The Australian National University

Weekly Bulletin

Research School of Physical Sciences & Engineeering

Volume 34 Number 18
9 – 15 May 2008

SCHOOL SEMINARS

Applied Mathematics Seminar
Monday 12 May
11:00am
"Modelling nanostructures as nano-oscillators and for applications in nanomedicine"
by Dr Tamsyn Hilder
(recently submitted PhD at Wollongong University)
This seminar presents three aspects of my research into mathematical modelling in nanotechnology. In particular it presents an alternative formulation for determining the intermolecular force between interacting molecules, nanostructures as nano-oscillators, and nanotubes for applications in nanomedicine.
School Seminar Room
All Welcome

Applied Mathematics Seminar
Monday 12 May
3.15pm
"Effective slip boundary conditions for heterogeneous surfaces in fluid dynamics"
by Shaun Hendy, Industrial Research Ltd
Applied Maths Seminar Room, L2.17 LeCouteur Building
All Welcome

Applied Mathematics Seminar
Friday 16 May
3.15pm
"The Discrete Element Method -The model, the implementation and the application"
By Gary Delaney - Post Doc Applied Maths
Applied Maths Seminar room Level 2 Le Couteur Building
All Welcome

TIMELY TREADLIES

RSPHYSSE has an alternative mode of transport available to all staff and students. Along with two vehicles, the school also provides two bicycles and helmets through the ANU Timely Tredlies program. If the cars are not available, you are not authorized to drive them, or if you feel like a bit of environmentally friendly exercise then come along to the front office to sign up for a bike. Simply sign the declaration of competence and book one of the two bikes (mens or womens) to treadle away!

STAFF MOVEMENTS

Dr Drew Parsons, Applied Mathematics, will be presenting Thermal Physics lectures for Physics 2020.

Applied Mathematics would like to welcome Dr Judith Caton, a visiting fellow associated with the Kioloa Coastal campus. We would also like to welcome Dr Guangming Liu as a postdoc. Ming will be working with Dr Vince Craig.

Professor Peter Bouwknegt, Department of Theoretical Physics, will be overseas from 10-22 May. During this time he will lecture at the Summer School "New Paths towards Quantum Gravity" and participate in the workshop "Quantum Gravity: an Assessment", both at Holbaek Bay, Denmark, as well as visit the SNF Center in Non-Commutative Geometry at the University of Copenhagen, Denmark.

Professor Mukunda Das, Theoretical Physics, will visit the School of Physics, University of Sydney and give a Colloquium on 12 May 08.

Dr Alexis Diaz-Torres, Department of Nuclear Physics, left for Europe on 3 May to visit the Institute for Theoretical Physics in Giessen, Germany and then to participate at the Workshop on State of the Art in Nuclear Cluster Physics in Strasbourg, France. Alexis will return to the Department on 19 May.

VISITORS

The Department of Nuclear Physics is pleased to welcome Mr Thomas Geruschke, a PhD student from Bonn University, Germany, who will be

working with Professor Byrne on the project "Magnetic semiconductors: transition metals in wide band gap semiconductors" until 2 June.

FROM THE ACTING FACILITIES & SERVICES MANAGER

SMS Notification of Emergency on Campus

Last year, after the storms that caused so much damage on Campus, an SMS system was set up to notify staff and students when a major 'event' happens on campus - especially one that would require a significant response from staff and students.

To receive this service you will need to register you mobile phone details as set out below:

The Personal Details sections in HORUS and ISIS now includes a new field labelled 'Campus Emergency Mobile Phone Number'.

If you have a mobile number which could be used for receiving an SMS message in the case of a University emergency, please be sure to enter it in that new field as soon as you can. This step should be taken whether or not the mobile number happens to also be one of your standard contact numbers. Should an emergency arise, those numbers will be used for 'broadcasting' SMS messages as one of a number of measures we would take to do what we can to keep you informed. They will otherwise remain confidential to the 'campus emergencies data base'.

For further details please see:
http://information.anu.edu.au/daisy/infoservices/g1/319/1422/1503.html

Bikes in Offices

A gentle reminder: Please park bikes in the appropriate areas. Bikes are not to be stored in offices. Bringing bikes into the building is damaging walls and marking carpets.

Battery Recycling

A new recycling initiative has started on campus. Battery recycling is now available through the School Store. A recycling bin has been placed there for the recycling of lead acid and alkaline batteries. Please see your friendly Store Staff for assistance.

FROM THE RSPSE OHS COMMITTEE

Rechargeable Batteries
46 (2008)
ANU Hazard alert

Rechargeable batteries are electrochemical cells in which the electrochemical reaction that releases energy is readily reversible. Some commonly used chemistries include nickel-cadmium (NiCd), nickel metal hydride (NiMH), lithium-ion (Li-ion) and lithium-polymer (LiPo).

Rechargeable batteries are used in many modern devices including mobile telephones, laptop computers, digital cameras, portable games consoles, scooters, electric wheelchairs & cycles, and scientific and other equipment.

One area for concern with the use of rechargeable batteries is the possibility for them to be overcharged.

Chargers for rechargeable batteries should utilise a continuous-current/constant-voltage (CC/CV) charging regime, and have an auto cut-off function. Where a charger does not have an auto cut-off function, it must be manually switched off to prevent overcharging of the battery. Please consult your manufacturer's documentation to determine the type of battery, charging system and the maximum time it should remain on charging.

If a rechargeable battery is overcharged, it has a risk of overheating, smouldering, fire and explosion. In the event of overcharging, the charger should be immediately isolated from its power supply. A carbon dioxide extinguisher is the best extinguisher to use on a rechargeable battery pack that is smouldering or on-fire. Water or wet agents should not be used as an extinguishing agent, as the battery may react with water or there is a risk of electrocution.
http://info.anu.edu.au/hr/OHS/Hazard_Alerts/_Rechargeable_Batteries.asp

GRANTS AND AWARDS

Monash University

Program Number: 96978
Title: Collaborative Research Support Scheme
E-mail: Kylie.Thoroughgood@adm.monash.edu.au
Program URL:
http://www.monash.edu.au/research/academics/funding/information/monash/monash-csiro.html
The sponsors provide support to encourage the

development of collaborative research between the two organisations in priority areas. Preference will be given to applications where at least one of the Principal Investigators from either Monash University or CSIRO has less than six years postdoctoral research experience. Multidisciplinary applications are encouraged.
Deadline(s): 16/07/2008
Link to full program description:
http://australia.infoed.org/spin/spin_prog.asp?96978

Semiconductor Research Corporation
Program Number: 96994
Title: Modeling & Simulation of Nanoelectronic Materials, Processes, and Devices
E-mail: kwok.ng@src.org
Program URL: http://grc.src.org/fr/S200803_call.asp
The sponsor is soliciting white papers in the area of modeling and simulation (M&S) of nanoelectronic materials, processes, and devices. The principal goals of this discovery-driven program are to apply M&S techniques to understand and overcome fundamental scientific barriers to extending Digital CMOS and related technologies to their ultimate limits, to the development of novel memory technologies, and to the development of high performance analog and mixed-signal technologies. These goals will be accomplished by linking the proposed theoretical modeling and simulation program with on-going experimental studies of nanoelectronic materials and devices.
Deadline(s): 16/06/2008
DEADLINE NOTE
The deadline for receipt of white papers is June 16, 2008 by 3:00pm ET. Full proposals, if invited, will be due by September 15, 2008 by 3:00pm ET.
Link to full program description:
http://australia.infoed.org/spin/spin_prog.asp?96994

American Physical Society
Program Number: 05369
Title: Outstanding Doctoral Thesis Research in Beam Physics Award
E-mail: gena@physics.utexas.edu
Program URL:
http://www.aps.org/programs/honors/dissertation/beamphysics.cfm
The sponsor offers an award to recognize outstanding doctoral thesis research in beam physics and engineering.
Deadline(s): 30/09/2008
Link to full program description:
http://australia.infoed.org/spin/spin_prog.asp?05369

Anglo-Australian Observatory
Program Number: 88657
Title: Student Fellowship Program
E-mail: sdr@aao.gov.au
Program URL:
http://www.aao.gov.au/AAO/students/aaosf.html
The sponsor provides fellowships for UK and Australian students to study at the Anglo-Australian Observatory.
Deadline(s): 15/08/2008
DEADLINE NOTE
The deadline for Southern Hemisphere students is August 15, 2008. The deadline for UK Students is February 15.
Link to full program description:
http://australia.infoed.org/spin/spin_prog.asp?88657

Canadian Space Agency
Program Number: 97013
Title: Innovative Research and Development of Applications Using RADARSAT-1 Hurricane SAR Data
E-mail: steve.iris@space.gc.ca
Web Site:
http://www.space.gc.ca/asc/eng/scientific/ao/2008-eo_research.asp
Program URL:
http://www.space.gc.ca/asc/pdf/2008_eo_radarsat.pdf
The sponsors, in cooperation with the Center for Southeastern Tropical Advanced Remote Sensing (CSTARS), provide support for research into new developments in the application of RADARSAT-1 data and innovative mapping approaches to better understand the dynamics of hurricane genesis, morphology , movement and the effect of wind on the sea surface.
Deadline(s): 30/05/2008
DEADLINE NOTE
The deadline for receipt of required letters of intent is May 30, 2008. The deadline for receipt of full proposals, if invited, is June 30, 2008.
Link to full program description:
http://australia.infoed.org/spin/spin_prog.asp?97013