N E W S L E T T E R

Australasian Society for Immunology Incorporated

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Juggling Immunology and Parenthood: becoming an Immunologist Mum (IgM) or Dad (IgD)

Joanna Kirman, Bernadette Saunders, Aude Fahrer

Successfully managing life as an immunologist and as a new father can be tricky, with broken sleep and new demands on time. Arguably the difficulties facing a female immunologist who decides to venture into the world of motherhood are even greater than for the IgD, given the physical demands of pregnancy, childbirth and, if breastfeeding, being the primary food source for the baby – on top of the sleepless nights and time pressures.

In this article, we explore the assistance that is available to support new IgMs and IgDs in Australasia, as well as some of the barriers that stand in the way of effectively combining a budding scientific career with parenthood. A supportive work environment is paramount for ensuring the success of an IgM or IgD.

Positive selection

One question fledgling immunologists often ask is: "When is a good time to have a family?" This is a difficult, perhaps, impossible question to answer. The benefits and barriers are quite different at each career stage. A young scientist will have only their own project and career to be concerned about and may be able to take extended leave after the birth of their child.

A more senior scientist will have grants with fixed deadlines to contend with and will be supervising junior staff for which they must organise support during any absences. Scientists in charge of labs are likely to find that they do not get a real break during their maternity leave. Grants still have to go in, animal ethics (and other laboratory essential permits) run out and have to be renewed, graduate students have to be supervised, and their thesis drafts corrected. In addition, these senior scientists must attempt to keep up with the scientific literature, and may be asked to review articles or grants during their leave period. If the IgM or IgD is also a lecturer, paperwork from undergraduate courses still turns up. Some senior staff have found they needed to teach a brand new series of lectures during their maternity leave! In these cases, their 2-4 month old babies are being partly raised in the lab, and passed from lab member to lab member while the mother gives talks, or meets with students.

On the other hand, the financial benefits for students or postdocs can be far reduced or absent compared to those for tenured or permanent staff.

The demands on new parents to be can begin even before conception. If couples face difficulties conceiving, going through interventional fertility treatment can be fraught with emotional turmoil – not helped by hormonal therapy – and can involve time away from work for tests and treatment. Having an empathetic work environment (if they are made aware of situation) can go a long way towards easing the stress on the prospective IgD or IgM.

Asymmetric division

Pregnancy is full of surprises and can, itself, be a surprise. The way each woman

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Joanna Kirman

Bernadette Saunders

Aude Fahrer

Contents

ASI Inc. COUNCIL

President
A/Prof Miles Davenport
Centre for Vascular Research
University of New South Wales
Kensington NSW 2052
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Email: m.davenport@unsw.edu.au

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Centre for Experimental Immunology
The Lions Eye Institute
2 Verdun Street
Nedlands WA 6009
Ph: 61 8 9381 0799 Fax: 61 8 9381 0700
Email: cadoniou@cyllene.uwa.edu.au

State Councillors

New South Wales
Dr Stuart Tangye
Ph: 61 2 9295 8455 Fax: 61 2 9295 8404
Email: s.tangye@garvan.org.au

Victoria & Tasmania
Dr Stephen Turner
Ph: 61 3 8344 8090 Fax: 61 3 9347 1540
Email: sjturn@unimelb.edu.au

Queensland
Dr Heiner Korner
Ph: 61 7 4781 4563 Fax: 61 7 4781 6078
Email: heinrich.korner@jcu.edu.au

South Australia & Northern Territory
Dr Claudine Bonder
Ph: 61 8 8222 3504 Fax: 61 8 8232 4092
Email: claudine.bonder@imvs.sa.gov.au

Western Australia
Dr Delia Nelson
Ph: 61 8 9346 3510 Fax: 61 8 9346 2816
Email: Delia.Nelson@curtin.edu.au

Australian Capital Territory
Dr Gerard Hoyne
Ph: 61 2 6125 2935 Fax: 61 2 6125 0413
Email: gerard.hoyne@anu.edu.au

New Zealand
Dr Joanna Kirman
Ph: 64 4 499 6914 Fax: 64 4 499 6915
Email: jkirman@malaghan.org.nz

FIMSA Councillor
Professor Nicholas King
Ph: 61 2 9351 4553 Fax: 61 2 9351 3429
Email: nickk@med.su.oz.au

Contact for Tasmania
Dr Greg Woods
Tel: 61 3 6226 4830 Fax: 61 3 6226 4833
Email: g.m.woods@utas.edu.au

Non-Voting Councillors:

Newsletter Editor
A/Prof Margaret Baird
Ph: 64 3 479 7712; Fax: 64 3 479 8540
Email: margaret.baird@stonebow.otago.ac.nz

Journal Editor
Professor Chris Parish
Ph: 61 2 6125 2604 Fax: 61 2 6125 2595
Email: christopher.parish@anu.edu.au

Visiting Speakers Co-ordinator
A/Prof J. Alejandro Lopez
Queensland Institute of Medical Research
CBCRC/I, Post Office
Royal Brisbane Hospital Qld 4029
Ph: 61 7 3845 3794 Fax: 61 7 3845 3510
Email: Email: alejL@qimr.edu.au

Council Member of IUIS
Professor Chris Parish
Ph: 61 2 6125 2604 Fax: 61 2 6125 2595
Email: christopher.parish@anu.edu.au

Honorary Archivist & Webmaster:
Dr Judith Greer
Ph: 61 7 3346 6018
Email: j.greer@uq.edu.au

Administrative Correspondence
Ms Judi Anderson
ASI Inc. Secretariat
PO Box 7108
Upper Ferntree Gully Vic 3156
Ph: 61 3 9756 0128 Fax: 61 3 9753 6372
Email: asi@21century.com.au

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

The intricacies of balancing parenthood and a career are delightfully highlighted in our cover story in this issue. Of course, this particular situation is not exclusive to immunology but it would be fair to say that bench science and 'fixed term funding' contribute an extra level of nail biting to the mix. It's not necessarily a gender-specific problem either but since there are a comparatively large number of women in our discipline, it is bound to impact upon this. The timing of this ASI Newsletter article coincides with Laurie Glimcher and Judy Lieberman's commentary in the June issue of Nature Immunology very nicely. Ours might just have been a little longer in gestation.

Since we are on the subject of reproduction, the international economic downturn appears to have delivered a curate's egg to science to Australasia. The Australian government's budget has provided a terrific boost to funding whilst across the Tasman, New Zealand's government seems equally intent on aborting the Fast Forward Fund for science. The 'Lucky Country' rides again.

We are to add another regular feature to our Newsletter – a 'meeting/event' planner' – so that all our members receive a 'heads up' in time to schedule immunology-related meetings, relevant to their areas of interest, into their diaries. We'll incorporate deadline dates for travel award applications, too. Look out for the planner in the September issue.

This excellent idea comes from our Honorary Secretary. Thank you, Su.

Margaret Baird

Extended deadline
WIN $1,000 WITH AUSTRALASIA'S TOP 25

ASI is providing you an opportunity to win up to $1,000 by naming Australasia's best immunological research in the last 25 years.

In 30 words or less, tell us:

What Australasian immunological research has lead to demonstrable improvements in human health in the last 25 years?

The competition is open to current ASI members, and any number of entries may be submitted. Entries must arrive at Secretariat's office by Tuesday 30 June 2009 and can be submitted by email to asi@21century.com.au with the subject line "AUSTRALASIA'S TOP 25."

Submissions will be ranked by a hand picked panel of judges, who are excluded from entering.

The person who submits the best entry will be awarded $1,000. Second prize is $500 and third prize is $250.

Where multiple people submit a winning answer, the prize will be divided between the winners.

The judges' decision will be final and no further correspondence will be entered into.

Honorary Secretary's News

The people who are ASI

Have you ever wondered who the people are that make up the ASI Council? Have you ever wanted to know what the Councillors look like or what they are working on? Have you ever wanted to know what the duties of the different Council positions are?

The ASI Council consists of a number of different positions filled by individuals representing the ASI membership but you, as a member, have had very little opportunity to learn about the individuals who are running the Society other than at the Annual General Meeting or at local events run by the State Branches. This Newsletter now has a new column to introduce the people who are the Councillors of ASI. Here they are able to give a background on their work and describe the positions they fill within ASI. Each newsletter will introduce a couple of the ASI Councillors and we are starting with the lovely faces of Delia Nelson, State Councillor for WA and Claudine Bonder, State Councillor for SA/NT.

We hope you enjoy learning more about the workings of the Society.

Susanne Heinzel

Juggling Immunology & Parenthood, cont.

responds to the hormonal onslaught is incredibly unique, and while some find the experience enjoyable others struggle with symptoms such as extreme tiredness, constant nausea and vomiting, and pain. Many of these symptoms manifest well before a woman feels comfortable declaring her pregnancy. Disguising these symptoms, on top of the discomfort associated with continuing to work while feeling horribly ill, can be incredibly stressful. Again, the importance of having empathetic and discrete managers is critical. If an IgM_{2B} can feel comfortable approaching her supervisor at an early stage, some of these pressures can be eased. Having a good relationship with a supervisor, such that an IgM_{2B} feels comfortable declaring her condition is especially important if she is working with pathogenic organisms or dangerous, potentially teratogenic chemicals.

During later pregnancy it may be necessary to adjust the workspace to allow for the dramatic changes to the IgM_{2B}'s body. It can be harder to reach into the laminar flow cabinet, and impossible to bend down to pick up items near the floor. Feet may need to be raised to prevent swelling. Having accommodating colleagues and employers at this point will enable the IgM_{2B} to continuing working as close to the due date as possible.

In New Zealand, thanks to the Human Rights Act (1993), and in Australia thanks to the Sex Discrimination Act (1984), it is illegal to discriminate against someone because they are pregnant or because they have responsibility for children. In terms of employment matters this prevents an employer from offering less favourable terms of employment or lesser opportunities for training or to terminate the employment in circumstances in which other employees would not be terminated. Similarly, if you happen to be seeking new employment while pregnant or if you care for children, it is unlawful for you to be treated differently from others. This means in an interview situation you should not be asked questions relating to your family situation and are within your rights to refuse to answer. On the bright side, preferential treatment granted by reason of pregnancy or care of children is completely acceptable under the New Zealand Act, and "special measures" to achieve "equality" are permitted during pregnancy under the Australian Act, so employers can feel free to treat an IgM or IgD as wonderfully as they possibly can!

Egress and life in the periphery

The bundle(s) of joy arrive! But, how will this affect work and research?

The good news is that, in New Zealand thanks to the Parental Leave and Employment Protection Act Amendment of 2002, every female employee who becomes pregnant and at the expected date of delivery has been employed by the same employer for the preceding six months, is entitled to maternity leave. The Act also has provisions for adoption. Each woman is entitled to up to 14 weeks of "paid" leave, which may begin up to six weeks before the expected date of delivery (or before if there are medical grounds or work cannot be performed safely or adequately). In addition to this leave, an employed IgM_{2B} is entitled to up to 10 days of leave without pay, for reasons connected to the pregnancy.

What about the IgD or other partner? In New Zealand, they are entitled to between one and two weeks continuous leave (depending on the length of time spent with the employer preceding the birth). The leave for either parent can be extended either consecutively or concurrently, up to a combined total of 52 weeks (including the 14 weeks of "paid" leave). While the Act contains provisions for ensuring the employee's position is kept open until the end of the parental leave, there is an exception to this rule that is highly likely to affect a more senior IgM or IgD. That exception is: when it is not reasonably practicable for the employer to find a temporary replacement due to the key position occupied by the IgM or IgD within the organisation. Therefore, it can be within an employer's rights not to keep the position open in the case of more senior or specialised IgMs or IgDs choosing the extended parental leave option.

For the 14 weeks of "paid" leave, there is a good reason for writing the word paid in quotation marks. The payment is not your usual salary, but a government funded entitlement that currently has a maximum payment of NZ$407.36 per week (before tax). This is, to be clear, not very much. On the bright side, many universities or Crown Research Institutes offer to top this up by paying an IgM her usual salary for six weeks, with some offering bonuses for those who return to work for more than six months. These provisions are not available for all staff or at all places of work. This can mean postdoctoral fellows at universities, or staff at fully soft-funded institutions may not receive any bonus payments. Since many women are now the primary income providers in their family, the decision to return to work early can feel forced and can therefore be an unpleasant experience.

In Australia there is currently no government funded paid maternity leave. However, employees are required to provide 12 months of unpaid maternity leave. A scan of around 20 universities and research institutes across Australia demonstrated that all offered some paid maternity leave to staff, usually on condition of 1-2 years of previous employment. Paid maternity leave entitlements ranged from 12 to 36 weeks full pay, with several universities also offering return to work bonuses of up to 12 weeks salary. Entitlements from universities were higher than those from the institutes surveyed.

It should be noted, though, that in Australia a $5000 Baby Bonus paid in 13 fortnightly instalments is available to parents whose combined Adjusted Taxable Income is less than $75,000 in the six months following the birth of the child. This is roughly equivalent to the maximal amount that is available to New Zealanders under their government's paid parental leave scheme.

Given that a PhD student is technically not an employee, they will not be entitled to any "paid" parental leave. Most universities will allow the student to put their enrolment on hold for several months (this will ensure fees are not being paid while on leave). This is also likely to result in any scholarship(s) being put on hold. Depending on the family situation of the student IgM or IgD (i.e. whether the other partner is working, how much they earn, etc), there may be some forms of government-based financial assistance available, such as New Zealand's Working for Families tax credits or the Domestic Purposes Benefit or through Australia's Baby Bonus.

Adaptive responses

With an increasing number of young female immunologists, it is critical to determine

effective ways to retain IgMs in the workforce and enable their career progression.

A major hurdle for most IgMs returning to work is sourcing adequate and affordable childcare. Having a crèche close to the place of work can result in a happy IgM, who can continue to breastfeed her child easily. Unfortunately, few workplaces have such facilities, and those that do often have prohibitively long waiting lists. This is likely to result in stress for the returning IgM, who may be forced to delay her return or to wean her child much earlier than she intended.

Affordable alternatives to crèche include nanny-sharing, or working through in-home childcare agencies that can find local caregivers able to look after small infants. Depending on the income of the family, government subsidies may be available for childcare, and can be particularly helpful in the case of students returning to full-time study. Importantly, one cannot underestimate the emotional challenges that face a mother when leaving her tiny infant to the care of another. Having childcare close to the place of work can make that transition slightly more bearable.

Workplaces should aim to provide a private, clean, comfortable and easily accessible place for a woman to express breast milk or breastfeed during the working day. Toilets are never an acceptable place for a woman to breastfeed or express milk; however a sick room with a lockable door or access to a private office can be an ideal space. The benefits to the employer for supporting a breastfeeding mother are clear: breastfed babies are generally less likely to be sick resulting in the IgM needing time off work to care for a sick child, and a happier mother is more likely to be productive in the workplace.

An important way employers can ease the transition back to work is by allowing flexible working hours for the returning employees (including the IgDs), and by providing working-from-home options (it can be a great opportunity to write papers or analyse data). It is a good idea for employers to discuss these options with an IgM_{2B} prior to her embarking on parental leave. Having any fears assuaged, will go a long way towards encouraging her return to research.

For employees and employers alike, it is important to remember that these disruptions to work and research are (hopefully!) only temporary. Through good communication between employer and employee, it is possible to minimise the stresses surrounding pregnancy, childbirth and parenthood and enable IgMs and IgDs to successfully continue with their scientific research and careers as well as enjoying life with their new child(ren).

Finally, it is important for women to lobby granting bodies such as NHMRC to take maternity leave into account. This is a hard one to deal with because these mothers may potentially be less productive, possibly for a few years. However, not taking this into consideration means that we risk permanently losing highly skilled and very high-achieving women – with more than 20 years of a productive working life left – from the scientific community.

With thanks to the IgMs and IgDs who contributed their experiences.

Further information:

A great resource for scientists juggling careers and parenthood:
http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/2800/scientists_as_parents_feature_index/

New Zealand

For information regarding paid parental leave:
http://www.ers.dol.govt.nz/parentalleave/
For information regarding Working for Families:
http://www.workingforfamilies.govt.nz/
For information regarding rights during pregnancy:
http://www.legislation.govt.nz/ (search for Human Rights Act)
Association for Women in the Sciences (NZ):
http://www.awis.org.nz/

Australia

For information regarding paid maternity leave:
http://www.aph.gov.au/library/INTGUIDE/ECON/maternity_leave.htm#who
For information regarding rights during pregnancy:
http://www.comlaw.gov.au/ (search for Sex Discrimination Act)
For information regarding the Baby Bonus:
http://www.familyassist.gov.au/

Upcoming Lectures & Conferences

Brisbane Immunology Group Retreat
August 20–21, 2009
Gold Coast, Queensland
www.immunology.org.au

Vaccine 3rd Congress
October 4–6, 2009
Bangkok, Thailand
www.vaccinecongress.com

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

32nd Annual Australasian Flow Cytometry Group Meeting
November 1–4, 2009
Brisbane, Queensland
grace.chojnowski@qimr.edu.au
http://www.afcg.org.au/home.asp

9th Latin American Immunology Congress
November 3–7, 2009
Vina del Mar, Chile
Secretaria@immunochile2009.cl
www.immunochile2009.cl

10th FIMSA Advanced Training Course
December 3–6, 2009
Gold Coast, Queensland
http://www.immunology.org.au/

39th ASI Annual Scientific Meeting
December 6–10, 2009
Gold Coast, Queensland
http://www.asi2009.org/

Midwinter Conference of Immunologists
January 23–26, 2010
Pacific Grove, California, USA
midwinterconference@charter.net
www.midwconfimmunol.org

9th International Conference on New Trends in Immunosuppression & Immunotherapy
February 4–6, 2010
Geneva, Switzerland
http://www2.kenes.com/immuno/pages/home.aspx?ref2=db1

XI International Congress in Reproductive Immunology: Reproductive Immunobiology at the Great Barrier Reef
August 15–19, 2010
Cairns, Queensland
www.icri2010.org
Chair of local organising committee:
sarah.robertson@adelaide.edu.au

'A spectacular opportunity to exchange information about all facets of vaccines – from the basic science to immunization program development.'

Previous Vaccine Congress Delegate

The annual Vaccine Congress has become the forum for a state-of-the-art report on the latest progress in the development of vaccines for infectious and non-infectious diseases.

Hear from the following invited speakers:

Rafi Ahmed, *Emory University, USA*

Beth-Ann Coller, *Hawaii Biotech, USA*

Debbie Drane, *CSL Limited, Australia*

Andrew Dunning, *Sanofi Pasteur, France*

Adolfo Garcia-Sastre, *Mount Sinai School of Medicine, USA*

Nathalie Garcon, *GlaxoSmithKline Biologicals, Belgium*

Bruno Guy, *Sanofi Pasteur, France*

Joachim Hombach, *World Health Organization, Switzerland*

Hong Jin, *MedImmune, USA*

Jennelle Kyd, *Central Queensland University, Australia*

Hiroshi Kiyono, *University of Tokyo, Japan*

Peter Nara, *Iowa State University, USA*

Rino Rappuoli, *Novartis Vaccine, Italy*

Supachai Rerk-Ngarm, *Ministry of Public Health, Thailand*

John Shiver, *Merck & Co., USA*

Yiming Shao, *National Center for AIDS/STD Control and Prevention, China*

David Weiner, *University of Pennsylvania, USA*

Bruce Weniger, *Centers for Disease Control and Prevention, USA*

Henry Wild, *Chulalongkorn University, Thailand*

LATE BREAKING ABSTRACTS:

Late breaking abstracts for oral and poster presentation will be accepted until 30 June 2009.

Topics include:

Human vaccines for infectious diseases | Human vaccines for non-infectious diseases | Veterinary vaccines | Immunology | Animal models | Vectors | Adjuvants | Drug delivery | Production | Manufacturing | Safety | Regulatory | Societal | Legislation aspects

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Enquiries: Melissa Blake, Vaccine Congress Secretariat
Tel: +44 (0)1865 843721 **Email**: m.blake@elsevier.com

www.vaccinecongress.com

The People Who Are ASI

WA ASI Councillor – Delia Nelson

After gaining a Bachelor of Science with a double major in Microbiology and Organic Chemistry at the University of Western Australia (UWA), I became interested in childhood asthma and allergy, and completed my Honours and PhD theses at the TVW Telethon Institute For Child Health Research. I spent 10 years studying the immunobiology of asthma, and then changed my field of research to examining interactions between the immune system and cancer. I became an independently funded Senior Research Officer with the Department of Medicine, UWA, and then moved as a Research Fellow to the School of Biomedical Sciences, Curtin University. I have now spent 11 years on my current research interests which include understanding how the immune system interacts with progressing solid tumours and how to use immunotherapies and/or vascular-targeting therapies to treat these tumours. I have been an active member of a number of bodies including committee member and conference organiser of the International Mesothelioma Interest Group (IMIG), and committee member and conference organiser for the WAASI branch prior to becoming the WA ASI Councillor. My research support incudes funding from NH&MRC, the Cancer Foundation of Western Australia, the RAINE Foundation, the Australian Lung Foundation and the American-based Mesothelioma Applied Research Foundation (MARF). Finally, I have supervised five PhD students and 10 honours students to successful completion.

My current role of the WA ASI Councillor is to organise regular committee meetings for the WA ASI committee and function as the chair of that committee. This committee was formed in 2008 and was a welcome relief as, prior to that, being the WA ASI Councillor was a lonely task. An added benefit of the committee is the development of new networks and improved dissemination of ASI-related information. The committee often discusses possible events that we could conduct, including social ones, hoping to further improve networking and local communication. We are increasingly active and last year we launched the inaugural Perth Immunology Group (PIG) meeting. We have been recently challenged by the Brisbane to conduct a combined meeting called the BIG PIG meeting! Could be fun.

The committee is now responsible for local ASI-related events including:

1. Generating an annual budget
2. Organising ASI seminars featuring local, national and international speakers
3. Advertising and catering for ASI seminars
4. Organising the Global Day of Immunology event
5. Organising a student workshop every second year
6. Organising the Perth Immunology Group meeting every alternate year to the student workshop.

To give some insights into the duties the committee undertakes, both the student workshop and the Perth Immunology Group involve inviting speakers, finding sponsors, booking venues, organising catering, organising a social event, organising the program, advertising the event, collating abstracts, preparing a booklet, organising prizes, speaker accommodation, etc. etc.

SA ASI Councillor – Claudine Bonder

Dr Claudine Bonder is head of the Vascular Biology and Cell Trafficking Laboratory in the Division of Human Immunology at the Centre for Cancer Biology, Adelaide, South Australia. From her research training during her PhD at Flinders University in South Australia and post-doctoral position at the University of Calgary (Canada) she has gained considerable experience in cellular biology, immunology, inflammation and auto-immunity in both small animals and humans. Dr Bonder's research interests focus on understanding the role endothelial progenitor cell differentiation, trafficking and activation of the vasculature during normal and disease states (such as autoimmune disease, cancer, acute and chronic inflammation). Her research has culminated in important advances in this area, including (1) identifying the adhesion molecules used by leukocytes to traffic to inflamed organs, (2) defining a role for the lipid enzyme (sphingosine kinase) in endothelial progenitor cell (EPC) differentiation and (3) identifying key surface expressed receptors which regulate major cell survival signals.

"The current focus of the lab uses cell biology approaches as well as mouse transgenic and knockout technology to delineate molecular mechanisms underlying EPC contribution to blood vessel development (vasculogenesis). Endothelial progenitor cells are key contributors to vasculogenesis although their exact contribution is still under intense debate. EPCs are the target of over 100 clinical trials and initial results have not been promising. Their lack of success is likely due to our inability to distinguish them from the closely related mature endothelial cells and haematopoietic progenitor cells as well as insufficient EPC survival and retention.

"We recently made the key discovery that the lipid enzyme sphingosine kinase (SK)-1 regulates the rate of EPC differentiation without effect on the haematopoietic compartment and controls EPC survival and trafficking via as yet undescribed pathways. These observations open the door, for the first time, for the full characterisation of EPCs for diagnostic and therapeutic purposes for the two major killers in the Western world, cardiovascular disease and cancer. Our work is aimed at designing human systems to test that mechanisms of action uncovered in mice have clinical relevance. "

Claudine Bonder

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 46 comments were received from the 592 who had renewed (not including new members joining this year) at the time of preparing this newsletter. Of these, 14 simply said either *Yes* or *Meets my expectations*, or variations on that theme. The more substantive comments are shown below:

An excellent society. One area of interest which could perhaps get a little more attention is immunotherapy/therapeutic antibodies/antibody engineering.

ASI 2005 was a fantastic conference.

Fantastic – thanks!

ASI is an excellent society, catering to the needs of all members, especially supporting younger members …

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

Biannual conferences would be good.

Could ASI have a travel award category for post-doc who are more than 3 years PhD?

Doing well – 2005 meeting a great success

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

Expectations met – with thanks.

I am happy with ASI as it is.

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

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

More innate immunity please

Yes, I believe ASI provides a good forum for scientific discussion and networking throughout Australasia

Yes, I only joined last year and so far have been very impressed

Yes! Good student involvement and good local society.

Yes. Good job done by many willing and friendly volunteers.

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.

ASI Councillors' News

N.Z. News

As I write this report, the closing date for registering to attend our June branch meeting is fast approaching, and it appears as though this meeting, to be held on June 4th and 5th, will be as well attended, as in previous years. The organiser this year, Elizabeth Forbes, is doing a fantastic job preparing an exciting program including invited speakers Ethan Shevach, (National Institutes of Health, USA); Wolfgang Weininger (Centenary Institute, Australia); Mariapia Degli-Esposti (Lions Eye Institute, Australia); Ben Marsland and Nicola Harris (ETH, Switzerland).

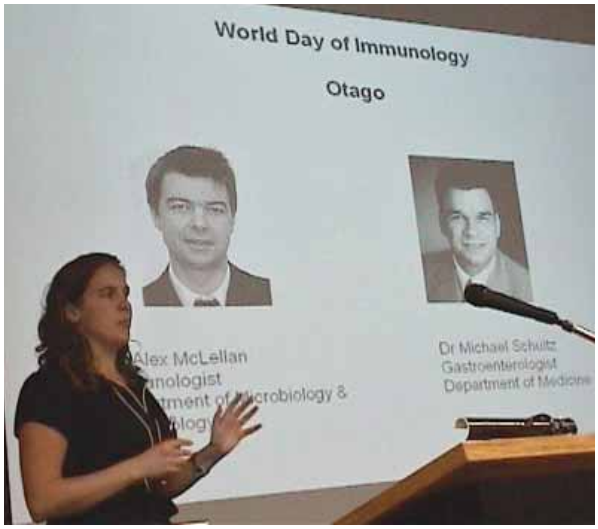
World Day of Immunology 2009 (DOI)

This year, two events were held in New Zealand to celebrate DOI. A big thank you goes to organisers Roslyn Kemp, Debbie Scarlett, Tanya Fulcher and Vicky Hale for their excellent efforts in planning, advertising and executing these events.

Dunedin

The Otago branch of ASI successfully celebrated the DOI with a public lecture by immunologist Alex McLellan and gastroenterologist Michael Schultz to a crowd of immunologists, other scientists and members of the public.

The focus was evolution of the immune system, with a brief history of immune system development over the last 500 million years, and a discussion on how the immune system can fail to adapt to changing cultures in today's world, leading to diseases such as Inflammatory Bowel Disease



Dr Roslyn Kemp introducing Otago's DOI lectures

Wellington

To celebrate the DOI, the Malaghan Institute of Medical Research hosted a free public lecture by Dr Anne La Flamme, entitled "Immunity – the Battle Within". Using the scenario of a battlefield, Dr La Flamme held her audience's attention with analogies of generals, officers, aides and enemies to describe the intricacies of the functioning of our immune system. In doing so, she was able to cleverly impart the message that while our immune system is ready and waiting to attack foreign invaders and protect us from infection, it is also a dangerous weapon that needs to be kept under control in order to prevent the development of autoimmune disease.

Following the lecture, attendees were given the opportunity to learn more about immunology research at the Malaghan Institute and Victoria University of Wellington at a poster display. The event was a great success, with several people commenting that they had enjoyed learning more about how their immune system worked and what it meant to be vaccinated. Prior to the event only a few attendees had heard of DOI, but now many have said that they are already looking forward to next year's celebrations.

ASI-Sponsored Visiting Speakers

This year we have John Harty visiting New Zealand in October – more details will follow but, as with past visiting speakers, the NZ ASI branch will offer travel awards so that student and early postdoc members in centres that John is unable to visit , will have the opportunity to attend his seminar.

Jo Kirman
Councillor

Dr Anne La Flamme presenting: Immunity – the Battle Within

DOI Poster Display at Rutherford House, Wellington

N.S.W. News

Plans are well underway for the 2009 Branch Retreat. This year, the meeting will be a joint initiative between the NSW and ACT branches and will be held in the relaxed environs of the Southern Highlands at the Craigieburn Resort & Conference Centre, in Bowral, on 3–4 September 2009. The NSW organising committee has managed to attract substantial sponsorship from Miltenyi, Becton Dickinson, Jomar and Australian Biosearch. Consequently, the cost of registration will be much reduced (in the $150–200 range depending on ASI membership status), making this a very affordable meeting to attend. So, encourage your supervisors to send you to this worthwhile retreat. Online registration will open in July so make sure you register early so that you won't miss out on the opportunity of attending what will be a fun, enjoyable and scientifically stimulating few days.

October will see ASI hosting Professor John Harty from the University of Iowa as an ASI International Visiting Speaker. John will present a seminar at the Garvan Institute on Friday 30th October – this will be a great opportunity to hear the latest from one of the leaders in the field of CD8 T cells and their role in immune responses to pathogen infection.

2009 sees ASI NSW saying farewell to Charles and Fabienne Mackay who are departing the Emerald City for Melbourne – we wish them all the best for the challenges and endeavours that lie ahead. Sydney's loss is certainly Melbourne's gain.

Stuart Tangye
Councillor

S.A./N.T. News

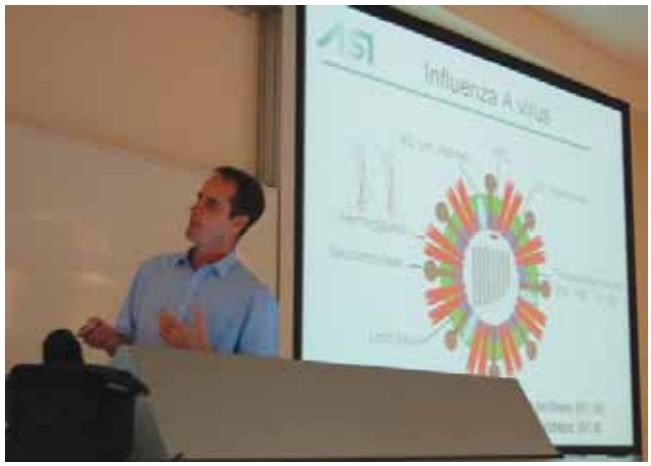
This quarter we celebrated the new ASI Prize for Immunology at the University of South Australia which was awarded to the student in the laboratory medicine degree with the highest overall mark in the course, Immunology. Our inaugural winner is Mrs Kerry Nyland who received $200 and a student membership to ASI for 2009. I was really delighted with the awards ceremony and how the award was received and presented and I look forward to implementing awards like this to other universities around the state and territory.

LtoR: xx, xx, winner Mrs Kerry Nyland, SA/NT Councillor, Claudine Bonder

We are almost ready to start organising the 5th 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-5 bigger and better than ever … stay tuned!

Day of Immunology April 29, Adelaide
By Cara Fraser and Erin Lousberg

"This year to celebrate the world day of immunology members of the SA ASI branch visited a Year 9, Year 11 and Year 12 class of biology students at University Secondary College and Unley High School to share their enthusiasm for scientific research in immunology. Each member of the organising committee spoke on a different aspect of immunology, PhD student Cara Fraser gave a basic introduction into the importance and complexity of the immune system. This was followed by PhD student Erin Lousberg discussing different types of vaccines and why vaccination is so important. Dr Darren Miller, did a very topical talk about Influenza A and enlightened the students to how the influenza virus changes constantly making it necessary to be re-vaccinated year after year. PhD student Anastasia Yu then spoke about what causes allergy and how it can be treated, giving some insight into her own research. Claudine Bonder tied it all together by sharing with the students the large variety of occupations available to science graduates as well as some of the great things about working in the field of medical research such as the opportunity to travel, use cutting edge technology and most importantly that it is interesting, hopefully encouraging the students to consider a career in medical research and immunology.



"The students enjoyed the visit and were curious about each of the aspects of the immune system discussed. There were many thoughtful questions and we were all impressed by the ability of even the Year 9 students who asked questions like, 'If a mother is immunised while pregnant, does the baby also become immunised?' The teachers were also greatly appreciative of our visit and one even expressed her desire for the Society to visit students again in the future."

Claudine Bonder
Councillor

A.C.T. News

The ACT Branch participated in theWorld Day of Immunology on April 29th, 2009. A workshop was held for the first time for Year 11 & 12 high school students from Canberra. We had a total turnout of 80 students from four colleges and they listened to talks on autoimmunity and genetics presented by Dr Gerard Hoyne, and a thoroughly entertaining talk by Dr Peter Papathanasiou on stem cells. Dr Matthew Cook introduced the students to the process of translating scientific research from "bench to bedside" and the workshop was rounded off by Prof. Chris Parish who presented a talk on tumour immunology. There was extremely good feedback from the students and teachers and it seems worthwhile to try the format again next year. In the evening we had a presentation by Prof. Michael Good, Director of the Queensland Institute of Medical Research, who talked on "The promises and challenges in developing new vaccines, with a focus on diseases of the developing world". The lecture has been recorded and will be placed on the ASI website. Michael focused on the challenges of developing affordable vaccines for both malaria and group A streptococci bacteria and was well received by those in attendance.

Prof Michael Good presenting the public lecture for World Day of Immunology in Canberra

On May 8th we have a combined ASI ACT Branch/JCSMR seminar to be held at the Finkel Lecture Theatre at JCSMR at 1pm which will be presented by Prof. Craig Alister who holds a Chair of Molecular Parasitology at the Liverpool School of Tropical Medicine. He will talk on "Cytoadherence in malaria – host modulation".

We have organized an afternoon mini-symposium on June 30th that will involve Dr Franca Ronchese, Dr Gabrielle Belz and Dr Stuart Tangye as invited speakers and this will be combined with short student presentations. We hope it will be a success.

In September we have organized a joint ACT and NSW Branch meeting of the ASI to be held in Bowral on September 17 & 18; more details will follow.

Gerard Hoyne
Councillor

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 Australasian 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.

Victorian News

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

The IgV committee has been busy organising another calendar full of events for this year.

World Day of Immunology 2009 in Melbourne

A display of immunology-related animations and real time video, informative banners and the ASI Immunology quiz were available to the passing public on the forecourt of The State Library of Victoria. It was estimated about 150 people stopped to read and ask questions and, of course, swine flu and vaccination were popular topics.

This year a public seminar was organised and attended by 132 people. They listened to diverse presentations by Prof Robyn O'Hehir, "Allergy & Anaphylaxis"; A/Prof Eugene Maraskovsky, "Novel Therapeutics for Cancer"; and Sir Gus Nossal, "Immunology and Global Health". The presentations stimulated plenty of questions from the audience. Thanks to our MC for the evening, Dr Patrick Reading, and WEHI Communications, Simon Taplin and Maureen Grant for banner production and publicity assistance. Special thanks should also go to the scientists who helped co-ordinate and participated in DoI. These were Lucy Sullivan, Roselind San San Lam, Claerwen Jones, John Stambas, Michele Teng, Mireille Lahoud, Trina Stewart, Gayle Davey, Sarah Londrigan, Angela Chan, Mike de Veer, Sumone Chakravarti, Justine Mintern and Sanda Stankovic. Also thanks to Gayle for providing the information report for this report.

LtoR: Prof Robyn O'Heir, Prof Eugene Maraskovsky & Sir Gus Nossal

Members of the DoI team answering the public's questions

DoI booth out the front of the State Library of Victoria

IgV Master Class

The Master Class series was an initiative by IgV to draw on the extensive list of experts in and around Melbourne in various aspects of immunology. The format is for speakers to update the audience with the current state of a chosen area of immunology and includes highlighting recent novel findings and/or current controversies. Given the success of last year's Master Class event, there will two held this year.

The theme of the first Master Class will be Basic Immunology. It will be held in the Woodruff Theatre in the Department of Microbiology and Immunology, The University of Melbourne on 17th June. Speakers include: Stephen Turner, Jamie Rossjohn, Lynn Corcoran, Joe Trapani, Ken Shortman and Ian Van Driel.

The theme of the second Master Class will be Aspects of Clinical and Applied Immunology. This Master Class will be held in The Department of Immunology, Monash University, AMREP Campus, Prahran on 1st July. Speakers will be announced soon.

These sessions would be hugely informative to those wanting to be updated with the latest in basic and applied/clinical immunology. This includes PhD student, postdocs and established researchers. I encourage you to register early as spaces are limited.

IgV career development workshop

The Immunology Group of Victoria also organised a Career Development workshop on 26 May at WEHI at which a number of esteemed researchers passed on their wisdom and insight into how best to develop a career in science. The afternoon was very well attended and was a tremendous success. A special thank you should go to the speakers who gave up their time to mentor and inspire all of those that attended. A major reason for the wonderful success was the tremendous effort from the IgV Student Representatives, Sarah Oracki and Evelyn Tsantikos, in organising the event. Well done.

IgV Annual Retreat

Finally, just a reminder that the IgV annual retreat is scheduled for early October. It will be held in the Yarra Valley again so be sure to pencil this into your diary (or type it into your entourage calendar). Details will be out soon regarding registration and invited speakers.

Steve Turner.
Councillor

Did I Really Need to Say That?

From time to time we all say things that, on reflection, might have been better left unsaid. In most cases the repercussions are trivial, but then again, most will regrettably recall at least one occurrence when something said earlier had a profound effect on later circumstances. Our message may have been understood as we intended – in which case we would have been better off keeping lips sealed. Otherwise, we have been misunderstood – we have not said what we meant to say, in which case we have not given enough thought to our words and their potential implication.

In a research context, what we are concerned about here are those sorts of statements that foreshadow a particular outcome or application of observed results that perhaps cannot be inferred from the results as they stand. Often these statement are, at best, highly speculative or, at worst, not within the realms of possibility of the natural world! I am talking about those statements that you tend to see at the end of an "Abstract" ("This work suggests that …"); at the end of an "Introduction" ("In this study we sought to show that …"); and in a "Discussion" ("A cure for cancer is an entirely credible prospect of my work").

We all know why we say these sorts of things – to identify real world relevance or economic or social impact in the underlining work. It is not surprising therefore that more often than not it is these statements that a patent examiner – or litigant – will more immediately seize on as an opportunity to prevent one from monopolising that economic impact with a patent – and especially in those circumstances where no reasonable interpolation can be made from the underlining work.

So why is it that these sorts of statements provide opportunity for a patent to be rejected? Answer: you cannot obtain a patent if your invention is obvious over what was known before you filed your patent – including what you said or published before you filed your patent – and even if you can obtain a patent in these circumstances, it can later be revoked by a court in litigation.

Obviousness is a particularly difficult ground to have to fight a patent examiner on because the relevant test – whether a skilled worker in view of the particular statement would as a matter of course have been directly led to the invention in the patent – is often poorly understood or otherwise incorrectly applied. The issue is to be considered in the light of what was generally well known and understood by the skilled worker before the priority date.

Experience shows that, in many cases, the patent examiner does not have enough time to properly brief himself on the knowledge as it was generally understood before the patent was filed. Sometimes this knowledge existed many years before he is called to examine the patent and has, since its existence, evolved into something quite different.

In these circumstances it is perhaps not surprising that an examiner will consider the relevance of a particular document by reviewing those parts of it in which he would expect to find a statement, such as those above, and then interpret that statement as defining knowledge as it was generally understood and accepted before the patent was filed. Given time constraints, once these statements have been identified, there may be resistance to investigate the issue further. In fact this is often the case and an examiner will routinely cite a document on the basis of speculative statements contained in it.

It is then for the patent owner to persuade the examiner otherwise and that can involve many hours of legal argument and expert testimony. Eventually the examiner may be persuaded to withdraw but often not until many dollars have been spent. However sometimes, especially in jurisdictions such as Europe, the patent is found invalid. Other times the scope of the monopoly in the patent may have to be severely pruned back so as to render the patent subject to design around or otherwise commercially ineffective.

This issue should be of considerable concern to those working in immunology given the long development times to a patentable product. For example, let's say that a peptide based vaccine has been invented that provides both prophylactic and therapeutic protection against a particular disease. The peptide is part of a larger protein that is expressed on the surface of a strain of bacteria.

Now, to arrive at a peptide based vaccine, a number of key stages need to be achieved, for example, stage 1: identification of the bacterial cause of the disease, stage 2: isolation of the pathological strain of bacteria, stage 3: characterisation of the bacteria including all or part of its proteome; and stage 4: determination of a suitable epitope of a bacterial protein for use as a vaccine.

In this hypothetical example, it is likely that a patent for a vaccine would only be granted with the results from stage 4 at hand which show that a protective or therapeutic immune response is generated when a human is immunised with the peptide. However, in a development process that might take 3 to 6 years leading to the vaccine, it is entirely appropriate that the authors of the work will wish to publish results of experiments of stages 1 to 3. The concern is the temptation to add a speculative or blue sky statement that a protein or part of a protein expressed in the surface of the bacteria may act as a suitable vaccine for the disease at these times.

Indeed the practice of disclosing the next step in the development of an invention before a patent has been filed is so widespread that an experienced patent examiner will routinely search for disclosures made by the inventor on a patent application. Note that in this digital age we need to be concerned with electronic journal publications but also any other type of media including websites and the like.

So to re-pack the points here, the take home message here is not that you should never identify commercial application of research if a patent has not been filed. Ultimately a decision in this context is for the author of the research to make within the operation of research and intellectual property policies of the relevant institution. Rather, what is proposed here is that we must first consider the potential impact of releasing information to the outside world before that information is released. Within this proposal the following questions would seem to be relevant:

(i) Do I really need to say this now?
(ii) Am I aware of what I might wish to do later (i.e. file a patent; license know how) so that if I say this now I understand

future implications?
(iii) Do the words that I propose convey the message I intend? and
(iv) Is it possible that those words could be misunderstood by another to convey something else?

Remember, no matter how speculative, tentative or exploratory a statement may appear to you, a patent examiner, or an adversarial third party, may take an entirely different view many years in the future.

You understand what I mean – don't you?

Adam Denley Ph.D (Patent Scientist) & Tom Gumley Ph.D (Partner), Freehills Patent & Trade Marks Attorneys, 101 Collins St Melbourne, Vic. 3000. adam.denley@freehills.com

ASI Secretariat
PO Box 7108,
Upper Ferntree Gully, Vic. 3156
Australia
Tel: +61 3 9756 0128
Fax: +61 3 9753 6372
Email: asi@21century.com.au
Office hours:
8.30am – 4.30pm

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!**

The ASI Visiting Speaker Program

Coming Visits in 2009

October 14-30
Professor John Harty
Department of Microbiology, University of Iowa, USA

John combines cellular and molecular approaches to dissect T cell mediated resistance to pathogens. Specifically, his lab uses murine infection with *Listeria monocytogenes*, a bacterial pathogen or lymphocytic choriomeningitis virus, as model systems to understand the biology of CD8+ T cell mediated immunity to infection. He has also recently started studying the factors that determine CD8 T cell mediated immunity from liver-stage malaria infection.

Selected recent publications

Badovinac, V. P., B. Porter and **J.T. Harty**. (2004) Early inflammation controls CD8+ T cell contraction. **Nature Immunology.** 5: 809-817

*Badovinac, V.P., *K.A.N. Messingham, A. Jabbari and **J. T. Harty** (2005) Accelerated generation of memory CD8+ T cells and prime-boost response after dendritic cell vaccination. **Nature Medicine. 11:** 748-756**.**

Jabbari, A. and **J.T. Harty**. (2006) Secondary memory CD8 T cells are more protective but slower to acquire a central memory phenotype. **Journal of Experimental Medicine. 203:**919-932.

Haring, J.S., V.P. Badovinac and **J.T. Harty** (2006) Inflaming the CD8+ T cell response. **Immunity. 25:**19-29.

Haring, J.S. and **J.T. Harty** (2006) Aberrant contraction of antigen-specific CD4 T cells after infection in the absence of IFN̄γ or its receptor. **Infection and Immunity. 74**:6252-6263**.**

Badovinac, V.P., J.S. Haring and **J. T. Harty** (2007) Initial T cell receptor transgenic cell precursor frequency dictates critical aspects of the CD8 T cell response to infection. **Immunity. 26:** 827-841**.**

Badovinac, V.P. and **J. T. Harty** (2007) Manipulating the rate of memory CD8 T cell generation after infection. **Journal of Immunology. 179:** 53-63.

Harty, J. T. and V. P. Badovinac (2008). Shaping and reshaping CD8 T cell memory. (2008) **Nature Reviews Immunology**, **8**:107-19**.**

Schmidt, N.W., R. L. Podyminogin, N. S. Butler, B.J. Tucker, A. Reyes-Sandoval, C. L. Hutchings, A. C. Moore, S. C. Gilbert, A. V. Hill, L. C. Bartholomay, and **J. T. Harty (2008)** Memory CD8 T cell responses exceeding a large, but definable threshold provide long-term immunity to malaria. **Proceedings of the National Academy of Sciences: 105:**14017-14022**.**

The visit is being co-ordinated by Dr. Gabrielle Belz from the Walter and Elisa Hall Institute and will include following cities.

Melbourne October 16 – 20
Contact Person: Gabrielle Belz
Brisbane 20 – 22
Contact Person: Denise Doolan
Townville 23
Contact Person: Heinrich Körner
Wellington 26-28
Contact Person: Joanna Kirman
Sydney 28- 30
Contact Person: Miles Davenport

November
Janko Nikolich-Zugich MD, PhD
University of Arizona, Department of Immunobiology, Tucson, USA
Visit organised by Assoc Prof Miles Davenport from the Centre for Vascular Research, University of New South Wales.

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 DTP program nor edited if required and delays occur in requesting photographs to be re-sent.
Thank you for your co-operation.

39th Annual Scientific Meeting

6–10 December 2009, Jupiters Casino, Gold Coast, Queensland

Invitation:
Depending on your perspective – hardened trooper or immunological new-chum – we all come to the highlight event of the Australasian Immunological calendar, the Annual Scientific Meeting, with different expectations. For students and early career post-docs, this presents an opportunity to meet the leaders in their field from here and around the world, to present their work, all in a friendly atmosphere with many events designed to encourage interaction. For the more established researchers, old friends and new collaborations beckon. For all of us, the rush of great science, the oration, the debate, the limericks; and a chance to relax. The organizing committee for the 39th ASI Annual Scientific Meeting has worked hard to ensure that the event this year, at Jupiters on the Gold Coast, will meet all these expectations. On their behalf, I am delighted to invite you to attend. This year's event, from 6th to 10th December, has a lot to offer – three specialist workshops preceding the meeting; around 30 invited international and Australasian speakers; six plenary sessions and 20 parallel symposia and workshops; and a great venue located just a short walk (or monorail ride) from the beach. Details of the conference will be updated on our website regularly – www.asi2009.org. You can register and submit your abstract online through the website, and please note that early bird registration closes on 18th September, which is also the deadline for abstract submission and for applications for many of the prizes on offer (see below).

Satellite Training Course & Workshops:
Students and early career post-docs might be tempted to brush up on their immunology (and have their toes tickled by dolphins) prior to the meeting at the 10th Federation of Immunological Societies of Asia-Oceania (FIMSA)/ASI *Advanced Immunology Training Course*, from 3rd to 6th December at Tangalooma on Moreton Island (www.fimsa.org/atc2009). Student members attending the course get a reduced registration fee to the meeting: $295 (instead of $330). The course will replace the traditional Student Workshop, but before the meeting proper kicks off on Sunday evening there will be three Special Interest Group (SIG to those of you who like TLAs) satellite workshops, including a newcomer. For all the workshops, registration for ASI attendees will be only $110 ($60 for students) and the venue is Conrad Jupiters.

The idea to form an ASI Infection and Immunity (IAI) SIG was driven partly by the realization that there were many people working on pathogen recognition and innate immunity who had minimal involvement with ASI. The IAI SIG aims to encourage researchers working in all aspects of infectious disease to be actively involved with ASI, and to provide a network that disseminated information about reagents, upcoming meetings and other useful information. Ash Mansell from the Monash Institute of Medical Research (MIMR) chairs the SIG, and the first IAI SIG workshop will be held at ASI2009 on the Gold Coast. We have several confirmed international and national speakers: Stefan Kaufmann, Paul Kaye, Andrew Brooks (University of Melbourne), Chris Engwerda (Queensland Institute of Medical Research), Richard Ferrero (MIMR), Mike McGuckin (Mater Medical Research Institute),and Phil Hansbro (University of Newcastle). For more information about the IAI SIG and the 2009 workshop (or just to see the word "join" used many, many times) visit www.iiasi.org – the website was only recently launched, but there are already more than 80 members (see, repetition works!).

In contrast, the Mucosal Immunology SIG has been around 16 years, and has run regular symposia and workshops in conjunction with the ASI. Highlights of this year's SIG-MI include Tom MacDonald (Barts and London School of Medicine and Dentistry), and Brian Kelsall (NIH).

The 12th Tumour Immunology Workshop aims to provide a friendly and targeted forum for discussing current issues. The format of the workshop will allow for the presentation of original data from submitted abstracts as well as presentations from other national and international speakers attending the ASI meeting. Prof. Laurence Zitvogel (see bio below) has confirmed her attendance.

Social Program:
We have adopted many of the features of previous meetings to lure students to the meeting since they are, after all, the heart of ASI. Students and visiting speakers are invited to mingle over sunset canapés and drinks on Tuesday evening in the Skylight Room of QDeck. Perched 230 metres above the beach on the 78th floor of Q1, the tallest residential tower in the world, QDeck offers unsurpassed views of the coast and mountains. This promises to be a night to remember, and tickets are only $35 at the time of registration.

Welcome drinks and nibbles after the opening plenary session on Sunday night are free, and the ASI dinner this year (only $60 per ticket) will be around the pool at Jupiters, which will create interesting possibilities for limerick delivery.

Awards:
The Society provides a number of Student Travel Bursaries to support attendance at the meeting – these reimburse conference registration plus a reasonably priced return airfare upon award at the end of the meeting. The success rate of applications for these bursaries is very high. Student members who were on the ball and renewed membership by April 1st this year are strongly encouraged to apply by submitting their abstract and CV to the conference organizers by 18th September, as detailed on the ASI website.

ASI will offer the prestigious New Investigator Award (worth $1000) for the best presentation by a postgraduate student or early-career postdoc. Finalists will be selected from abstract submissions and CV, and speak in a plenary New Investigators Symposium on Tuesday afternoon. Becton Dickinson is again giving $500 for the presentation which best combines good science with clear communication. Finalists will be selected on the basis of a lay abstract, and present their work on Tuesday afternoon.

Several poster prizes of $250 – $500 each are on offer: the best student poster at each session (as judged by an incorruptible panel of immunological luminaries) will win one of the ASI Immunology and Cell Biology or Graham Jackson Memorial Mucosal Immunology Student Poster Prizes. To be eligible, you need to check

the relevant check box on the Abstract Lodgement form, and then place a sticker (provided) on your poster when you put it up at the meeting.

The ASI website – www.immunology.org.au/awards.html – has full details of applications and eligibility criteria.

Scientific Program:
One of the highlights of the Annual Meeting is the Burnet Oration, sponsored by CSL since 1986. The Oration commemorates the life and work of Sir Frank Macfarlane Burnet, Nobel Laureate and one of the driving forces behind the development of the discipline of Immunology. This year, the ASI recognises the stellar achievements of Prof Jim McCluskey in immunogenetics and histocompatibility by adding his name to the list of great Australasian immunologists who have delivered the Oration.

In addition to talks chosen from submitted abstracts, over 30 international and Australasian speakers have been invited to the meeting. The following is a selection of confirmed speakers. Look out for more snapshots in the September Newsletter.

I look forward to welcoming you personally to the meeting – see you there!

Chris Schmidt
on behalf of the ASI 2009 Organising Committee

Shimon Sakaguchi was born in Shiga, Japan, and graduated from Kyoto University School of Medicine, Japan, in 1976. After studying immunology for several years in Kyoto and at Johns Hopkins, Stanford and Scripps, he became Head of the Department of Immunopathology at the Tokyo Metropolitan Institute for Gerontology. His main research interest throughout his career has been the mechanism of immunological self-tolerance, in particular the roles of T-cell-mediated immunoregulation in autoimmunity, tumour immunity and organ transplantation. In the 1980s, Prof. Sakaguchi showed that the depletion of a particular subpopulation of T cells was able to produce autoimmune disease in otherwise normal animals. This study led him to discover regulatory T cells, which are present in normal individuals and are specialized for immune suppression and tolerance. Since his discovery of Tregs, Prof. Sakaguchi has contributed greatly to our understanding of the molecular basis of their development and function, and their roles in controlling a variety of physiological and pathological immune responses. Most recently, he has described how Foxp3 controls regulatory T-cell function by interacting with AML1/Runx1, and the dependence of Treg on CTLA4 expression. Prof Sakaguchi has received numerous awards for his work, including the Cancer Research Institute's William B Coley Award for Basic Immunology and Tumor Immunology (2004), the Takeda Medical Award (2005) and the Keio Medical Science Prize (2008). He is currently Director and Professor at the Institute for Frontier Regulatory T cells and immune tolerance.

Sakaguchi et al., "Regulatory T cells and immune tolerance." *Cell* 133:775-87. (2008)
Wing et al. "CTLA-4 control over Foxp3+ regulatory T cell function." *Science* 322:271-275 (2008)

Stefan H E Kaufmann was born in Ludwigshafen am Rhein, Germany, and received his doctorate (summa cum laude) from Johannes Gutenberg University, Mainz in 1977. Prof. Kaufmann's research centres on immunity to intracellular bacterial pathogens with an emphasis on tuberculosis and rational vaccine design. He has contributed prolifically to our understanding of the roles and regulation of cytokines and T cell populations in immunity against intracellular bacteria, always with an emphasis on the historical context of vaccine research. He has also actively pursued practical problems in TB research, and a clinical trial based on this work is currently underway. Prof Kaufmann is one of the most highly cited immunologists (ISI Thomson), and has authored over 600 papers.

As the President of the European Federation of Immunological Societies, he has championed the Day of Immunology, which has now become an event celebrated around the world each April. Prof Kaufmann is the incoming president of the International Union of Immunological Societies (IUIS), and the Founding Director of the Department of Immunology of the Max Planck Institute for Infection Biology in Berlin.

Jürg Tschopp received his PhD in biophysics at the University of Basel in 1979. After a period working on the membrane attack complex of complement at the Scripps Clinic in La Jolla, he joined the University of Lausanne 1982. Prof Tschopp's group contributed to the discovery and characterization of the lytic mediators, perforin and granzymes; the Fas pathway of cell death; death signaling cascades and the death-receptor family; the roles of BAFF and APRIL in B cell survival and tumour cells; and the inflammasome. His present research focuses on signaling pathways that control apoptosis and innate immunity. Prof Tschopp is an ISI Thomson Highly Cited Researcher, and has authored some 400 papers. He has been deputy-director of the Department of Biochemistry at the University of Lausanne since 2003.

Martinon et al. "The Inflammasomes: Guardians of the Body", *Annu Rev Immunol* 27:229-65. (2009).

Paul Kaye obtained his PhD in Immunology, at the ICRF Tumour Immunology Unit, UCL under the supervision of Prof. Marc Feldmann. In 1985, he moved to the London School of Hygiene and Tropical Medicine to study the role of natural resistance genes in immune regulation. During a career of almost 20 years at the LSHTM, Prof. Kaye was at various times Head of the Immunology Unit and Director of the Wolfson Laboratories for Cell Biology. He is an internationally recognized expert in the immunology of the tropical infectious disease, leishmaniasis, with a particular interest in the biology of mononuclear phagocytes and in how their function is modulated during the tissue remodeling processes that characterize chronic infection. His research program focuses on understanding how the immune response to this parasite is co-ordinated and why it so often fails to be effective. In collaboration with other researchers in York and Edinburgh, he is currently developing a novel therapeutic vaccine for visceral leishmaniasis, with a Phase I trial in UK volunteers set for 2010/11. Prof. Kaye re-located to York in 2004 to take up post as the Director of the Immunology and Infection Unit, a new joint venture between the Dept of Biology and the Hull York Medical School.

Maroof et al. "Posttranscriptional regulation of IL-10 gene expression allows natural killer cells to express immunoregulatory function", *Immunity* 29:295-305 (2008)

Miriam Merad received her MD degree from the University of Algiers, her residency training in Hematology and Oncology from the University of Paris, and her PhD degree in Immunology from Stanford University and the University of Paris. She has contributed greatly to our understanding of the origins and roles of langerin+ dendritic cell populations in the skin. Dr Merad discovered that Langerhans cells, in contrast to other dendritic cell population, self-renew in quiescent skin throughout life and are replaced by circulating monocytic precursors only in injured skin. She also found that Langerhans cells are radio-resistant and therefore persist in the recipient skin after allogeneic hematopoietic cell transplantation (allo-HCT). Miriam Merad is now an Assistant Professor at the Mount Sinai Medical School in New York, where her lab studies the dynamics of dendritic cells and their influence on adaptive immunity.

Merad et al., "Origin, homeostasis and function of Langerhans cells and other langerin expressing dendritic cells" *Nat Rev Immunol* 8:935-947 (2008)

Laurence Zitvogel graduated in medical oncology from the School of Medicine of the University of Paris in 1992. She started her scientific career when she was in Michael Lotze's laboratory at the University of Pittsburgh investigating the role of IL-12/B7.1 and dendritic cells in anti-tumour immune responses. On her return to France, she became Research Director at the Institut National de la Santé et Recherche Médicale, Institut Gustave Roussy, Villejuif, and Head of the Centre for Clinical Investigations for vaccine development. Here she has pursued the clinical application of exosome-based cancer vaccines, and investigated how the nature of tumour cell death promotes anti-tumour immune responses, as well as the interplay of innate and adaptive tumour immunity.

Green et al., "Immunogenic and tolerogenic cell death", *Nat Rev Immunol* 9:353-363 (2009)

Frederic Geissmann qualified in medicine at the University of Paris in 1996, and later worked as a postdoctoral fellow in molecular immunology in the Laboratory of Dan Littman in the Skirball Institute, New York, from 2000 – 2003. During the subsequent period as group leader at the Necker-Enfants Malades Research Institute in Paris he has made seminal contributions to monocyte biology and our understanding of the origin of dendritic cells, frequently employing advanced imaging techniques. Prof. Geissmann currently holds the Arc Chair of Inflammation Biology and is the Head of the Centre for Molecular and Cellular Biology of Inflammation at King's College London.

Auffray et al., "Blood monocytes: development, heterogeneity, and relationship with dendritic cells." *Annu Rev Immunol* 27:669-92 (2009).

Mariapia Degli-Esposti is an NHMRC Principal Research Fellow at the University of Western Australia and Head of the Centre for Experimental Immunology at the Lions Eye Institute. A/Prof. Degli-Esposti trained in immunology and immunogenetics and received a PhD from the University of Western Australia in 1992. The focus of her research has been to understand the regulation of complex immune responses, especially those involved in autoimmunity, infection and tumour control. During a postdoctoral period at Immunex, Seattle, she was involved with the identification and characterisation of new members of a family of proteins that control programmed cell death. During this period she became fascinated with the mechanisms used by viruses to escape host immune responses. Her laboratory continues to pursue an interest in understanding mechanisms of immune regulation using viral infection as a model. In recent years her laboratory has made a number of important contributions to understanding how the immune system responds to infection and how in turn pathogens manipulate host immunity to improve their chances for survival. Her recent research has focused on understanding the role of dendritic cells (DCs) and natural killer (NK) cells during viral infection and how these cells regulate aspects of both innate and adaptive anti-viral immunity.

Andoniou et al., "Killers and beyond: NK-cell-mediated control of immune responses." *Eur J Immunol.* 38:2938-42 (2008).

José A Villadangos has been working on antigen processing and presentation since 1990. He obtained his PhD from the Universidad Autónoma de Madrid in 1994, studying the role of MHC polymorphism in peptide selection and T cell recognition under the supervision of Prof. José A Lopez

de Castro. He then joined the laboratory of Prof. Hidde Ploegh in Boston, first at MIT and later at Harvard Medical School, where he contributed to the identification of proteases involved in MHC class II antigen presentation. In 1998 he emigrated to Australia to join the laboratory of Prof. Ken Shortman at the Walter and Eliza Hall Institute, where he initiated studies on antigen presentation by dendritic cells. José started his own laboratory at the WEHI in 2001. Dr Villadangos' research interests are the functional specialisations of dendritic cell subtypes, the cell biology of MHC II antigen presentation and MHC I cross-presentation, and the mysteries of English grammar, which he has pursued with variable degrees of success. He is the immediate past Secretary of the ASI.

Young et al. "Differential MHC class II synthesis and ubiquitination confers distinct antigen-presenting properties on conventional and plasmacytoid dendritic cells." *Nat Immunol* 9:1244-52 (2008).

Robert Brink majored in Biochemistry at the University of Sydney before completing his PhD in 1992 with Antony Basten and Chris Goodnow at the CIRCUS/Centenary Institute, working on transgenic models of B cell self-tolerance. In 1994 he took a postdoctoral position in the laboratory of Harvey Lodish at the Whitehead Institute in Boston, where he investigated the roles of the newly identified TRAF molecules in receptor signaling. Upon returning to the Centenary Institute in 1996, he developed a number of gene-targeted mouse models aimed at investigating in vivo B cell responses and TRAF function. Dr Brink and his group moved to the Garvan Institute in Sydney in 2006 and continues to focus on the regulation of B cell survival and responsiveness in the context of both protective and autoimmunity.

Gardam et al. "TRAF2 and TRAF3 signal adapters act cooperatively to control the maturation and survival signals delivered to B cells by the BAFF receptor." Immunity 28:391-401 (2008)

Kate Stacey's research interest is pathogen receptors of the innate immune system, in particular, those mediating responses to foreign DNA. She received a PhD from the University of Queensland in 1993 for studies on transcriptional regulation in macrophages. During this work she observed both cellular activation and cell death in response to transfection of macrophages with DNA, indicating two novel pathways of innate immune recognition of pathogen DNA. She pioneered work on macrophage activation by bacterial ("CpG") DNA, recognised via toll-like receptor 9 in the endosomal system. From 1996-98 she worked on resistance to leishmanial infection, and the use of CpG DNA as an adjuvant, in Cambridge, UK. She is currently at the Institute for Molecular Bioscience, University of Queensland, characterising pathways of recognition of foreign DNA in the cytoplasm, which elicit cell death, inflammasome activation and interferon-β expression.

Roberts et al., "HIN-200 proteins regulate caspase activation in response to foreign cytoplasmic DNA", *Science* 323:1057-60 (2009).

Kate Stacey

Travel Award Conference Report

The 4th Congress of the Federation of Immunology Societies of Asia-Oceania, Taipei, Taiwan

Helen McGuire, Garvan Institute of Medical Research, NSW

The FIMSA conference was held 17–20 October, 2008 in Taipei. It was a very thorough meeting with research findings investigating many aspects of the immune system. I found it was a brilliant opportunity to be surrounded by leaders in immunology. A highlight for me was the Nobel Lecture, which was given by Professor Peter Doherty. As it was the opening address, it filled us with anticipation of what great science was to come.

As a primarily T cell biologist, I was pleasantly met with great presentations, both from invited speakers and symposia talks. Mark Davis tantalised us with careful dissection of immunological synapses. Alexander Rudensky and Shimon Sakaguchi went back to back in a powerful analysis of T regulatory function and indeed definition.

One of the highlights for me was a talk given by Christopher Rudd (Cambridge) on the regulation of T cells by CTLA-4. It challenged us to think of exactly how CTLA-4 functions, a point I rather took for granted. Whether it is through avidity to CD80/86 or contribution to LFA-1 clustering, and thus adhesion or, as he proposed, by controlling cell motility, resulting in reduced residency with APCs and reduced synapse.

I was given the opportunity to present work from my PhD in the Autoimmune Diseases section on the last day of the conference. It was great to share my findings, and see the passion I have for my work reflected in the audience. Getting feedback from my talk was very rewarding, as the hive of interest and discussion that followed reminded me how powerful science can be, to get people so interested and intrigued and wanting to know more, and see what extra can be discovered.

The conference set in Taipei gave us many opportunities for cultural experiences. These included sampling (as often as possible!) delicious dumplings and visiting some of the many night markets Taipei has to offer.

I would greatly like to thank ASI for giving me the opportunity to attend this conference, and see what brilliant immunology research is going on in our local region.

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

ASI Student Page

"Where did I come from?"

Since prehistoric man started holding cave (house) warming parties, mankind has been aware of the epidemic, disease and illness. This early awareness is confirmed in the 4000 year old records of the Babylonian Epic of Gilgamesh and in the recordings of the early dynasties of Egypt.

In fact it was the ancient Romans who coined the phrase 'immunitas' to describe the exemption of an individual from onerous duties to the state , such as paying taxes or doing military service; a term which during those times also became used to describe resistance to reinfection and then later was transcribed into today's word 'immunity'.

However despite that early recognition of contagious diseases, coupled with the use of victim isolation tactics to limit the spread of disease, it would be another three thousand years of death and illness before man began to consider that disease and, if you were spiritually good enough, recovery, were not, as everyone believed, the magical influence of spirits, demons and gods.

It was not until the tenth century that tiny fragments of today's scientific understanding of immunity began to appear. This came about when Islamic physician Rhazes put forward the first clinical description of smallpox, along with the first explicit theory of acquired immunity. Unfortunately for mankind, it would be another eight hundred years before the science of immunology was conceived. This occurred in the laboratory of Louis Pasteur and now Pasteur is often referred to as the 'Father of Immunology'.

Finally at the turn of the twentieth century there began the establishment of institutions supporting the first immunological research programs and suddenly a new creature was born: the 'immunologist'!

Now at the start of the second millennium, we immunology students are venturing into a field that has gained much momentum in the past three decades. Consequently we are fortunately placed in history to experience and, more significantly, to contribute to an amazing and exhilarating ride into the future!

I look forward to seeing you somewhere on the journey.

Imogen Gillions
ASI Student Representative 2009

Reference

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