



N E W S L E T T E R

## Australasian Society for Immunology Incorporated

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### Flinders Creates a New Hub for Vaccine Research in Adelaide

Nik Petrovsky and Susanne Heinzel

(The authors are affiliated with Vaxine Pty. Ltd, Flinders Medical Centre, Flinders University, Immune Strategies ASRI and NVAC)

Research on infectious diseases and vaccines has always been a focus in Adelaide, but has received a significant boost over the past few years with the relocation of Nik Petrovsky's research labs from Canberra to Adelaide in 2005, creation of a National Vaccine and Adjuvant Centre (NVAC) bringing together vaccine researchers from Flinders University, ANU and Monash and the recent establishment of the Immune Strategies ASRI within the Flinders University Areas of Strategic Research Interest. The Immune Strategies ASRI was created by researchers and clinicians at Flinders University and Flinders Medical Centre with a common interest in immunology and infectious diseases research.

There is increased public and professional awareness of the importance of vaccines and immune research in countering infectious disease, autoimmunity, allergy and even

cancer. Areas covered by the Immune Strategies ASRI include autoimmune diseases which represent the third greatest clinical burden in the world after heart disease and cancer, with Tom Gordon and Nik Petrovsky both sharing an interest in autoimmune disease pathogenesis from a B-cell and T-cell perspective, respectively. Nik Petrovsky continues the work he inherited from Kevin Lafferty on the use of immune stimulants such as Q fever vaccine to prevent type 1 diabetes while Tom Gordon is a world leader in functional autoantibodies.

Similarly, whilst the battle against infectious diseases has been won on a number of fronts including the worldwide eradication of smallpox, new battle fronts have been opened with the challenge of fighting new and re-emerging diseases including HIV, malaria, shigella, flaviviruses, chronic hepatitis B and avian influenza. David Gordon has

been active educating on the threat of avian influenza, and is also developing a new rapid FACS-based influenza diagnostic assay in addition to continuing his internationally recognised research on complement pathways.

The Immune Strategies Research Group at Flinders University has expertise covering infectious disease, the innate immune system, vaccines, autoantibody-mediated diseases, inflammatory eye disease, allergy, diabetes, vascular disease, neuroscience, monoclonal antibody production, diagnostic tests, and pharmacology. The creation of the ASRI will enable Flinders University to promote its strengths in immunology and infectious disease research and help attract younger scientists and students who want to work in this exciting field. New projects with tremendous potential to emerge from this

*cont. p4*



LtoR: Nick Kasmeradis, Bernhard Radinger, Dorothee Girard, Andrew Michelmores, Nik Petrovsky, David Simon Davis, Samay Trek, Yoshikazu Honda, Jean Wei, Bruce Lyons, Susanne Heinzel, Margaret Menadue, Linda Wu

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### Website

The ASI web site ([www.immunology.org.au](http://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](mailto:j.greer@uq.edu.au)

### Email bulletin board

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

## EDITORIAL

This newsletter comes with apologies for the typos in the last issue. The error arose from one of those geographic problems that has not yet been solved by the internet: Your erstwhile editor sits in Sydney reviewing electronic copies, but printing of the final PDF version happens in Melbourne. The printing process is WYSIWYG (What You See Is What You Get) – well, in principle anyway. I am keen to find out how many people actually noticed – and how many of these correctly surmised that every time ‘fi’ appeared it had been substituted with a question mark. In any event, the Council decided that this should be corrected by the printers and resent – which it was. In this issue there will be a prize for the first person who can identify the systematic typo and email the correct response to me.

Elsewhere in this issue, we highlight immunology research in South Australia, and provide an exciting foretaste of the great immunology we can expect in Sydney in December. The speaker profiles (p10-14) show that there will be something for everyone at this conference, so I hope to see everyone there!

*Miles Davenport*

### 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](mailto:j.greer@uq.edu.au).

## HONORARY SECRETARY'S NEWS

### International Travel Awards and Student Bursaries

Funds! A word that attracts immediate attention from scientists, especially if you are a student or young post-doc looking for financial support to attend a meeting. Attending a conference is an opportunity to share your results with your peers, learn from the leaders in the field, search for a new job and, of course, see new places and have some fun. Conferences are expensive, though, so a bit of help from your Society is always useful.

I have been involved in collating and evaluating applications for International Travel Awards and Student Bursaries several times. These awards provide generous funds for PhD students and post-docs to attend conferences overseas, and for students to attend the annual ASI meeting, respectively. However, many young immunologists miss out on the opportunity to apply for these awards because they do not fulfil a simple but basic requirement: membership. I hate to turn down applications from young promising scientists because they never cared to join ASI, or because their supervisors never encouraged them to do it. To apply to the International Travel Awards you must have been an ASI member for at least two consecutive years, including the year of application. For the student bursaries, the requirement is more relaxed; you only need to join before April 1st on the same year of the meeting. Of course this means that most of the times you have to join the Society *before* knowing whether you will need to apply for an award or a bursary. But this is fair; the awards are substantial, up to \$3,000 for overseas travel, so it is logical to request some demonstration of commitment to the Society before you can ask for a sum like this.

As you are reading the Newsletter, you are probably a member, so you can apply this year or will be able to do it the next, but what about others in your laboratory? Do they know what they may be missing? Has anybody cared to inform them? Please, whether you are a student or a post-doc, and especially if you are a laboratory head, make sure every new member in your group learns about the benefits of joining ASI. It is not just the awards; discounts on ASI-organised

events and free subscriptions to leading immunology journals are also important benefits, but the opportunity to receive an International Travel Award or a Bursary should be sufficient reason for any young immunologist to join the Society.

The next round of **International Travel Awards**, to attend conferences in the **first half of 2008**, will be announced by email in September. The guidelines and application forms are posted on the ASI website (<http://www.immunology.org.au/awards.html>).

The next round of applications for **Student Bursaries** is to attend the **37th Annual Scientific meeting in Sydney**. To apply, please go to <http://www.asi2007.org.au/Abstracts.htm> and follow the instructions.

### Elections to Council

Four positions on Council will be vacated this year: Regional Representatives for the Australian Capital Territory, New Zealand and Victoria/Tasmania, and President Elect. The Regional Representatives serve a three-year term. The President elect is also a member of the Executive and serves for four years, one as Vice-President, two as President and the fourth as Past-President. A call for nominations, information on the nominees and instructions to vote will be distributed to the membership by email in due course. It is anticipated the deadline for nominations will be **September 30th** and the polling period will be **October 1st–19th**.

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team include research on development of vaccines against Alzheimers disease, atherosclerosis and cancer, three of the hottest areas in vaccine research today. Hence whilst other research groups and institutes may be much better resourced and funded, Flinders is the place to be at the moment to be at the cutting edge of Australian vaccine research, and potential students are encouraged to get in touch with any of the above-named scientists if they are interested in being involved in any of these exciting projects.

Our vaccine development group is based at the Flinders Medical Centre (FMC) in Adelaide, and has a focus on the development of prophylactic and therapeutic vaccines underpinned by our unique Advax polysaccharide adjuvant technology originally discovered by Dr Peter Cooper at ANU, but which we have subsequently further developed into a number of extremely potent yet exceptionally well tolerated forms. These new adjuvants are now being commercialised in partnership with Vaxine Pty Ltd, which is co-located with Nik Petrovsky's labs in leased space within Flinders.

The major research section of Vaxine relocated to Flinders when Professor Nikolai Petrovsky moved from Canberra to Adelaide to take up the position of Head of Endocrinology at FMC. The

creation of a new immunology research lab at Flinders created attractive employment opportunities for local and international immunologists and a highly skilled team of researchers is becoming established at Flinders, some of them well known to many ASI members. Bruce Lyons is perhaps best known for his role when in Chris Parish's lab at JCSMR of creating the now routinely used CSFE cell division assay, Susanne Heinzel was ASI South Australian State Representative and now, in addition to being responsible for clinical trial cellular immunology, is Associate Editor of the Immunome Research journal and member of the organising committee for the next AVID meeting, Yoshikazu Honda developed Japan's first recombinant Hepatitis B vaccine before spending 11 years in a Kenyan Research Institute working on cattle vaccine immunology, Andy Michelmore recently joined the team as an analytical chemist who will be assisting in the manufacture and scale up of our adjuvants. In addition a number of other leading international scientists have recently been recruited and will be taking up positions in the group over the next six months or so. The senior scientists are supported by a large number of junior scientists, technical personnel, overseas biotechnology interns and honours and post-graduate students.

Recent visiting scientists and students have come from around the world including France, Germany, Austria, India, Cuba,

Malaysia, and China, helping form a culturally rich and diverse group. Student research projects have covered topics as diverse as vaccine testing and development, viral disease pathogenesis, sting allergies, duration of immune responses, immune responses to snake and spider venom, and establishment of new immunological methods, with students having opportunities for exposure to human trials as well as a wide variety of animal immunology models. Students particularly value the opportunity in our lab to do hands on translational immunology research and participate in projects of potential global significance.

Our group has been fortunate to have the US National Institute of Health as our leading backer with a more recent small contribution from the NHMRC under their urgent call for influenza grants. Through our industry partner, we have also been a major recipient of funding from AusIndustry programs including Biotechnology Innovation Fund, START and Commercial Ready. Our strength has been our ability to rapidly and efficiently translate our research from the bench to the bedside and this ability has been key in our securing large-scale funding from NIH and AusIndustry as these bodies are no longer content to provide funding on vague promises that research may at some indeterminate time benefit human health. Increasingly, major funding bodies want to see more concrete health advances emerge from their grant spending. Because our vaccine group at



*Vaccine workshop co-hosted by NVAC/ Flinders Immune Strategies ASRI and Vaxine.*

*LtoR, back row: Carolyn Stevens, David Simon Davis, Dorothee Girard, Yoshikazu Honda, Andy Michelmore, Bruce Lyons, Mario Lobigs, Erick Berglund*

*Middle row: Naresh Verma, Susanne Heinzel, Lina Wang, Samay Trek, Takeo Masumoto, John Ring, Nick Kasmeradis*

*Front row: Jean Wei, Peter Cooper, Nikolai Petrovsky, Ted Stapinski, David Gordon*

Flinders is positioned at the intersection of laboratory research and the clinic, we have been well positioned to deliver the timely and human health relevant results that funding bodies increasingly want to see.

Last year, in partnership with Professor David Gordon, the Director of Microbiology and Infectious Diseases at Flinders, we completed a highly successful first-in-man Phase I/2 clinical trial of a novel Deltin-adjuvanted vaccine against Hepatitis B. This year's landmark achievement has been our commencement of a first-in-man study of an improved seasonal influenza vaccine based on our novel adjuvant technology. As demonstrated in the pre-clinical studies conducted under the NHMRC Influenza grant, application of our specialised influenza adjuvant to current seasonal influenza vaccines resulted in a dramatic improvement in immunogenicity at both the B and T cell level, in association with major antigen dose sparing. The current human study will be of paramount importance, as if it confirms the pre-clinical findings it could enable influenza vaccine supplies to be stretched much further in the event that Australia is hit by an influenza pandemic, when supplies of vaccine antigen may otherwise be insufficient to provide widespread population coverage and current commercial vaccines suffer

from poor immunogenicity and little in the way of cross-protection. Other soon to commence human studies include an even more potent influenza vaccine focused on high risk patients with chronic obstructive airways disease, a therapeutic Hepatitis B vaccine, adjuvanted rabies and Japanese encephalitis vaccines and an improved venom desensitization treatment for patients with severe bee sting allergy.

Nik Petrovsky was recently invited to address the World Vaccine Congress in Singapore and was overwhelmed by interest from South East Asian vaccine manufacturers in collaborations and partnerships to include our adjuvant technologies into their new and existing vaccines. As a consequence we have been involved in creating a new transnational vaccine body called the International Vaccine and Adjuvant Network, "IVAN", with IVAN's mission being to improve the quality and accessibility of vaccines, providing particular assistances for less affluent countries with vaccine manufacturing capability but with limited resources to improve existing old style vaccines or develop newer generation vaccines.

Our group at Flinders closely collaborates with local, interstate and leading international research groups. Most recently, a vaccine

workshop in Adelaide was organised by NVAC in partnership with the Flinders Immune Strategies ASRI, with invited speakers from interstate and overseas, including Mario Lobigs (Flaviviruses) and Naresh Verma (Shigella) from ANU and Lina Wang (Malaria) from Monash. This was an extremely productive meeting with discussion focused on how to overcome barriers to development of successful vaccines for worldwide problems such as chronic hepatitis B, malaria and shigella, diseases that have resisted attempts made so far to develop successful vaccines and which each are responsible for millions of deaths each year around the globe. The plan is to hold such workshops approximately twice a year and use them as a focal point to drive Australian and international collaborative vaccine projects, with the aim to expedite these into human clinical trials using our existing well developed pre-clinical and clinical trial infrastructure. Any Australian immunology group working in the vaccine area who would also like to get involved in these workshops and other activities should get in touch with us at Flinders.



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

## Annual Retreat

**La Trobe at Beechworth Conference Centre**

**Beechworth**

**October 28th–30th, 2007**

### Guest speakers include:

David Anderson  
Richard Boyd  
Jonathon Cebon  
Bill Heath  
Andrew Nash  
Stephen Nutt  
Mark Smyth  
Andreas Strasser  
Charles Surh (Keynote speaker)  
Ian van Driel  
Steve Wesselingh

**AND, THE RICHARD BOYD TRIVIA NIGHT, THIS TIME EVEN HOSTED BY RICHARD BOYD.**

**Deadline for registration and abstracts is 21st September 2007**  
For more details, see: <http://www.microbiol.unimelb.edu.au/IgV>

## UPCOMING LECTURES & CONFERENCES

5th International Antigen Processing & Presentation Workshop  
October 7–11, 2007  
Dunk Island, Queensland, Australia  
<http://www.antigenpresentation2007.org/>

The Power of One Idea: 50 Years of the Clonal Selection Theory  
October 21–23, 2007  
Melbourne, Australia  
[http://www.wehi.edu.au/WEHI\\_Groups/indexworkgroups.php?id=111](http://www.wehi.edu.au/WEHI_Groups/indexworkgroups.php?id=111)

12th Frank and Bobbie Fenner Conference  
“Medical Research Breakthroughs Then and Now”  
24–26 October 2007  
Canberra, Australia  
<http://jcsmr.anu.edu.au/fennerconference.htm>

Immunology Group of Victoria Annual Retreat  
October 28–30, 2007  
Beechworth, Victoria, Australia  
<http://www.microbiol.unimelb.edu.au/IgV>

ASI SIG Mucosal Immunology Workshop  
December 2, 2007  
Sydney, Australia  
[www.asi2007.org](http://www.asi2007.org)

ASI Annual Scientific Meeting  
December 2–6, 2007  
Sydney, Australia  
[b.saunders@centenary.usyd.edu.au](mailto:b.saunders@centenary.usyd.edu.au),  
[www.asi2007.org](http://www.asi2007.org)

4th International Peptide Symposium  
October 21–25, 2007  
Cairns, Queensland, Australia  
[ian.smith@med.monash.edu.au](mailto:ian.smith@med.monash.edu.au)  
[www.peptideoz.org](http://www.peptideoz.org)

Tissue Remodelling Meeting  
November 11–13, 2007  
Blue Mountains, NSW, Australia  
[ajammit@pharm.usyd.edu.au](mailto:ajammit@pharm.usyd.edu.au)  
<http://www.asmr-nsc.org.au/>

Australian Virology Group  
December 10–13, 2007  
Fraser Island, Australia  
[mp@asnevents.net.au](mailto:mp@asnevents.net.au)  
[www.asnevents.net.au/virology](http://www.asnevents.net.au/virology)

Molecular Approaches to Malaria  
February 3–7, 2008  
Lorne, Victoria, Australia  
[grant@wehi.edu.au](mailto:grant@wehi.edu.au)  
[www.mamconferences.org](http://www.mamconferences.org)

Australasian Vaccines & Immunotherapeutics Development Workshop  
May 14–16, 2008  
Surfers Paradise, Queensland, Australia  
[Rajiv.Khanna@qimr.edu.au](mailto:Rajiv.Khanna@qimr.edu.au)  
<http://www.asnevents.net.au/avid/>

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### The Walter and Eliza Hall Institute of Medical Research

WEHI Seminars on the Web:  
[www.wehi.edu/seminars/](http://www.wehi.edu/seminars/)

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### 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

### Sustaining Membership

ASI Inc acknowledges the support of the following sustaining member:

- Jomar Diagnostics

## 5th International Antigen Processing and Presentation Workshop Dunk Island, Queensland 7–11 October, 2007

Abstract Submission and Registration are now open

Speakers include:

Kwanseog Ahn, Sebastian Amigorena, Facundo Batista, Frank Carbone, Vincenzo Cerundolo, Peter Cresswell, Laurence Eisenlohr, Gunter Hammerling, Bill Heath, Ann Hill, Jean Langhorne, Eugene Maraskovsky, Jim McCluskey, Betsy Mellins, Ira Mellman, Chris Norbury, Hidde Ploegh, Ken Rock, Jamie Rossjohn, Andrea Sant, Nilab Shastri, Ken Shortman, Jon Sprent, Emil Unanue, Peter van Endert, Jose Villadangos and Colin Watts.

To commemorate the 20th anniversary of the publication of the crystal structure of HLA-A2, this year the meeting will have **Jack Strominger** as the **Keynote Speaker**.

With a **maximum forum of 120 people** (including speakers), this is a unique opportunity to meet many of the most advanced scientist in the field. Submit your abstract and register now at:

<http://www.antigenpresentation2007.org/>

The organising committee:

Jose Villadangos (Chair), Bill Heath and Jim McCluskey

## President's Column

### Immunology and Cell Biology the Hard Way

The latest ISI Impact Factor rating for the Society's journal, *Immunology and Cell Biology* (ICB), is 2.482. As this figure reflects citations over a two year period, it (attempts to) quantify the impact of papers published in ICB in 2006. We expect that the migration of the journal to the Nature Publishing Group at the beginning of this year will have a positive effect on this rating in the future. The migration of ICB has had another effect; it has introduced the option of receiving a hard copy of the journal, or to receive on-line access only. A great number of the Society's membership chose the latter, less expensive, option. So few have asked for a hard copy, that the question has been raised whether there is a need to have a print run at all. While this sounds like we are taking part in the grand paperless revolution, I think we need to keep in mind the consequences of having the only extant copies of our journal on someone else's (i.e. the publisher's) server; it is easy to envisage a time in the future when on-line access prices could rise to unmanageable levels.

Any members who wish to become the guardians of our once and future heritage by lovingly storing their very own hard copies of ICB are welcome to contact the Secretariat ([asi@21century.com.au](mailto:asi@21century.com.au)) to change their membership subscription on a pro-rata basis. A one year hard copy subscription costs an extra \$29 – plus 10% GST if resident in Australia.

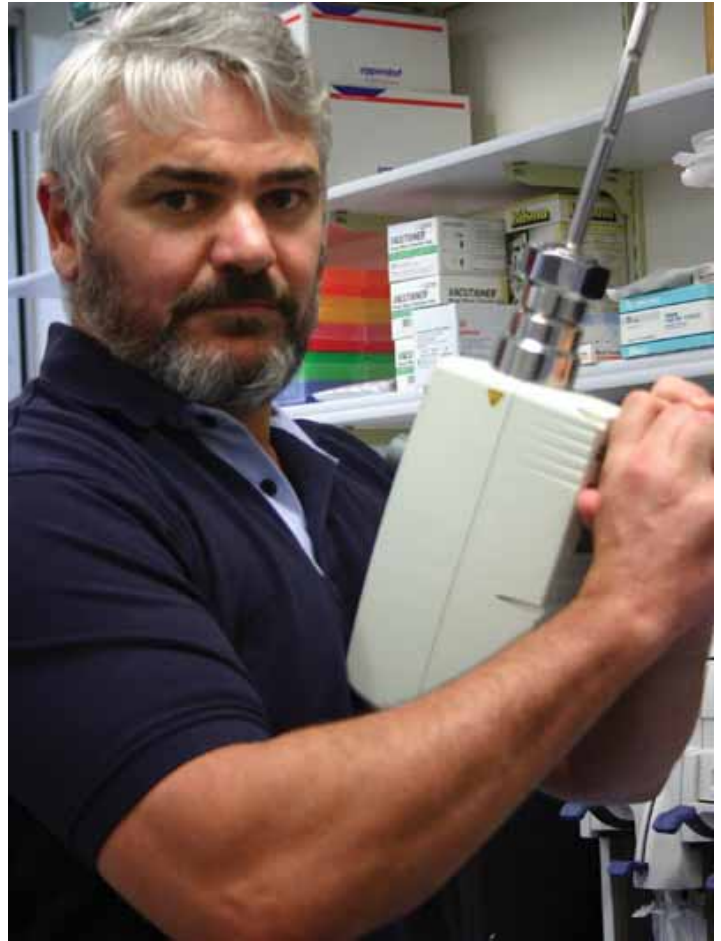
### The President's Suite

Not a reference to a creaking Roger Moore joke ("Is he, indeed?"), but a reminder of the opportunity to follow myself as the incumbent in the President's Suite. Nominations for the position of President Elect of the Society will open in September for an October vote. The position is a four-year term, one as Vice President, two as President and one as Past President, and carries significant responsibilities, but attracts rather unexpected rewards. Previous Presidents include Derrick Rowley, Bede Morris, Gus Nossal, Gordon Ada, Jacques Miller, Tony Basten, Robert Blanden, Ian McKenzie, Peter Doherty, Geoff Shellam, Anne Kelso, Jim Watson, James McCluskey, Chris Parish and, of course, Phil Hodgkin. The high international standing of these luminaries has brought significant international recognition

to the position. As a consequence, the office bearer is expected to behave with dignity and to be able to dispense rapier repartee at all hours, regardless of prior consumption.

In addition, the President is the recipient of a number of invitations to open, and to speak at, international conferences of high standing. I recently represented the Society at the International Conference on Immunology in Shanghai. The program of the meeting was better than world class; it was absolutely outstanding. Invited speakers included James Allison, David Baltimore, Antonio Lanzavecchia, Dan Littman, Young-Jun Liu, Tak Mak, Ruslan Medzhitov, Klaus Rajewsky and Tada Taniguchi. And me. The symposia were of a similarly high standard. It was a great honour to be able to attend as a representative of ASI. Tada Taniguchi, on hearing the relatively small size of our Society, commented, "Yes, but look at the specificity!"

It quickly became obvious that there are significant opportunities for us in China. English is now taught at all levels of education there, and the standard of conversational English is high. Many of their institutions are well resourced, and are often well placed to collect and process clinical material. While many of their postgraduates and postdoctorates currently look to the USA for training, perhaps we should see what we can do to provide appropriate opportunities here. With this possibility in mind, Council offered members of the Chinese Society of Immunology the chance to register for the ASI Annual Scientific Meeting at ASI



members' price. It is hoped that this may help to open dialogue between the two societies. In addition, we are currently considering the possibility of holding a joint conference with both the Japanese and Chinese societies. At this stage, nothing has been finalised, but the possibilities are extraordinary when one considers the size of the membership base and the commercial opportunities such a meeting could offer.

### Wise Counsel

In addition to the President Elect position, three other positions on Council will be vacated this year: the regional representatives for the Australian Capital Territory, Victoria and Tasmania, and New Zealand. The regional representatives are elected for three-year terms and each year about one third are replaced. Please consider nominating yourself or a colleague for any of these vacancies.

### Spam Spam Spam Spam

I guess if you haven't majored in early '70s comedy, you will be struggling with these headings. Nevertheless, all of us are

now forced to deal with huge numbers of personally addressed email messages of no earthly relevance or interest to ourselves. Council have recently considered the extent to which the Society may be contributing to this problem, and we are trying to address the issue. Certain topics are of relevance to such a large proportion of Society members that we have little option but to use the internet to deal with them. Examples include calls for nominations, the holding of elections, announcements of funding opportunities and deadlines, and notification of General Meetings of the Society. Other issues that may be circulated by email are of interest to a significant proportion of Society members, such as the announcement of key immunological meetings – generally those held in Australia, but also including those with which the Society is affiliated, such as IUIS. Issues that are not of general interest, but may be important to some members – such as advertisements for jobs or studentships – are no longer regarded by Council as being suitable for email distribution by the Society. These, as well as meetings of less direct relevance to members, may be promoted through the Society's web pages and Newsletter. Similarly, as a generalisation, we will not use the Society's email distribution list to forward commercial content. Companies wishing to target their advertisements to Society members should take advantage of the competitive rates available in the Newsletter and the website.

As always, we are interested in feedback from members, as to whether this policy is regarded as maintaining a reasonable balance between conflicting needs.

#### **Financial Support for Small Meetings**

There has been an outstanding response to Council's introduction of Meeting Seed Funding and ASI-Sponsored Speaker Support, which were introduced to support professional exchanges relevant to the interests of small groups of members. Meeting Seed Funding aims to provide a short-term loan of up to \$10,000 (\$6-8,000 being a typical figure) to SIGs or groups of members with a shared interest to cover the costs of holding a small meeting that are payable prior to registration. This year we provided a seed loan to the 11th Australasian Autoimmunity Workshop.

ASI-Sponsored Speaker Support aims to provide up to \$3,000 (\$2,000 being a typical figure) to SIGs or groups of members with a shared interest to contribute to the costs of inviting an international speaker to a small meeting. This year we supported Yvette van Kooyk attending the XIX International Symposium on Glycoconjugates, 15–20 July in Cairns; Jack Strominger attending the 5th International Workshop on Antigen Processing and Presentation, 7–11 October on Dunk Island; and Poly Matzinger attending the Golden Anniversary of Burnet's Clonal Selection Theory, 21–23 October at WEHI.

If you are planning a small meeting next year, you may want to consider applying for one or other of these schemes. For application details, please refer to the President's Column from March 2007.

#### **Annual Scientific Meeting**

Please remember that the Society's Annual Scientific Meeting will be held at the Manly Pacific Sydney, on the North Steyne

Beach in Manly from 2nd–6th December 2007. Bernadette Saunders and the rest of the organising committee have made a fantastic effort to secure a stunning venue and develop a world-class program. There will also be three satellite workshops running on 2nd December at the same location – the Tumour Immunology Workshop, the Mucosal Immunology Satellite Meeting and the Postgraduate Training Workshop. Early Member Registration expires September 3rd, so please plan ahead.

#### **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 Miles Davenport ([m.davenport@unsw.edu.au](mailto:m.davenport@unsw.edu.au)) and Judith Greer ([j.greer@uq.edu.au](mailto: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*

**Contributions sought for the ASI Newsletter**

**You could win \$100 !!**

**Deadline for the next issue :  
1st November 2007**

Please email your contributions to the Secretariat by the above date.  
[asi@21century.com.au](mailto:asi@21century.com.au)



## The Power of One Idea: 50 Years of the Clonal Selection Theory Melbourne, 21–23 of October, 2007

On October 21st, it will be the **50th anniversary of the publication of the concept of clonal selection** in the **Australian Journal of Science** by Nobel Laureate and first Australian of the Year, **Sir Macfarlane Burnet**. It is no exaggeration to suggest that these two pages, written over a weekend, and published in an obscure society journal, changed immunology forever. The incredible impact of this paper on national and international science is worth celebrating as an exemplar of the immense power of one idea to change our world.

To mark this event, the Immunology Division at The Walter and Eliza Hall Institute of Medical Research, under the patronage of Professor Emeritus Sir Gustav Nossal and Professor Suzanne Cory, invites you to a unique **celebratory three-day conference from October 21st to 23rd**. Our meeting will follow the sequence of ideas in the paper, contrasting historical perspectives with up to date results in scientific areas envisioned for the first time in Burnet's paper and vision.

The meeting will feature luminaries of immunology past and present. Stars of early immunology include **Sir Gustav Nossal, Gordon Ada, Frank Fenner, Jacques Miller, Graham Mitchell and Ian Mackay**. The stars of today include **Chris Goodnow, Len Harrison, Charles Mackay, Polly Matzinger, Tim Mosmann, Michael Neuberger, Chris Parish, Jonathan Sprent, Australian of the Year Ian Frazer and Nobel Laureates Peter Doherty and Rolf Zinkernagel**.

To explore the implications of the Clonal Selection Theory on the wider community, our meeting will also feature a **public forum** hosted by journalist and commentator, Phillip Adams on the evening of Monday 22nd. This forum will feature world-renowned immunologists including Gordon Ada, Frank Fenner and three Australians of the Year: Sir Gustav Nossal, Ian Frazer and Nobel Laureate Peter Doherty.

For more information and to register to this unique event, please visit:  
[http://www.wehi.edu.au/WEHI\\_Groups/indexworkgroups.php?id=111](http://www.wehi.edu.au/WEHI_Groups/indexworkgroups.php?id=111)

*Phil Hodgkin, Chair, The Power of One Idea Organising Committee*

## 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](mailto:nikolai.petrovsky@flinders.edu.au))

Dr Susanne Heinzl ([susanne.heinzl@fmc.sa.gov.au](mailto:susanne.heinzl@fmc.sa.gov.au))

Dr Bruce Lyons ([bruce.lyons@fmc.sa.gov.au](mailto: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](mailto:carolyn.stevens@vaxine.com.au)

[www.vaxine.com.au](http://www.vaxine.com.au)



## 37th ASI Annual Conference

The 37th ASI annual conference will be held at the Manly Pacific Hotel, overlooking the shores of beautiful Manly beach. The organising committee is putting together a wonderful programme showcasing the latest research both locally and internationally. On behalf of the organising committee I would like to warmly invite you to Sydney this December. The weather will be fantastic, the venue is ideally placed to enjoy summer in Sydney, the scientific programme is brilliant, as too is the social programme, early bird registrations close September 3rd and abstracts close September 24th – register now at [www.asi2007.org.au](http://www.asi2007.org.au)

Recently we have had the good fortune to secure two additional international speakers for the meeting. Dan Cua from Schering Plough Biopharma will be joining us to discuss some of his recent work on the regulation of T cells, particularly TH17 cells. In the last two years Dan has published multiple papers in *Immunity*, *J Exp Med*, *JCI*, *Cell*, and *Nature Immunology*. We are delighted that Dan is able to join us in Sydney and look forward to his participation in the meeting.

Also joining us this year is Federica Sallusto from the Institute of Biomedicine Research, Bellinzona, Switzerland whose impressive CV includes recent publications in *Science*, *Nature Immunology* and *J Exp Med*, in areas including both innate and acquired immunity, involving both memory T and B cells, chemokine receptors, TLRs and dendritic cells. Dan and Federica join a stellar cast of invited speakers from eight countries covering a wide spectrum of immunological topics. For bios on many of our invited speakers, keep reading!

### Workshops

Before the meeting proper starts on Sunday afternoon we have three excellent workshops to choose from. The Tumour Immunology Workshop will be celebrating its 10th year and promises another excellent programme. The Mucosal Immunology Group will also be running a workshop with sessions covering Respiratory, Gastrointestinal, Reproductive, other Mucosal Systems,

and Mucosal Immunisation and Delivery Systems. Finally, the Postgraduate workshop will also be running and is open to all students, new post docs and anyone interested in some advanced immunology training. This year the morning sessions will be devoted to big picture immunology questions and challenging dogma. The afternoon will cover some of the new and advancing technologies and how they can be used to answer key immunological questions. This promises to be an interactive, informative and entertaining programme and I encourage all our students to attend.

### Student Functions, Prizes and Bursaries

As in previous years we have a great social programme accompanying our meeting. Continuing on from the highly successful postgraduate BBQ instituted by Amanda Taylor in Auckland last year, Helen McGuire, our ASI student representative for 2007 has organized a cocktail party at the Cerutis Bar in Manly, open only to students and invited speakers. Last year this proved to be a great opportunity for students to talk science with our invited speakers in a social setting. I warmly encourage all our students to take the opportunity to include this event in their registration. The prestigious Young Investigator Award will be offered again in 2007. Finalists will be selected from the submitted abstracts – please tick the box on the registration page if you wish your abstract to be considered. We will also be offering the BD Communication Prize again to students and post docs of less than three years. A separate ‘lay’ abstract should be submitted for this. Don’t forget too that we have a large number of bursaries available for eligible students, details can be found on the website at [www.asi2007.org.au](http://www.asi2007.org.au).

### Social Programme

Many of our favourite events will be back in 2007. Sunday night will see the conference start with welcome drinks. The Kevin Lafferty debate will be back, bigger and better. Our conference dinner will be held on beautiful Sydney Harbour. Join us for a three course meal as we sail from Manly into, and around, Sydney Harbour, enjoying the sites of one of the world’s most beautiful harbours, before making our way slowly back to Manly. Places on the boat are strictly limited so book early for inclusion in the cruise.

### Registration and Abstract Submission

Early bird registration close on 3rd September and Abstract submissions are due 24th September so now is the time to register and get those abstracts in. For all the latest information on the conference and for registration, please check our website at [www.asi2007.org.au](http://www.asi2007.org.au)

See you in Sydney!

## Speaker Profiles

### Facundo Batista



Facundo D Batista obtained his PhD in 1995 from the International School of Advanced studies in Trieste (SISSA), working with Oscar Burrone at the International Centre for

Genetic Engineering and Biotechnology (ICGEB) in Trieste, Italy. He subsequently spent six years as a postdoctoral fellow in Michael Neuberger’s lab at the MRC Laboratory of Molecular Biology in Cambridge where he studied B cell response to antigen. He joined the Imperial Cancer Research Fund, now termed Cancer Research UK, in 2002. His lab is interested in understanding the molecular and cellular mechanism that drives B cell activation and fate.

### Maria Grazia Roncarolo



Maria Grazia Roncarolo is the Director of the San Raffaele Telethon Institute for Gene Therapy (HSR-TIGET) in Milan, Italy and Professor in Pediatrics, School of Medicine and Surgery, Università Vita-

Salute San Raffaele, Milan, Italy. She is an MD, specialized in Pediatrics and Clinical Immunology. She worked in Lyon for several years at the Edouard Herriot Hospital and at

the Laboratory for Immunological Research UNICET on the mechanism of tolerance in severe combined immunodeficiency (SCID) patients transplanted with allogeneic hematopoietic stem cells.

She worked for more than eight years at the DNAX Research Institute of Molecular and Cellular Biology, Human Immunology Department, in Palo Alto, CA, on the basic biology of hematopoietic stem cells, cytokines, and transplantation tolerance.

Dr Roncarolo's research group has reached an important success in the cure of adenosine deaminase deficient SCID (ADA-SCID), using a new protocol of gene therapy, in which an optimized in vitro gene transfer method together with mild myeloablation assures long term correction of the genetic disease.

She has a long-lasting interest in the mechanisms that induce and maintain tolerance in bone marrow transplantation, organ transplantation, and gene therapy. Her group was among the first to identify T regulatory cells in mouse and man. She characterized a distinct population of regulatory T cells (T regulatory Type 1), which plays a key role in peripheral immunological tolerance and in the prevention of chronic inflammatory diseases and autoimmune diseases.

**Max Cooper**



Max Cooper, Professor of Medicine, Pediatrics, Microbiology and Pathology at the University of Alabama at Birmingham, graduated from Tulane University Medical School. While with Robert Good at the University of Minnesota, he and his colleagues elucidated the T and B cell lineages. With Paul Kincade at UAB, he demonstrated antibody class switching by IgM-bearing B lymphocytes. While on sabbatical at University College London, he worked with John Owen and Martin Raff to define the hematopoietic origin of mammalian B cells and to identify pre-B cells. His laboratory recently discovered a recombinatorial adaptive immune system in jawless vertebrates and is presently engaged

in phylogenetic studies of lymphocyte differentiation and clinical studies of individuals with lymphoid malignancies and immunodeficiency diseases. He is a past president of the American Association of Immunologists and a member of the US National Academy of Sciences.

**Ulrich Schaible**



Ulrich Emil Schaible, PhD, is currently Professor and Chair in Immunology at the London School of Hygiene and Tropical Medicine, Dept of Infectious and Tropical Diseases, Immunology Unit, London, UK. He studied Biology and Ethnology at the Freiburg University, Germany, and graduated with a Diploma in Biology on pygmy spider's sexual dimorphism. He performed his PhD thesis at the Max-Planck-Institute of Immunobiology, Freiburg, on the development of a vaccine against Lyme Borreliosis. From 1991 till 1996 he was a postdoctoral fellow at the Max Planck Institute of Immunobiology, and subsequently at Washington University, School of Medicine, St Louis, Mo, USA. Between 1996 and 2006 he was group leader at the Max Planck Institute of Infection Biology, Berlin, Germany. He has a record of 54 original publications, 32 reviews/book chapters, and two patents. In 1991, he received the Otto-Westphal Award from the German Society for Immunology, and in 2005 the GlaxoSmithKline Award for Clinical Science.

Following his work on Lyme Borreliosis, Ulrich Schaible studied various aspects of host pathogen interactions in infections with intracellular pathogens with the main focus on Tuberculosis but also including Leishmania and Salmonella. The prime topics currently investigated in his group are the ways how tubercle bacilli manipulate host cells to facilitate persistence and growth, the factors which allow their intracellular survival such as iron, the pathways how immune cells recognize mycobacterial antigens, and the conditions of costimulation for either protective or pathological host responses in tuberculosis.

**Anne O'Garra**



Anne O'Garra obtained her PhD at the National Institute for Medical Research (NIMR), Mill Hill, London, UK. At the DNAX Research Institute, California, USA, she made seminal contributions to our understanding of the intricate network of cell-cell and cytokine interactions responsible for inducing and inhibiting cellular immune responses. Importantly, she first elucidated that interleukin 10 (IL-10) has broad immunosuppressive functions, inhibiting antigen presentation by dendritic cells and macrophages and their production of inflammatory cytokines. She elucidated fundamental mechanisms regulating the activation of T-cell subsets with distinct effector functions, discovering that: IL-12 induced T-helper 1 (Th1) cells secreting IFN $\gamma$ , essential for eradication of intracellular pathogens; the key antigen presenting cell, the dendritic cell, produced IL-12, under tight control of IL-10. These findings have major implications for regulation of the immune response to pathogens. O'Garra returned to the UK as Head of the new Division of Immunoregulation at the NIMR, Mill Hill, London, to interface the divisions of immunology and infectious diseases, where she is continuing her work on immunoregulation with specific emphasis on mechanisms of immunopathogenesis in tuberculosis. In 2005 she was elected as a Fellow of the Academy of Medical Sciences, UK.

**Federica Sallusto**



Federica Sallusto received her PhD in Biology in 1988 from the University of Rome. Presently, she is group leader at the Institute for Research in Biomedicine, Bellinzona, Switzerland. She described a method to generate human dendritic cells from monocytes and studied T helper cell differentiation with focus on the relationship between migration and effector function. Her work led to the discovery that Th1, Th2 and Th17 cells express distinct sets of chemokine receptors and to the identification of central and effector subsets of memory T cells.

**Franca Ronchese**



Franca Ronchese is a Group Leader at the Malaghan Institute of Medical Research in Wellington, NZ, and Research Professor at Victoria University of Wellington. Franca graduated from the University of Padova in Italy, and spent her postdoctoral training at the Laboratory of Immunology, National Institute of Allergy and Infectious diseases in Bethesda, MD, USA, where she investigated the basis of MHC II/antigen/TCR recognition. Franca then joined the Basel Institute for Immunology in Basel, Switzerland, where she became interested in antigen presentation by dendritic cells in vivo. Since 1994 Franca has been leading the Tumour Immunotherapy group at the Malaghan Institute of Medical Research. The focus of the group's research is the application of dendritic cells to tumour immunotherapy, and the understanding of barriers that limit the delivery of effective anti-tumour immunotherapy.

**Kristin Hogquist**



Kristin Hogquist's lab is interested in the molecular mechanisms of T lymphocyte development. One of the interesting issues in this field is how the T cell receptor interacts with MHC/peptide ligands to result in either positive selection (life) or negative selection (death) at a particular stage in development. We have identified several synthetic and natural peptide ligands that induce one or the other, and are studying their structure and ability to initiate biochemical signals through the TCR. We would like to understand how the receptor transduces apoptotic signals under conditions of strong ligation, but survival and differentiation signals under weak ligation. Our current approaches include flow cytometric and microscopic analysis of signal transduction in intact organs, gene expression profiling, and RNAi "knock-down" analysis. We are also interested in how thymic selection events regulate VDJ recombination. Specifically, we are testing whether recombinase gene expression and chromatin accessibility are differently regulated by strong versus weak TCR signaling. Our results support the intriguing hypothesis that basal signaling is required to maintain receptor clonality. Finally, we are interested in how peripheral CD8 T cells that recognize antigens in epithelial tissues are regulated. It would appear that the specialized antigen presenting cells for the skin epidermis are not tolerogenic in the normal state. We would like to understand the molecular basis of this, and what it means for the regulation of immunity at barrier surfaces.

**Pam Schwartzberg**



Dr Schwartzberg's laboratory studies signal transduction in T lymphocytes, with a particular focus on signaling molecules that affect T lymphocyte function and their ability to respond to infection. Her group generates mouse models that lack genes affecting a variety

of signaling molecules to see how the loss of a particular gene affects the immune system. They have generated mouse models that "knockout" genes involved in or related to several primary human immunodeficiency syndromes, including X-linked lymphoproliferative syndrome and X-linked agammaglobulinemia. They challenge these knockout mouse models with a wide array of infectious agents, including parasites, to study the effect of the loss of gene function on the overall immune system in vivo and to analyze cells from the animals in vitro to examine what has happened at both a biochemical and a cellular level. Studies such as these not only can help explain what is going wrong in human immune diseases but also can advance basic scientific understanding of immune system function in general and often identify likely pathways for therapeutic research. Dr Schwartzberg's group also investigates the genetics of Wiskott-Aldrich syndrome, a severe immunodeficiency syndrome marked by increased susceptibility to infections, eczema, and autoimmune disorders. It is caused by mutations in a gene known as WASP (for Wiskott-Aldrich syndrome protein). The WASP protein appears to play an important role in the T cell's actin cytoskeleton, which is required for organizing signaling molecules to permit effective T-cell function. Dr Schwartzberg's laboratory found that WASP fails to be activated properly in T cells from Itk-deficient mice. They are now investigating the responses of WASP-deficient mice to parasitic challenges in vivo to determine whether some of the observed phenotypes can be understood in the context of what is known about Itk.

**Yong-Jun Liu**

Yong-Jun Liu's research interests include: Innate immunity; dendritic cell biology; T cell biology; cytokine biology; vaccine for cancers and viral infectious diseases.

Dendritic cell development: Dr Liu's lab identified and purified the human plasmacytoid dendritic cell precursors (pDC) and demonstrated that pDC are the key effector cells in anti-viral innate immunity and have the capacity to differentiate into mature DCs after activation. They are currently investigating the function of other hematopoietic growth factors and stromal cells in IPC development, and determining the lineage origin of IPCs.

Expression and function of Toll-like receptors on DC subsets: The lab has shown

that human subsets of human DC precursors express different sets of Toll-like receptors. While pre-DC1 express TLR-1, 2, 4, 5, 6 and 8, pre-DC2 preferentially express TLR-7 and 9. Expression of TLR-2 and 4 confers the ability of pre-DC1 to respond to bacterial ligands for TLR-2 (PGN, LT, LP) and TLR-4 (LPS) by producing large amounts of TNF- $\alpha$ , IL-6 and IL-12. Expression of TLR-9 allows pre-DC2 to respond to CpG ODN by producing large amounts of IFN- $\alpha$ . They are currently investigating how each of the TLR signaling to DC-precursors will determine the T cell polarizing function of DCs upon DC maturation.

**Human TSLP:** Dr Liu's lab has shown that human thymic stromal lymphopoietin (TSLP), a novel IL-7 like cytokine, potently activated CD11c+ dendritic cells and induced production of Th-2 attracting chemokines. TSLP-activated DCs primed naive T helper cells to produce pro-allergic cytokines, while down-regulating IL-10 and IFN- $\gamma$ . TSLP was highly expressed by epithelial cells, especially keratinocytes of atopic dermatitis. TSLP expression was associated with Langerhans cell migration and activation in situ. These findings shed new light on the function of human TSLP and the role of epithelial cells and dendritic cells in initiating allergic inflammation. They are currently investigating the function of TSLP-DCs in priming CD8 T cells and in regulating T cell homeostasis.

**Diane Mathis**



Research in the Mathis laboratory addresses the genetic, molecular and cellular mechanisms that control immunologic tolerance, and how failures of tolerance to self-organs result in autoimmune disease. We believe that it is through a deep and rigorous understanding of how autoimmunity comes about that one will be able to effectively prevent or cure such diseases. The lab's activities have traditionally centered on the interaction between T lymphocytes and MHC molecules, and how this interaction guides the immune system to generate and activate a repertoire of T lymphocytes able to recognize foreign antigens yet avoid self-

aggression. From this core focus, a number of projects have branched out: what genes or environmental influences modulate tolerance, how do ancillary molecules control antigen processing and presentation, what gene regulatory circuits control T cell selection and activation, what mechanisms come into play to limit the damaging consequences of autoimmunity? This research has relied primarily on mouse models, applying powerful techniques of mouse germline manipulation and transgenesis. The lab has also strived to translate results obtained in mice to human diabetes.

**Dr Mark Shlomchik**



Dr Mark Shlomchik obtained his PhD and MD from the Fox Chase Cancer Center and Hospital of University of Pennsylvania in 1989. In 1993 he was appointed associate director of the Blood

Bank, Laboratory Medicine in the School of Medicine at Yale University, where he is now Professor of Laboratory Medicine and Immunobiology.

The long-term interests of his laboratory include the regulation of autoreactive B lymphocytes and the development of high affinity B cell immune responses and memory cells. More recently, he has also developed an interest in the mechanisms by which T cells are activated in Graft vs. Host Disease (GVHD) and the subsets of T cells that are pathogenic.

Recent publications from his group include:

- Hauser AE, Shlomchik MJ, Haberman AM *et al* Definition of germinal-center B cell migration in vivo reveals predominant intrazonal circulation patterns. *Immunity*. 2007; 26:655
- Hershberg U, Shlomchik MJ.

Differences in potential for amino acid change after mutation reveals distinct strategies for kappa and lambda light-chain variation. *PNAS* 2006; 103:15963.

Christensen SR, Shlomchik MJ *et al*.

Toll-like receptor 7 and TLR9 dictate autoantibody specificity and have opposing inflammatory and regulatory roles in a

murine model of lupus. *Immunity*. 2006; 25:417.

Anderson SM, Tomayko MM, Shlomchik MJ. Intrinsic properties of human and murine memory B cells. *Immunol Rev*. 2006; 211:280.

**Paulo Vieira**



Paulo Vieira works within the Lymphocyte Development Group at the Institut Pasteur. His research interests include T cell regulation and the role of cytokines.

Recent publications include:

- O'Garra A, Vieira P. T(H)1 cells control themselves by producing interleukin-10. *Nat Rev Immunol*. 2007; 7:425.
- Peffault de Latour R, Vieira P, Bandeira A *et al* Ontogeny, function, and peripheral homeostasis of regulatory T cells in the absence of interleukin-7. *Blood*. 2006; 108:2300.
- Boonstra A, Vieira P, O'Garra A *et al*. Macrophages and myeloid dendritic cells, but not plasmacytoid dendritic cells, produce IL-10 in response to MyD88- and TRIF-dependent TLR signals, and TLR-independent signals. *J Immunol*. 2006; 177:7551.

**Andreas Strasser**

Dr Strasser and his team are investigating the control of apoptosis, the cell death program essential for development and homeostasis. By using transgenic mice over-expressing the cell death inhibitor Bcl-2 and knock-out mice lacking one of its antagonists, they demonstrated that abnormalities in the control of apoptosis can cause autoimmune disease or cancer and render tumour cells refractory to anti-cancer therapy. Dr Strasser and his co-workers established that mammalian cells have two distinct signalling pathways



Andreas Strasser

leading to apoptosis, one triggered by ligation of cell surface “death receptors” and the other by certain developmental cues, cytokine deprivation or stress signals. Using genetically modified mice they could determine signalling mechanisms that are responsible for killing useless or potentially dangerous cells at the different checkpoints during lymphocyte development. Using biochemical and molecular biology techniques, Dr Strasser and his team discovered novel regulators that are essential for initiation of programmed cell death and showed that they function as sentinels for damage to various vital intra-cellular structures, such as the cytoskeleton. These discoveries have major implications for cancer research, developmental biology and immunology and suggest novel therapeutic strategies for tumours, autoimmunity and degenerative diseases.

Current research interests include identification of the signalling pathways that mediate developmentally programmed cell death in mammals and those that are responsible for chemotherapy-induced killing of cancer cells, with the goal to develop improved strategies for treatment of cancer and autoimmune diseases.

**Stephen Nutt**  
BSc(Hons) Syd PhD Vienna



Haemopoiesis is controlled by the co-ordinated activity of a handful of master regulatory transcription factors. Dr Nutt’s research aims to investigate the functions of several such master regulators, PU.1, Pax5, c-Myb and Blimp-1 in haemopoiesis using conditional mouse genetics, GFP reporter strains, microarray analysis and in vitro progenitor cultures.

Their specific research interests include:

- The processes by which stem cells and early lymphoid lineage progenitors undergo commitment to particular pathways
- Deciphering the genetic control of plasma cell differentiation
- Determining the role of Blimp-1 in T cell differentiation
- Unravelling the transcriptional regulation of NK cell development and function.

**Mariapia Degli-Esposti**

Mariapia Degli-Esposti is co-director of the Experimental Immunology program at the Lyons Eye Institute. Her research aims to define interactions that occur between viral pathogens and host immune effectors to determine how these interactions affect anti-viral immunity.

**Dan Cua**

**Jonathon Sprent**

2007 ASI Annual Scientific Meeting  
December 2–6  
Manly Pacific Hotel,  
Sydney, Australia  
b.saunders@centenary.  
usyd.edu.au

ASI SIG Mucosal  
Immunology Workshop  
December 2  
Sydney, Australia

[www.asi2007.org](http://www.asi2007.org)

**ASI Special Interest Group  
Mucosal Immunology Workshop  
Sunday 2 December 2007  
8.15am–4.30pm**

The Mucosal Immunology Special Interest Group is hosting a one day workshop on Sunday 2nd December 2007 immediately prior to the ASI meeting.

Sessions will cover Respiratory, Gastrointestinal, Reproductive, other Mucosal Systems, and Mucosal Immunisation and Delivery Systems.

Keynote and symposium speakers are Reinhard Pabst, Chuck Wira, Richard Ferrero, Jennelle Kyd, and Ian Barr.

Registration and abstract submission is via the ASI conference website: [www.asi2007.org](http://www.asi2007.org)

## Response to Viral Infection Research Wins Commendation

Fleur Tynan, a student member of ASI, recently received commendation in the 2007 Premier's Award for Medical Research.

This award is an initiative of the Victorian Government in conjunction with the Australian Society for Medical Research recognising the contribution of early-stage researchers to medical research in Victoria.

Ms Tynan is currently completing her doctoral studies under the direction of Professor Jamie Rossjohn at Monash University's world class Protein Crystallography Unit.

Her work, in collaboration with the University of Melbourne and Queensland Institute of Medical Research, focuses on how proteins in the body interact with each other in response to viral infections. Specifically, Ms Tynan utilises X ray crystallography to determine the 3-dimensional structure of T cell receptors interacting with MHC molecules. These studies have identified novel mechanisms by which TCRs can recognise unusually lengthy viral epitopes presented by Class I MHC molecules.

Her efforts have already rewarded her with publications in high profile journals including *Nature Immunology* and the *Journal of Experimental Medicine*.

This work is important to furthering our understanding of the structural basis for MHC restriction and the requirements for recognition of viral epitopes.

In 2006, Ms Tynan was awarded the Victorian Fellowship which is currently supporting a three month study mission at Stanford University. Here she is learning advanced cellular imaging techniques within the laboratory of Professor Mark Davis. In the future, Ms Tynan hopes to combine the powerful approaches of cellular imaging and X-ray crystallography to investigate aspects of the immune response.



**PEPTECH**

### Research Scientist – Immunogenicity Analysis

Peptech Limited is an ASX-listed biotechnology company with an established history in commercialisation of peptide and protein therapeutics, and a strong financial position. We are expanding our therapeutics R&D programs, and are looking for an enthusiastic, capable scientist to lead immunogenicity analysis activities at our modern facility in North Ryde, Sydney.

Your role will be to apply immunogenicity analyses, particularly prediction of helper T cell epitopes, to guide the selection of low immunogenicity preclinical protein leads, and to monitor immunogenicity of clinical leads, and as such contribute to multiple projects. This position comprises bench-based and project management components.

Essential requirements:

- PhD with experience in immunology.
- Significant technical experience in immunogenicity/class I or class II epitope analysis in *in silico* and biological systems

Desirable experience:

- Human MHC class II antigen presentation and PBMC-based assays for detection
- Protein engineering and expression
- Project management, including outsourcing
- Commercial drug development
- Staff supervision & mentoring
- Exposure to intellectual property considerations.

Successful applicants will be rewarded with a competitive remuneration package, including incentive arrangements, commensurate with experience. To apply, please send a CV and cover letter to [hr@peptech.com](mailto:hr@peptech.com). Applications close 27<sup>th</sup> of September 2007. For further information please contact Dr Anthony Doyle ([adoyle@peptech.com](mailto:adoyle@peptech.com)) on 02-9870-8788. General company information is available at [www.peptech.com](http://www.peptech.com).

## ASI Councillors' News

### 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 Hans Schreiber from the University of Chicago, Illinois and Prof Jacques Banchereau from the Baylor Institute for Immunology, Dallas, Texas. 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.



ADELAIDE IMMUNOLOGY RETREAT 2007

We are extremely excited about the 3rd Adelaide Immunology Retreat (AIR) which will be held from 31st August to 1st September 2007 at Adare 'Castle' in seaside community of Victor Harbour. This year, we are delighted to have long standing ASI supporters Prof Anne Kelso (Director, WHO for Influenza in Melbourne) and Dr Bruce Lyons (Vaxine Pty Ltd in Adelaide) as invited speakers to share with the delegates their journey through immunology. AIR focuses mainly on students and young scientists, but we are delighted to see some of the more senior names out of the local immunology community on the delegate list as well for the 1½ day live-in retreat which will incorporate lots of scientific and social activities. Students will be able to present their work and for the first time we will have best presentation awards for both Honours and PhD students. In fact, for best PhD student presentation the prize will be registration and flights

for the Annual ASI Scientific Meeting to be held in Sydney later this year. Past retreats indicate that this is a great opportunity for budding immunologists of SA and NT to network with their peers and high profile immunologists and enjoy the local attractions (usually including local wildlife and wine tasting). Finally, we are delighted with AIR's continuing popularity which is now establishing itself as an annual event as well as the local student (and not so student) members who have helped make organising AIR-3 easy and fun (thanks go to Jennifer Young, Erin Curry, Cara Fraser, Dominik Kaczorowski, Paul Coleman, Damon Tumes, Kate Pilkington, Nick Gorgani and Su Heinzl).

See you at AIR, a seminar or the annual meeting!

*Claudine Bonder  
Councillor*

### A.C.T. News

The ACT Branch has held two important events so far this year. These are, first, the visit of Dr Ron Germain as an ASI Inc visiting speaker and second, a public lecture delivered by Prof. Chris Parish to commemorate the World Day of Immunology. About 80 members of the public and the ASI Inc attended this public lecture and celebration of Immunology – it was a big success. The ASI calendar of events for the rest of 2007 has now been filled with both overseas and Australian speakers. Dr Gabrielle Belz visited us on July 25 as our invited speaker. The ACT branch will host Professor Hans Schreiber on August 14 as the next ASI visiting speaker.

The branch has formed a committee to organise the 2008 annual ASI Inc meeting in Canberra. The committee comprises of Guna Karupiah (Chair), Chris Parish and Chris Goodnow (Joint Chairpersons of the Program Subcommittee), Geeta Chaudhri (Secretary), Ed Bertram (Treasurer), David Tscharke (Co-ordinator of Industry Display), Carola Vinuesa and Matt Cook (Co-ordinators of Scientific Prizes/ Social Program), Hilary Warren (Co-ordinator of New Investigator Award) and Gerard Hoyne (Co-ordinator of the student day).

The National Convention Centre has been selected as the venue for our conference. On May 30, the Committee met with Mike Pickford (ASN Events) to discuss details of the conference organization.

*Guna Karupiah  
Councillor*

### W.A. News

2007 saw a change in councillors with myself taking over from Chris Andoniou. The long-lasting WA tradition of monthly ASI seminars with excellent lunches was continued. I have not yet confessed to Chris, now the ASI Treasurer, that I blew my lunch budget for the first talk however, our reputation remains intact! Invited speakers include long-standing ASI members, as well as early career scientists, international scientists who have recently made WA their home, and ASI-sponsored international scientists. After suggestions from ASI members, the seminar format was varied and ranged from a one hour seminar for one speaker to twenty minutes slots for three early career scientists. This format seems to be attracting more younger scientists. Although it may simply be the lunches that are bringing them in! Hopefully, this will translate into new ASI members.

The major event we are organising for 2007 is a one-day workshop on September 28 at the Esplanade Hotel in Fremantle. The committee consists of myself, Tony Scalzo, Chris Andoniou, Phil Stumbles, Andrew Currie, Jennifer Burchell and Steve Broomfield. Our aim is to build links and interactions between members of the local immunology community and will have a major focus on presentations by student members. The two major mentors who have agreed to attend the workshop are Prof. Jonathon Sprent and Dr Philip Hodgkin. The event includes presentations by the major speakers and registrants, talks by experts on current and future opportunities for careers in science and, very importantly, fun activities. If we can raise enough funds, we will sponsor a 'spooky' social evening for the registrants and speakers in Fremantle prison.

*Delia Nelson  
Councillor*



## Queensland News

The 9th annual Mater Medical Research Institute Dendritic Cell Symposium (Brisbane, June 21-22) attracted the highest attendance ever, with 120 delegates listening to Jim Young (Memorial Sloan-Kettering), Carl Figdor (Nijmegen Centre for Molecular Life Sciences, Netherlands), Zwi Berneman (Antwerp Univ.) and Mark Yang (Malaghan Institute of Medical Research, NZ) and a host of local and interstate speakers. The major theme this year was "Dendritic Cell Immunotherapy", covering everything from mouse models to clinical trials, in a very friendly setting. Next year's symposium will be a Brisbane satellite of the 22nd International Congress of the Transplantation Society (Sydney, August 2008).

At the time of writing, the Brisbane Immunology Group meeting is imminent (August 23/24). This year, Hans Schreiber (University of Chicago, Chicago, Illinois) will present the Postgraduate Plenary Lecture, and the "Jonathan Sprent Oration" will be delivered by Jim McCluskey (Univ. Melbourne). As usual, the location (this year Ramada Pelican Waters Resort, Caloundra) will provide plenty for delegates to do out of sessions. ASI supports this meeting strongly, for example through discounts for ASI members – usually a large proportion of delegates. A meeting report in the next newsletter.

*Christopher Schmidt  
Councillor*

## Victorian News



The Immunology Group of Victoria

A branch of the Australasian Society for Immunology

As a new IgV initiative, the committee organised an "Inaugural Winter Seminar" held at the Walter and Eliza Hall Institute. An outstanding presentation was given by Professor Chris Goodnow from the Australian National University of Canberra. There was good interaction between the speaker and IgV members at a wine and cheese session that followed. Due to the success of this event, the committee plans to organise further seminars in the future.

As part of the ASI Visiting Speaker Program, Victoria recently hosted Professor Hans Schreiber from the Department of Pathology, University of Chicago, Illinois. Hans gave a stimulating lecture at the WEHI on his work involving the discovery of tumour-specific targets, cross-presentation of tumour antigens and genetic manipulation of surrounding host tissue to increase the immunogenicity of tumours. The IgV branch will next host Dr Jacques Banchereau from the Baylor Institute for Immunology Research, Dallas,

Texas in October. Information regarding his talks and potential interaction will be emailed to members.

The next scheduled event is the annual IgV meeting at Beechworth which will be held from October 28th-30th. The committee have assembled a great list of guest speakers headed by Charles Surh from The Scripps Research Institute, USA. There will be a number of timeslots available for students to present their work and a number of prizes awarded based on best student talks and participation at the conference. The flyer and registration form for the meeting are available on our website <http://www.microbiol.unimelb.edu.au/IgV>

As another reminder, the 37th Annual Scientific Meeting will be held this year in Sydney from December 2nd-6th. Details can be found on the website <http://www.wehi.edu.au/collegiate/ASI/>

*Phil Darcy  
Councillor*

## Propose your candidates for the ASI Speakers Program

Please, propose candidates for the ASI Speakers program in either of the two categories: (a) ASI Visiting Speaker, a prominent immunologist coming from overseas or (b) ASI Sponsored Speaker, already in Australia/New Zealand. The deadlines for applications are: May 15th and November 15th.

Alternatively, contact the State ASI councillor, the ASI website or the coordinator of the program JA Lopez ([alejL@qimr.edu.au](mailto:alejL@qimr.edu.au)) for further information.

### Still to come in 2007

**Doctor Jacques Banchereau**  
Baylor Institute for Immunology Research.  
Dallas, TX, USA

Brisbane, October 10-13  
Perth, October 14-17  
Melbourne, October 17-21  
Adelaide, October 20-23  
Sydney, October 23-26

Please, contact the local ASI councillor for further details on the Seminars planned.



*Doctor Jacques Banchereau*

**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!**

**12th Frank and Bobbie Fenner Conference**

**“Medical Research Breakthroughs Then and Now”**

24 – 26 October 2007

The Finkel Lecture Theatre

The John Curtin School of Medical Research,  
The Australian National University, Canberra, Australia

For further details, go to

<http://jcsmr.anu.edu.au/fennerconference.htm>

**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.



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## 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](mailto:nikolai.petrovsky@flinders.edu.au)) or the Associate Editor, Dr Susanne Heinzel ([Susanne.Heinzel@fmc.sa.gov.au](mailto:Susanne.Heinzel@fmc.sa.gov.au))

## Travel Award Conference Report

### 2nd ENII Immunology Summer School 2007, Sardinia, Italy Anna Proietto, The Walter and Eliza Hall Institute of Medical Research

The 2nd European Network of Immunology Institutes Immunology Summer School was held in the stunning town of Alghero in Sardinia. Over 100 PhD students from South East Asia, Australia and all around Europe were welcomed with such warmth by the organisers and support staff, and treated to an incredible week of lectures, tutorials, sun, Italian cuisine and social events.

Each day was structured to include three teaching seminars by leading researchers in the immunology field. This was followed by an afternoon session of student talks. In the late afternoon, the speakers from the morning session ran tutorials that enabled the students to ask questions and to discuss the morning seminars in great detail. Finally, the day ended with student poster sessions. Each student at the summer school was given an opportunity to present his or her work as either a poster or an oral presentation. The tutorial sessions with the speakers were a particular highlight as it gave students a great opportunity to communicate their questions and ideas in a relaxed and non-intimidating setting. Furthermore, the student poster and oral

sessions opened the lines of communication between all those that attended and brought us closer together as we were able to share our PhD experiences.

Every one of the invited speakers gave excellent seminars that generated much discussion amongst the students. Some of the highlights included a seminar by Dr Dimitris Kioussis who discussed the development of lymphoid tissues and described exciting microscopy techniques that are being used to visualize early developmental steps in the process of organogenesis. Dr Fiona Powrie, who spoke about the immune responses occurring in the intestinal tract, presented another exciting seminar. She highlighted the complexity of this incredible organ and gave us an appreciation of the finely tuned balancing act that occurs within the intestine on a daily basis as it must be able to mount protective immune responses against invading pathogenic micro-organisms whilst simultaneously not activating these mechanisms in response to dietary antigens.

We were also fortunate to hear from Professor Alexander Rudensky. Professor Rudensky discovered that a transcription factor called Foxp3 is required for the development of

a T cell lineage that has many important immuno-regulatory functions. He spoke of the function of Foxp3, and also of the role of T-regulatory cells within the immune system. One of the highlights of the week was the lecture given by the keynote speaker, Professor Richard Flavell. Having been described as the “father of immunology”, it was a real treat to be able to hear and interact at such a personal level with Professor Flavell. The main theme of his seminar was the cytokine TGF- $\beta$ , and its role in T-cell biology. He highlighted recent work coming from his lab that described the requirement for TGF- $\beta$  in both the development of T-regulatory cells within the thymus as well as the survival of CD4<sup>+</sup> T cells.

In an event that I could only describe as an opportunity of a lifetime, I not only had the chance to learn from the leading researchers in the immunology field, but also forged friendships with scientists from all around the globe. The week in Sardinia inspired and motivated me to continue on in my research field. I would like to thank ASI for supporting me in this endeavour. I would also like to thank the Edith Moffat Fund (WEHI) that allowed me to visit laboratories both in Europe and the USA for my future post-doctoral placement during this time.

