

# Weekly Newsletter

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## Physics & Astronomy

### FROM THE HOD (ASSOCIATE PROFESSOR ROGER REEVES)

As mentioned in last week's newsletter I spent Monday, Tuesday and most of Wednesday involved with the IPENZ review of the BE(Hons) programme. Small forests were sacrificed to produce the mountain of documents that were considered by the individual panels. I was on the panel that reviewed three programmes: Electrical and Electronic, Mechatronics and Computer Engineering. The result of all this reviewing was that all three programmes are recommended to have some level of accreditation - full accreditation for E&E while provisional for Mechatronics and Comp. Eng. These latter two don't really yet qualify for full status until they graduate more students.

It was revealing to see the effort that such professional schools have to go through to obtain and maintain accreditation. For those unfamiliar with the concept, having a degree accredited means that its graduates are licensed to practice as professional engineers in a wide array of countries. This means that émigré engineers don't have to become taxi drivers when overseas, in contrast to what can happen to any medical professionals' immigrating here.

Of particular significance to this department is the role that Engineering Intermediate holds in the degree and it was comforting to hear the sympathetic words from the Engineering departments towards it. However, there are some issues to face to make it better and we will need to address these.

This week Jack Baggaley embarked on sabbatical leave for the rest of the year and of course correspondingly relinquishes the various admin roles in the dept. Of particular significance to me is the excellent job he has done over the last few years chairing the Teaching Committee and thus sitting on the Advisory Committee. The continuity provided by Jack and of course Adrian, through the change in HoD has been most welcome. My thanks to Jack for that support.

### TODAY'S SEMINAR: - 11:00AM, FRIDAY 11 MAY

**Dr Richard Watts**

Physics & Astronomy Department, University of Canterbury

*Imaging the Brain: A Physics Perspective*

### NEXT WEEKS SEMINAR: - 11:00AM, FRIDAY 18 MAY

[Dr Alan Walton](#),

Visiting Erskine from Cambridge University

*From Babbling Brooks to Sonoluminescence by Way of Dripping Taps.*

Unlike their nineteenth century counterparts, today's physicists often lack the curiosity to explore the sights and sounds of the Earth-bound natural world. I will describe experimental and theoretical studies aimed at discovering the origins of the sounds produced by a wide variety of natural processes ranging from babbling brooks, through dripping taps, to boiling kettles. Biblical references abound! I will then describe the inverse process when sound is fed into a liquid leading to the emission of light and (some would claim) to nuclear fusion in a test tube.

## 2007 SCHOLARSHIP AWARDS

Congratulations, to Christopher Hindmarsh who was the recipient of the 2007 Aurora Scholarship and the College of Science Scholarship at last Monday's (7 May) ceremony held in the Ngaio Marsh Theatre.

## CERN SUMMER STUDENTSHIPS...

Sam Whitehead and Robert Kneijens (and Mark Hashimoto of Auckland University) have been invited to participate in the 2007 CERN Summer Studentship Programme. They'll be at the CERN facility in Geneva, Switzerland from end-June until August/September and attend lectures and workshops on particle physics, detectors, accelerator technology and computing. While at CERN they'll also participate in the construction of the CERN Compact Muon Solenoid experiment, working under the guidance of CERN-based kiwi Alick MacPherson on beam radiation monitoring and early-running luminosity measuring systems. UC Masters student Alan Bell is also presently at CERN, building the beam scintillation counters system which he described in last year's department conference. CMS is a particle detector experiment build around one of the collision points of the Large Hadron Collider. Sam and Rob's contributions to the BSC construction will be very timely as the detector needs to be ready for the turn-on of the LHC: "The most advanced scientific instrument ever created will be switched on in December 2007" (Horizons, BBC).

## DEPT VICTORY AT UCSA POSTGRADUATE QUIZ! (MIKE LEE)

A man short, the department's elite alfa squad (Chris Henderson, Kiri Nichol, Giles Reid and Mike Lee) nevertheless achieved an awesome victory in the UCSA postgraduate quiz on May 3rd.

The winning margin was so large that it twice prompted the quiz-master, the eternally inspiring Kathryn Slam, to comment upon the "exceptional brilliance" of the team.

Lesser teams might have let that go to their heads, but then again, the lesser teams lost.

Chris, you're a bloody legend!

## MEMORIES OF DON HUTTON (GLYNN JONES, WITH CONTRIBUTIONS FROM TOM SEED)

We were saddened by the passing on of a student and former staff member, Don Hutton.

Don carried out electron paramagnetic resonance research on mineralogical crystals for his MSc thesis under the supervision of Tom Seed in 1961/2. With the award of a General Motors Holden research fellowship, Don then went on to obtain a PhD from Monash University under the supervision of Gordon Troup. His PhD thesis was presented in December 1964 with the title *A Paramagnetic Resonance Study of Transition Metal Ion Impurities in the minerals Kyranite, Zircon and Quartz*. The abstract to this thesis gives its practical application from the start:



*Don Hutton and Glynn Jones....*

*Since the earliest days of man's artistic appreciation the optical and physical properties of many of the natural minerals have puzzled and fascinated him. But only recently have some of these "gemstones" yielded the secrets of their fire, fluorescence hardness and colour to painstaking physical investigations, Electron spin resonance studies, as well as identifying colouring impurities and defect centres, can give much detailed information on...etc.*

When I returned to New Zealand in 1966, I first met Don, who was a fellow academic staff member at Canterbury. As well as being an excellent researcher and teacher, Don was a natural adventurer with participation in a canoeing expedition down the Clarence River from near Hanmer to the sea and an early

morning ascent of the Sugar Loaf TV tower in the hills overlooking Christchurch some time before it went on air.

After a few years at Canterbury, by 1970, Don returned to Monash University as an academic staff member, a move understood by Professor McLellan as Don's wish to be in a more active environmental scene. Over succeeding years, I met Don when in Melbourne en route to my several attendances of the Wagga Wagga condensed-matter meetings. As well as his university duties, Don was engaged in environmental activities such as the saving of the Franklin River in Tasmania from hydroelectric development with Don joining a canoe journey down the course of this river. Environmental issues can appear in the media then fade away, sometimes without clear resolution Those mentioned to me by Don included the collection of Coca Cola cans to minimize their clutter followed by their dumping rather than recycling, the removal and disposal of asbestos from State of Victoria trains and the sale of Australia's Bass Strait natural gas to the Japanese for 5 cents a ton, at a time when natural gas was not a useful byproduct of oil wells. Don held a dual position between the Physics and Education departments at Monash University while his wife, Dot, then had involvement with helping new Vietnamese migrants to settle in Australia. Subsequently Dot gained a PhD of her own from Deakin University.

With the secondment of John Twidell (a fellow PhD graduate from my own PhD days) from the Energies Studies unit at Strathclyde to Fiji for about a year, Don and Dot Hutton were happy to undertake part of their study leave with Don teaching at the University of the South Pacific in Suva. During their stay, Don was involved with John Twidell and Tony Weir (an Australian physicist then in Fiji) in alternative energy projects such as solar stills, which generate fresh drinking water using sunlight alone.

A recent practical project Don undertook at Monash was the investigation of the efficiency of sleeping bags, with the construction of a heater designed to simulate the warmth developed by a human being inside such bags. Such practical research garnered some funds for the Physics Department, whose conventional research support was being curtailed.

My last visit to Don and Dot was in the summer of 2006 where Billa and I visited them first in their Anglesey place at the start of the Great Ocean highway and then in their home in South Oakleigh, near Monash University. As tourists, we participated in the Otoway Tree Top walk, which Don viewed as a desecration and trivialization of the eucalyptus forest. Throughout our visit, Don and Dot were ever hospitable with Don arranging a long cycle trip for us along the shores of Port Phillip Bay and a car trip to the Healesville sanctuary and through the Dandenong hills. The photo of Don (on the left) and me was taken at a picnic following an environmental walk through wetlands near Anglesey.

Don and Dot managed a New Zealand visit earlier this year to meet their many relatives and friends. Don is survived by his wife, Dot, her daughter Cinnamon, and their two children, Ellie and Robert.

#### CONGRATULATIONS TO SURUJ AND CARLA (SURUJ SEUNARINE)

Four years to the day we first met, in room 701, Carla and I got engaged. At the time we were in Trinidad visiting my parents and brother after first spending a few days in Canada with my sister and her family. Our quick tour of Ottawa in -1C temperatures was followed by a comfortable, for me at least, 32C extended stay in Trinidad. It was Carla's second trip to Trinidad and this time we had two unexpected bonus events.

We both, for the first time, attended a dawn ANZAC ceremony. It was the third annual ANZAC event arranged by the Australian High Commission in Trinidad. I've never managed to brave the cold April mornings in Christchurch to attend a dawn ceremony. But it was easy in Trinidad as it was a cool 26C when we took off at 4:30am to head to Chaguaramas for the event. New Zealand was officially represented by the third secretary to the British High Commission to Trinidad as there is no New Zealand mission on the island. Carla was the only Kiwi present. A free traditional Trinidad breakfast followed the ceremony and choice of drinks was orange or passion fruit juice, tea, coffee and rum.



The second bonus event was two nights of celebrations in honour of VS Naipaul, Nobel Laureate in Literature. Naipaul is from Trinidad and Tobago though he has lived in England for many years. On the first night he took questions from a panel of academics and from the audience. On the second night he read from three of his books and then patiently autographed over a thousand books brought in by audience members. I've long been a big fan of his writing and for Carla it was a rare academic treat.

We ate lots of mangoes and lots of my mum's excellent food, hit the beaches, wrote some c++, and danced a bit. All of this was played out over the background of the World Cup Cricket tournament. Not surprisingly, over administration almost killed the spirit of the game in the West Indies. It was only in the last couple of weeks that West Indians could take into the venues the things that are essential for watching cricket; musical instruments, good home cooked food, colourful costumes, and appropriate drink. All of these things were initially deemed safety and security risks by that council of suits that oversees the game.

By the time that Carla and I got to the finals at Kensington Oval in Barbados the party atmosphere had returned to the game. After a rain delay, and sandwiched between two blunders by officials on both ends of the match, a good game of cricket was played. We saw one of the best one day tons ever, even though was on behalf of the team from across the ditch. The day ended with a happy ride back home on a very crowded bus full of singing West Indians.

On the return journey we had an overnight in Manhattan. Times Square was spectacular on a rainy night and we got to the top of the Empire State building the next morning before catching our flights back to Christchurch.

We are planning to have a wedding some time next year.

## NEWS FROM THE PHYSICAL SCIENCES LIBRARY...

### 1. WANTED - Your Feedback for Major eBook Trial

The Library has a trial of eBooks on ScienceDirect until 18 June 2007. Covering a wide range of scientific disciplines, including those published under the renowned Pergamon and Academic Press imprints, these additional 4,000 books will be fully integrated with the existing books and journals on ScienceDirect. Over 50 books will be added each month following the 2007 launch.

To access books in your subject area and to give feedback...

<http://library.canterbury.ac.nz/databases/trials/sdebks.shtml>

### 2. The Things we find

The following insert was recently found pasted inside a Physical Sciences Library book...

*"A member of the teaching staff of the College has asked that it be pointed out to readers of this book (Tombrock: The atom) that it is not a simple, brief introduction to the atom and atomic theory, as it might appear to be. It is, in his opinion, a thoroughly unsatisfactory book, propounding the author's own views - views which this critic considers to be not only ill considered and untenable but also not worthy of serious consideration."*

### 3. Movie Time!

A collection of movie clips in which Mathematics appears....

<http://www.math.harvard.edu/%7Eknill/mathmovies/index.html>

Adam - <http://library.canterbury.ac.nz/people/cath.shtml>

## MAY 2007 SCHOLARSHIPS – WEB SITE

**View General Scholarships at:-**

<http://www.canterbury.ac.nz/scholarships/resources/currentnoticeboard.shtml>

**College of Science Scholarship**

<http://www.canterbury.ac.nz/scholarships/noticeboard/may2007sci.shtml>

If you have anything you would like to contribute to the Newsletter, please email Ro on [rosalie.reilly@canterbury.ac.nz](mailto:rosalie.reilly@canterbury.ac.nz):  
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