at the School performed very well in the latest round of Australian Research Council competitive grants 2006, with Physics attracting the most funds for the Faculty. Despite the positive result, however, funding continues to be extremely competitive in an ever diminishing funding pool.

Funded projects:

"Origin of the mass" – Elisabetta Barberio

"Fundamental implantation epitaxy and defects studies in silicon" – Jeff

McCallum et al

"Diamond based quantum information processing" – Steven Prawer, David Jamieson et al

"Cosmology and astrophysics with neutrinos and other elementary particles" – Ray Volkas

"Frontiers of theoretical particle physics" – Ray Volkas, Bruce McKellar, Girish Joshi

"Support for the Australian High Energy Physics Program" – Geoff Taylor et al

"The Australian Virtual Observatory" – Andrew Melatos et al

"Australian Membership of the

International Gemini Partnership" –

Rachel Webster et al

"Foundational National

Nanotechnology Infrastructure" – David Jamieson et al

Fellowships were awarded to:

Nicoletta Dragomir – "Quantitative polarisation phase microscopy"

Chanh Tran – "Advancing X-ray Imaging into new dimensions"

Patrick Reichart – "Diamond based quantum information processing"

Paolo Olivero – "Diamond based quantum information processing"

Announcements

It is with sadness that we report the passing of Professor Richard Dalitz (1925 – 2006). His name is synonymous with high-energy physics and was known for the Dalitz plot, Dalitz (electron-positron) pairs and

Castillejo-Dalitz-Dyson poles. He pioneered the theoretical study of strange baryon resonances, of baryon spectroscopy in the quark model and of hypernuclei. Born in Dimboola, he gained degrees in physics and

mathematics at Melbourne University before moving on to Britain in 1946 to do his PhD. He spent 10 years in the US before taking up a chair at Oxford University. He is survived by his wife, three daughters and a son.

Prizes

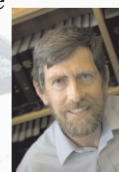
Assoc Prof Les Allen was awarded the John Sanders Medal 2006 for excellence in developing or applying electron microscope techniques in the physical sciences. His original research has been acknowledged as having the made the

most important contribution in this area.

Dr Nicole Bell, currently at Caltech and soon to join the department early next year as Lecturer in theoretical particle physics, has been awarded the

Michelson Postdoctoral Prize by Case Western University.

A/Prof Les Allen, TCMP group



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