Institute of Fundamental Sciences Newsletter — Issue 59

IFS & Bits

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Editor

Tracey Royds

Messages from the Head of Institute

Maclaurin Fellowship for Robert McLachlan

Congratulations go to Robert McLachlan on the award of the New Zealand Institute of Mathematics and its Applications (NZIMA) Maclaurin Fellowship. This has a value of $159 000 and will allow Robert to undertake research full time for the 2005 calendar year. This represents another great opportunity for Robert to further his research career and we wish him every success. He expects to spend three months in Melbourne but will otherwise be based in Palmerston North.

Council of the Royal Society of New Zealand

I am pleased to announce that Andrew Brodie was elected unopposed in the Physical Sciences and Technologies Electoral College in the recent Royal Society of New Zealand election for membership of the Society Council. Andrew's term of office will be for a period of two years starting 1 August 2004. Congratulations Andrew on your re-election to the governing body of the Royal Society. It is always good to have an IFS member of staff on the Councils of learned bodies in this country.

Wireless Equipment/Internet Lounge

The B/C and C/D Science Foyers are about to be designated as an Internet Lounge. Students (and staff) will be able to log on to the internet directly without the need for a physical linkage to a Ethernet outlet. All that will be required is that they register with Electronic Services. Full details are given by Bob O'Driscoll later in this issue of IFS and Bits.

FIET Awards

IFS picked up two awards this year. Congratulations go to all those involved. Details of the projects and the successful applicants are given below:

"Developing MathsFirst: A web-based system to enhance first year mathematics teaching and learning" – Tammy Smith, Kee Teo, Bob Richardson, and Judy Edwards ($19 477)

"First Year Physics Virtual Lab Development" – Jennie McKelvie, Uli Zuelicke and Bill Williams ($10 920)

Both projects will enhance the Institute's web-based teaching capability and this represents yet another step forward in our efforts to become even more responsive to student needs. I am delighted by the success of Tammy, Kee, Bob, Judy, Jennie, Uli and Bill. Well done!

PBRF

In this issue of IFS and Bits staff will see a composite of items listed by staff members with A and B gradings under the areas of "Peer Esteem" and "Contribution to the Research Environment". I was surprised to find that many staff had failed to include a comprehensive list of their achievements under these two headings in their Evidence Portfolios (EP). In many cases this would have made a difference in grading. We cannot afford to hide our light under a bushel and therewill be much closer monitoring next time of the EP of all staff members in the College of Sciences and, indeed, in the University as a whole. The list that I have compiled will hopefully act as an aide memoire as to the type of entry that staff can make under the two categories. These can often make the difference between an A and a B or a B and a C.

Medals

In order to assist in the next PBRF round there has been considerable effort by Dean Halford, Andrew Brodie and myself to nominate staff for Medals and Awards. Of course, there is no guarantee that we will be successful in every case but we believe that we have an outstanding slate of candidates not only for the suite of Massey University Research Medals but for those offered by learned bodies and other organisations both in this country and overseas. Time alone will tell how successful we have been but it is important not only for the staff members concerned but for the reputation of the Institute that we are seen to be research leaders of both national and international repute.

Matt Perlmutter and Giselle Soares

It is a pleasure to be able to welcome Matt and Giselle to the Institute. They met in the Institute several years ago when Matt was on a Postdoctoral Fellowship with Robert McLachlan and when Giselle was with Pat Sullivan as an exchange student whilst completing her PhD. Interestingly, they both ended up in Portugal and now both find themselves back within the Institute. Giselle is working as a part-time Research Technician with Steve Pascal and Matt takes up a Lectureship within the Mathematics Discipline. It is a great pleasure to have them both with us and we wish both Matt and Giselle every success in their new careers.

ISAT Linkages Fund

Andrew Brodie was successful in picking up an ISAT Linkages grant to enable Professor Allcock to visit Massey University in March 2005 and contribute to Andrew and Eric's Marsden project. ISAT Linkage grants have been awarded to a number of staff members in recent times and currently there is a high success rate for good projects. I recommend that all staff consider this possibility if they wish to invite someone to work with them, or conversely, if they wish to establish a new research linkage with someone overseas.

Leave

As always this is a controversial issue. It is always a surprise to me that staff are unwilling in many cases to take the leave that they so richly deserve. The University has become increasingly concerned about the financial commitment that relates to unused leave. Even more importantly there are increasing numbers of staff on stress leave because they have not taken the leave that they have accrued. For all these reasons, it is now required of me to find a way whereby staff leave can be reduced to manageable proportions. Failing that it will be necessary for staff to forfeit their leave entitlement. I would much rather staff use their leave than lose it and I seek you cooperation in working through this thorny problem.

Staff will have just received or will be about to receive a memorandum from me on this matter. I am anxious to work our way through the issues concerned and I look forward to your assistance in so doing.

Staff Positions

Unfortunately, the Analytical Chemistry position has had to be readvertised and steps have been made to do this.

In the case of mathematics I intend to combine two and a half Graduate Assistant positions into a Tutor/Senior Tutor position which I hope to advertise within the next month.

Science Week

The first week in July has seen Institute staff involved in a number of outreach programmes. These include the Click onto Sciences day (*7 July 2004)* and the Manawatu Science Festival at Te Manawa *(3-11 July 2004)*. Firstly, I would like to thank all those staff who have given their time to either present a lecture or give a demonstration. These include:

Physical Worlds Day – Thursday, 8 July 2004
Institute of Fundamental Sciences

***Geoff Barnes and Jennie McKelvie (or Adrian Kitson)* – "Toe the Line"**
(11.30 am – 1.30 pm)
Robert McLachlan – *"Impossible calculations made (relatively) easy"* (5.30 pm)
Bill Williams – *"Why smashing things apart is only half the story!"* (5.45 pm)

Chemistry Day – Friday, 9 July 2004
Institute of Fundamental Sciences in conjunction with the New Zealand Institute of Chemistry

Eric Ainscough – "Fun with Colours"
(11.30 am – 1.30 pm)
Carol Taylor and Mark Waterland – *"Chemistry through the looking glass"* (5.30 pm)

Paul Buckley, as Chair of the Publicity Committee, took a leading role in the organisation and I thank him sincerely for all his hard work. The success of this venture lay in no small part on his efforts.

Another feature of real interest was the lecture presented by Robert Lord Winston on 8 July 2004. He has gained a very high profile in recent years for putting over quite difficult scientific concepts in a way that is readily understandable by the public in general. The importance of relating our scientific activity to the general population remains crucially important and it is a real challenge to do this well.

Congratulations to Steve and Komala

Congratulations to Steve and Komala on the birth of their son, Joshua Nathan in Malaysia. I understand that this happened a few weeks earlier than expected but that all three are well and recovering from the experience. I have no details as to weight but I imagine that this detail will come through shortly. Once again we are delighted by this good news and wish everyone well. We look forward Steve, Komala and Joshua back in Palmerston North in mid-August.

Tony Signal returns

It is good to welcome Tony back with us again after a successful four months sabbatical in Durham at the Institute for Particle Physics Phenomenology (IPPP), University of Durham. From all accounts he has returned with a number of new ideas which will bode well for the continued success of his research programme in theoretical physics. I would also like to take this opportunity to thank Neil Pinder, who acted as Subject Leader of the Physics Discipline while Tony was away. Neil did a fine job, as one might expect. Thank you, Neil.

Matthew Hardy

Matthew Hardy, who is Igor Boglaev's Massey Postdoctoral Fellow, has resigned from his position to take up a position at the Australian National University in Canberra. Congratulations go to Matthew on his new appointment and we have been pleased to have him with us over the past seven months. We are hoping that the University will allow the remainder of the Postdoctoral Fellowship to be used and we have a superb candidate in mind. Hopefully, we will get approval for this in the near future.

Snippet from Paris

I have commented several times on the strikes in Paris during my previous visits. On my latest trip to ICSU I heard that the ballet dancers had gone on strike! However, the strike to beat them all must be surely that of the unemployed, who had also been on strike just before I arrived. The mind boggles as to how one would notice the effect of a strike by unemployed people. Also, what might it have been that they were striking for?

David A D Parry

2004 Millennium List Students

Pictured are some of the members of the 2004 Millennium List after the presentation of their certificates in May

The Institute has recently revisited its Millennium List selection criteria and decided that one aspect of the previous policy (that is, of not allowing students who are completing a double degree to remain on the list after their third year of study) should be changed. Therefore this years list includes five students who were selected at 300-level in 2003. The Millennium List room has also been changed and is now located in the Mathematics Graduate Laboratory on level 3 of Science Tower C.

We would like to congratulate the following students who have been selected for the 2004 IFS Millennium List:

100-Level

Jennifer Bonnett
Eri Kawabata
Luke Fullard
Ren Huang
Quinton Knapp
Wendong Liu
Katherine Lyons
David Martin
Nyree Parker
Jie Tang
Benjamin Vennell
Jingjing Wang

200-Level

Ha Da Chang
Ross Davidson
Tania Haigh
Jonathon Hunt
Rebecca Keen
Anna-Marie Lowry
Vaughan Luckman
Simon Murphy
Andrew O'Donnell
Christopher Ridder

300-Level

Angela Bennett
Robert Bruekers
Katrina Haigh
Nicholas Holm
Eleanor McIntosh
Sophie Pack
Daniel Parr
Ashlin Redpath
Christopher Searle
Karl Shaffer
Peter Sherman
Adam Stephenson
Adam Swanson
Christopher Thompson

Look Ma - No Wires!

Wireless access to the Massey University network is now available in the ground floor foyer areas of the Science B/C and C/D Link Towers. The technology which makes this possible is known as “AirPort” or “Wi-Fi” and is based on the IEEE 802.11 Wireless Ethernet standard. The access point currently installed employs 802.11b technology. This is the most widely used technology for wireless local area networks (WLANs). It operates at frequencies around 2.4 GHz, a frequency band shared with devices such cordless phones and microwave ovens. The 802.11b access point will soon be upgraded to 802.11g access point. The advantage of 802.11g is that it has a higher maximum data rate of 55 Mbps, compared with 11 Mbps for 802.11b, while still being compatible with 802.11b.

Wireless “hot spots” are now being provided around the world in places like airports, hotels and coffee shops. Unfortunately, the ease of access, made possible with a wireless connection, creates a much greater network security risk than a normal wired connection. As a consequence, only registered users on the Massey University network will be able to access the wireless network. In addition users will also require wireless VPN (virtual private network) access as well as the appropriate hardware for their computer. Many modern laptops have 802.11b or 802.11g capability already built in. For those that do not, a wireless network and can, in most cases, purchased at a cost of between $100 and $200.

The system has been tested with both PC and Mac laptops, and coverage extends outside the foyer areas as far as the IT Services building. Anyone wishing to use this service should contact Electronics Services to arrange a connection.

Bob O’Driscoll

Staffing Update

Steve Kirk

Steve (Captain) Kirk has joined Andrew Brodie and Eric Ainscough's research team as a PhD student investigating novel and exciting developments in phosphazene chemistry. Steve might be familiar to some as he spent 3 years as Technical Services Manager in ITE, prior to spending the last 2 years in the Far North where some sound investments mean that he can now afford to be a full-time student and really focus on his passion for chemistry. Steve's background includes working for such companies as Lotus Cars and BP Chemicals as well as a 3 year stint as Senior Research Fellow at Warwick University in the UK. He has an Honours Degree in Chemistry and Physics and a Masters Degree by Research in Engineering (both completed through part-time study whilst holding down a day job).

Steve is very happily married to his wife Glenda, and together they are currently planning to build a home on a little patch of land they own in the Ruahine ranges - apparently there is a tradition here of having a BBQ when the place is built - but anyone mentioning dilithium crystals can rule out an invite!

Alex Le Blanc

My name is Alex (Alexander Le Blanc). I am a student of biochemistry from the Eberhard- Karls University in Tuebingen, Germany. Needing a break in my studies and intending to do a practical year abroad after my intermediate exams, I decided to apply for a job at Massey in the NRC (Nanomaterial Research Centre). "So why NZ" I am always asked. There are a couple of reasons. The most important of course is to improve my English. As I didn't want to stay in Europe and was not really interested in America, I had to choose between Australia and New Zealand, and when I had gathered some information about NZ, there was no way to stop me.

I am working here on light harvesting molecules such as modulated forms of chlorophyll from plants, which are associated with gold-surfaces. The studies about the molecular orientation in the monolayers might help to develop solar cells one day.

But of course science is not all I am doing all day. I love cooking and outdoor activities such as hiking and biking and in Germany I used to play the drums.

Pavel Krist

We are pleased to welcome Dr Pavel Krist to the Institute. Pavel graduated from the Department of Applied Biochemistry and Microbiology in the Chemistry Faculty of the Slovak Technical University (Slovak Republic) and did his PhD at Charles University in the Czech Republic. The aim of his PhD study was the preparation of novel