



N E W S L E T T E R

Australasian Society for Immunology Incorporated

PP 341403100035

ISSN 1442-8725

September 2009

Immunology and Cell Biology's Impact Factor Soars AGAIN

Chris Parish

Editor-in-Chief, Immunology and Cell Biology

I am pleased to announce that the 2008 impact factor for *Immunology and Cell Biology (ICB)*, recently released by Thomson Reuters, is 3.859. This represents the third year in a row that *ICB* has recorded a very substantial increase in its impact factor and constitutes a 27% increase over the 2007 impact factor of 3.033.

During the last four years the overall performance of *ICB*, which is summarised in Table 1, has been outstanding. For example, since 2005 the impact factor has more than doubled and the total number of citations has increased by 44%. When one considers that the number of citations covers the citing of any article published in *ICB* in the previous 85 years, a 44% increase in the last four years is quite remarkable! It should be noted that, in contrast, the impact factor calculation is based on the number of citations of papers during the two years immediately following their publication. Based on these data not only are papers recently published in *ICB* being more highly cited but older publications are also being cited more frequently.

I believe the most spectacular change, however, has been the increase in the ranking of *ICB* within the cohort of scientific journals classified as covering the discipline of 'Immunology' (Table 2). In 2005 *ICB* was ranked 76th of 115 'Immunology' journals whereas in 2008 the *ICB* ranking jumped to 28th of 121 recognised 'Immunology' publications (Table 1). This ranking is even more impressive when one considers that 11 of the 27 journals in 2008 with an impact factor higher than *ICB* are review only journals and do not publish research articles. To place the *ICB* ranking in context

with other well known immunology journals, *Cancer Immunology and Immunotherapy* (3.804), *Transplantation* (3.816), *Infection and Immunity* (3.987) and *Genes and Immunity* (4.006) have comparable impact factors (Table 2).

Since *ICB* is the official journal of the Australasian Society for Immunology another interesting comparison is the performance of *ICB* relative to other immunology society based journals. Again the *ICB* performance is impressive. Based on 2008 impact factor results, *ICB* has a substantially higher ranking than the *Scandinavian Journal of Immunology* (77th, Scandinavian Society for Immunology), *International Immunology* (46th, Japanese Society for Immunology), *Immunology* (38th, British Society for Immunology) and *Immunobiology* (37th, German Society of Immunology) and is approaching the ranking of the *European Journal of Immunology* (22nd, European Federation of Immunological Societies) and the *Journal of Immunology* (16th, American Association of Immunologists) (Table 2).

An obvious question is why has *ICB*'s performance so markedly improved over the last four years? A number of factors, I believe, have contributed to the improved performance of the journal. One of the most important has been the move of the journal to the Nature Publishing Group (NPG). The appearance of *ICB* content on the *nature.com* website has undoubtedly greatly increased the visibility of the journal. Other important contributing factors have been the appointment of a reinvigorated Editorial Board and the creation of a number of new article categories. 'News and Commentaries',

based on the *Nature* 'News and Views' format, were introduced in January 2007 and have proven to be extremely popular based on the large number of downloads of these articles from the *ICB* website. I would like to acknowledge the wonderful contribution made by the two 'News and Commentary' Editors, Carola Vinuesa and Stuart Tangye, whose efforts have ensured the success of this new venture. Similarly, 'Landmark' articles that cover historical aspects of immunology and occasional 'Meeting Reports' have been well received. The most important new article type, however, is the 'Outstanding Observation' which intends to capture research articles in immunology which describe striking observations that have extremely important conceptual implications but do not delineate

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Website

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

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

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

Email bulletin board

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

EDITORIAL



Isn't it simply extraordinary how ICB is leaping through the ranks of immunological journals! As you will see, Editor-in-Chief Chris Parish attributes this, modestly, to a number of factors, none of which include his own dedication to ensuring the success of the journal. This is surely the major driving force. Thanks, Chris, for your tireless work.

'The People Who Are ASI' this time introduces two very important Council members: the Co-ordinator of the Visiting Speaker Program and the Treasurer. A vigorous Visiting Speaker Program has been organized excellently by Alejandro for six years and the benefits of student exposure to internationally prestigious immunologists cannot be overestimated. We have another two visitors en route for October and November. Incidentally, I note Janko Nikolich-Zugich's research into the "age related defects in immunity" with more than just a personal bias (and he looks so deliciously young!). Surely as the demographic of the population changes, this area is going to attract more attention. The position of Treasurer requires the incumbent to manage the Society's money effectively. As financial confidence tentatively, and perhaps shakily, returns after the recent international meltdown, this position is even more important. Universities on both sides of the Tasman are reeling from investment woes and warning of ugly consequences. To have the ASI in good heart is a bonus, indeed.

Margaret Baird

Australasian Immunology's Greatest Hits

The winners of the "Greatest Hits" competition have been decided!

FIRST PRIZE of \$1,000 to be split between:

Lei Shong Lau

"The work of Professor Ian Frazer has led to the development of the world's first cervical cancer vaccine against human papillomavirus. His work potentially saves 27000 women annually." [*Poor women! They must be getting sick of it by now! - ed*]

and

Dale Godfrey

"There once was a Scotsman named Frazer,
Thought cervical cancer was a problem quite major,
He created Gardasil,
Stopped many women from getting ill,
He is clearly the immunological saviour."

and

Chris Siatskas

"It is my opinion that the development of Gardasil by Prof. Ian Frazer's group has led research with demonstrable improvements in human health in the last 25 years."

SECOND PRIZE of \$500 to:

Debbie Watson

"Kevin Lafferty's cytokine research on T-cell activation, central tolerance, autoimmune disease and islet transplantation in WT mice all pre-stage current clinical translational studies in cytokine blockade/stimulation in transplantation.

Lafferty studied cytokines that entice,
T-cell activation and autoimmune disease in wild-type mice,
This research did pre-stage,
Current transplant protocols at the clinical stage,
Australia's best immunological research...don't think twice!"

THIRD PRIZE of \$250 to:

Jose Villadangos

"Sir MacFarlane Burnett, who developed a method to obtain attenuated influenza virus and produce an effective, cheap vaccine with the potential (swine flu or not) to save millions of human lives in future. (That's 29 words, I could add 'bloody' before 'swine' to emphasise the Aussiness of the discovery.)"

Winners please contact the Treasurer (Dr Christopher Andoniou, candoniou@lei.org.au) to arrange for payment of their prizes.

ICB Impact Factor Soars Again, cont.

molecular mechanisms. Already this new manuscript category has attracted a number of articles of the highest scientific quality. I anticipate that it will be this article category that will eventually elevate *ICB* to being an immunology journal of even higher impact. I encourage all ASI members to consider contributing high-class research articles in this category to *Immunology and Cell Biology*.

Note this article is based on an 'Editorial' published in the August/September, 2009, issue of ICB.

Table 1:
The steady increase in the Impact Factor and Ranking of *Immunology and Cell Biology* since 2005

	2008	2007	2006	2005
Impact Factor	3.859	3.033	2.482	1.854
Ranking in Immunology	28/121	47/119	60/117	76/115
Total number of citations	2,395	1,984	1,872	1,666

Based on data provided by Thomson Reuters on their ISI Web of KnowledgeSM Journal Citation Reports website

Table 2
Ranking of top 50 'Immunology' journals based on 2008 Impact Factors and comparison with 2007 rankings

Journal	IF 2008	Rank 2008 (/121)	Change in ranking	IF 2007	Rank 2007 (/118)
Nat Immunol	25.113	3	0	26.218	3
Immunity	20.579	4	0	19.266	4
J Exp Med	15.219	5	0	15.612	5
J Allergy Clin Immun	9.773	9	0	8.115	9
Clin Infect Dis	8.266	12	-1	6.750	11
J Autoimmun	7.881	13	+26	3.391	39
Emerg Infect Dis	6.449	14	+1	5.775	15
Allergy	6.204	15	+1	5.014	16
J Immunol	6.000	16	-3	6.068	13
AIDS	5.460	17	-3	5.842	14
Brain Behav Immun	4.909	21	-1	4.659	20
Eur J Immunol	4.865	22	-3	4.662	19
J Leukocyte Biol	4.605	23	+2	4.128	25
JAIDS-J Acq Imm Def	4.570	24	-2	4.412	22
Genes Immun	4.006	26	0	4.088	26
Infect Immun	3.987	27	+1	3.996	28
Immunol Cell Biol	3.859	28	+19	3.033	47
Transplantation	3.816	29	+6	3.641	35
Cancer Immunol Immun	3.804	30	+3	3.728	33
J Immunother	3.662	31	-14	4.837	17
Clin Immunol	3.606	32	+5	3.551	37
Clin Exp Allergy	3.556	33	-1	3.729	32
Mol Immunol	3.555	34	-3	3.742	31
Immunobiology	3.461	37	+16	2.886	53
Immunology	3.432	38	0	3.398	38
Bone Marrow Transpl	3.400	39	+10	3.000	49
Biol Blood Marrow Tr	3.375	41	-11	3.797	30
Vaccine	3.298	42	-1	3.377	41
J Clin Immunol	3.248	44	+9	2.886	53
Int Immunol	3.181	46	-3	3.290	43
Pediatr Infect Dis J	3.176	47	-1	3.086	46
Fish Shellfish Immun	3.161	48	-4	3.160	44
J Neuroimmunol	3.159	49	+1	2.920	50
Hum Immunol	3.061	50	+1	2.901	51

Ranking of top 50 'Immunology' journals in 2008 (Impact Factors >3), but with specialist review only journals (e.g., Ann Rev Immunol) deleted from list. Shaded entries are journals that are immunology society based like *ICB*.

Data provided by Thomson Reuters on their ISI Web of KnowledgeSM Journal Citation Reports website.

PRESIDENT'S COLUMN

The mid-year ASI Council meeting was held this year in Adelaide (finally breaking the strangle-hold of the East Coast of Australia in these events). Adelaide put on some wonderful weather, and the ASI Secretary Su Heinzl organised a great venue for the meeting. A large number of topics were covered in a busy day of discussion, some of which are summarised below.

Meetings

Meeting organization is a particularly large enterprise this year, with three major conferences in the planning. Chris Schmidt is spearheading the organisation of our annual meeting, and with winter upon us we can all look forward to a warm and exciting conference on the Gold Coast in December. In close co-ordination, Simon Apte is finalising the details of the 10th FIMSA advanced immunology training course. The latter course is an ideal opportunity for PhD students and junior post-docs to hear from and meet an exciting array of top Australasian and international immunologists. Meanwhile, with a much longer horizon, Jose Villadangos is co-ordinating the ASI bid for the International Immunology Congress in 2016. Chris, Simon and Jose are supported by energetic organizing committees that are essential for making these conferences happen, and I would like to thank all of those involved for their efforts, as well as urge you to 'register early, register often' for the FIMSA workshop and ASI annual conference. Abstracts for the annual meeting are due 18 September – so this is your last newsletter before the deadline!

Immunology and Cell Biology

The Society journal ICB is going from strength to strength with a massive rise in impact factor from 3.0 to nearly 3.9! The royalties for ICB are also up (although ASI may have reduced income in due to the strength of the Australian dollar). This is a major tribute to the hard work of Chris Parish who has steered the journal to the new heights of success. Chris has indicated his wish to step down as Editor in Chief at the end of 2010, and plans are already in place for his succession, with Gabrielle Belz stepping into the breach to learn the ropes and prepare to take over in 2011.

Support for members

The Council is always looking for more ways to support members, and this year the inaugural Jacques Miller and Gordon Ada Senior Travel awards are a new initiative in this direction, aimed at supporting mid-career to senior members. The Council also discussed the success of the post-graduate and post-doctoral travel awards, as well as the student bursaries to attend the ASI annual meeting. This year ASI will also be providing support for students and post-docs wishing to attend the FIMSA training course just prior to the ASI annual meeting. One anomaly that was noted was that there has traditionally been no support for early post-doctoral scientists wishing to attend the annual meeting. The Council decided it was time to redress this issue, and extend these travel bursaries to the annual meeting to cover early post-doctoral scientists as well. Details of this will be posted on the conference website, so all eligible members are encouraged to apply.



Support for ASI

Support goes both ways, and ASI is an organisation run by volunteers who work together to meet the needs of the membership. This year, as every year, a number of positions are available for nomination, and members are urged to apply. If you are unsure as to what the positions entail, the easiest thing is to call the current incumbent and discuss the duties required. Becoming an ASI Councillor is a great way to meet people from other regions, support your colleagues, and find out more about what is going on in Australasian Immunology.

Remember, abstracts for ASI annual meeting are due on 18 September, and I hope to meet you all there!

Miles Davenport

10th FIMSA
Advanced Immunology Training Course
3-6 December 2009
 Tangalooma Island Resort, Queensland, Australia

HONORARY SECRETARY'S NEWS

International Travel Awards Postdoctoral and Postgraduate International Travel Awards

It is with great pleasure that we announce the winners of the first round of international postgraduate and postdoc travel awards. As a reminder, applications for this round were due in April for travel from 1 July to 31 December this year. Once again we received a large number of applications with an unbelievably high standard. As per guidelines, the applications were judged by the quality of the abstract, the conference attended, the CV and the career benefit of the proposed travel. This includes the number and basis of additional visits to research labs organised prior to travel and application. We were very pleased to see the variety of conferences selected by our members to attend and present their work.

The successful applicants for this round were:

Postgraduate:

Alice Denton, Department of Microbiology and Immunology, University of Melbourne, will attend the European Congress of Immunology (ECI) 2009 in Berlin and has arranged for a stunning eight visits scattered throughout the US, UK and Europe.

Cara Fraser, Sansom Institute, Adelaide, is travelling to the European Congress of Immunology (ECI) 2009 in Berlin and has arranged five visits throughout the UK and Germany.

Lauren Pitt, Department of Microbiology and Immunology, The University of Melbourne, will attend the EMBO Conference Series (2nd): Antigen receptor signalling: from lymphocyte development to effector function in Certosa di Pontignano, Italy and will visit five institutions in the US.

Postdoc

Marian Turner, WEHI, will attend the European Congress of Immunology (ECI) 2009 in Berlin and visit four labs scattered throughout Germany and Switzerland.

Shelley Gorman, Telethon Institute for Child Health Research, will attend the 14th Workshop on Vitamin D in Brugge, Belgium followed by lab visits in Belgium.

Lina Tze, John Curtin School of Medical Research, ANU, will attend the European Congress of Immunology (ECI) 2009 in Berlin and has arranged lab visits in Belgium.

Successful applicants will officially receive their awards at the ASI 2009 meeting at the Gold Coast and you should be able to read about their adventures in the coming newsletters.

Applications for travel in the first half of 2010 will be called for to ASI members by email in September.

Gordon Ada and Jacques Miller Senior Travel Award

In 2009 ASI has introduced this category of travel awards to recognise the excellence of our members. The awards support travel for various reasons such as sabbaticals, conference attendances, lab visits, etc, and are called once a year in April for travel in the following financial year. Successful applicants receive up to \$10,000 and will receive the award during the ASI meeting in the year the award is granted.

We are pleased to announce two very worthy winners of the first Gordon Ada and Jacques Miller travel awards – Mark Smyth (Gordon Ada Award) and Stephen Nutt (Jacques Miller Award).

Mark Smyth (Peter MacCallum Cancer Centre) will be speaking at the 'Keystone Symposium, Role of Inflammation in Oncogenesis', and the '2010 Miami Winter Symposium: Targeting cancer invasion and metastasis' and will visit collaborators in the US.

Steve Nutt (WEHI) will be on his way to Vienna, Austria for a 3-month period of sabbatical research at the Research Institute of Molecular Pathology (IMP).

Keep an eye out to read about their journey in the newsletter sometime next year.

The next round for applications for the **Gordon Ada and Jacques Miller Senior Travel Awards** will be called for in April 2010 for travel from 1 July 2010 to 30 June 2011.

Elections to Council

This year a number of council positions will be open for election.

The positions of ASI Vice President and Treasurer are open for all ASI members whereas regional representatives for Western Australia and South Australia/Northern Territory are open for members in the respective states/territories. A call for nominations and instructions to vote will be sent out to membership by email in September. Please read through our new 'The faces of ASI' column in this and the previous newsletter to learn a bit more about the responsibilities of being on ASI Council and feel free to contact the present Councillor for information on the positions.

New system for nomination of non-voting council positions:

A number of non-voting Council positions on ASI Council have in the past often been filled on an ad-hoc basis. Often the people who put up their hands for these positions when they were newly created have continued to fill them for many years. To give them a chance to hand the positions over and to encourage other people to take up positions in Council, the ASI Council has decided to call for nominations for some of these positions every 3 to 5 years. To make the transition as smooth as possible, we will be calling for nominations for a selection of the present non-voting positions. Nominations will be called for by email in September.

Susanne Heinzl

The People Who Are ASI

ASI Visiting Speaker Program Co-ordinator – Alejandro López

Alejandro combines his research activities as the Head of the Dendritic Cell and Cancer Laboratory at the Queensland Institute of Medical Research (QIMR) with lecturing in the School of Biomolecular and Physical Sciences at Griffith University in Brisbane. Born and educated in Colombia, he followed his training as a physician by studying the cellular immune response to malaria under the supervision of Chev Kidson at the QIMR in Brisbane. This early taste for science has led to a career spanning four continents. Alejandro investigated class I presentation pathways in post-doctoral positions at the Max-Planck Institut für Biologie in Tübingen, Germany with Jan Klein and the Ludwig Institute for Cancer Research in Lausanne, Switzerland, with JeanCharles Cerottini. He returned to research on malaria working together with Giampetro Corradin at Institut de Biochemie, Université de Lausanne evaluating a vaccine candidate in field stations in Colombia and Burkina Faso and conducting clinical trials.

Since returning to Australia, his research interest has focused on dendritic cells and cancer, in particular on the function of dendritic cells (DC) in patients with breast cancer. His team provided extensive evidence of the dysfunction of DC in women with advanced disease and established that its severity was linked with disease progression. More importantly, they demonstrated that spontaneous apoptosis of circulating blood DC is an important contributor to the well-known decrease in DC numbers in patients with breast cancer. As part of this research, the team identified a population of immature antigen presenting cells over-represented in patients with advanced breast cancer. The functional defects present in these cells were overcome by the use of exogenous CD40L.

The current areas of interest of Alejandro's laboratory include the functional evaluation of DC in models applicable for therapeutic intervention. Most recently, his group has investigated the potential of antigens from breast cancer stem cells (BCSC) for immunotherapy. This work aims at the identification of markers facilitating the purification of BCSC for further study and



the identification of specific antigens by using a combination of proteomics, xenografts and immune recognition.

Alejandro joined ASI in 1999, was the ASI Queensland Councillor from 2004-2006 and has co-ordinated the ASI Visiting Speaker Program since 2004. The program was originated with the intention of providing the opportunity to ASI members to interact on a more personal basis with well-known leading immunologists from around the globe. Any ASI member is welcome to propose and host visits from immunologists leading their areas of research. Alejandro's role involves the identification of potential speakers, the promotion to the Council of candidates presented by ASI members, the logistical co-ordination of the visits and support to the ASI members who host the speakers.

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ASI Honorary Treasurer – Christopher Andoniou

For those who don't know me, my laboratory is interested in understanding how cytomegalovirus interferes with apoptotic pathways. My PhD was completed at the University of Western Australia under the supervision of Professor Wallace Langdon where we investigated the transforming potential of the c-Cbl oncogene. We found that many transforming mutants of Cbl are tyrosine phosphorylated, and that cbl is a substrate for the v-abl and bcr-abl tyrosine kinases. These findings provoked significant interest within the scientific community with a number of subsequent studies describing tyrosine phosphorylation of cbl in response to a various physiological stimuli. Following completion of my PhD I spent three years working with Professor Hamid Band at the Harvard Medical School. While in Boston I continued to investigate the role of Cbl in signalling cascades and found that Cbl negatively regulates the Fyn kinase by promoting its degradation.

On completion of my postdoctoral training I returned to Perth and, in collaboration with Dr Mariapia Degli-Esposti, have been investigating aspects of cytomegalovirus infection. Initially, this involved investigating the effects of cytomegalovirus on dendritic cell functionality. More recently, I have been using my expertise in signal transduction to instigate projects aimed at identifying how cytomegaloviruses interfere with apoptotic pathways.

My introduction to the ASI was via a seminar series hosted by the local branch. Shortly after I became the State Councillor and more recently have held the position of Honorary Treasurer. During my time on Council, the membership of the Society has increased substantially, and the profitability of ICB and the annual meetings have increased dramatically. Combined, these factors have allowed the Society to significantly increase the number of travel awards and bursaries awarded, establish travel awards for mid-career/senior members, sponsor specialised meeting of relevance to

immunologists, and increase the funding to regional branches.

As many of you are aware, the Society is administered by a Council that collectively manages the Society. This system means that in order to function, the ASI requires contributions from a number of members. I would like to thank the Council members I have worked with over the past few years for their input and support along the way. In particular, I would like to acknowledge the members of the Executive that I have worked with: Phil Hodgkin, Alan Baxter, Miles Davenport, Jose Villadangos, Suzanne Heinzl, and my predecessor Norbert Kienzel. While being a member of the Executive has been challenging, I have enjoyed the experience greatly. I would urge all members to consider nominating for one of the vacant Council positions. A position on Council not only allows you to help determine the direction of the ASI, but offers the opportunity to regularly interact with members from throughout the region.



Sustaining Membership

ASI Inc acknowledges the support of the following sustaining members:

- Freehills Patent & Trade Mark Attorneys
- Jomar Diagnostics

UPCOMING LECTURES & CONFERENCES

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/>

XXI World Allergy Congress
December 6–10, 2009
Buenos Aires, Argentina
www.worldallergy2009.com

ASMR National Scientific Conference 2009
– Neurogenetics on the Apple Isle
15–17 November 2009
Hobart, Tasmania
<http://www.asmr-nsc.org.au>

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>

BIT 2nd Annual International Congress of Anti-
bodies 2010 (ICA-2010)
March 24–26, 2010
Beijing, China
<http://www.bitlifesciences.com/ica2009>

BIT Life Sciences' Annual World Congress of
Vaccine – Next Generation Vaccines
March 24–26, 2010
Beijing, China
<http://www.bitlifesciences.com/wcv2010/default.asp>

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

ASMR National Scientific Conference 2009 *Neurogenetics on the Apple Isle* 15–17 November 2009 – Hobart, Tasmania <http://www.asmr-nsc.org.au>

2009 Firkin Oration to be given by Professor Jonathan Flint,
University of Oxford, UK
AWT Edwards Oration to be given by Professor Charles Watson,
Curtin University, Australia

Program

Neuropsychiatric Disorders and Addiction, Genetics and Biology of Learning and Memory, Neurodegeneration, Therapies and Stem Cells, Migraine, Epilepsy and Stroke, Muscle Diseases

Invited Speakers

Dr Sharon Byers, University of Adelaide
Prof John Christodoulou, University of Sydney
Prof Brian Dean, Mental Health Research Institute
A/Prof Martin Delatycki, Murdoch Childrens Research Institute
Prof Richard Faull, University of Auckland
Prof Jozef Gecz, University of Adelaide
Prof Glenda Halliday, Prince of Wales Medical Research Institute
A/Prof Anthony Hannan, Howard Florey Institute
Prof Nigel Laing, WA Institute for Medical Research/University of WA
Prof Martin Lavin, Queensland Institute of Medical Research
Prof Kathy North, University of Sydney
Dr Kristen Nowak, WA Institute for Medical Research/University of WA
Prof Peter Schofield, University of New South Wales
Prof Ingrid Scheffer, University of Melbourne

ASI Councillors' News

N.Z. News

NZ ASI/Immunet Meeting 2009

The NZ ASI/Immunet meeting was held 4-5 June in Wellington this year. We were privileged to have a stimulating array of speakers: Ethan Shevach, who delivered the keynote address entitled "Regulatory T cells – the state of the art in 2009", and plenary addresses from Wolfgang Weninger involving visualising anti-tumour responses in real-time, Mariapia Degli-Esposti provided exciting data to demonstrate novel interactions between innate and adaptive immunity in anti-viral responses, Nicola Harris delved into regulation of protective immunity against an enteric helminth, and Ben Marsland enlightened with discussion about microbes and the lung and the implications for the development of allergy and protective immunity. This, along with a strong national contingent of speakers and around 100 registrants, allowed for great scientific debate and discussions ranging from innate and cellular immunity, clinical immunology and therapeutic developments, infection and immunity and immune regulation.

Once again, there was fierce competition for the student speaker prizes. The overall standard was extremely high. Fortunately, this year, due to a donation from University of Otago's Immunet, NZ ASI was able to

increase the value and number of prizes and to include recognition of clinical research as well as to reward very early researchers. Sixteen students presented talks covering a wide range of topics including the use of nanoparticles for vaccine delivery to an analysis of T regulatory cells in oral squamous cell carcinoma. Although the task of selecting only a few of the high calibre talks was difficult, the judges were in agreement and awarded the prizes as follows:

First Prize, The Buck Immunet/ASI Student Award:

Lisa Connor, MIMR "L-selectin positive T cells pack a punch in the fight against Tuberculosis"

Second Prize:

Nina Dickgreber, MIMR "Impact of previous NKT activation on adjuvant function"

Third Prize:

David O'Sullivan, VUW "Microtubule-stabilizing drugs delay the onset of experimental autoimmune encephalomyelitis"

Clinical Research Prize:

Robert Weinkove, MIMR "Invariant natural killer T cells in chronic lymphocytic leukemia"

Early Researcher Prize:

Jonnel Jaurigue, VUW "Determining antigens that drive the protective antibody

response in schistosomiasis"

(Report by Elizabeth Forbes and Anne La Flamme)

NZ ASI/Immunet Meeting 2010

Thanks to the excellent organisation skills of Elizabeth Forbes, we will have a hard act to follow for 2010. The 2010 meeting will be held in Wellington and will be jointly organised by Anne La Flamme and myself.

The date has been set for **July 1st and 2nd**. Please send your ideas for invited speakers to: immunet@malaghan.org.nz

ASI-Sponsored Visiting Speaker, John Harty

Prof John Harty will be visiting the Malaghan Institute to give a seminar on Tuesday 27th October. For students or early postdocs who would require flights to visit Wellington to meet John Harty and attend the seminar, the branch is offering three \$250 travel awards, based on merit. Please submit an electronic application to immunet@malaghan.org.nz by October 1st with:

- o A 1-page CV
- o A paragraph of no more than 250 words detailing why you would like to attend the seminar

Separately, have your supervisor email an endorsement of your application by October 1st, confirming that you are a PhD student or early postdoc.

Applications are sought from PhD students and postdoctoral fellows with no more than five years postdoctoral experience. Only current ASI members are eligible to apply.

New Immunology Lecturer (Pukenga) at the University of Otago

The Department of Microbiology and Immunology was delighted to welcome Dr Roslyn Kemp back into its fold in March. As a former undergraduate student of the department, Roslyn completed her PhD with Franca Ronchese in Wellington before embarking on a series of international fellowships including a postdoc under the guidance of Richard (Dick) Dutton at the Trudeau Institute, followed by Tuberculosis research in



Graham Le Gros (Malaghan Institute), Franca Ronchese (Malaghan Institute), Ethan Shevach (NIAID, NIH) and John Fraser (University of Auckland) at the NZ ASI/Immunet Meeting Dinner (Photo by Ruth Shevach)

Oxford, UK, and with Ben Seddon at NIMR, London, before returning to New Zealand. Roslyn's research will be focussed on CD8⁺ T cell memory and anti-tumour immunity.

Spreading the Immunological word

Four, weekly two-hour sessions entitled "The Remarkable Immune System" hosted by the remarkable quartet of Frank Griffin, Margaret Baird, Sarah Young and Alex McLellan have been a hit with community groups, the University of the Third Age and the Continuing Education Circuit. These events have been held at several locations around the deep (and somewhat chilly) South and "soon we could be in a town near you". I believe invitations from slightly more tropical locations will be gladly accepted!

*Joanna Kirman
Councillor*

S.A./N.T. News

Adelaide Immunology Retreat (AIR) has run for the past four years and has been a wonderful success particularly due to the vibrant and very well accomplished Australian scientists who have participated in the retreat. Since 2005 we have been honoured to host Prof. Ian Frazer, Prof. Anne Kelso, Prof. Richard Boyd and Dr Eugene Maraskovsky as our interstate guests and Prof. Hamish Scott, Assoc. Prof. Simon Barry, Prof. Nikolai Petrovsky and Dr Bruce Lyons who spoke to the delegates of their career journeys from being students themselves to now being well renowned scientists in both academia and industry. To foster casual interactions between the scientists, the retreat has also included events such as visits to local snake farms (Venom Supplies), cheese making in the idyllic setting of the Warrawong Wildlife Sanctuary and winery tours of the beautiful Barossa Valley. AIR has, we believe, contributed to a significant increase in student participation and camaraderie across multiple institutes and universities throughout South Australia.

In 2009, AIR will be held in Murray Bridge, just outside of Adelaide, on 4-5 September and will run from a Friday morning until Saturday lunchtime. We look forward to welcoming Prof. Alan



Baxter as our national guest and hearing him share with us his journey through immunology, medical research and ASI as we safari through Monarto Zoo. Thanks to Sarah Haylock-Jacobs, Cara Fraser, Erin Lousberg and Kiwi Sun for their outstanding help in pulling this together.

See you at an ASI event soon,

*Claudine Bonder
Councillor*

W.A. News

The WA ASI committee is currently organising two major events. The first is the early career workshop that we run every alternate year. The students on the committee have pretty much taken over organising this event, and they are doing a great job. It will be held on Friday 25th September. The invited speakers, chosen by the students, are Ranjeny Thomas and Gabrielle Belz. We are very grateful that they have agreed to come to Perth.

The other event is for the Global Day of Immunology (DoI). Even though we have missed the actual date we thought we would run it as a 'test case'. It will be held on September 2nd in partnership with SciTech, who have been very supportive. It will include interactive lectures on the generation of an immune response, the spread of infection, vaccination, autoimmunity and allergy. We are aiming to make it fun and will use GlitterBug (a fluorescent material) to illustrate the spread of infection by contact.

Finally, we have continued with our seminar program and, in collaboration with the ASI SIG for Infection and Immunity, Professor Jeff Keelan from the School of Women's and Infants' Health will conduct a talk on 'Placental inflammation and preterm birth: modes of activation and pharmacological inhibition'.

*Delia Nelson
Councillor*

A.C.T. News

The ACT branch held an afternoon scientific symposium on June 30th 2009 at the Finkel Lecture Theatre in the John Curtin School of Medical Research. The invited speakers included Dr Stuart Tangye, Dr Gabrielle Belz, Dr Franca Ronchese and Dr Carola Vinuesa. In September we have a joint ASI Retreat with the NSW Branch which has been organized by Dr Stuart Tangye and will be held at the Craigieburn Resort and Conference Centre in Bowral, September 3rd and 4th. The conference venue is conveniently located midway between Sydney and Canberra and we hope there will be good representation from the ACT members to help support the meeting and ensure that the retreat will continue on in the future as well.

Professor Ken Shortman (WEHI) and Professor Bill Heath (Uni Melb) have recently visited the John Curtin School of Medical Research and have given presentations of their work as part of the JCSMR School seminar series.

Preparations for the World Day of Immunology for 2010 have commenced and we can announce that Professor Anne Kelso Director of the WHO Collaborating Centre on Reference and Influenza has accepted the invitation to present the public lecture on the day that will also be part of the ANU Public Lecture series.

*Gerard Hoyne
Councillor*

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.

Queensland News

10th BIG 2009: The 10th meeting of the Brisbane Immunology Group (with support from Townsville) was held at the Q1 (21–22 August 2009). The meeting was opened as usual by the ASI State Councillor. The invited speakers were Andrew Lew (WEHI, Melbourne) who gave the postgraduate plenary lecture, and Jose Villadangos (WEHI, Melbourne) and Wolfgang Weninger (Centenary Institute, Sydney). The undisputed highlight of the first day of the meeting was the Jonathon Sprent Oration given by Chris Goodnow in the Skylight Room of the Q1 on the 78th floor before dinner. However, there were also postgraduate oral and poster presentations of high standard. The prize for the best student poster and the Peter Doherty medal for the best presentation by a postgraduate went to Tony Kenna and Renee Robb, respectively. A stand-out of the second day were the special lectures on emerging concepts in Immunology by Kate Stacey on the Inflammasome and Matt Sweet about autophagy as central mechanism in immunology. Both lecturers summarized the current state of knowledge in two new and emerging fields of research and everyone enjoyed the light banter between the two speakers. The meeting had, as always, a great atmosphere, and presented the excellent immunology research in Queensland. It was a fantastic opportunity to catch up with colleagues and meet new members of the Queensland immunology community. We all look forward to the next BIG meeting, which will be held at the Twin Waters resort at the Sunshine Coast in August 2010.

Visiting speakers: For two days in June (14/15), ASI plucked Dr Ian Hermans from the Wellington sleet, and deposited him in Sunny Brisbane (previously, freezing Brisbane; later in the week, flooding Brisbane). Ian has a long-standing interest in natural killer T cells and their influence on dendritic cells, and is currently engaged in a clinical trial of DC immunotherapy for Glioblastoma, both topics close to the heart of immunologists at QIMR, where Ian's seminar "A central role for langerin+ dendritic cells in cross-presentation" was very well received.

FIMSA Advanced Training Course and ASI meeting 2009: Another reminder that Queensland will host two major events in December 2009. First, the 10th FIMSA Advanced Training Course will be held at Tangalooma Resort on Moreton Island, a short boat ride from Brisbane, from 3–6 December. This course will be followed by the 39th Meeting of the Australian Society for Immunology. The venue for the 2009 meeting will be Jupiter's on the Gold Coast. It will be held in conjunction with: ASI Mucosal Immunology Workshop, 6th December, ASI Tumour Immunology Workshop, 6th December; ASI Infection and Immunity Workshop, 6th December. More details to both meetings and available funding for students can be found on www.immunology.org.au/

*Heinrich Koerner
Councillor*

Immunologist wins prestigious Eureka prize



Queensland immunologist Professor Michael Good, who has developed a malaria vaccine has won the prestigious Eureka Prize for Leadership in Science. He received the award for 25 years of service to research into infectious diseases.

Professor Good has developed a vaccine for malaria which is now in the final stages of clinical studies. He has also developed a vaccine for streptococcus A which causes rheumatic fever and heart disease.

Professor Good currently leads the Queensland Institute of Medical Research, is a member of ASI and is one of the speakers at our 39th ASM in December

The Eureka's People's Choice award was won by geneticist Dr Katherine Belov from the University of Sydney. She is part of a team searching for a gene to fight facial tumours in a bid to save the Tasmanian Devil.

The Walter and Eliza Hall Institute of Medical Research

WEHI Seminars on the Web:
www.wehi.edu/seminars/

2009 BIG



Gold coast impressions from the 62nd floor. Beautiful one day, perfect the next.



*Deep thought.
Pre-dinner discussions at the skylight*

The ASI Visiting Speaker Program

Coming visits

October: Professor John Harty

Department of Microbiology,
University of Iowa, USA

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

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

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.

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

November/December: Janko Nikolich-Zugich MD, PhD

University of Arizona, Department of
Immunobiology, Tucson, USA



The visit is being co-ordinated by A/Prof. Miles Davenport from University of New South Wales and will include following cities.

Melbourne 25–30 Nov
Canberra 30–Dec 1
Sydney Dec 3–4
Gold Coast ASI meeting, Dec 7

His laboratory is interested in the biology of cytotoxic T lymphocytes (CTL) in health, infection and aging. Much of the studies are performed in the context of the relationship between immunity and pathogens over the lifespan of the organism, with a specific emphasis upon the age-related defects in immunity and defects in homeostasis of the immune system.

Diagnosis of the most critical, primary defects in innate and adaptive immunity of the old age is being followed by studies to repair or modulate those defects by immune intervention as well as by tailored, rational vaccine design. His studies are often pursued by vertical model integration – using broad and fundamental studies in rodents to crystallize questions to be asked and verified in non-human primates, leading to final and most relevant studies in humans. The main virus targets of these studies are herpesviruses (HSV and CMV) and flaviviruses (chiefly the West Nile virus – WNV), although the research has more recently been broadened to bacteria (*Listeria* and *Francisella*).

One main topic of research of his lab focuses is the selection, recognition, function, and homeostasis of cytotoxic T lymphocytes. We employ a combination of structural, molecular, transgenic, and functional approaches, using crystallographic modeling, TCR sequence and CDR3 length analysis, soluble and cell-bound TCR:peptide:MHC interactions, transgenesis and site-directed mutagenesis, and functional immunological assays. The emphasis of his approach is on following and manipulating the CTL response in vivo. This allows him to precisely dissect the CTL recognition, CTL repertoire and CTL activation in a setting where CTLs combat natural pathogens or cancer in the course of a lifespan of an organism.

Selected Recent Publications

Nikolich-Zugich, J. 2008. Ageing and life-long maintenance of T-cell subsets in the face of latent persistent infections. *Nat Rev Immunol* **8**:512-22.

Lang, A., J. D. Brien, I. Messaoudi, and **J. Nikolich-Zugich.** 2008. Age-related dysregulation of CD8+ T cell memory specific for a persistent virus is independent of viral replication. *J Immunol* **180**:4848-57.

Cicin-Sain, L., I. Messaoudi, B. Park, N. Currier, S. Planer, M. Fischer, S. Tackitt, D. Nikolich-Zugich, A. Legasse, M. K. Axthelm, L. J. Picker, M. Mori, and **J. Nikolich-Zugich.** 2007. Dramatic increase in naive T cell turnover is linked to loss of naive T cells from old primates. *Proc Natl Acad Sci U S A* **104**:19960-5.

Messaoudi, I., J. Warner, M. Fischer, B. Park, B. Hill, J. Mattison, M. A. Lane, G. S. Roth, D. K. Ingram, L. J. Picker, D. C. Douek, M. Mori, and **J. Nikolich-Zugich.** 2006. Delay of T cell senescence by caloric restriction in aged long-lived nonhuman primates. *Proc Natl Acad Sci U S A* **103**:19448-53.

Messaoudi, I., J. Warner, and **J. Nikolich-Zugich.** 2006. Age-related CD8+ T cell clonal expansions express elevated levels of CD122 and CD127 and display defects in perceiving homeostatic signals. *J Immunol* **177**:2784-92.

Messaoudi, I., J. Warner, D. Nikolich-Zugich, M. Fischer, and **J. Nikolich-Zugich.** 2006. Molecular, cellular, and antigen requirements for development of age-associated T cell clonal expansions in vivo. *J Immunol* **176**:301-8.

Nikolich-Zugich, J., M. K. Slifka, and I. Messaoudi. 2004. The many important facets of T-cell repertoire diversity. *Nat Rev Immunol* **4**:123-32.



39th Annual Scientific Meeting 6–10 December 2009, Jupiters Casino, Gold Coast, Queensland

In the last newsletter, I mentioned the satellite training course and workshops that will be held prior to the meeting, and also the social program – the details can be found in links provided on our website at www.asi2009.org. In this issue, a few more program details and speaker biographies.

A feature of the meeting this year is an extended symposium on Systems Biology on Wednesday, 9th December. This was initiated by Chris Goodnow, and features a stellar array of local and international speakers:



Alan Aderem is the co-founder and Director of the Institute for Systems Biology in Seattle. His research focuses on understanding the communication networks within cells of the innate immune system that led to the internalization and killing of pathogens, and the co-ordination of the ensuing inflammatory response.



Bruce Beutler is Professor and Chairman of the Department of Genetics at The Scripps Research Institute in La Jolla, California. Beutler's work revealed that one of the mammalian Toll-like receptors, TLR4, acts as the membrane-spanning component of the mammalian LPS receptor complex, and suggested that all of the TLRs function in the perception of microbes, each detecting signature molecules that herald infection. His lab employs ENU mutagenesis and pathogen challenge to probe the connection between innate and adaptive immunity.



Gary Nolan is Associate Professor in the Department of Microbiology and Immunology at Stanford University School of Medicine. He has developed techniques for analysing multiple phenotypic and functional characteristics (such as protein phosphorylation) at the single cell level, and integrating the information to characterise signalling networks.

Luc Teyton is Professor of Immunology and Microbial Sciences at Scripps. His lab analyses the structural basis for immune recognition by the TCR in several settings, including NKT cells and in autoimmunity.



After the award of her PhD at the University of Heidelberg, Germany, **Ruth Ganss** started her work on transgenic mouse models for progressive cancer growth as a postdoctoral fellow in the laboratory of Prof Douglas Hanahan at the University of California, San Francisco. During the last decade, her research at the University of California, San Francisco, the German Cancer Research Centre in Heidelberg, and the West Australian Institute of Medical Research, has focused on tumour vessels as the interface between immunology and cancer research. She showed that the blood-tumour barrier, wherein the neovasculature prevents extravasation of immune effector cells into tumour parenchyma, is a manifestation of the tumour environment. However, tumour angiogenesis is reversible and her most recent work shows that vessel remodelling renders solid tumours permissive for therapeutic intervention.

Dale Godfrey (Dept Microbiology and Immunology, University of Melbourne) has worked in the field of T cell development,



and more recently NKT cell development and function, for 20 years. He has made many important contributions in this field including mapping the developmental pathway leading to NKT cell production, defining the way that these cells respond to antigenic challenge, and demonstrating the central role that these cells play in disease models ranging from type-1 diabetes to cancer. Dale has also taken on the problem of NKT TCR-CD1d-glycolipid recognition, using molecular and structural approaches, which have provided important new insight into the way in which these cells 'see' antigen.

Paola Castagnoli is the Scientific Director of the Singapore Immunology Network (SIgN), directs the Genopolis Consortium of Functional Genomics at the University of Milano-Bicocca and is also the President of the European Network of Immunology Institutes. Her research uses systems immunology to investigate host-parasite interactions, with a focus on DC biology during infectious diseases and inflammation.



Geoff Hill obtained his undergraduate and medical degree at the University of Auckland. His specialist Hematology training was undertaken in NZ, The Dana Farber Cancer Institute, and Harvard Medical School in Boston. Geoff is Head of Immunology with his own transplant immunology laboratory at the Queensland Institute of Medical Research. His focus is on the interactions between cytokines, antigen presenting

cells and NKT/regulatory T cells during transplantation. He was named the 2005 “Queenslander of the Year” and was the Transplantation Society of Australia and NZ 2009 Ian McKenzie Award recipient for his contribution to the transplant field over the last decade.



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 Tumor Immunotherapy group at the Malaghan Institute of Medical Research. The focus of the group’s research is the application of dendritic cells to tumour vaccines, and the understanding of barriers that limit the delivery of effective anti-tumour immunotherapy.

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 signalling. Upon returning to the Centenary Institute in 1996, he developed a number of gene targeted mouse models aimed at investigating in



in vivo B cell responses and TRAF function. His group moved to the Garvan Institute in Sydney in 2006 and continue to focus on the regulation of B cell survival and responsiveness in the context of both protective and autoimmunity.



Stuart Tangye completed his PhD at the University of Technology Sydney and then undertook postdoctoral training at the DNAX Research Institute for Molecular and Cellular Biology in the laboratories of Drs Jan de Vries, Joe Phillips and Lewis Lanier. He returned to Australia in 2000 to work with Dr Phil Hodgkin at the Centenary Institute of Cancer Medicine and Cell Biology, and became an independent investigator in 2002, and was recruited to the Garvan in 2006. His research interests focus on the biology of human lymphocytes in health and disease, and elucidating mechanisms whereby defects in signalling, activation and function underlie the development and clinical features of several immunodeficiencies including X-linked lymphoproliferative syndrome, common variable immunodeficiency, and autosomal dominant Hyper-IgE syndrome, resulting from monogenic loss-of-function mutations in key regulators of immune responses. When he is not at work, he enjoys surfing, cycling, swimming and most of all being a dad to his beautiful boy!



Michael Good is the Director of the Queensland Institute of Medical Research, a past President of the Association of Australian Medical Research Institutes, and a past Director of the Cooperative Research Centre for Vaccine Technology. In 2006 he was appointed as Chair of the National Health and Medical Research Council of Australia. In 2008 he was a Steering Committee member and Co-Chair of the “long-term national health strategy” of the 2020 Summit. Also in 2008 he was awarded an Officer of the Order of Australia (AO) for service to medical research, particularly in the fields of infectious disease immunology and vaccine technology, through leadership roles at the Queensland Institute of Medical Research and contributions to education. He graduated MD PhD DSc from the University of Queensland and the Walter and Eliza Hall Institute of Medical Research in Melbourne. He undertook postdoctoral training as a Visiting Scientist at the National Institutes of Health in Bethesda, Maryland. His interests are in the field of immunity and immunopathogenesis to malaria and group A streptococcus/rheumatic fever, with particular relevance to the development of vaccines.



In **John Silke**’s own words, “I did a law degree in King’s College, London, a Biochemistry degree in Churchill College, Cambridge and my PhD in Universitat Zurich, Switzerland, where I got married. I then came for a short post-doc in Australia that lasted nine years. Fortunately at the end of my extended post-

doc I was given the chance to run my own lab at La Trobe University focusing on the function of apoptosis regulatory proteins called IAPs and in particular on the role of these proteins in TNF superfamily signalling pathways, an area that has exploded in the last couple of years with the development by many pharmaceutical companies of IAP antagonist drugs. Eleven years after leaving Switzerland I have accumulated three sons, a lab with three post docs, three RAs, three PhDs and three Honours students and three grey hairs: if only.”



After studying Veterinary Medicine at the University of Sydney, **Chris Goodnow** trained in molecular and cellular immunology at Stanford University with Mark Davis, at the Walter and Eliza Hall Institute with

Sir Gustav Nossal, and at the University of Sydney with Antony Basten. From 1990–1997, Goodnow headed a laboratory at Stanford University Medical School as an Assistant Investigator of the Howard Hughes Medical Institute. Since 1997, he has been Professor of Immunology and Genetics at the John Curtin School of Medical Research at The Australian National University.

He is currently Head of the Immunology Program and was the Founding Director of the Australian Phenomics Facility. By integrating mouse molecular genetics with cellular immunology, his studies into how tolerance is acquired and autoimmune diseases are prevented have shown that self-reactive lymphocytes are controlled through an ability of antigen receptors to switch between signalling lymphocyte proliferation or triggering tolerance responses, via qualitative changes in the intracellular second messengers elicited. Chris is a “Thomson-ISI highly cited” researcher. His honours and awards include the Gottschalk Medal of the Australian Academy of Science, and the Australian Health Minister’s Prize for Excellence in Medical Research.

Shaun McColl conducted his Undergraduate and Doctoral studies at the University of Adelaide from 1977–1987. He was a Post-Doctoral Fellow at Laval University in Quebec in Canada from 1987–1989, and received an academic appointment as an Assistant Professor of Medicine at Laval University from 1989–1993. During this time he developed a research interest in the molecular control of cell movement. He then returned to Australia as a Research Fellow at the John Curtin School of Medical Research at ANU from 1993–1995 and took up a Faculty appointment at the University of Adelaide in 1995. He presently holds a Personal Chair in Immunology in the School of Molecular &



Biomedical Science, is Deputy Head of that School and is Head of Chemokine Biology at the University of Adelaide. Professor McColl’s research interests are focussed around understanding the pathobiology of cell migration, with a particular emphasis on the role of members of the chemokine gene superfamily. He has published over 100 original research articles, reviews and book chapters on the molecular basis of the inflammatory response, including the role of adhesion molecules, bioactive lipids and chemokines in inflammation in the context of diseases such as multiple sclerosis, rheumatoid arthritis and metastatic cancers.

*Chris Schmidt
on behalf of the ASI 2009 Organising
Committee*

Victorian Premier’s Medical Awards Recognises ASI Member

A young Victorian immunologist whose research into the immune system has already gained international acclaim has received a high commendation in the 2009 Premier’s Award for Medical Research.

Autoimmune disease occurs when the body attacks its own cells. Around five per cent of Australians suffer from autoimmune diseases. The treatment of autoimmune diseases is typically with immuno-suppression — medication which decreases the immune response.

Dr Anna Proietto, who works at the Walter and Eliza Hall Institute of Medical Research while studying medicine at the University of Melbourne, has been studying the development and functions of dendritic cells. She has found that, in mice, dendritic cells

play a central role in regulating the immune system to prevent autoimmune disease. This discovery provides new knowledge for the design of novel therapies for many autoimmune diseases, including multiple sclerosis, rheumatoid arthritis and diabetes type 1.

Her attention is now switching to focus on the study of the dendritic cell system in people.

She received \$8,000 and a certificate for her work from the Premier of Victoria at a ceremony at Government House in June.

Dr Proietto’s work has been published in high profile journals including *PNAS*, *Blood* and the *Journal of Immunology*.

(Story based on press release)



Travel Award Conference Reports

Keystone Symposium – Mobilising Cellular Immunity for Cancer Therapy January 11-6, 2009, Snowbird, Utah, USA.

Hollie Pegram, Peter MacCallum Cancer Centre, Victoria

I received an ASI international travel scholarship and travelled to a Keystone Symposium at the Snowbird Ski Resort in Utah, USA. The symposium “Mobilising cellular immunity for Cancer Therapy” was held January 11-16 in the middle of the Northern hemisphere winter. I have never seen snow before and when travelling to Snowbird I was totally speechless. I was shocked with the fierce appearance of the totally white mountains and the sheer volume of snow. I dared to have a snowboarding lesson which, truth be told, was more like three hours sitting on the snow, but was a blast anyway. For those of you contemplating snowboarding, be prepared to have heaps of freezing snow down the back of your pants; something they never warn you about!



Then it was down to business: the conference began and the first two days were a blur of strange scientists, old scientists, young scientists, networking and the ever-present jet lag. After matching faces to names I had been reading for years, and working out that Laurence Zitvogel is a woman not, in fact, male, I started to feel more comfortable and confident mingling with the group. One of the main reasons for my trip was to investigate employment opportunities following my PhD. I had pre-arranged two meetings via email and then had to work out exactly who David Raulet (NK cell Scientist) and Phil Greenberg (Adoptive T cell immunotherapy Guru) were. I found these meetings to be invaluable, and met some truly inspiring scientists, and discussed some interesting projects.

Sessions included tumour surveillance and microenvironment, $\delta\gamma$ T cells and NK cells, homing to tumour sites, immunologic restraint, tumour inflammation, innate conditioning, tumour antigens, adoptive T cell therapy, engineering tumour reactivity with TCRs/CARs and a session on Immunotherapy for HPV/cervical cancer. These sessions covered a wide range of approaches for the immunotherapy of cancer.

Nick Restifo gave a wonderful and inspiring talk, encouraging us that immunotherapy is definitely a useful, developing form of cancer therapy. My project is focused on adoptive cell transfer therapy, and many Scientists highlighted the qualities that adoptively transferred cells must have. Attention was also drawn to the fact that ‘younger’ cells are advantageous compared to older cells, and the combination of lymphoablative therapy can enhance the behaviour of the adoptively transferred cells. There were also many posters and talks describing the genetic modification of cells to optimise the anti-tumour response of adoptively transferred cells. Many strategies are being developed to increase the affinity of TCR and chimeric TCR for tumour associated antigens.

Following the conference I had arranged to visit some extra labs to discuss potential postdoc positions. I headed to Frederick MD, just outside Washington DC. I visited Steve

Anderson’s lab at the NCI, which focuses on the regulation of KIR expression in NK cells. After only 30 hours in Frederick, I travelled to New York, to visit Reneir Brentjens’ lab at Memorial Sloan Kettering Hospital, where they work on the development of chimeric T cell receptors specific for CD19 to treat leukaemia. After only 22 hours I was again on my way, this time to Europe. I went to Italy, where I was very impressed with Andrea Velardi’s laboratory and their work on the role of NK cells in Hematopoietic Stem Cell Transplants, not to mention the fine chocolate made in Perugia!

My trip was extremely rewarding and in invaluable experience, both for my career and personal experiences. An international conference is a fantastic place for networking, sharing results and getting valuable feedback from incredibly enthusiastic scientists. I strongly encourage every PhD student to attend international conferences and visits labs in other countries. If nothing more comes of it, this provides a wonderful chance to experience science in other cultures.

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.

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Keystone Symposia on Pattern Recognition Receptors and Immune Sensors of Pathogens
29 March – 3 April 2009, Alberta, Canada
Tara Roberts, Queensland Institute of Medical Research

Recently I had the opportunity to attend The Keystone Symposia on Pattern Recognition Receptors and Immune Sensors of Pathogens held at the beautiful Fairmont Banff Springs, Alberta, Canada. This travel was supported by travel awards from The Australian Society of Immunology and The Queensland Institute of Medical Research. The meeting focussed on the evolutionarily conserved receptors involved in the recognition of pathogens by the innate immune system. The presentations focussed on signalling from Toll-like receptors, Nod-like receptors, C-type lectins, helicase-containing anti-viral proteins and many newly identified pathways. Talks covered basic research, applied drug and vaccine development and clinical trials.

The conference ran from 29 March to 3 April 2009, spring in Canada. Despite this fact, the temperature rarely rose above zero Celsius. Consequently, the morning and evening sessions were very well attended and there was a lot of discussion over warm cups of

tea or coffee during the breaks. However, in the afternoons (when the ski slopes were in full swing) the crowds were noticeably smaller.

The Pattern Recognition symposium was held as a joint meeting with the symposium on Dendritic Cells. The meetings opened with a joint plenary session in which the two speakers were Shiuzo Akira and Ira Mellman. Professor Akira discussed the generation of a new knockout mouse. This mouse strain is deficient in the protein Zn3h12. Zn3h12 is a protein containing a CCCH-type zinc finger motif and is induced by LPS and MCP-1 treatment of macrophages. Zn3h12 knockout mice are growth retarded and die within 12 weeks of birth; they show severe splenomegaly and lymphadenopathy and produce detectable levels of anti-nuclear and anti-DNA antibodies. Zn3h12 knockout mice also show increased production of IL-6 and IL-12p40 in response to TLR ligands. The Akira group has shown that Zn3h12 is

a cytoplasmic RNase with an essential role in degradation of a subclass of mRNAs, including IL-6 and IL-12p40. Zn3h12 is a member of a large family of zinc-finger containing proteins which may have different specificities for binding to mRNA. It was suggested that regulation of mRNA degradation might be as important as transcriptional control in developing an appropriate immune response. This work has subsequently been published (*Nature*, April 2009).

Professor Mellman focussed his plenary lecture on the regulation of trafficking playing multiple roles in regulation of the immune response. He discussed the importance of mono vs polyubiquitination in regulation of MHC Class II antigen presentation. He also discussed how *Toxoplasma gondii* tachyzoites when ingested by dendritic cells induce the formation of a specialised parasitic vacuole. This vacuole is inhibited from



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fusing with host endosomes or lysosomes but live parasites induce fusion with the endoplasmic reticulum and components of the ER can be transferred to the parasitic vacuole. ER-vacuole fusion also appears to inhibit cross-presentation of parasite antigens.

There were a number of other particularly interesting talks during the meeting. Ruslan Medzhitov described (then) unpublished work showing that Th2 responses to papain are independent of dendritic cells. Instead he showed that basophils act as antigen presenting cells in this situation and that this is likely to be the case in helminth infections. Helminths are too large to be phagocytosed by classical antigen presenting cells (APCs) and antigens shed by these parasites are the targets of immune responses. Basophils can access this parasite antigen as it travels to the draining lymph node in the absence of APCs. In the lymph node, basophils can present the soluble antigen to T cells. This work from Medzhitov and colleagues, as well as complementary studies from two other groups, has been published in the July issue of *Nature Immunology*.

Later Jurg Tschopp presented stunning data showing that caspase-1 is essential for the development of cerebral malaria in mice infected with *Plasmodium berghei*. Caspase-1 knockout mice did not die following infection and Nalp 3 knockout mice showed partial protection, implicating inflammasome activation in the pathogenesis of cerebral malaria. The mechanism believed to be involved is activation of an ASC-dependent inflammasome by hemozoin. These findings were quite controversial – a number of delegates noted that they had not seen the same phenomenon in their caspase-1 knockout models. What ensued was a lively debate on the strains of caspase-1 knockout mice used and the method of infecting the mice with malaria. Interestingly, the Tschopp lab infects with mosquitoes whereas other lab inject their parasite. Currently the jury is out but with the interest in malaria and inflammasomes, I am sure that we will all hear more about it in the future.

I was also lucky enough to be invited to present a short talk at the conference. My talk focussed on our recent work describing the role of HIN-200 proteins

AIM2 and p202 in regulating inflammasome activation in response to cytosolic DNA. This was one of four talks at the conference discussing the role of AIM2 as a newly identified receptor for cytosolic DNA. Whilst speaking to such a knowledgeable audience was nerve racking, it was a fantastic opportunity. I received an incredible amount of feedback throughout the conference and was able to discuss my future plans (experimental and career) with some of the best minds in the area. I just hope that now I am back in the lab that I can make full use of all the fantastic advice!

There was an unexpected bonus to my conference stay. I opted to share a room at the Fairmont Banff Springs. From my experience I would definitely recommend this opportunity to others. My roommate was Mirjam Eckert from Jurg Tschopp's laboratory in Switzerland. It was great to get to know Mirjam and she happily introduced me to the other members of her laboratory at the conference. It was an interesting insight into the way a different laboratory runs, differences and similarities in job prospects and how the lifestyle of scientists is perceived by early career postdocs and PhD students from a range of different backgrounds.

The conference was very well organised and allowed for a lot of interaction between all the participants. The hosting of the meeting in conjunction with the dendritic cell symposia was good in that it allowed for access to a different set of talks and allowed participants to get feedback from scientists with a different perspective. However, it also meant that a number of the non-joint sessions were very crowded if participants from both meetings wanted to attend the same talks. Also running the poster sessions for both meetings at the same time did not allow enough time to view all the posters. The Pattern Recognition symposium highlighted the increasing interest in the

role of cytosolic recognition pathways, particularly inflammasome activation and the potential role of these pathways in not only fighting infection but in the development of autoimmune diseases, chronic inflammation, cancer and heart disease. Many presentations also emphasised the many layers of complex regulation (transcriptional, mRNA stability, post-translational processing) and how much further work is required to understand these pathways. The field of pattern recognition has exploded in the last 5-10 years and currently shows no signs of slowing down.

Following the conference I travelled to Massachusetts to visit a number of laboratories. As my recent work has focussed on the proteins involved in recognition of cytosolic dsDNA, I was lucky enough to visit the laboratories of Kate Fitzgerald and Eicke Latz at The University of Massachusetts, Worcester. Both of these laboratories are known for excellent research identifying pattern recognition receptors and elucidating toll-like receptor and inflammasome activated signalling pathways. It was wonderful to be able to have time to discuss with both Kate and Eicke and members of their laboratories the work they are doing and their opinions on the field. I would like to thank Kate for organising for me to give a presentation in their department.

As my new work focuses on the interaction of cellular stress and immune responses, I also visited the laboratory of Professor Paul Anderson at the Harvard University laboratories, Brigham Women's Hospital, Boston. Paul's laboratory is most well known for its role in describing stress granules as sites of mRNA "triage" during cellular stress and also how the key stress granule protein, TIA-1, is involved in regulation of cytokine translation. I was able to give a presentation on my recent research and all members of the laboratory were very helpful and friendly and offered great advice. I would like to



thank Paul Anderson and Nancy Kedersha for organising this visit.

On the way back to Australia I also stopped in to the Cedar Sinai Institute in West Hollywood to visit David Underhill, Helen Goodridge and Andrea Wolf. This is a modern institute attached to a hospital campus and there are touches of Hollywood throughout – the Hollywood sign can be seen from many of the office windows and there is a building named after Steven Spielberg. This lab focuses on pattern recognition by macrophages, particularly fungal pathogens and how multiple receptors can work together to elicit specific innate immune responses.

Overall I had a wonderful trip and I would like to thank ASI for its support. I found this a very rewarding and intellectually stimulating experience which also allowed me to establish connections to help me further my research. Now I just have to figure out where to get funding for the next conference!



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Immunology and Cell Biology Publication of the Year Award 2008

As many of you are aware, each year an *ICB* Publication of the Year Award is offered by *Immunology and Cell Biology*. In order to be eligible for the award a person must be the first author of any Original Article, Outstanding Observation, Theoretical Article or Brief Communication published in *ICB*. They also must be a financial member of the Australasian Society for Immunology (ASI) by 31 October of the year in which the article was published. The award consists of an AU\$1,000 scholarship provided by The Nature Publishing Group.

A small committee, consisting of the Editor-in-Chief of *ICB*, the current ASI President and a past President of ASI, selects the best eligible paper based on the sole criterion of scientific excellence. This year I am pleased to announce that Dr Scott Byrne was chosen by the committee as the winner of the 2008 *ICB* Publication of the Year Award. Dr Byrne's winning paper is entitled "TGF β is responsible for skin tumour infiltration by macrophages enabling the tumours to escape immune destruction" and was published in the January 2008 issue of *ICB*.¹

There is increasing evidence from many laboratories that an important stage in tumour progression is evasion of immune attack by the host's immune system. In his award winning paper, Dr Byrne and his colleagues show that, in the case of skin cancer, TGF β -mediated recruitment of macrophages into tumours plays a key role in immune escape, the cytokine being capable of converting a regressing tumour to a progressing tumour. Analysis of the tumour-associated macrophages (TAM) recruited by TGF β revealed that they are highly phagocytic, poor at antigen presentation (based on MHC-II and CD86 expression) and are associated with a decreased number of tumour infiltrating dendritic cells. The authors conclude that TGF β recruited TAM dramatically reduce the ability of dendritic cells to present tumour associated antigens to the immune system and suggest that TGF β represents a good target for cancer immunotherapy.

Dr Byrne completed his PhD degree at the University of Sydney in 2002, part of his PhD studies forming the basis of his award winning paper. Dr Byrne then worked at The MD Anderson Cancer Center in Houston, Texas as a CJ Martin Research Fellow. Currently Dr Byrne is a Cancer Institute

NSW Senior Research Fellow and cellular immunologist at The University of Sydney. His research group is interested in how the ultraviolet (UV) part of the solar spectrum alters the immune outcome so that immune regulation or suppression occurs instead of immune activation. These studies are important because immune suppression is one of the main contributors to skin cancer development. Understanding the cellular and molecular mechanisms underlying UV-induced immune regulation is also important for other diseases such as autoimmune disorders and for the success of immunisation strategies.

There is no doubt that Dr Byrne's award winning paper highlights the high standard of manuscripts being published by *ICB* and, I hope, will encourage ASI members to submit their outstanding research to the journal.

1. Byrne SN, Knox MC, Halliday GM. TGF β is responsible for skin tumour infiltration by macrophages enabling the tumours to escape immune destruction. *Immunol Cell Biol* 2008; **86**: 92-97.

(Based on an Editorial to be published in the October, 2009 issue of *ICB*)

Christopher R Parish
Editor-in-Chief
Immunology and Cell Biology



Dr Scott Byrne, recipient of the 2008
ICB Publication of the Year Award

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