NEWSLETTER

Australasian Society for Immunology Incorporated

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Functional Foods and Health
A New Science Programme at HortResearch New Zealand Focuses on Immunology, Gut and Physical Health, and Brain Foods

Margot Skinner, Lesley Stevenson and Roger Hurst

As society evolves and the understanding of human health advances, there is increasing demand for food and food products that enhance health, wellness and lifestyle. A new, global awareness of the role of healthy foods is emerging and consumers are responding by adapting their approach to health decisions, increasingly seeking a holistic approach to healthcare, and placing greater emphasis on prevention rather than cure. Fruit is the perfect health food and the perfect health ingredient for functional foods. Fruits' natural 'healthy halo' enables it to be promoted for its intrinsic healthfulness, but the new Superfruits such as blueberry, cranberry and pomegranate are positioning themselves with specific and validated health benefits. HortResearch, a Crown Research Institute specialising in fruit science, has developed a new Science Programme, Functional Foods and Health, headed by Margot Skinner, which is investigating the health benefits of fruit and developing new protoype fruit-based functional foods. It has several health platforms and is beginning to gain evidence that fruit and compounds present in fruit (phytochemicals) are important in the a number of health and wellness benefit areas which include gut health and immune support, brain health, physical health and performance and recovery from training and exercise.

The programme is composed of a number of interlocking teams that cover immunology, cell biology, bioavailability, nutrigenomics, nutritional neuroscience, food science and engineering and fruit chemistry that is unique in Australasia. Teams are situated at HortResearch sites throughout New Zealand's North Island (Mt Albert Auckland, Ruakura, Hamilton, and Palmerston North). There are ongoing collaborations with universities in New Zealand and overseas which include the University of Auckland, Massey University and the Malaghan Institute of Medical Research at Victoria University, the University of Wollongong Australia, and Northumbria University UK. We are fortunate to have a number visiting students from Europe and BSc Honours, MSc and PhD students who are completing degrees through Food Science and Molecular Medicine at the University of Auckland and Nutrition at Massey University. There are also collaborations with other Crown Research Institutes (AgResearch and Crop and Food Research). For readers who are not familiar with the New Zealand science scene, Crown Research Institutes were established in 1992 as Government-owned businesses with a scientific purpose and commercial orientation. Each institute is based around a productive sector of the economy or a grouping of natural resources. The focus of HortResearch, the second largest Crown Research Institute in New Zealand, is fruit.

The multidisciplinary Functional Foods and Health programme encompasses a number of government and commercially funded programmes and projects and many now include studies on modulating immune responses and inflammation with fruit, fruit extracts and fruit-based foods as well as other foods. 'Healthful Berries', 'Fruit Products

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Staff at Palmerston North:
T McGhie, D Comeskey, H Martin

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Website

The ASI web site (www.immunology.org.au) has been fully remodelled and updated. New services include:

- Downloadable forms for ASI awards,
- Positions vacant pages,
- Jobs wanted pages,
- Upcoming conferences listings,

as well as a plethora of links to sites of immunological interest at home and abroad. If you'd like your lab home pages linked to the site, would like to advertise a job or conference, or have a favourite immunology-related site that doesn't currently appear on the ASI site, please email Judy Greer at j.greer@uq.edu.au

Email bulletin board

To subscribe to the ASI bulletin board, send an email to majordomo@explode.unsw.edu.au with the message: subscribe anz-imm.

EDITORIAL

This note is being written at the start of Autumn which is, as the poet construes it, the 'season of mists and mellow fruitfulness'. What an appropriate time, then, for an account of HortResearch, a New Zealand Crown Research Institute, and its investigations into the beneficial immunological properties of phytochemicals in fruit. Margot Skinner and her colleagues who contribute the article in this issue must surely have one of the more appetising projects in our discipline. Margot gained her PhD under the supervision of John Marbrook, an Honorary Life Member of ASI and well known to many Australian immunologists for the famous – infamous? – 'Marbrook chamber'. The fruit project provides a gratifying instance of the Foundation of Research Science and Technology (who provide the funding) supporting innovative but sound research.

When it comes to spreading the word about immunology, the recent promotions for the World Day of Immunology provided an excellent opportunity to display our wares. In Melbourne the intimacies of life in a lymph node were made very public. In Adelaide, Boris was dismembered to display his spleen. And across Australia clinicians and scientists freely gave time to take immunology to the people. And I say 'freely' advisedly because I, for one, strongly endorse our President's continuing campaign of "A call to arms' to redress the decline in employment conditions generally (and remuneration in particular) of biomedical researchers. Alan largely bases his case on Australian data, but as the New Zealand Association of Scientists

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The ASI Visiting Speaker Program

We would like to invite proposals for candidates from any member of the ASI. Twice a year, at the midyear and annual Council meeting, candidates are evaluated and selected. The deadlines for the proposals every year are: May 15th and November 15th. For further details, please visit our website for details (http://www.immunology.org.au/vsp.html).

Planned visits for 2008

October

A/Prof. Steve Reiner from the University of Pennsylvania, Philadelphia, USA. Dr Reiner studies various aspects of T cell immunity with a particular focus on molecular mechanisms of T cell function including how expression of specific transcription factors can determine lineage specific function. He has published over 80 papers with a large proportion appearing in high-ranking journals such as *Science, Nature Immunology, Immunity* and the *Journal of Experimental Medicine*. More recently he described a potential mechanism, termed asymmetric division, for how a single naïve T cell can generate both memory and effector cells. This paper, published in *Science* last year, resulted in a complete re-evaluation of how T cell memory is established. Importantly, the mechanisms controlling immune cell lineage commitment and function are broadly applicable to many areas of immunological research. Dr Reiner's visit is being co-ordinated by Stephen Turner (sjturn@unimelb.edu.au) from the University of Melbourne. This is the tentative schedule of his visit.

Wellington: 5–7 October
Brisbane: 7–9 October
Melbourne: 10–14 October
Sydney: 14–17 October

October/November

Professor **Wayne M. Yokoyama,** from the Washington University School of Medicine, St Louis and the Howard Hughes Medical Institute, USA.

Prof. Yokoyama is a leading scientist in the field of NK research, in particular the role of NK in viral infections and autoimmune diseases. His contributions include over 200 publications on NK mediated lysis in tumour and viral models investigating the role of NK ligands and receptors responsible for tolerance to self-antigens.

Prof. Yokoyama's visit is being organised by Guna Karupiah (Guna.Karupiah@anu.edu.au) from ANU, Canberra. This is the tentative schedule of his visit.
Canberra: 20–21 October
Adelaide: 21–22 October
Perth: 23 October – 2 November
Sydney: 4–5 November

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Functional Foods, cont.

for Asthma', 'Wellness Foods' and 'Gene Specific Foods', are four such programmes and projects that are funded by the Foundation for Research, Science and Technology. These programmes are testament to our chosen health benefit target areas.

The 'Healthful Berries' research programme focuses on berryfruit (e.g. blackcurrants, blueberries, boysenberries) that have unique characteristics of flavour, colour, and texture, as well as an array of phytochemicals that appear to contribute to human health and well-being. The programme aims to develop and extend our knowledge of specific berryfruit phytochemicals and determine how they particularly contribute to gut health and inflammation regulation. The research encompasses plant breeding, genetics, health screening and manufacturing systems to develop new natural berryfruit foods that will potentially provide high-margins in the current emerging 'gut-health' food market.

The 'Fruit Products for Asthma' research project aims to evaluate the benefits of fruit as strategies to appropriately modulate immune and inflammation events. This is in contrast with the more traditional approach which focuses on the antioxidant actions of fruit products. The project aims to provide the fundamental research to determine whether fruits could provide 'natural' and safer alternatives to existing therapies for modulation of allergic inflammation specifically. Allergic airway inflammation (asthma) as a model test condition is the focus of this work. The pathology of asthma is fairly well understood and that has allowed us to establish cell-based screening tools and animal models with our collaborators, the Malaghan Institute for Medical Research, which enable the evaluation of fruit for this purpose. Here we also recognise that benefits from this work may translate to other allergic inflammatory conditions e.g. eczema, psoriasis, and arthritis.

Staff at Mt Albert: D Barraclough, Z Selah, R Wibisono, D Forbes, E Walker, K Atkinson, M Skinner, J Farr, J Ingram, A Adaim, A Sheepens, S Mudier, D Sun-Waterhouse, D Hunter. (Missing: J Zhang, J Greenwood, R Prakash, W Laing, M Rassam, M Wright, R Singh, A Ravi, K Benitez, I Wen)

The 'Wellness Foods' programme is a collaboration between HortResearch and Crop and Food Research that received input from dairy giant Fonterra for the first three years. The focus is to add value to primary exports through the development of a new class of innovative foods based on synergies between ingredients. By combining the health enhancing properties of fruit and vegetables with those of dairy and other food types functional foods targeted at the growing markets for wellness products are being developed.. The research spans from "farm to fork" producing new types of functional ingredients, screening for indicative synergistic health benefits, formulating prototype functional foods that consumers will like and validating them clinical trials. During the four years that the programme has been running, three prototype functional foods have been put through clinical trials.

'Gene specific Foods' is another collaborative programme, this time between HortResearch, Crop and Food Research, AgResearch and the University of Auckland in the form of a Nutrigenomics Centre of Excellence for New Zealand. A major aim of this research is to determine how food and food components affect, in the first instance, gut health at the molecular genetic level using nutritional genomic methods. There is an initial focus on inflammatory bowel disease particularly Crohn's disease. The work of the programme involves genotyping New Zealanders with Crohn's disease, constructing gene specific bioassays, using them to screen food extract libraries and then testing in appropriate animal models to provide supporting data so that nutrigenomic prototype foods can be developed in the future.

Other projects are involved with investigating the health benefits of kiwifruit and the development of foods for mood and physical health. A number of different varieties of kiwifruit are under investigation, not just green and yellow kiwifruit but red, orange and purple varieties and small kiwi berries with edible skins. There is a strong immunology focus here with recent results demonstrating that a gold kiwifruit ingredient can enhance a weak gut associated immune response in an animal model.

Market research has shown that there is a substantial market for functional foods that have activity in the areas of stress and mild depression and also for foods that may alleviate or delay the symptoms of cognitive decline associated with normal aging. A "mood food" project was created specifically to design and test these products. It is intended that the products developed within this programme will stand out from the plethora of herbal and botanical products currently available for these indications as the efficacy of the "mood foods" will be substantiated.

In the area of physical health, we are investigating how fruit can be used to assist with maintaining muscle performance and function and recovery from over-exercise. It is well recognised that fruits are a good source of powerful antioxidants. These antioxidants may be responsible for some of the associated health benefits seen in this and other health areas. In this regard, exercise is of interest to us as it can generate an oxidative stress and initiate inflammatory events and can then act as a useful model system to decipher processes of action for fruits and derived functional foods. Here we are also looking at how exercise itself modifies immune responses. For example, it is well known that elite athletes are susceptible to infections when they are training for big events. We are looking at how fruit might be of value here but with more of a focus on those health conscious individuals who undertake a level of physical activity to keep fit. In parallel we are also considering how exercise affects immune responses in the general population and are conducting human trials to evaluate this and the role that fruit may play. It is opportune that there is a new focus on the "naturalness" which fruit can supply in functional foods and sports drinks.

Chemistry is an integral part of the Functional Foods and Health programme, providing underpinning advanced chemical capability for fruit and food. These capabilities range from preparing characterised fruit extracts for evaluation of biological function and profiling fruit extracts and food for potentially bioactive phytochemicals by HPLC, through to advanced chromatographic and structural elucidation techniques such as LCMS, GCMS and NMR. It also includes food formulation, chemical measurement of antioxidant activity, along with enzymatic synthesis and biotransformation techniques to enable bioavailability studies, and differential lipidomic and proteomic capabilities for determining changes in biological systems.

Linked into the new Science Programme is an area of research that is developing biosensors and methods for portable and non-invasive measurement of cytokines and hormones. Possible uses for these in the future include monitoring performance of athletes, monitoring stress in the workplace and in helping the development point-of-sale testing devices so that consumers can shop for foods that fit their current physiological state and requirements.

New Zealand's future as a food exporting nation depends on producing top quality raw materials and value added products. The Functional Foods and Health programme at HortResearch has been set up to help achieve this.

Staff at Ruakura: T Lowe, J Mitchell, M Bevan, D Stevenson, D Barker, S Holmes, K Lyall, D Jensen, B Schrage, D Deng, S Parkar, T Trower, R Hurst, W Smith, B Crewther. (Missing: R Wells)

Contributions sought for the ASI Newsletter

You could win $100 !!

Deadline for the next issue: 1st August 2008

Please email your contributions to the Secretariat by the above date.

asi@21century.com.au

ICB Online Manuscript Submission

Online manuscript submission for Immunology and Cell Biology now available via:

http://mc.manuscriptcentral.com/icb

All manuscript submissions to ICB should in future be made online via this web site to speed up the reviewing and acceptance of manuscripts.

Chris Parish, Editor-in-Chief
Immunology and Cell Biology

President's Column

Call to Arms – Part 2

In the last Newsletter, I raised the issue of falling morale amongst mid-career immunologists (and biomedical scientists in general) and provided evidence of a 30-year program of degradation of our employment conditions and remuneration. In this column, I want to extend that observation to cover the remuneration of postgraduate students, and to examine other aspects of employment conditions that have contributed to the current problem of undersupply of biomedical researchers.

The Australian Postgraduate Awards (APA) aim to support postgraduate research training in the higher education sector and provide financial support to domestic postgraduate students at eligible Australian higher education institutions. They are available for a period of two years for a Masters by research degree or three years, with a possible extension of six months, for a Doctorate by research degree. Award holders receive an annual stipend of $20,007 for full-time students and $10,710 for part-time students. These rates generally form the basis of other stipend rates paid by the higher education sector as postgraduate student stipends – for both domestic and foreign students.

The ABC Radio National news and current affairs program AM reported on 30th April this year that the Council for Humanities, Arts and Social Sciences had analysed PhD stipend payments since the early 1990s. On average, the value of postgraduate stipends paid has fallen from about half the national average earnings to about one third; the official APA remuneration rate is now below the Henderson poverty line. To maintain parity with payments in 1991, today's postgraduate students would have to receive stipends a little under $30,000. My own analysis of APA rates and Australian full-time adult ordinary time earnings, as reported by the Australian Bureau of Statistics, indicates that even if we aimed to maintain parity with the APA rates of only eight years ago ($16,415 in 2000), current stipends would need to be increased to approximately $25,500 per annum tax free.

The resurrection of postgraduate stipends is, to a significant degree, something that probably lies within the control of Society members. Most institutes and universities in Australia and New Zealand allow, or would be prepared to allow, supplementation of student stipends with laboratory funds. As a laboratory head, I am sympathetic to a number of issues such an action would raise. However, the reality is that a widespread increase would simply precipitate renewed negotiations between chief investigators and their host institutions, and between the institutions and the Department of Education, Employment and Workplace Relations. Ultimately, the likely outcome is an across-the-board increase in the APA. If we do not accept the principle that student stipends – which support our most vulnerable members – should maintain parity within the community, then the argument for reinstating the salary parities for academic staff is seriously weakened.

A common complaint by academic staff is that they are overwhelmed by work. Their backlog of tasks is so great that they constantly miss deadlines – including those with significant consequences, such as for grants – and that they endlessly carry so much paper between home and their workplace, that they feel constantly frustrated and chronically ineffectual. While specific causes of this sentiment may vary from individual to individual and institution to institution, I wish to make some general points.

Chronic depression and exhaustion is not normal. Those who feel like this need to take time out to analyse their situation. Aspects of the operation of the laboratory or institution may contribute these feelings: Operation of the laboratory lies within our own control and is something that should be readily managed; operation of the institution is another matter.

As a generalisation, the primary aims of our host institutions are research, teaching and public service. We carry out those activities; we determine the success or failure of the endeavour; we are the reason our employers receive their funding. It therefore stands to reason that all staff members who do not conduct research, teach or perform a public service should support our activities; they are support staff. I am not proposing we institute a divide between academic and support staff. I am observing the existence of one that has significant implications for our productivity.

There are some principles of administration that are often poorly understood by academics. While by no means an expert, I have analysed the policies and procedures of several institutions in Australia (both directly and vicariously) and have made some observations that, where I have raised these with senior management, were acknowledged as valid.

The first observation is the asymmetry in motivation between academic and administrative staff. As a generalisation, academic staff are self motivated. Their intellectual interests drive their professional ambitions and poor performance results truncation of those ambitions. In contrast, as a generalisation, administrative staff are motivated by external factors – for example, remuneration and other employment rewards. This means that while academic staff can be manipulated by frustrating their interests, administrative staff are more difficult to manipulate – especially if their levels of remuneration and other rewards are protected by industrial agreements.

The result of this asymmetry is that in some institutions administrative staff harness academics' self motivation as a motive force to achieve their own ends. For example, an edict that we "will not be permitted" to research unless some specific duty is

performed forces the academic to divert their energy from research, teaching and public service to some other (usually petty) task. At one stage, some years ago, I had so many bureaucrats telling me that if I did not do X, Y or Z, they'd shut down the laboratory, that I developed apocalypse fatigue. It seemed to me that if it was so easy for any single administrator to terminate my research program, and there were so many of them in this position, then the chances of survival in the field were virtually zero.

"COME ON!", I finally exploded, "DO IT! Shut us down! And live with the knowledge that your greatest life achievement was destructive. And one day, if your child, or your niece, or your grandchild gets sick, you can revel in the knowledge that you did your little bit to make sure that they won't have a treatment." Somewhat surprisingly (in retrospect) this outburst had the desired effect and the mill stone was removed.

My second observation is that academic staff are time-poor. Between 1996 and 2003, we adsorbed a 33% increase in student load, including a 57% increase in postgraduate students. In addition, the level of certification required to perform research has expanded exponentially, and now includes applications to committees overseeing ethics, biohazards, chemical assessment, biosafety, embryo use, animal welfare, gene technology, radionuclides (training, possession, acquisition and use) and standards of premises, not to detail the requirement for submissions for funding, schedules of agreement, multi-institutional agreements and intellectual property. Over the same period, in most institutions in Australia and New Zealand, secretarial support was removed. The very nature of our work means that delayed work or missed deadlines has catastrophic consequences in terms of lost priority or missed grants.

Being time-poor means we can be manipulated by the threat of delays or increased workload. For example, our requests for maintenance can be effectively reduced by increasing the amount of paperwork required. Our desire to access a database, or literature or keys or equipment can be limited by insisting on "justification" or "authorisation". Most of us usually try to take the easy way out.

These two characteristics of academics, being self motivated but pressed for time, make us prey to a phenomenon that is probably the major source of workplace discontent in academic institutions: duty shifting. Basically, the administrative and other functions that used to be performed by support staff (as defined above) are being systematically transferred to academic staff. A few examples: I have heard of laboratory staff having to clean windows, walls, floors (including carpets) and air conditioning vents, paint offices, empty bins, repair equipment, repair and build furniture, pick up and deliver packages and mail, photocopy receipts and other documents, and place, chase and acquit purchasing.

My point is not whether it is right or wrong that we do these things. It is that we used not to do them and that we now do. Two things about duty shifting astonish me. First is how difficult it is to notice. In one institution, staff being "trained" to use a "new" credit card system failed to notice that the login window of their training session constituted a contractual agreement that they would assume the responsibility of acquitting all receipts, a duty that required them to first scan them into a computer. The second surprising thing is that there never seems to be any recovery of the salaries of the individuals who used to perform the duties shifted to academics. There is no duty shift bonanza or dividend; no salary increase or research budget supplementation to compensate.

Little wonder that in many universities, climate surveys show high levels of satisfaction by support staff (as defined above) and poor morale amongst academic staff.

How do we fix these problems? Knowledge is power. It is sometimes possible to halt or delay duty shifting, just by declaring that you recognise it. Often duty shifting is managed at a relatively junior level of the bureaucracy, without the knowledge of senior administrative staff (bureaucrats tend to be judged by whether a task is completed, not by whether they did any work or stopped you doing yours). This places the individual responsible in a delicate position. A few carefully worded lines (written, of course) to their supervisor may help. What is really needed is a campaign to reverse duty shifting. This will be more difficult to achieve, but is possible.

Australia is facing a crisis in the staffing of its biomedical teaching and research over the next two decades. The disciplines of science and health science are particularly severely affected as about half the academic staff are expected to retire over the next 15 years. Our institutions have never been more precariously dependent on retention and recruitment of researchers. While many of them provide wonderfully supportive and nurturing environments for research, some do not.

There is currently enough movement of research staff between academic institutions to allow comparisons of research productivity of relocated scientists before and after transfer. We could even directly compare levels of support provided by individual institutions, whether in the form of mentorship, facilities or financial support. These sorts of observations could provide a rational basis for assessments of the standards of support offered by our host institutions, unbiased by historical reputation and ivy-clad image, but based on their individual performances. They can provide a rational basis for our basic and inviolable right: to vote with our feet.

Opportunities

The Society has started publishing an events calendar in the back cover of *Immunology and Cell Biology*. If you are interested in having your events promoted in this way, please contact me with the relevant details.

The perspectives of students, in particular, make pleasant reading and I would like to encourage the younger members to contribute actively to the Society. Avenues for creative expression exist in the newsletter and the website, so please contact our new Newsletter editor, Margaret Baird (margaret.baird@stonebow.otago.ac.nz) or web mistress, Judith Greer (j.greer@uq.edu.au), respectively if you would like to make written or pictorial contributions.

As always, the Council is keen to hear from members regarding ways in which the Society can help foster the interests of members. Please do not hesitate to contact myself, or your State representative, if there is anything we can do to help.

Alan G Baxter

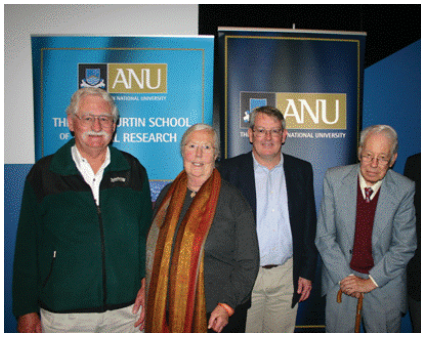
ASI Councillors' News

A.C.T. News

The ACT branch held its first function this year to celebrate the Word Day of Immunology on April 29. It was a great event with over 100 people attending a public lecture presented by Prof. Chris Goodnow. The lecture was recorded and should be provided as a podcast on the ASI website in the near future.

We also made use of the event to present Burnet medals to three distinguished ACT immunologists who had previously given the Burnet Oration at ASI meetings held in the 1980s and 1990s. Emeritus Prof. Gordon Ada has made a significant contribution to the study of cellular immune responses to influenza virus and vaccinology. Gordon gave his Burnet Oration at the ASI meeting in 1988, the year after he retired from the John Curtin School of Medical Research in 1987.

An award was made to Mrs Anne Lafferty on behalf of Prof Kevin Lafferty, a former Director of the John Curtin School of Medical Research who made numerous important contributions to transplantation responses and for the formulation of the two signal model for T cell activation. Kevin gave the Burnet Oration at the 1992 meeting and it was great to have both Anne Lafferty and their son Joseph present for the presentation.



Presentation of Burnet Oration medals
LtoR: Prof R. Blanden, Mrs A. Lafferty, Dr G. Hoyne, Prof. G. Ada

The final presentation was made to Emeritus Prof. Robert Blanden who gave the Burnet Oration at the ASI annual meeting in 1994. Prof Blanden worked at the John Curtin School of Medical Research throughout his career and he made important contributions to the study of CD8+ T cell immune response to viruses and developed assays for the

World Day of Immunology Public Lecture, JCSMR
Guest Lecturer: Prof. Chris Goodnow

detection of cytotoxic T cells. He also played an important role in identifying the role for MHC genes in T cell activation around the time of Zinkernagel and Doherty in the mid 1970s.

The planning for this year's annual ASI meeting is well underway. The meeting will be held at the newly refurbished Convention Centre in Canberra. We hope you will all make it to Canberra this year for what will be a great scientific meeting.

Gerard Hoyne
Councillor

N.Z. News

NZ Immunologists have been greatly saddened by the recent loss of Assoc Prof Glenn Buchan ("Buck"), NZ councillor for the ASI 1998-2002. Buck was always a strong advocate for collaborating and we are fortunate to now have a strong local Immunology network, thanks to Buck's efforts founding Immunet.

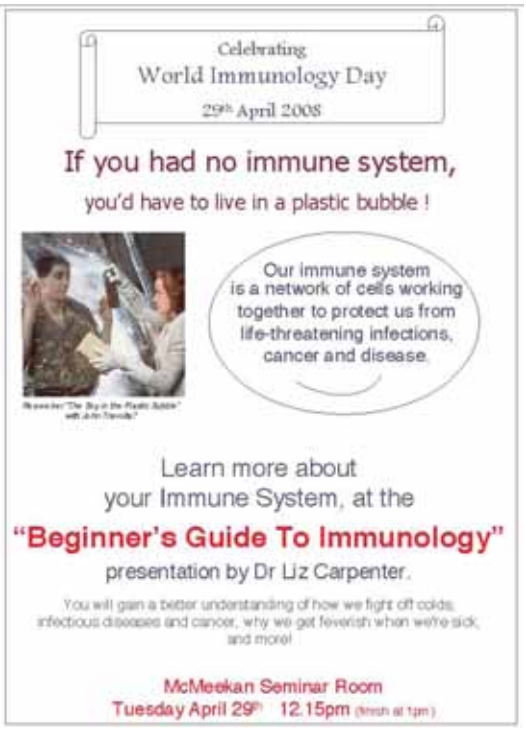
The mid-year Immunet meeting is now run as the NZ ASI branch meeting and will be held in Wellington June 5-6 (www.malaghan.org.nz/newsevents/NZASImeeting). Buck's colleagues at the Department of Microbiology and Immunology at the University of Otago will also be hosting an Immunet meeting as part of the Queenstown MedSci meeting in November this year.

Although International Immunology Day celebrations in NZ were overall fairly low-key, there was great enthusiasm from Dr Liz Carpenter of AgResearch Ruakura who organized a special presentation entitled: "A Beginner's Guide To Immunology". In addition, a press release by Dr Debbie Scarlett of the Malaghan Institute on International Immunology Day was circulated to local scientists.

Immunology in New Zealand received a significant boost through the recent rebid round of NZ Centres of Research Excellence or CoREs. The Maurice Wilkins Centre (www.mauricewilkinscentre.org), a Centre based in Auckland, received renewed funding in 2007 for another six years that supports, among other things, collaborative immunology research between the University of Auckland and its formal partner, the Malaghan Institute of Wellington. Part of the funding will support the placement of two of the latest model Cell Sorters – one for Auckland and the LSRII for Wellington, in addition to supporting direct research costs of collaborative projects between the two institutions.

Finally, exciting visitors to the Malaghan Institute in Wellington include: the macrophage guru Prof Siamon Gordon, University of Oxford, UK (July 28/29) as well as the ASI-sponsored T cell maestro, Prof Steve Reiner (October 6). For more information relating to their visits and seminars contact jkirman@malaghan.org.nz – all are welcome.

Jo Kirman
Councillor



Victorian News

The Immunology Group of Victoria
A Branch of the Australasian Society for Immunology

Well, the scientific year is well and truly underway. The Victorian branch has scheduled a number of upcoming events that promise to be exciting and provide great opportunities for meeting colleagues and generating discussion.

The first event is the Inaugural Immunology Master Class. This will be held on Tuesday, 22nd July, in the Woodruff Theatre at the University of Melbourne. This will be a fantastic day as leading researchers in the field will discuss the current state of knowledge for various aspects of immunology. This will be a unique opportunity to hear about advanced concepts, current controversies and where the field is headed. There will be plenty of opportunity for discussion amongst participants. As such, the day promises to be particularly useful for students, junior post-doctoral fellows and established researchers alike. More details will follow, including a list of proposed speakers and costs (a minimal registration fee to cover costs for lunch and morning/afternoon tea). If you have any questions, or want more information, feel free to contact either Stuart Berzins (berzins@unimelb.edu.au), David Tarlinton (tarlinton@wehi.edu.au) or myself (sjturn@unimelb.edu.au).

In the last week of August, the IgV committee is planning to hold its annual Winter Seminar. This program involves inviting an eminent speaker to Melbourne where they meet local researchers (particularly students and junior postdocs) and give a presentation. This year's speaker is Michael Goode from the Queensland Institute of Medical Research. The final date is yet to finalised and details will be posted to members as soon as they come to hand.

Significant progress has been made with regards to organising the annual IgV meeting. This year involves a change of venue from Beechworth to the Yarra Valley. The dates of the meeting will be Sunday 12 – Tuesday 14 October. You can have a look at the venue by visiting http://www.yarravalleyconference.com.au.

We are pleased to announce that Steve Reiner will be attending the meeting as the Plenary speaker. Steve examines various aspects of T cell immunity with a particular focus on molecular mechanisms of T cell function including how expression of specific transcription factors can determine lineage specific function. He has published over 80 papers with a large proportion appearing in high-ranking journals such as *Science, Nature Immunology, Immunity* and *The Journal of Experimental Medicine*. More recently he described a potential mechanism, termed asymmetric division, for how division of single naïve T cell can generate both memory and effector cells. This paper, published in *Science* last year, was co-authored by Sarah Russel from the Peter MacCallum Cancer Institute. This represents a fantastic opportunity for IgV members, particularly students and junior postdocs, to meet and talk with an internationally recognised leader in the field. Steve is very much looking forward to the meeting.

Given the new location and confirmation that Steve Reiner will be attending, we expect spaces to fill quickly. Be sure to keep October free. Details regarding registration and abstract submission will be sent out as soon as those details are finalised. Remember, students who are current ASI members and present their research at the IgV meeting are eligible for bursaries to attend both national and international immunology conferences.

In this issue of the newsletter, Gayle Davey reports on the World of Immunology Day activities here in Victoria. A stand was set up in Federation Square, right in the heart of Melbourne. As you can see from the photos, there was plenty of interest from the general public with the DoI organising committee on hand to discuss what immunology is and how it is important. We have had tremendous feedback on the day and all the members of the organising committee (Gayle Davey, Mirelle Lahoud [WEHI]; Claerwen Jones, Roselind Lamb, John Stambas, Lucy Sullivan [Uni Melb], Michael de Veer & Daniel Layton [Monash Uni]) should be congratulated on a great job.

Finally, thank you to all those students who answered the call for student members for the IgV committee. We had a tremendous response and it was great to see so many people keen to contribute time and effort. I would like to welcome Marie Fletcher (Uni Melb) and Sarah Jones (WEHI) as our new student members. We look forward to their contribution.

Stephen Turner
Councillor

Members of the organising committee for the Melbourne World Day of Immunology, at Federation Square

W.A. News

This year we have organised a local committee that will oversee all WA ASI activities. The committee consists of myself (School of Biomedical Sciences, Curtin University), Tony Scalzo (Lions Eye Institute), Phil Stumbles (Department of Pathology, Murdoch University), Andrew Currie (School of Paediatrics & Child Health and School of Medicine & Pharmacology, UWA), Jane Allan (School of Medicine & Pharmacology, UWA), Paul McMenamin (School of Anatomy & Human Biology, UWA), Matthew Wikstrom (TVW Telethon Institute for Child Heath Research) and Alec Redwood (Department of Microbiology, UWA). A number of issues were discussed at the first meeting and we agreed to continue with the WA tradition of monthly ASI seminars with lunches provided. However, they will

be less frequent and we will invite more national and international speakers, as well as local senior and early career scientists. We will also circulate the talks between different venues hoping to make things fairer for those who have to travel to other sites. Scientists who have agreed to come to Perth are Stuart Tangye (Immunology and Inflammation Program, Garvan Institute) and Raymond Steptoe (Diamantina Institute for Cancer, Immunology & Metabolic Medicine, University of Queensland). Nick Gay (invited by Mariapia Degli-Esposti of the Lions Eye Institute) from the University of Cambridge, has already presented his talk titled *From Drosophila development to human immunity: the molecular mechanisms of the Toll receptor signaling pathways*. Any ASI member in Perth bringing a relevant visitor here is welcome to contact us in regard to requests for assistance with sponsorship or advertisement.

Another item that was discussed were the possibility of organizing a sundowner similar to ones that were held several years ago by the ASI at the Department of Microbiology, UWA. These events were always very popular. It was agreed that it is time to have another one, possibly preceded by an immunology quiz. The major event we are considering for 2008 is a local immunology meeting similar to the student workshop we conducted last year. The theme would be to showcase work in WA and create network/collaborative opportunities between members of the local immunology community. However, instead of focussing only on early career immunologists, all members of this community would be invited to join in and present their work.

Delia Nelson
Councillor

S.A./N.T. News

We are looking forward to two outstanding international guests visiting Adelaide in the near future as part of the ASI sponsored speaker programs. Prof Wayne Yokoyama (Howard Hughes Medical Institute) in October and Prof HG Rammensee (University of Tubingen) in November. It's been a few months between ASI sponsored speakers coming to Adelaide and we're delighted that the weather is warming up and that the vines are ready for some great wine tasting with our guests.

We are extremely excited about the 4th Adelaide Immunology Retreat (AIR) which will be held later this year at a venue yet to be confirmed. This event has grown every year and we are really keen to make AIR-4 bigger and better than ever … stay tuned!

Claudine Bonder
Councillor

Day of Immunology April 29, Adelaide, South Australian Museum

On this day, Day of Immunology, we set up a variety of displays in the main foyer of the museum and took them down into the microscope to see the villi of the intestine, the sinusoids of the liver, the cartilage of the knee and the WBC in a drop of blood. They pulled apart Boris the plastic human to see where the spleen lives, the intestines fold and the heart pumps. We had young and old asking us all sorts of questions about the live cells in the flask and had them watching videos of neutrophil chemotaxis, wound healing, vaccination and cell trafficking. They read the posters we made on the functions of different WBC. We explained to them that, as immunologists, we are trained and driven by the desire to better understand how the immune system works, why some times it doesn't work, and then what we can do to fix it. For the betterment of mankind. We shared with them that immunologists work in many different areas of biomedical research, healthcare, agriculture and environmental monitoring which combine to impact on many areas of conventional medicine.

We had a captivated audience for the public lecture within which three highly trained and extremely well accomplished scientists and clinicians, world renowned and leaders in their field, shared their areas of expertise.

Dr Susanne Heinzel; as a senior research scientist at Vaxine Pty Ltd, shared with the audience her work in a research lab at Flinders Medical Centre and her passion to better understand the immune system and how it can be used to prevent illness through vaccination. Dr Shaundeep Sen spoke as a clinician and PhD student in the Renal and Transplantation Unit at The Queen Elizabeth Hospital and spoke about his ground breaking research in the laboratory investigating chronic kidney disease whilst at the same time being at the front line seeing patients. Finally, Dr Wendy Ingman; as a well accomplished research scientist in the Research Centre for Reproductive Health at the University of Adelaide, spoke on how the immunology in fertility is crucial for the development of the unborn child and intricate mechanisms are in place to ensure that both the mother and developing child are protected during pregnancy.

Finally, a big thank you to all who took time out of their busy day to help and to the ASMR for lending us some presentation material.

DoI committee 2008
Damon Tumes & Claudine Bonder

Queensland News

In Brisbane, to celebrate the World Day of Immunology, a public forum was organised by Georgina Clark and Marnie Nichols (Mater Medical Research Institute) to discuss the role of immunology in everyday health. Panelists Ranjeny Thomas (Diamantina Institute), Frank Vari (MMRI) and David McMillan (Queensland Institute of Medical Research) answered questions about diabetes, autoimmunity, the epidemic in asthma, vaccines for prostate cancer, and work towards a streptococcal vaccine to improve indigenous health. A robust discussion from the floor made for a lively evening, and left the participants looking forward to next year's event. Thanks to Becton Dickinson, who co-sponsored the evening.

Chris Schmidt
Councillor

David McMillan (QIMR) hearing about indigenous health

The discussions sparked some lively debate (Frank Vari, left; David McMillan, centre)

Discussion later

Frank Vari (MMRI) & Ranjeny Thomas (DI)

Ray Wilkinson (QIMR, left) & friend

Research positions available

Vaxine Pty Ltd, a rapidly growing biotech company based in Adelaide, invites applications from interested scientists for research positions within the company. Vaxine's focus is on vaccine development across many product areas including hepatitis B, influenza, shigella, malaria, allergy, cancer and many more.

We are looking for motivated scientists at PhD, postdoctoral or senior researcher level to join our growing research team. Researchers with experience in human immunology, vaccine clinical trials, animal studies, GMP vaccine manufacturing or any related topic are particularly encouraged to apply.

Vaxine welcomes unsolicited applications from individuals with appropriate scientific background at any time.

For further information contact:
Prof. Nikolai Petrovsky (nikolai.petrovsky@flinders.edu.au)
Dr Susanne Heinzel (susanne.heinzel@fmc.sa.gov.au)
Dr Bruce Lyons (bruce.lyons@fmc.sa.gov.au)

For expression of interest submit CV to:
Carolyn Stevens
Finance and Administration Manager
Vaxine Pty Ltd
PO Box 18
Flinders University
BEDFORD PARK SA 5042
carolyn.stevens@vaxine.com.au
www.vaxine.com.au

vaxine

World Day of Immunology, Melbourne, April 29th, 2008

In nine weeks is it possible for a group of scientists, inexperienced in event management, to put together a display for Day of Immunology (DoI) without giving up their "day jobs" or their sanity? Surprisingly, the answer is Yes! World day of Immunology is a global initiative of the European Federation of Immunology Societies to strengthen public awareness of Immunology and promote improved public health.

For the inaugural Melbourne DoI we organised a display at the Atrium in Federation Square. Our display consisted of information banners, microscopes and computer animations. We had five banners around the themes of General Immunology, Vaccination, Autoimmune Disease, Allergy and Transplantation. We greatly appreciate the efforts of Simon Taplin and Peter Maltezos (WEHI Communications) for banner design and production. For viewing down the microscopes we had spleen and thymus histology and flasks of different cells (hybridomas, epithelium and macrophages). On the computer monitors we played the animations of Drew Berry and Etsuko Uno (WEHI-TV) which describe clonal selection, apoptosis and general aspects of cell biology. The Big Screen in Fed Square has become a Melbourne icon and the "clonal selection" animation was shown regularly throughout the day. One passerby commenting that "*this helped them to understand an immune response but also appreciate how complex it was*".

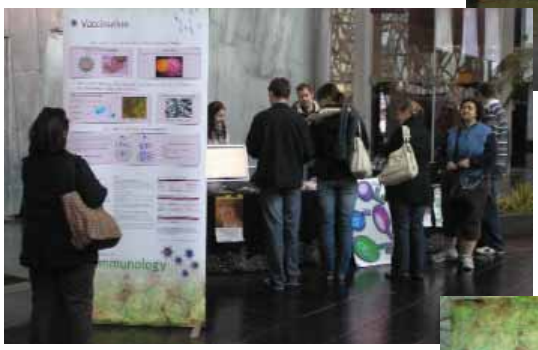
We estimated that about 150 people visited the display, which for a largely unadvertised event on a fairly quiet and chilly Tuesday in Melbourne, was pretty good. (The only other "attraction" at Fed Square for the day being the potato sculptures of the Gippland Potato Growers).

Most bizarre question of the day was "*Where do you think emotions are stored?*" (which followed on from the much more prosaic question "*What is pus?*"). Our best "customer" visited three times for the day and loved the time lapse video of a neutrophil chasing a bacterium.

In addition to the financial support of ASI (and IgV), we appreciate the generous support of Sigma (brochure printing and give-aways), CSL (venue payment), The Walter & Eliza Hall Institute (public liability insurance, equipment, banner production and in-kind support), Monash University (provision of microscopes and in-kind support) and The University of Melbourne (computer and in-kind support) and Maureen Grant (WEHI) for sharing her event expertise.

The committee is enthusiastically looking forward to building on our experiences of this year's DoI for a bigger and better event in 2009. We welcome any new participants, keen to promote Immunology to a wider audience.

Above and left: Debut appearance of an animated lymph node on the Big Screen at Fed Square, Melbourne



DoI Melbourne Committee:
LtoR) John Stambas, Michael de Veer, Daniel Layton, Roselind Lam, Lucy Sullivan, Mireille Lahoud, Gayle Davey (Claerwen Jones absent)

Immunome Research

http://www.immunome-research.com/

Request for Article Submissions

Immunome Research is the journal of the International Immunomics Society (IIMMS). It is an open access, peer-reviewed, online journal publishing cutting edge research at the intersection of immunology research with the latest technologies, including genomics, immunoinformatics and mathematical modelling.

Examples of recent papers include Alex Sette's groups new model for predicting B cell epitopes, plus papers describing new methods for predicting MHC-peptide binding, modelling viral/host interactions, and using genomic technologies to better understand immune function.

Immunome Research accepts reports of original data, comprehensive reviews of any subject within the scope of the journal, commentaries, database articles, hypotheses, meeting reports, methodology articles and software articles. Immunome Research's articles are archived in PubMed Central.

Manuscripts should be submitted electronically to Immunome Research using the online submission system at http://www.immunome-research.com/

For further information please contact the Editor-in-chief, Professor Nikolai Petrovsky, (nikolai.petrovsky@flinders.edu.au) or the Associate Editor, Dr Susanne Heinzel (Susanne.Heinzel@fmc.sa.gov.au)

Travel Award Conference Reports

15th Annual Meeting of International Cytokine Society, San Francisco, USA

Zuopeng Wu, John Curtin School of Medical Research

The Fifteenth Annual Meeting of the International Cytokine Society was held 26-30 October, 2007 in San Francisco of the United States, focusing on cytokines in health and diseases. It brought together a lot of leading investigators in the fields of cytokine signalling and biology, immunology, cancer research, and infectious diseases and attracted many brilliant presentations of recent cytokine works in relation to Th17, Treg, and almost all aspects of immune system.

The conference started with the lifetime achievement award presentation by William Paul from NIAID, NIH and the keynote speaker Rob Kastelein from the Discovery Research, Schering-Plough Biopharma. William Paul talked about their long time works on the mechanisms of type I cytokines, principally IL-4, its biologic functions and the differentiation of naive T cells into cytokine-producing memory cells. Rob Kastelein gave an impressive presentation on IL-12 family members IL-23 and IL-27 which build linkage between innate and adaptive immunity, provided fundamental new insights into the differentiation and function of CD4(+) T helper cells, and discussed the biological roles of IL-23 and IL-27 in the crossroads of inflammation and autoimmunity.

The absolutely hottest topic in immunology and cytokine research at this stage is Th17. In addition to Rob Kastelein's talk on IL-23/IL-17 pathway in autoimmune inflammation, many invited speakers from all over the world presented their exciting results in the study of Th17 including regulating the adaptive immune response and autoimmunity. Brigitta Stockinger from UK also discussed roles of Th17 in innate immune system, i.e. the requirement of IL-17 for mobilization and generation of neutrophils and the importance of IL-17 in host defence against extracellular bacteria and fungal cell wall components. Vijay Kuchroo from the Harvard Medical School talked about cytokine requirement for the differentiation of mouse Th17, showing evidence for the requirement of IL-6 and TGF-β for Th17 induction, TGF-β and IL-21 for Th17 amplification, and IL-23 for Th17 stabilization. Christopher Hunter discussed the inhibitory roles of IL-27 on Th17 in limiting inflammation. Fiona Powrie from Oxford showed some results from experiments in which naïve T cells were adoptively transferred to either IL-12R or IL-23R and RAG double KO mice indicating that IL-23, rather than IL-12, drives innate and T cell dependent colitis.

Regulatory T cells also attract a lot of researcher's interest. Alexander Rudensky gave an interesting talk on how Tregs suppress immune response. He showed their recent data on how IL-10 production by regulatory T cells contributes to the suppression function by limiting inflammation at the environmental interfaces. Taken together with their presentation a few months ago in Rio, "IL-10 deficiency in Tregs does not cause autoimmunity", he drew the conclusion that Tregs use multiple means to limit immune response. This was followed by a presentation from Dario Cignali's group about their recent Nature paper showing the inhibitory cytokine IL-35 mediates Treg suppressive activity. In this paper, they demonstrated that Ebi3 (encodes IL-27beta) and Il12a (encodes IL-12alpha/p35) are highly expressed specifically by mouse Foxp3(+) T(reg) cells and that an Ebi3-IL-12alpha heterodimer designated interleukin-35 (IL-35) is constitutively secreted by T(reg) because Ebi3 is a downstream target of Foxp3. They showed nicely that ectopic expression of IL-35 confers regulatory activity and recombinant IL-35 suppresses T-cell proliferation.

I was particularly interested in IL-7 signalling and naïve T cell homeostasis. There were several interesting talks in this area as well. Firstly, Scott Durum visualized IL-7 producing cells by knocking ECFP into the IL-7 locus. As the construct lacked a signal peptide, it accumulated inside cells and permitted visualization of the minor fraction of IL-7-producing stromal cells. In the thymus, cortical epithelial cells closely contacting with thymocytes showed extensive IL-7 content, supporting the paracrine relationship of IL-7-producing cells and IL-7-consuming cells. They also confirmed that thymus medulla and cortex stromal cells are a major source of IL-7, not lymph nodes, which is a controversial finding. Alfred Singer's group proposed a "co-receptor tuning" theory to explain the interplay between IL-7 signalling and TCR signalling in naïve CD8 T cell homeostasis. They observed that IL-7 signals increase TCR signalling by transcriptional enhancement of co-receptor CD8 expression, while TCR signals desensitise IL-7 signalling.

I would like to thank Susan Watson, one of collaborators of Goodnow's lab, and Professor Lewis Lanier from UCSF, for allowing me to visit their lab during my stay in San Francisco, and for helpful discussions about some NK cell work in the lab. I'd also like to take this chance to thank my supervisor Dr Gerard Hoyne and Professor Chris Goodnow for their huge supports during my PhD study. And of course I need to thank ASI for sponsoring me to attend this very impressive event during my career, giving me the great chance to learn from so many leading researchers in immunology and meet a lot of brilliant young investigators around the world.

Submission of photos with articles

When submitting articles, reports, etc. to the newsletter, please do not embed the photos in the Word article, but always send as separate jpeg files - preferably around 300–400kb. Embedded photos/graphics cannot be imported into the desktop publishing program nor edited if required and delays occur in requesting photographs to be re-sent. Thank you for your co-operation.

2nd World Immune Regulation Meeting, Davos, Switzerland

Jacqueline McGlade, Telethon Institute for Child Health Research

During my PhD, I have been investigating ultraviolet-induced immune suppression in asthma models. As regulatory cells are an important part of this suppression, I was excited to learn about a conference that brought together eminent researchers in this field from across the globe – the Second World Immune Regulation Meeting (WIRM). With the support of an ASI International Travel Award and a travel bursary from the Friends of the Telethon Institute, I was able to attend WIRM in Davos in March, 2008. Going this far afield also gave me the opportunity to visit the laboratory of Professor Bart Lambrecht in Ghent, Belgium before the meeting.

Prof Lambrecht is one of the world's leading researchers in asthma pathogenesis, a central topic of my thesis. Visiting his lab allowed me to observe how other labs operate in countries outside Australia. I was fortunate enough to be invited to sit in on a group lab meeting and discuss my findings with other members of the research team and to learn about their current investigations. Of course, being in Belgium, I also made sure I had my fill of delicious chocolates!

From Belgium I travelled to Zurich and then through the beautiful Swiss countryside to the mountains of Davos. The WIRM conference was a fantastic meeting point for researchers from all areas of immune regulation and gave me many great opportunities to learn about the cutting edge research being conducted by labs around the world. From the plenaries through to the workshop sessions, the calibre of research presented was outstanding.

One of the highlights of the conference was listening to research about the mechanism of the adjuvant aluminium hydroxide. This adjuvant is used extensively, both in my lab and in labs across the world, yet how it actually works to boost the immune response has, until now, been poorly understood. Prof Clare Lloyd also gave a fantastic presentation on the regulation of allergen-induced airway disease by regulatory cells and the role of a surface molecule (Tim-3) in the suppression of allergic airway inflammation. In addition, I learnt about a dye that can be used to identify T cell and dendritic cell interactions. We are now considering the use of this dye within our laboratory.

The poster sessions at WIRM were excellent, with poster walks allowing the presenters an opportunity to talk to a number of people at once about their work. I had great feedback from my session and through discussing my work with other researchers at the meeting, I have fostered a potential collaboration with a group from Belgium who have expertise in proteomics. This would be a valuable addition to our lab's research.

Overall this was a fantastic conference. It was well organised with an excellent calibre of presenters and it was highly relevant to my research. And the organisers did factor in time for fun – a three hour break in the middle of each day left plenty of time to try snowboarding or go for a walk through the town whilst letting the information from the morning's presentations sink in. My sincere thanks go to ASI and the Friends of the Telethon Institute for giving me the opportunity to attend this conference and visit the lab of Prof Lambrecht as well as some of the most beautiful countries of the world.

Jacqui inside the Gravensteen (The Castle of the Counts) in Ghent, Belgium

Comments on ASI from Members

On the Membership Information Update form which accompanies the membership renewal, members are asked to comment on whether ASI meets the member's expectations for a scientific society. This year, a total of 39 comments were received from the 530 who had renewed (not including new members joining this year) at the time of preparing this newsletter. Of these, 15 simply said either Yes or Meets my expectations, or variations on that theme. The more substantive comments are listed below:

Availability of access to journals, e.g. Nature Immunology, has been a good advance.

Good job done by many willing and friendly volunteers.

ASI is fine though less visibly professional than is desirable, more aggressive lobbying for research funds, recognisable spokesperson for immunology.

There is not enough emphasis on clinical immunology.

Tends to have a rather narrow focus!

ASI is a very good society. It gives a lot back to its members.

Excellent. Great newsletter. Excellent conferences when I have attended them but tend to go to TSANZ & ATS.

Doing a good job!

It would be great to have more ASI training/seminars in the area of Education – University level immunology; – share ideas, etc.

I have minimal contact with ASI. ASI serves my needs.

Could ASI think about providing travel awards for post-doc 3 years past PhD?

Very good society.

ASI 2005 was a fantastic conference.

Yes. Switch of publisher of journal to Nature excellent news, as is online access to N.Rev. Imm & Imm. Newsletter always an entertaining read. Interim email news/announcements excellent communication.

Yes, ASI does meet my expectations. I particularly like the invited speakers

during the year but wish more of them could come to Perth.

Provision of career advice (in the form of a workshop or seminar) to postgraduate students or junior post doctoral fellows.

I am enjoying my time as a Student Representative and also ASI has been valuable in organizing conferences and workshops.

The student encouragement & support provided by this Society should be commended; I am very satisfied with ASI.

Online membership renewal.

More innate immunity at ASI meeting.

Providing a permanent asi.com.au for members will sustain networking within members as we all change addresses so often.

Yes! Good student involvement and good local society.

It does – but could be improved for students by providing forums for career opportunities in industry. Was very impressed with ASI 2007 Conference.

ASI is excellent.

Contributions sought for the ASI online immunology quiz

As part of the recent World Day of Immunology, we have developed an online immunology quiz (see http://www.immunology.org.au/immquiz1.html) on the ASI website. This quiz is targeted at the general public, but it would be good to add a few more questions (especially some with an Australian flavour), and maybe even add an "Advanced Level", with questions that undergrad students might find useful for revising for exams. All that's needed now are the questions and answers.

If you would like to contribute any multiple choice questions for either the general quiz or an advanced version, please send them to Judith Greer at j.greer@uq.edu.au.

An invitation and a request to all ASI members

to contribute copy that they think might be interesting, useful, historical, humorous or thought provoking.

- We invite our student membership to voice their views on issues that interest or directly concern them.
- It's our newsletter, so let's support it and strive to make it even better.
- The ASI newsletter comes out 4 times a year and we welcome your contributions.
- **AND NOW YOU COULD WIN $100 FOR THE BEST ARTICLE PUBLISHED IN THE NEWSLETTER!**

Day of Immunology in Australia

April 29 is Immunology Day, first celebrated in 2005 in more than 30 European states with great success strengthening public awareness of immunology as a basis for individual health and well-being. Since 2007, Day of Immunology has been a global event with its induction in all Australian capital cities and the start of many immunological celebrations to come. As the Australasian Society for Immunology, we embrace clinical and experimental immunology for the betterment of mankind and shared our knowledge with our fellow Australians on Day of Immunology.

In Australia, we took the general public inside the wonderful world of the immune system and shared with them the intricacies of a system that has evolved over millions of years to defend the human body against possible infections and destroy harmful organisms that have gained entry into the body. Immunologists work in many different areas of biomedical research, healthcare, agriculture and environmental monitoring which combine to impact on many areas of conventional medicine. During Day of Immunology we could only cover a few aspects of immunology but they were showcased in Adelaide, Brisbane, Canberra, Darwin, Melbourne and Newcastle as wonderful displays, one-on-one with the scientists and in the forum of public lectures. We estimate that over 750 people visited our stalls and attended our talks Australia wide which is a great testament to the organizing committees in each of the states and territories (thank you!) and to the general public for showing interest in their own health and wellbeing. Here are a few photos from Adelaide – see also the report on Melbourne activities – but please go to the link on the ASI website (www.immunology.org) as well as the European Day of Immunology website (www.dayofimmunology.org) for all the information on the day's events in Argentina, Australia, Brazil, Croatia, The Czech Republic, Finland, Germany, Greece, Hungary, Italy, Japan, Lithuania, Norway, Portugal, Serbia, Slovak Republic, Sweden, Turkey and the United Kingdom.

We look forward to seeing you next year and THANK YOU to all who helped!

Claudine Bonder

Excerpt taken from the thank you letter by Stefan H.E. Kaufmann, President, European Federation of Immunological Societies

Dear Immunology Colleagues,
The global Day of Immunology (DoI) has become a reality. I am grateful and pleased: the DoI, which first took place April 29, 2005 in Europe has established itself as a solid exercise beyond Europe. The 2008 DoI has witnessed major activities in 19 different countries around the world. Although the DoI is celebrated on April 29 each year, we feel the effects of its realisation throughout the year. After all, the purpose of this endeavour is to raise awareness amongst the public, the press, politicians and decision makers about the critical importance of the immune system in everybody's everyday life.

The examples of events (as described at http://www.dayofimmunology.org) emphasize that the DoI has become firmly established. I want to thank all of you who actively participated in the DoI 2008 in Argentina, Australia, Brazil, Croatia, The Czech Republic, Finland, Germany, Greece, Hungary, Italy, Japan, Lithuania, Norway, Portugal, Serbia, Slovak Republic, Sweden, Turkey and the United Kingdom. I hope more immunologists will join us for next year's DoI. You may want to start thinking about it now, so that your activities are well prepared in advance of the DoI April 29, 2009.

Best regards,
Stefan H.E. Kaufmann
President
European Federation of Immunological Societies

Upcoming Lectures & Conferences

20th Annual ASHM Conference
September 17–20, 2008
Perth, WA, Australia
conferenceinfo@ashm.org.au
www.ashm.org.au/conference

Australasian Society for HIV Medicine annual conference
September 17-20, 2008
Perth, Western Australia
conferenceinfo@ashm.org.au
www.ashm.org.au/conference

17th International Congress on Palliative Care
September 23-26, 2008
Montreal, Canada
info@pal2008.com
www.pal2008.com

HAA 2008 (HSANZ ANZSBT ASTH 2008 ASM)
October 19-22, 2008
Perth, Western Australia
haa@fcconventions.com.au
www.fcconventions.com.au/HAA2008/

Vaccine 2nd Global Congress
December 7-9, 2008
Boston, USA
vaccinecongress@elsevier.com
www.vaccinecongress.com

HAA 2009 (HSANZ ANZSBT ASTH 2009 ASM)
October 18-21, 2009
Perth, Western Australia
haa@fcconventions.com.au

The Walter and Eliza Hall Institute of Medical Research
WEHI Seminars on the Web: www.wehi.edu/seminars/

ASI Student Page

Authorship in scientific publications. What does it mean for students?

Poon, I.K.H.[1,4#], Chow, J.D.Y.[2], McNaughton, E.[1,3], Quah, B.J.C.[1,3] and Leffler, M.[1,4]
1. The John Curtin School of Medical Research, ANU
2. The Prince Henry Institute of Medical Research, Monash
3. MMORPG CYBERATHLETE
4. Institute of Extreme Procrastination

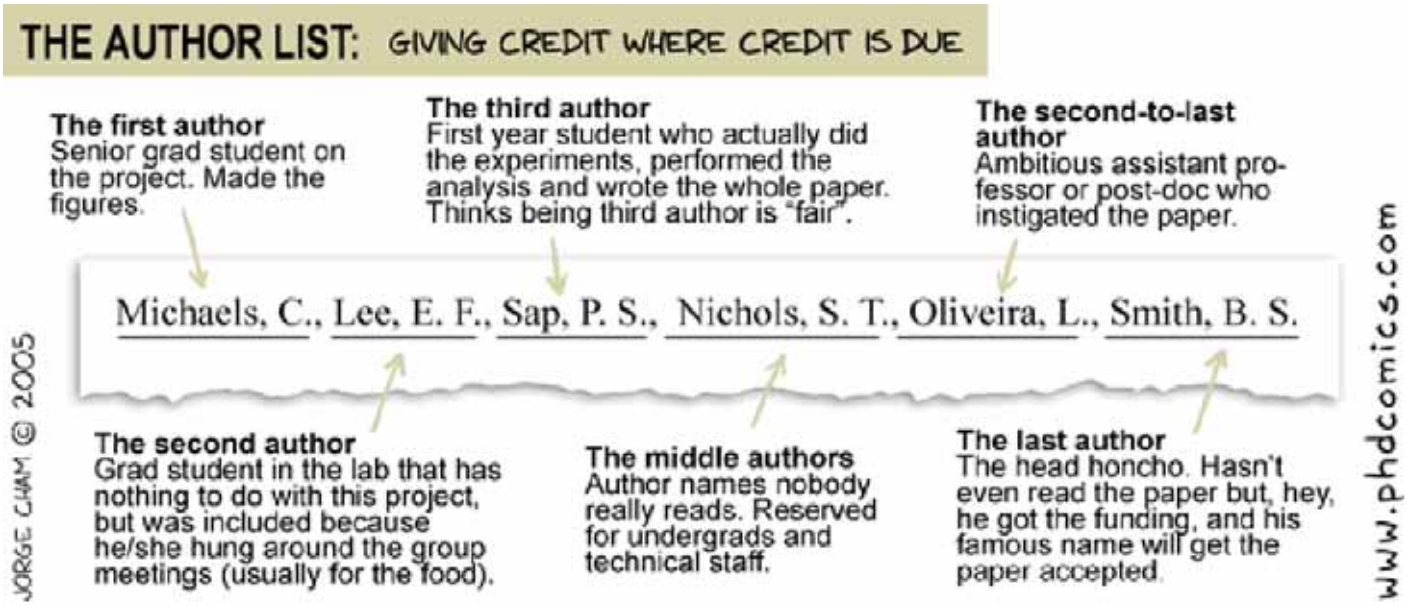
Dear fellow students and colleagues, the intention of this article is to entertain other PhD students and discuss issues that could be relevant to them. We would like to apologize in advance if any of the following material is silly or naïve. As an author (Poon, I.K.H.), I accept all responsibility for this article.

I am sure that all of us have realized that being an author of a paper in a good journal is one of the most important things (but not the only) that will help us to acquire scholarships, travel awards, post-doc positions and fellowships. Essentially, everything in our future career as a scientist. Being on a paper is not enough, the position of our name on the author list is also extremely important. Being first, second, third, co-first (but listed as fourth), second last or last makes a world of difference when funding bodies or potential employers are looking at our track record. But what does it mean to be an author? Why am I the first/second/third author? Why are all the other authors on "my" paper? What does it really mean for students?

When I first started my PhD at JCSMR, I was joking with another new PhD student in the group: "Hey, if I do some FACS experiments for you and you do some cloning for me, we can double our publication output". (This is before realising the importance of publication in our future career or understanding what it really means to be an author, we just liked the idea of having more publications. Come to think of it, it is like collecting basketball cards back in primary school. Rather than comparing who has more Michael Jordan or Charles Barkley cards, sometimes academic conversations often revolve around … he/she has two first author papers in *JEM* and *Nature Immunology* etc.) Half seriously/half jokingly, I proposed the idea to my co-supervisor. He thought about it, looked a bit concerned with my idea, and came back to tell us that unless we have contributed substantial intellectual input to each other's projects, we shouldn't be on each other's paper even if we were good friends.

So, what do you have to do to be an author? In 2002, the International Committee of Medical Journal Editors (ICMJE) proposed that an author should satisfy three criteria ("positive selection"): i) substantial contributions to conception and design of a study, or acquisition of data, or analysis and interpretation of data; ii) drafting the article or revising it critically for important intellectual content; and iii) giving final approval of the version to be published (www.icmje.org). I found the "negative selection" criteria even more interesting, simply "… gathering funds for the project, paying salaries, providing a conductive environment, being the spokesperson, or providing published reagents or procedures are not activities that warrant authorship without a significant contribution to the scientific content of the paper" (Editorial (2004) Responsible authorship of papers in PNAS. PNAS **101:** 10495).

Next, let's describe what is the common knowledge (since there isn't really a unified definition) on the positioning of authorship in research articles in biomedical sciences. It is interesting that without formally being



taught about it, we often make the assumption that the first author (and co-first) is usually the student/post-doc/research assistant (sometimes even the head of the group) that did most of the experiments and/or designed the study. The last and second last are usually the head of the group or post-doc that supervised the research. Middle authors are those that have also contributed to the research (but to a much lesser extent) or collaborators that have provided expert assistance. Unless the publication actually indicates who did what (e.g. like *PNAS*), these are the assumptions that most of us will make when we look at the authorship position.

So as a student, as long as we are the first (or co-first), do we really care whether there are two or three more people on the paper that shouldn't be an author? Especially if being associated with them may actually help to get the paper into *Nurture*? Alternatively, can we be placed at a position on the author list that we don't deserve? Although I have never had any personal experience on these issues (well … at least not seriously involved), to be honest, this is still a grey area for me. The reason why dealing with these kinds of situations is not black and white is because we know what is ahead of us in our career, the "game/system" that most of us need to "play" in order to get fellowships and grants. As I alluded to earlier, publication has become the currency of science … "money (publications) can't buy you everything, but without money (publications), you can hardly buy anything".

Nobody really knows when and how the academic system will change in terms of measuring the merit of a researcher based largely on the number of publications and their authorship position. To be fair, I do believe that substantial efforts have been or will be made to focus more on the proposed project or other aspects of the applicant. From a student's perspective, rather than constantly thinking about how we should play the academic game, I think the most important things to keep in mind when writing a paper are:

1. As I hinted to at the start, being an author (in any author position) carries the public responsibility of the publication. Both the credit and the accountability. (Please see the publications listed below for more discussion on this.)

2. Impact factor of a paper is important, but the impact of the work to your field is even more important.

For those who are interested in the topic, you can check out these publications:

Bennett, D.M. and Taylor, D.M. (2003) Unethical practices in authorship of scientific papers. *Emergency Medicine* **15**, 263-270.

Frazzetto, G. (2004) Who did what? *EMBO reports* **5**, 446-448.

Author contributions: P.I.K.H., C.J.D.Y., M.E., and L.M. are poor PhD students; M.E., and L.M. loves beer. P.I.K.H., Q.B.J.C., and L.M. are Tri-sport team-mates, and P.I.K.H. wrote the paper.

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Editorial cont. from p3

attests, a very similar situation exists on the other side of the Tasman. The much advocated knowledge–driven economy can only be realised with substantial financial commitment.

Finally, and sadly, we note, with an obituary, the death of Glenn Buchan, a New Zealand immunologist whose unique qualities as a scientist and as a human being were also well known to many in Australia. Buck's life was cut short – he died just a month short of his 52nd birthday – after an increasingly tough two year battle with cancer. But it was a campaign that he fought with great courage. He evidenced his deep commitment to science as he followed with great diligence all the rational therapies including assiduously putting himself forward for the currently more experimental. To his friends and colleagues watching from the sidelines, some of these seemed almost worse than the disease. He was indeed, a much loved and respected colleague. Buck is survived by his wife, Kerry, and their four boys, Tom (20), Sam (18), Charles (15) and Jack (6).

Margaret Baird

Obituary
Associate Professor Glenn S Buchan
(May 1956 – April 2008)

by Professor J F Griffin, Department of Microbiology and Immunology, University of Otago, Dunedin, New Zealand

I first met Glenn, known simply as Buck, almost 30 years ago when in 1978, as a recent graduate in Zoology, he decided to take a Postgraduate Diploma in Immunology, which we offered for the first time in 1978. He was in good company as eight students took the course and three (including Glenn) became academics and are now Professors in Immunology. He graduated PhD in 1984 from our department. For his PhD studies he chose to study the most elusive immune cell (the macrophage) involved in one of the most complex immunological diseases (Rheumatoid Arthritis) in medicine – a demanding exercise requiring considerable tenacity, fortitude and creativity. He spent from 1985 to 1987 as a Postdoctoral Fellow at University College London and Charing Cross Hospital under the guidance of Professor Marc Feldmann, one of the world's leading Clinical Immunologists. A testimony to Buck's status as a scientist is that the collaboration he established with Marc in 1985 was sustained for the subsequent 20 years.

I was fortunate to recruit Buck back to The Deer Research Laboratory as a Research Fellow in 1988 where he spent the next four years building a research platform in Molecular Immunology. His transition from immune disease research in humans to tuberculosis in farmed deer was seamless and he immediately made a significant contribution to our research programme. In 1993 he was appointed Lecturer in Immunology in the Department of Microbiology where he continued to advance his career, being promoted to Senior Lecturer in 1996 and Associate Professor in 2002. During that period he established his own research programme mainly in clinical immunology. His most recent research focused on the development of new generation vaccines for chronic diseases of humans and animals.

Since obtaining his PhD, Buck published more than 100 scientific articles in Immunology. Along the way he was a model collaborator and he worked closely with other leading Immunologists throughout New Zealand and internationally in Australia, Belgium, Japan UK, USA, Switzerland. His expertise in Immunology led him to act as Consultant, Technical Advisor or Research Provider to the New Zealand Ministry of Health, AgResearch, the New Zealand Dairy Group, Fonterra, Lactopharma, the NZ Animal Health Board and the Ministry of Agriculture.

During his 20 year academic tenure at Otago, immunology teaching has expanded from being a minor theme to being a major component in what is now the Department of Microbiology & Immunology. Buck made a pivotal contribution to the development of undergraduate theory and laboratory courses in immunology throughout the curriculum. While he was an inspiring and effective lecturer, he was at his most effective as a small group teacher and as a mentor and postgraduate supervisor. The commitment to his postgraduates is legendary; nobody showed more loyalty for their students or advocated with greater passion on their behalf.

From the mid 1990s onwards, Buck's potential as an academic leader began to bloom. Between 1997 and 2001 he was a Council Member and later President of the Otago Institute (Regional Branch of the Royal Society of New Zealand). During this period he established himself as a spokesperson and advocate for under-funded science research in New Zealand. His numerous appearances in the *Otago Daily Times* meant that multiple head shots had to be kept on file to retain journalistic variety. From 2003, Glenn was part of the Technical Working Group and Advisor to the Ministry of Health on Immunisation. His objective advocacy for childhood immunisation led him into public debate in the newspapers and on television. When he was elected Associate Dean of Research at the Otago School of Medical Sciences five years ago, his passion, integrity and advocacy for research within the School established new models for interdisciplinary collaboration. Buck was an enthusiastic member of the Australasian Society of Immunology from 1992 and the New Zealand Councillor from 1998 to 2002. During this time he convened the very successful ASI Conference held in Dunedin in 1999.

Buck's credibility as a spokesperson and administrator, combined with the networks he had established locally and nationally, marked him as a future leader at the University of Otago. We are deeply saddened by the untimely loss of this potential. While the impact he made as an academic will forever remain embedded within the culture of the Department of Microbiology & Immunology, his impact as a colleague will remain safe in our hearts.

In appreciation of a Great Journey:
Goodonyamate!