



## Research School of Physics and Engineering

Weekly newsletter | Volume 39 Number 24 | 21-27 June 2013

### DIRECTOR'S COLLOQUIUM



**The Higgs anniversary: Unification, The Standard Model and the Greatest Story Ever Told... so far**

**Professor Lawrence Krauss**

RSAA and Origins Project, Arizona State University

**12:00 Thursday 4 July**

Leonard Huxley Lecture Theatre

Snacks will be provided at 11:30pm in the RSPE tearoom

### WELCOME

#### Atomic & Molecular Physics Laboratories

We welcome **Professor Ravi Rau** from Louisiana State University back to the School as a Visiting Fellow. Ravi will be located in AMPL and will be in the School from 11 June until 15 July. He can be found in room 5.01 in Cockcroft East.

### FAREWELL

#### Electronics Material Engineering

Farewell **Dr Steffan Breuer** who is returning to Germany to take up a position on 1 September at Fraunhofer IAF.

### STAFF MOVEMENTS

#### Theoretical Physics Department

**Dr Vladimir Mangazeev** will be overseas from 17 June to 27 July. He will give invited talks at the International Workshop on Quantum Many Body Systems in Low Dimensions, Wuhan, China, at the international workshop on Elliptic Integrable Systems in the Lorentz Center, Leiden, Netherlands and at the XXV IUPAP International Conference on Statistical Physics, Seoul, Korea. He will also visit the Institute of Physics and Mathematics, Wuhan, China and the Institute for High Energy Physics, Russia for collaborative research.

**Professor Peter Bouwknegt and Dr David Ridout**, both will be attending the second Pacific Rim Mathematical Association Congress (PRIMA 2013), to be held at the Shanghai Jiao Tong University, 24-28 June; Prof Bouwknegt as a special session organiser, and Dr Ridout as invited special session speaker.

**Professor Murray Batchelor** will be absent from 1 June – 22 July to take up an appointment at the Centre for Modern Physics, Chongqing University in China. During this time he will give an invited talk at the Institute for the Early Universe Workshop on Integrability & CFT to be held in Seoul from 18-21 July.

#### Electronics Material Engineering

**Professor Mark Ridgway** will be absent 24-28 June. **Professor Hoe Tan** will be Acting HoD.

**A/Prof Patrick Kluth, Dr Boshra Afra** and PhD students **Thomas Bierschenk & Daniel Schauries** will be attending the 17th International Conference on Radiation Effects in Insulators in Helsinki, Finland 28 June to 7 July.

**Professor Jim Williams** will be visiting with collaborators at Oxford and Harvard Universities for further ARC collaboration 19 – 27 June, and finally attending the 7th International Conference on Materials for Advanced Technologies (ICMAT 2013) in Singapore 30 June – 6 July.

#### Plasma Research Laboratory-SP3

**Professor Rod Boswell** will be giving invited conference lectures on bio applications of plasma in Jeju Korea, Electron Beams in Space Plasmas in Nagano Japan and Ion Beam Milling in Tokyo from 22 June - 20 July.

### DEPARTMENTAL SEMINARS

#### Applied Mathematics

**Hyper-Promethian array calorimetry in ultrafast laser X-ray chemistry labs – its connections to neutron facility TOF techniques**

**Dr Wilfred Fullagar**

Chemical Physics, Lund University (Sweden)

**3:17pm Tuesday 25 June**

Le Couteur Building 3.17

#### Nuclear Physics Department

**Spectroscopy of actinide nuclei**

**Dr Sankha S Hota**

Nuclear Physics Department

**11:00am Monday 1 July**

Nuclear Physics Seminar Room

## FRAME YOUR PHYSICS

Following on from last year "Frame your Physics" competition, the ACT branch of the AIP will again run the competition in 2013 to promote the communication of physics to a general audience. The idea is to make a video of up to 3 minutes presenting a topic in physics in an entertaining and informative way. There will be various prizes up for grabs including for high school students, schools and also for university students. We have been advertising the competition in our undergraduate courses and we encourage supervisors to promote the competition with their Honours and PhD students as well. Entries must be submitted by August 19. Further information can be obtained from the "Frame Your Physics" website at [www.act.aip.org.au/Frame\\_Your\\_Physics](http://www.act.aip.org.au/Frame_Your_Physics) or contact us: Andre Carvalho ([andre.carvalho@anu.edu.au](mailto:andre.carvalho@anu.edu.au)) and Cormac Corr ([cormac.corr@anu.edu.au](mailto:cormac.corr@anu.edu.au))

## PROJECT MARKET DAY

On 13<sup>th</sup> August 2013 there will be an opportunity for staff to showcase their research and potential projects to both undergraduate students at all levels as well as graduate students. This is a great opportunity to attract potential students (3rd year project, PhB, Honours and PhD) to your research area. We expect a large participation of the undergraduate student cohort. Request for project descriptions and other information will be circulated in the coming week.

## NUCLEAR PHYSICS ALUMNUS RECEIVES PUBLIC SERVICE AWARD

Dr Doug Kean has been awarded the Public Service Award in the 2013 Queen's Birthday Honours List. He received the award for outstanding service in contributing to the understanding of Australia's strategic interests and the international environment. Doug completed his PhD in Nuclear Physics in 1969 and works at the Strategic Analysis Branch, Office of National Assessments.

## ROBERT AND HELEN CROMPTON AWARD 2013

Nominations are being sought for the Robert and Helen Crompton Award 2013.

This Award provides funding of up to \$20,000 to assist postgraduate research students enrolled at the Research School of Physics and Engineering to undertake part of their research program overseas or make a collaborative visit to an overseas institution, for 3 to 6 months.

The closing date for applications is 15th July 2013. Please e-mail applications to [research.students@physics.anu.edu.au](mailto:research.students@physics.anu.edu.au) by 5pm 15th July 2013.

For enquiries, please contact Luda or Karen on [research.students@physics.anu.edu.au](mailto:research.students@physics.anu.edu.au)

## VICE-CHANCELLOR'S HDR TRAVEL GRANTS (FOR RESEARCH STUDENTS)

Information on Vice-Chancellor's HDR travel grants has been updated and is now available at <http://students.anu.edu.au/manage/vc-travel-grants.php>

## TPOLOGICAL DATA ANALYSIS WORKSHOP

**25 & 26 June 2013 @ the University of Melbourne.**

A workshop providing both theoretical background and direct practical experience in applying topological data analysis to the challenges of big and complex data.

### **Keynote Speakers:**

**Professor John Harer, Duke University**

Introduction to Persistent Homology and its application to big data

**Dr Facundo Memoli, University of Adelaide**

Persistence diagrams and shape classification

**Dr Vanessa Robins, ANU**

Topological image analysis

**Ms Kate Turner, University of Chicago**

Statistics on persistence diagrams

**Day 1 (9:30-4pm)** Introduction to Topological Data Analysis, Overview of application areas, Hands-on Software session.

**Day 2 (9:30-1pm)** Advanced techniques in Topological Data Analysis.

There is no registration fee for this workshop which is co-sponsored by the ARC Centre of Excellence for Mathematics and Statistics of Complex Systems and the Defence Science Institute.

For more details see:

<http://www.defencescienceinstitute.com/content/topological-data-analysis-workshop-25-26-june>